Frequently Asked Questions

What are the requirements for license renewal?

Licenses Expire	CE Hours Required	Mandatory Courses
Biennial renewals are due on August 31st of odd years.	24 (12 can be completed through correspondence.)	12 hours must be live. 2 hours Medical Errors. 2 hours Laws and Rules. 2 hours Professional Ethics.

How do I complete this course and receive my certificate of completion?

On-Line Submission: Go to ***Massage.EliteCME.com*** and follow the prompts.You will be able to print your certificate immediately upon completion of the course.

Fax Submission: Fax to (386) 673-3563, be sure to include your credit card information. All completions will be processed within 2 business days of receipt and certificates e-mailed to the e-mail address provided.*

Mail Submission: Mail to Elite, PO Box 37, Ormond Beach, FL 32175. All completions will be processed and certificates issued within 10 business days from the date it is mailed.*

*Please note - providing a valid e-mail address is the quickest and most efficient way to receive your certificates when submitting via fax, e-mail or mail.

Submissions without a valid e-mail address will be mailed to the address provided at registration.

How much will it cost?

Cost of Courses		
Course Title	**CE Hours**	**Price**
Ethics in Massage Therapy	2	$10.00
Laws and Rules Governing Massage Practice in the State of Florida	2	$10.00
Preventing Medical Errors	2	$10.00
Elements of Massage Therapy	2	$10.00
Medication and Massage Therapy: Introduction to Pharmacology	4	$20.00
★ **BEST VALUE** ★ **SAVE $10** ★ **Entire 12-Hour Course**	**12**	**$50.00**

Are you a Florida board approved provider?

Yes, our courses are approved by the Florida Board of Massage Therapy. Our provider number is 50-4007-01.

Are my credit hours reported to the Florida board?

Yes, we report your hours electronically to the state through CE Broker within one business day. You keep your certificate of completion for your records.

Is my information secure?

Yes! Our website is secured by Thawte, we use SSL encryption, and we never share your information with third-parties.

What if I still have questions? What are your business hours?

No problem, we are here to help you. Call us toll-free at 1-855-769-9889, Monday - Friday 9:00 am - 6:00 pm EST or e-mail us at office@elitecme.com. Our company policy is satisfaction guaranteed, or you receive a 100 percent refund.

Important information for licensees

Always check your state's board website to determine the number of hours required for renewal, and the amount that may be completed through home-study. Also, make sure that you notify the board of any changes of address. It is important that your most current address is on file.

Florida Board of Massage Therapy Contact Information
Department of Health Board of Massage Therapy 4052 Bald Cypress Way, Bin C-06 Tallahassee, FL 32399-3257 Phone: (850) 488-0595 | Website: http://floridasmassagetherapy.gov/

Table of Contents
CE for Florida Massage Therapists

CHAPTER 1: ETHICS IN MASSAGE THERAPY **Page 1**

This course will equip you with the basic concepts and rationale for ethical decision-making in your practice. It will help to navigate unknown ethical territory, identify questionable behavior, and develop a sense for "red flags" of potential conflict, as well as take steps to resolve these issues. It will help you know when to seek professional guidance with a supervisor or mentor, or turn to other appropriate resources for professional assistance.

Ethics in Massage Therapy Final Exam ***Page 9***

CHAPTER 2: LAWS AND RULES GOVERNING MASSAGE PRACTICE IN THE STATE OF FLORIDA **Page 10**

Two main areas of law pertain to the practice of massage therapy in the State of Florida. They are: The Florida Massage Practice Act: Chapter 480 of the Florida Statutes, and Chapter 64B7 of the Florida Administrative Code. This chapter will guide you through important excerpts of these documents, clarifying how to interpret the laws and rules that address you, personally, as a massage therapist, and will discuss your responsibilities and obligations under the law.

Laws and Rules Governing Massage Practice in the State of Florida Final Exam ***Page 28***

CHAPTER 3: PREVENTING MEDICAL ERRORS **Page 29**

As a member of the health care industry, you have a responsibility to be aware of the risk of medical errors as well as learn strategies to minimize that potential risk. Remember that medical errors can occur at any point in treatment, even in preventive care, and do not always result in patient injury or death. Health care personnel and institutions are held accountable for establishing and maintaining a safe health care environment for their patients. An investigation of sentinel events focuses primarily on systems and processes, rather than attaching blame to the actions of specific individuals. While personal responsibility is essential to reducing medical errors and increasing patient safety, a root-cause analysis addresses the issue of personal fault within the existing health care framework. Understanding the context of medical errors is essential to minimizing their occurrence and providing strategies through the implementation of appropriate organizational and systemic changes.

Preventing Medical Errors Final Exam ***Page 39***

All 12 Hrs ONLY
$50

What if I Still Have Questions?

No problem, we have several options for you to choose from! Online at **Massage.EliteCME.com** you will see our robust FAQ section that answers many of your questions. Simply click FAQ in the upper right hand corner, e-mail us at office@elitecme.com or call us toll free at 1-855-769-9889, Monday - Friday 9:00 am - 6:00 pm, EST.

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Table of Contents
CE for Florida Massage Therapists

CHAPTER 4: ELEMENTS OF MASSAGE THERAPY **Page 40**

This course is designed to familiarize you with the most common elements of massage as practiced in the United States. In this course, you will identify the elements of massage that are known to almost every licensed therapeutic massage therapist in the United States. This is the minimum amount of information any therapist should know in order to ethically treat clients or patients.

Elements of Massage Therapy Final Exam ***Page 50***

CHAPTER 5: MEDICATION AND MASSAGE THERAPY: INTRODUCTION TO PHARMACOLOGY **Page 51**

After completion of this course you will be able to explain the concept of affinity and the process of neurotransmission of drug molecules and the concept of bioavailability. In addition, you will be able to list and discuss the contraindication for massage on specific systems of the body as well as the efficacy of massage to treat pain and symptoms of prescription and illicit opioid use disorders. Lastly, you will be able to define the effects of different massage strokes on systems of the body.

Medication and Massage Therapy: Introduction to Pharmacology Final Exam ***Page 70***

Student Final Exam Answer Sheet **Page 72**

Course Evaluation **Page 73**

Chapter 1: Ethics in Massage Therapy

2 CE Hours - state required

By: Valerie Wohl, Ph.D.

Learning objectives

- Define the concept of power dynamics.
- Distinguish between transference and countertransference.
- Describe the nature of the fiduciary role.
- List four ways a practitioner might work outside his or her scope of practice.
- Explain the risks of dual or multiple role relationships between practitioner and client.
- Explain the relationship between patient autonomy and agreements, including the client's bill of rights, informed consent, and right to refuse treatment.
- List four strategies that reinforce appropriate boundaries.

Introduction

This course addresses a range of issues of concern to the professional massage therapist and introduces a number of concepts important to the ethical practice of massage therapy. Successful completion of the course will equip you with the basic concepts and rationale for ethical decision-making in your practice, to help to navigate unknown ethical territory, identify questionable behavior, and develop a sense for "red flags" of potential conflict, as well as take steps to resolve these issues. Equally important, it will help you know when to seek professional guidance with a supervisor or mentor, or turn to other appropriate resources for professional assistance.

This course fulfills two credits of mandatory coursework in Ethics, and:

- Explains concepts important to ethical theory and practice in professional massage therapy and bodywork.
- Examines the value and function of ethical codes and professional standards of conduct.
- Emphasizes the delineation of boundaries that define the therapeutic relationship.

Principles of professional ethics

Ethics refers to principles of right or good conduct. Professional ethics in massage therapy is the application of guiding principles of right conduct to the study, practice, and business of massage therapy. Unlike personal ethics, which are flexible and open to debate, professional ethical codes are formally defined, mandatory standards of conduct established by and for members of professional associations to ensure quality and integrity in the profession.

Because virtually all state licensing authorities, certifying/accrediting agencies, and professional associations establish their own standards of conduct and ethical guidelines for their members, you will need to refer directly to the organizations and academic or training institutions with which you are affiliated, as well as state, local, and national associations, to review the ethical guidelines that apply specifically to you and your practice. This course is based on standards of ethical behavior embodied in both the AMTA and NCBTMB Code of Ethics and Standards of Practice, and common to the ethical codes of other agencies regulating massage therapy.

A Code of Ethics states the ethical responsibilities of the massage and bodywork professional. Standards of Practice further establish the expectations of professional conduct in regard to the law, confidentiality, business practices, roles and boundaries, and prevention of misconduct. This chapter is intended to clarify the meaning of statements and concepts central to the ethical practice of massage therapy.

The nature of the practitioner-client relationship is a fiduciary one. This means the client trusts that the practitioner will act in the client's best interests. The fiduciary obligation is the duty of the practitioner to do so. This concept is central to professional practice and the therapeutic relationship. While the practitioner and client share the same primary concern and objective – the client's welfare – it is the practitioner, by virtue of his or her professional status, who is ultimately responsible for the client's safety, security, and well-being. The practitioner bears the burden of accountability because he or she is in a position of authority or power in relation to the client.

Individuals are treated ethically not only by respecting their decisions and protecting them from harm, but also by making efforts to secure their well-being. Such treatment falls under the principle of beneficence. The term "beneficence" is often understood to cover acts of kindness or charity that go beyond strict obligation. In this context, beneficence is understood in a stronger sense, as an obligation. Two general rules have been formulated as complementary expressions of beneficent actions in this sense: (1) do not harm and (2) maximize possible benefits and minimize possible harms (beneficence and nonmaleficence).

The principle of beneficence requires us, other things being equal, to do good, or what will further the patient's interest. The principle of nonmaleficence requires us, other things being equal, to avoid harm to the patient, or what would be against the patient's interests. Both principles rest on the fundamental importance of what is in the patient's interest. The first is the positive requirement to further the patient's interest. The second is the requirement to refrain from doing what damages the patient's interest. Different claims covered by the principle of beneficence may come into conflict and force difficult choices.

Ideally, your relationship and interactions with the client are a partnership that promotes healthy behaviors, leads to sound, informed, health care decisions, and ensures the client's voice is heard. The client's best interests should always be your primary goal, and the guide for all your actions and decisions. If you ever suspect you are acting out of an unhealthy need or motive, or feel your interactions or relationship with the client are impeding rather than facilitating the therapeutic process, seek assistance and/or supervision. Consult a professional massage therapy organization with which you are affiliated for guidance, supervision, and other professional resources.

The following sections discuss key points of ethical massage therapy practice.

Accountability

Professional organizations protect public safety by certifying the competence of their members through licensing and continuing education requirements. Accreditation and professional affiliations maintain quality control and show your accountability to clients, colleagues, and the profession, as a whole. They confirm that you abide by prevailing health and safety standards, conduct yourself in accordance with relevant legislation and/or professional regulations, and possess the specialized knowledge and skills of your field.

Once you have successfully completed an approved training course, written examination (state and/or national) and, in some cases, a practical evaluation, you are deemed "competent" in the subject area of massage therapy, despite the fact that your specific skills, training, and

knowledge base may be very different from that of other practitioners in your neighborhood, state, or country. Licensing agencies and professional societies establish standards of quality and professional expertise in the field and ensure that licensed individuals are keeping pace with recent developments through continuing education requirements.

Scope of practice

Scope of practice refers to your area of competence, usually obtained through formal study, training, and/or professional experience, and one for which you've received certification or other proof of qualification. Unlike other standardized training programs or fields of study, schools of professional massage therapy and state requirements vary significantly in the number of necessary hours of study and curriculum. Some schools provide substantial training in specialized procedures, such as lymphatic-drainage techniques or hydrotherapy, while others may only touch upon these subjects, if they are discussed at all.

Choosing to provide services for which you are not appropriately trained or competent is a dangerous personal decision that undermines the profession and may carry weighty legal implications. Your personal level of discretion and ethical standards will largely determine the manner in which you advertise your services, describe your education and professional experience, and list credentials. You will have to decide for yourself if you can rightfully claim substantive experience in a discipline for which you've attended a three-hour workshop or watched a series of instructional videos, or when you can properly call yourself an expert in one modality or another.

Misrepresenting one's educational achievements, credentials, or abilities is a serious breach of responsibility that endangers client safety and reflects poorly on the profession as a whole. If a subject is outside your area of expertise, don't hesitate to say so, and direct the client to appropriate informational resources or professional services. Make sure any information or suggestions you pass along are supported by the professional community and recent research findings, and are appropriate and safe for the client.

Safety

Practitioners are required to abide by industry standards of safety and hygiene. Client draping, towels, the table surface, and other relevant items or materials must be cleaned according to accepted standards of sanitation, and meet all legal health and safety requirements (including universal precautions relating to communicable diseases). Practitioners should know how to cover cuts and use sanitizing supplies such as disinfectant hand wipes effectively.

Practitioners must have the skills and knowledge to assess a client's condition and provide safe and appropriate therapy. They must be attuned to verbal and non-verbal client feedback, and alert to possible contraindications for massage. Sometimes these decisions are less than clear-cut, requiring a bit of research or consultation with medical personnel more familiar with the client's condition. Never allow the client, the client's relatives, or even the client's doctor to pressure you to proceed if you have any doubts regarding the safety of a specific procedure for a specific client. You are ultimately responsible for any injury sustained by the client during or resulting from massage and the medical and legal liability associated with it – even if the client's physician specifically recommended or prescribed the bodywork.

If you have strong concerns about the client's health related to medication or procedures received through another source, suggest that the client have a trusted health care professional review the course of treatment. Pronouncements like this should not be made flippantly, as they could be the basis of legal action against you for practicing medicine without a license. If you believe your client has a serious medical condition or may have suffered an injury, tell the client immediately and refer him/her to the appropriate health care professional. Do not discuss the condition with the client's doctor or anyone else unless you have explicit permission from the client to do so. Be sure to document your referral and the reasons for it in the client record.

Keep scope of practice in mind when you give advice or make recommendations to clients. While listening attentively to your client is a relatively risk-free venture, sharing your opinions is not. Depending on the topic of conversation and your specific comments, you may be engaging in high-risk behavior whenever you have casual conversations with a client. Resisting requests for "advice" in any subject outside your areas of expertise is your safest option, but it is natural to be drawn into discussions with a client, especially one you've come to know well.

Advice can be a dangerous and slippery slope for practitioners in large part because they may have some knowledge and experience regarding a topic that is health-related, but not strictly within their scope of practice. If you have found an effective nutritional supplement or exercise program that relieves the same symptoms your client is experiencing, you may have a strong impulse to share that information with your client. Or, you may want to warn your client away from a health regime that you consider ineffective or potentially dangerous.

When giving your point of view, make sure you delineate a professional recommendation, based on years of experience and study, from suggestions or opinions of a more personal or general nature. Help your client distinguish between subject matter in which you are, and are not, professionally qualified. If a health or medical issue is outside your scope of practice, recommend that the client see a qualified health professional regarding the matter.

Patient autonomy, informed consent, and right to refuse

Informed consent refers to a patient's right to understand his or her condition and participate in decisions regarding that care or condition. The patient, or patient's guardian, is required to sign a written statement acknowledging agreement to proposed treatment terms and awareness of the known risk factors associated with them.

It is through this process that a health care practitioner informs a patient about the risks and benefits of a proposed therapy and allows the patient to decide whether the therapy will be undertaken. It is based on the moral and legal premise of patient autonomy, and is the formal application of the client's right to make decisions about his/her own health care.

The principle of autonomy (self-rule) is based on the principle of respect for persons, which holds that individual persons have the right to make their own choices and develop their own life plan. In a health care setting, the principle of autonomy translates into the principle of informed consent: You shall not treat a client without his/her informed consent. In order to affirm autonomy, every effort must be made to discuss treatment preferences with clients and to document them in written records.

In massage therapy, informed consent usually takes the form of an agreement between the practitioner and client that states their shared objectives, proposed treatment plan, expected outcome(s), and anticipated time frame for results. It may also refer to the client's medical history, asserting that the client has informed the practitioner about all known physical or medical conditions and current medications, and will inform the practitioner if any of these conditions change.

The notice of informed consent in massage therapy typically includes a statement explaining the role of massage therapy in pain and stress reduction or other specified purpose, and its limitations:

- Massage therapy does not take the place of medical examinations, care, or treatment.
- The practitioner is not a doctor and does not diagnose medical conditions or prescribe medication.
- Clients should continue to consult their primary caregivers or other specialists for ongoing health care and medical conditions.
- Clients should consult their primary caregiver to review health care recommendations before making significant changes in their health and exercise regimen or diet.

In addition to being an ethical obligation of caregivers, legislation in all 50 states requires that clients be informed of all important aspects of a treatment and/or procedures, although the details of these laws and statutes differ greatly. General guidelines require clients to be informed of the nature of their condition and the proposed treatment or procedure, its purpose, risks and benefits and their probability, risks and benefits of alternatives, and risks and benefits of not receiving the treatment. Failure to obtain adequate informed consent renders a health care professional liable for negligence or battery and constitutes medical malpractice.

While informed consent is a well-established practice, it often fails to meet its stated purpose. Recent research findings strongly suggest that procedures to obtain informed consent may not adequately promote the patient's comprehension of the information provided, rendering the consent not truly "informed." Studies suggest that a majority of patients do not read a consent form before signing it, and less than half of the U.S. population understands commonly used medical terms. Additionally, clients with limited reading ability are at increased risk for medical errors, due to problems reading medication bottles, appointment slips, self-care instructions, and health education brochures. These clients are also likely to have trouble reading materials intended to aid in obtaining informed consent.

Several methods of improving the procedures of obtaining informed consent have been proposed, including improving the readability of consent forms, asking clients for recall to establish understanding, adding additional stimuli, such as multimedia presentations and providing written information. The following section discusses "best practices" for informed consent forms, but also applies to other written material intended for the client.

In order to ensure that clients understand the procedure to which they are consenting, it is important that all materials be presented in a comprehensible manner. Written health care materials, such as consent forms, are often written with a relatively complex sentence structure and vocabulary, making it difficult for the average adult to interpret the information. In addition, providing these materials in the language the client finds most familiar is likely to increase comprehension substantially for many individuals.

Providing written information to clients regarding their diagnoses, proposed treatments, and other information given during informed consent discussion allows the patient to refer back to such information, which promotes comprehension. Some investigators have proposed that clients should receive written consent forms days before receiving a procedure.

Informed consent is always specific: The goal of the informed consent process is to ensure that clients have an opportunity to be informed participants in decisions about their health care. To achieve that goal, practitioners must explain the patient's condition and inform the patient about treatment options and alternatives, including the risks and benefits of each, providing the information that a "reasonable person" in similar circumstances would want to know in making the treatment decision. A key element of the process is that the practitioner explains why he or she believes recommended treatments or procedures will be more beneficial than alternatives in the context of the patient's diagnosis. Thus informed consent is always specific: to the individual patient, the clinical situation, and the recommended plan of care or recommended treatment(s) or procedure(s).

Consent for multiple treatments: However, to say that consent is always specific is not the same as saying that separate consent is always required for every episode of repeated treatment. When the plan of care for a given diagnosis involves repeated treatments or procedures, practitioners should ensure the patient understands that he or she is consenting to multiple episodes of treatment. Separate consent is not required for each individual episode. If a patient's condition changes enough to warrant a change in the plan of care, the practitioner must explain to the patient how the situation has changed, establish goals of care in light of the new situation, recommend a new plan of care, and obtain informed consent for the new plan or for specific treatment(s) or procedure(s) now recommended.

Notification versus consent: Informed consent is also different from "notification," that is, providing general information relevant to clients' participation in health care. Similarly, every patient entering a health care facility must be notified that his or her records will be used for purposes of routine health care operations. Likewise, each patient should be notified that his or her information may be used for quality improvement purposes to enable the organization to fulfill its obligation to monitor the quality of care it delivers and to carry out quality improvement activities for the benefit of all clients. Notification informs clients not only about their rights, but also about organizational activities and processes that shape how care is delivered. Like informed consent, notification serves the goal of respecting clients as moral agents14.

Informed consent should:

- Explain the patient's condition and diagnosis clearly and concisely, in language he or she can understand.
- Inform the patient about the treatment(s) or procedure(s) you recommend, including:
  - The name, nature, and details of the recommended treatment(s) or procedure(s).
  - Indications for the recommended course of action.
  - Likelihood of success of the recommended treatment(s) or procedure(s) for this patient.
- Describe the expected benefits and known risks of the recommended treatment(s) or procedure(s).
- Describe reasonable alternatives to the recommended treatment(s) or procedure(s), including the expected benefits and known risks of each alternative.
- Identify the practitioners who will be involved in performing the treatment or procedure.
- Advise the patient if the recommended treatment or procedure is novel or unorthodox.
- Encourage the patient to ask questions.

Intake interview and documentation

Clients should fill out a formal intake form on their first visit that should include:

- Client's name, address, and telephone or other contact number(s).
- Reason for visit.
- Medical history.
- Insurance/payment methods (if applicable).
- Person to call in case of emergency, with their contact information.

The client should also sign and date the following statements:

- Release of medical records.
- Notice of informed consent with scope and limitations of practice.
- Client's Bill of Rights.

A Client's Bill of Rights typically includes the following information:

- Name of practitioner.
- Details of practitioner certification and list of credentials.
- Practitioner's area of expertise, philosophy, and/or approach to massage.
- Fees and service schedule.
- Payment terms.
- Filing procedures for written complaints.
- A right to information statement, asserting the client's right to the following information:
  - Practitioner's assessment of the client's physical condition.
  - Recommended treatment, estimated duration of treatment, and expected results.
  - Copy of client's health forms/records held by practitioner.
- Statement of confidentiality.
- Statement of refusal, explaining the client's right to terminate a course of treatment at any time and choose a new practitioner.
- Clients' right to invoke, explaining client's right to invoke these rights without fear of reprisal.

Both the practitioner and client are ensured the "right of refusal." For a client, this means the right to refuse, modify, or terminate treatment

regardless of any prior agreements or statements of consent. For a practitioner, this means the right to refuse to treat any person or condition for just and reasonable cause. These rights safeguard a client's freedom to choose any practitioner, and a practitioner's freedom to terminate treatment, if necessary. These rights might come into play in cases of negligence or abuse. For example, a practitioner can refuse to work with an abusive or unstable client, and a client can refuse treatment from a practitioner he or she suspects is practicing under the influence of alcohol, drugs, or any illegal substances.

Business management and promotion

Conducting your business in an ethical manner is largely a matter of treating people fairly and decently, using your skills and time effectively, and adhering to high standards in your work. Your promotional materials, record keeping, financial dealings, and conduct in day-to-day business matters should also be able to pass ethical scrutiny. Maintaining your practice in good standing means:

- Filing local, state, and federal taxes.
- Discussing and/or displaying fee schedules and billing practices prior to a first meeting.
- Making the client's welfare your paramount concern.
- Following generally accepted accounting practices.
- Keeping accurate financial records.
- Maintaining patient confidentiality.
- Respectful and cooperative collaboration with other professionals.
- Appropriate referrals, if necessary.

As a massage professional, any negative perceptions of your marketing materials or advertisements tend to reflect poorly on your colleagues and the profession as a whole. Promotional materials should:

- Include your license number, place of business, and phone number.
- Refrain from using fear or guilt as motivational tactics.
- Avoid unrealistic, misleading, or sensational claims, or promises to cure specific conditions or ailments.
- Avoid using any wording or image that might be construed as sexual in nature.
- Adhere to truth-in-advertising standards.

Documentation and records

Proper documentation and record keeping is a critical, routine aspect of a successful practice. Keep notes legible and accurate. If it is ever necessary to refer to files at some time in the future (a medical emergency or legal proceedings, for example), the context and details of your notes should be clear. Other health care personnel will need to know the background, presenting status, actions taken and the results, with some discussion of treatment strategies and expected objectives.

Adhere to the following guidelines for preparing and maintaining records:[9]

- Maintain accurate and truthful records: record only factual information, observations, and actions. Don't record your opinions, or conjecture about the client or his/her condition. When recording statements made by your client (regarding an injury, for example), use quotation marks to demarcate the client's words. Keep a separate file for personal notes or any material of a speculative nature.
- Make sure the forms you use to collect client information are appropriate to your practice and cover all pertinent areas. Make sure forms are free of errors and are easy to read and understand. Questions should be stated simply. Avoid jargon or complicated medical terminology, or define terms, as needed. Review forms on a regular basis, and revise or simplify confusing formatting or content.
- Take a comprehensive case history and review it with the client before beginning treatment. This should include an overview of the client's general state of health and thorough medical history, his or her reason(s) for seeking massage therapy, onset and duration of problematic symptoms, medical history of family members (if appropriate), and occupational background.
- Train staff members to record client histories and other important information properly and thoroughly, and to ask appropriate follow-up questions if there is any ambiguity in a response. Implement some structure or mechanism to ensure this information is complete for every client and answers are recorded in sufficient detail. Review any personal or medical information taken by other staff members in a personal interview with the client to ensure information was recorded properly and in adequate detail.
- Areas that do not apply to a specific client should be marked "N/A" (non applicable) rather than left blank.
- Develop a short, simple form that clients can use to note their progress (or lack of progress) at each visit.
- Document any client non-compliance with the care plan, including canceled appointments (dnka = did not keep appointment), refusal or failure to follow health care instructions and/or take needed medication, activities or behaviors that pose a risk to the client's health. Communicate the rationale for your opinion and do not proceed with any action that conflicts with your professional judgment.
- If you feel the client's disregard for professional recommendations is putting him or her at risk, have the client sign a form acknowledging that he or she has been informed of the potential consequences of their action or inaction, and is choosing to refuse recommended treatment.
- Notes should be legible as well as accurate. Pay attention to your handwriting and use clearly written and recognized abbreviations. Remember that you and other people may need to refer to these notes years in the future. Make sure they are easy to read and understand.
- File records promptly and accurately. Establish a strict filing system and adhere to it, and be sure other staff members know the system and the importance of using it.
- The following guidelines were established for litigation purposes and should be standard practice in all health care environments:
  - Alter records as minimally as possible, and only when necessary.
  - If you find something in error, do not erase. Cross out the error using a single line, so as not to conceal what is written underneath, and write the word "error" above the incorrect statement.
  - If you review your records and feel the need to clarify a point, write the date and the additional comments with the note (labeled "addendum").
  - If litigation is threatened, do not make any kind of change to the records.

Not all file contents are subject to the same retention times. Keep records for current and former clients for as long a period as is practically possible, but at least the length of time specified by federal and state regulations as the legal minimum. Retain children's records after they turn 18 for a length of time that equals the state's statute of limitations.

Confidentiality

Keep all original records in your possession. Provide copies of x-rays, notes, and records documenting client care for clients or health care facilities requiring their own copies. Share information only in cases where disclosure is required by law, court order, or another appropriate, professionally approved manner, according to legal requirements.

Impress the importance of confidentiality and retaining original file copies upon all staff members. Institute the following procedures when providing copies, and make no exceptions:

- Have the client sign and date a release authorization form.
- Keep a copy of the release authorization with the client's records.
- Copy only the information requested.

- Note in the client's file: the party requesting the copy, what specifically was requested, and the date, to whom, and where the copy was sent.

All information and matters relating to a client's background, condition, and treatment are strictly confidential and should not be communicated to a third party (even one involved in the patient's care) without the client's written consent or a court order. Treat clients with respect and dignity: Handle personal information with sensitivity and keep the content of written records a private matter. Practitioners who can't resist telling secrets or repeating gossip in their personal lives should be aware of the heavy penalties associated with jeopardizing client confidentiality in a professional context. Without an understanding that their disclosures will be kept secret, clients may withhold personal information. This can hinder caregivers in their efforts to provide effective interventions or to attain important public health goals.

Disclosure of personal health information should protect patient confidentiality as much as possible. Where confidentiality cannot be maintained, clients should be informed about how their personal health information will be used and whether the information will be identifiable or anonymous. Coordination of health care, in daily practice, requires limited disclosure of information to other health care providers, companies related to client reimbursement or payment, etc.

New clients

It is generally a good idea to assume that a new client knows nothing about massage therapy. Many massage therapists develop an information sheet to acquaint the client with basic massage concepts. Office personnel, customary procedures, and other useful points regarding their place of business, such as bathroom locations, and what to expect in a typical session, can be distributed to clients in the waiting room before their first session. Providing basic instructions and answers to common questions in a brief information sheet can be very effective in putting new clients at ease, especially when clients are new to the experience and unfamiliar with a facility's personnel and way of conducting business.

During the session, be sure to inform the client when you move from one area to another, especially when the movement is to a particularly vulnerable area, such as the abdomen.

- Assess sensitivity and tolerance and inform the client as you progress to deeper movements.
- Perform tapotement only with client permission, and after you are certain the individual is adequately informed about the process.
- Take care not to startle a client in a relaxed state.
- Inform the client regarding potential massage aftereffects, such as tenderness or soreness, and their expected duration.
- Ask the client as you near the end of the session if any area in particular needs further attention.
- Invite feedback and implement changes based on client comments.

At the end of each session, discuss the client's treatment plan and health objectives. Ask the client to assess his or her progress or lack of progress toward treatment goals. Answer any questions the client may have, and note the following information in the client's record:

- If the client feels bruised, nauseated, or light-headed (check blood pressure and monitor).
- The length of the massage session.
- When the client should return for another session (session intervals/frequency).
- Anything the client can do to accelerate progress toward treatment goals.
- Anything the client should do or not do between sessions.
- What results the client can expect, and when.

Practitioners who recommend clients replenish fluids after a session may want to provide bottled water at their office.

Interpersonal dynamics and power in the therapeutic relationship

Interpersonal dynamics exist in all relationships, and are a normal and necessary part of a therapeutic relationship between client and practitioner. An important part of this dynamic is a power differential; the imbalance in authority or power that results from your greater expertise in the area of massage therapy. Your education, skills, experience in the field, and professional certification give you an authoritative advantage over your clients.

With any position of power comes the potential for abuse. Massage therapists, like many health care professionals, forge close relationships with people in their care. The combination of physical and social interaction between practitioner and client can trigger strong emotional responses in one or both parties, leading to small improprieties as well as egregious misconduct.

Asking your client, who is a lawyer, for free legal advice; requesting a church donation or selling your daughter's Girl Scout cookies at the office; mentioning personal details about a client or repeating what was said during a session to a friend or spouse: All are subtle ways practitioners take unfair advantage of their relationships with clients. Even when clients appear to welcome, rather than resent, such requests or behavior, they are never appropriate and do not belong in a professional environment. It is equally inappropriate for practitioners to accept favors, free merchandise and services, or confidential information (such as stock tips) from a client. These interactions can distort the therapeutic relationship and obscure its primary objective.

It is not unusual for clients to unintentionally test professional boundaries, or practitioners to unknowingly relax them. When practitioners and clients are motivated by countertransference and transference, respectively, they are more susceptible to inappropriate impulses that can lead to misconduct. Transference refers to all the feelings experienced by the client, related to his or her past experiences and relationships, stirred up by or in the session. Transference is neither negative nor positive, but is "always a distortion; a projection of emotions from the past to current objects."3 Countertransference refers to all the feelings experienced by the practitioner, related to his or her previous relationships and experiences, that are stirred up during the session, including the practitioner's conscious and unconscious response to the client's transference of emotions.

Be aware that transference and countertransference can activate strong emotional reactions and/or feelings of sexual attraction, raising unrealistic expectations on the part of clients and practitioners. Learn to identify emotional red flags of blurred professional/personal boundaries in your behavior. If you overreact, are preaching or lecturing or are uncomfortable, unsure of yourself, or dissatisfied in your interactions with a specific client, you may be experiencing countertransference, bringing emotions and reactions from your personal life into your professional environment.

Boundaries in the patient-practitioner relationship[12]

Boundaries define the limits of appropriate behavior by a professional toward his or her clients. By establishing boundaries, a health care professional creates a respectful and protective space for the therapeutic relationship to occur. A boundary violation occurs when a health care professional's behavior goes beyond appropriate professional limits.

The intimate nature of massage therapy includes practitioners in important and sometimes highly stressful life events, and the mutual dependence of colleagues working in close concert all present the potential for blurring of limits to professional relationships. Remaining within the bounds established by the purpose of the relationship can be especially difficult in prolonged or long-term relationships. Even so, in all encounters, practitioners are responsible for retaining their professional boundaries.

A variety of standards establish the limits of appropriate professional behavior, whether those limits are explicitly enumerated in standards of conduct, codes of ethics, or law, or tacitly conveyed through professional training and widespread acceptance. Individuals who seek help must rely on the professional they consult to be trustworthy: When

practitioners behave in ways that call their professional judgment and objectivity into question, the trust on which the relationship depends is compromised. And when trust is compromised, the efficacy of the therapeutic relationship is negatively affected.

Part of your responsibility in maintaining clearly defined boundaries is to protect the client from you, should you act or speak inappropriately, or be motivated by anything but your client's best interests. Inappropriate behavior tends to make people uncomfortable. If you notice that a client is not responding positively to massage therapy, make sure your behavior or comments are not a contributing factor. Relieving stress and physical stiffness or pain should be a relaxing and comfortable experience. If your behavior is appropriate but your client appears anxious or uncomfortable in the session, discuss your concern with the client.

A boundary violation occurs when a health care professional's behavior goes beyond appropriate professional limits. Boundary violations generally arise when a personal interest displaces the professional's primary commitment to the patient's welfare in ways that harm the patient or the patient-practitioner relationship. Interactions between health care professionals and clients are ethically problematic when they can reasonably be expected to affect the care the individual or other clients receive or the health care professional's relationships with colleagues – or when they give the appearance of doing so.

Boundaries are breached in two ways. Some breaches are inadvertent or not intentionally exploitative. These are known as boundary crossings. Commonly cited examples are a goodbye hug initiated by your client at the completion of treatment; non-sexual physical reassurance at times of extreme stress; running a session overtime; or selective self-disclosure. Repetitive boundary crossings are potentially harmful because they blur the boundary, thereby increasing the chances of boundary violation. Boundary violation is a significant and potentially harmful breach where the practitioner overrides the client's rights or actually does harm to the client. Some examples are: affectionate or flirtatious communication; self-disclosure about the practitioner's personal problems; or breaking confidentiality.

Personal boundaries and self-disclosure

Self-disclosure is the process in which the practitioner reveals personal (rather than general or professional) information about him/herself to the client. There are many different motivations for and types of self-disclosure. An incident may be deliberate or accidental, initiated by either the client or the therapist, and can be spoken or unspoken. An example of unspoken intentional self-disclosure is how you choose to decorate your workplace (with careful selection of a meaningful poster or picture, or a family photo, for example). Some self-disclosure is unavoidable, as your presence communicates facts about you such as your gender, and approximate age, etc.

Some disclosure is accidental because it is not meant to be shared but is communicated through body language or tone of voice. Accidental self-disclosure also occurs in cases where a practitioner bumps into a client unexpectedly, when both are sitting in their doctor's waiting room, for example. You may or may not want to disclose information about why you are there, and it may be difficult to find a safe middle ground, revealing enough to be professional and friendly, but not enough to compromise your own personal space and privacy.

Exactly where should you draw the line? It is helpful to ask yourself two questions before self-disclosing: (a) how will it benefit the client? and (b) how will it affect your professional boundaries? You should also consider your own privacy. For example, what if you and your client attend the same Alcoholics Anonymous meeting? Would this make it hard for you to get the full benefits of attending the meeting during times of stress or relapse? Self-disclosure is not always conscious and deliberate. Words can be blurted out, poorly thought out, or tinged with emotion. When in doubt, do not self-disclose.

In a similar vein, it is usually best to keep emotional responses or judgments (both negative and positive) to yourself. A good rule of thumb is to monitor your own feelings without imposing them on your client. If you are distracted by a strong feeling, mentally put it to one side. Wait until after the session, then talk with a peer or supervisor or deal with it personally. As with other boundary crossing, self-disclosure should be client-focused, based on the welfare of the client. Different clients and practitioners have different personal boundaries, so appropriate boundaries must function within the client's comfort zone.

Remember that those personal and professional boundaries exist for the benefit of both the practitioner and the client. Changing or moving boundaries, which are the limits within which the therapeutic relationship occurs, results in an unclear or ambiguous relationship that is a risk to the safety of the client, although it may not appear to have negative repercussions at that time. Transgressions often have delayed consequences that do not appear harmful initially. Detecting boundary violations is complicated by the fact that transgressions are more often a process than an individual event or occurrence. Boundary violations may be subtle, or masked by the professional/patient relationship.

Dual/multiple role relationships

A dual or multiple role relationship occurs when an individual either at the same time or different points in time engages in two role categories, for example, in addition to the professional therapeutic relationship, there is also another relationship, such as relative, friend, student, business partner, or instructor. While it is perhaps best to avoid dual relationships, it is not always a possible or practical ideal. In small towns, for example, it may be more difficult to avoid dual relationships.

There is a great range of opinion regarding the propriety of dual relationships. While some feel that not all dual relationships are negative, all have that potential. Some organizations suggest that dual relationships are acceptable, if not exploitive. To ensure that the relationships do not cross the line into exploitation, it is important to follow recommended procedures including informed consent, open discussion, consultation, supervision, and examination of personal motivation, all of which should be documented.

Some professionals consider it unethical to work on friends, while others consider it acceptable to proceed as long as appropriate measures are taken to ensure there are no detrimental effects to the therapeutic or preexisting relationship. It is always best to avoid multiple relationships if it appears likely that the relationship might interfere with the therapeutic relationship. However, existence of a dual relationship is not necessarily a violation of boundaries. This is usually referred to as a "prohibited dual relationship." This means a dual relationship which might impair objectivity or effectiveness, or permit exploitation, or create an actual, apparent or potential conflict of interest.

It is your responsibility, not your client's, to maintain appropriate boundaries in your professional relationship. If a complaint is filed, it will be your responsibility to demonstrate that a client has not been exploited or coerced, intentionally or unintentionally. Be especially vigilant regarding any conduct that could impair your objectivity and professional judgment in serving your client, and any conduct that carries the risk and/or the appearance of exploitation or potential harm to your client.

Recognize and avoid the dangers of dual relationships when relating to clients in more than one context, whether professional, social, educational, or commercial. Dual relationships can occur simultaneously or consecutively. Prohibited dual relationships can include, but are not limited to:

- Accepting as a client anyone with whom you have had a prior sexual relationship.
- Forming a sexual relationship with a current client or someone who has been your client.
- Treating clients to whom you are related by blood or legal ties.
- Bartering with clients for the provision of services.
- Entering into financial or business transactions with clients (other than the provision of massage services).

Other situations that complicate the massage therapy relationship are: extending the session, lending and borrowing money, meeting at inappropriate places or times, giving or receiving gifts, soliciting donations, inappropriate self-disclosure, socialization with clients, and

inappropriate use of language. Maintaining appropriate boundaries is an essential part of compassionate, effective, and ethical massage therapy practice.

Although practitioners and clients may be similarly affected by these psychological processes and equally capable of showing poor judgment or acting irrationally, licensed practitioners are bound by their professional affiliation to act responsibly, even when the client does not.

Appropriate behaviors reinforce professional boundaries. Try to maintain the same structure and rules of conduct in each session, with each client. Examine the rationale and potential repercussions of any changes or exceptions you make for specific clients, even at their request, before you implement them. Bending a rule may not always endanger the therapeutic process, but impropriety can be a "slippery slope." If you uncharacteristically deviate from normal session structure or protocol, suspect your impulses may be motivated by self-interest, or are having strong emotional responses to a client, seek peer support or supervision.

Terminating a professional relationship

If you feel it is appropriate, either because a specified, finite course of treatment with a client is concluding, or because you believe your relationship with the client has become dysfunctional, unproductive, or emotionally damaging, it may be necessary to terminate your professional relationship with the client. While this can be a difficult and uncomfortable task, it is important that it not be postponed out of a desire to avoid confrontation or discomfort.

Terminating a potentially damaging relationship is an important professional obligation with specific responsibilities. Practitioners must be able to realistically assess their own limitations and/or their client's potential for therapeutic benefits, and make a determination in their client's best interests, without feelings of failure or guilt. They must develop a plan for termination that is considerate of the client, with attention to the possibility that it will be received with emotion or distress.

Informed consent provides a framework for termination because it specifies the need for an ongoing discussion between the client and practitioner regarding the expected goals and anticipated time-line for therapeutic benefits. Involve your client in the process so he or she is aware of treatment objectives and can ask questions and make determinations about his or her progress toward them. Discuss obstacles to client progress as they come up, so your client is not surprised by an unexpected pronouncement or abrupt changes in your assessment of the client's condition from one session to the next. Be sure to follow customary procedures for client assessment, and document relevant information about the client's progress or lack of progress toward treatment goals.

Before terminating the client, be sure to:

- Consult appropriate information resources and supervising personnel. Contact a professional colleague or supervisor about your situation with the client, post a question on a professional massage therapy website, or refer to professional organizations with which you are affiliated. You may be able to find an alternative to terminating the client, or a sensitive way to present the issue to him or her. If you appeal to any of these resources, be absolutely certain that you maintain strict rules of confidentiality and privacy, ensuring that the client's name or other identifying information is never revealed.
- Do a reality check. Make sure you and the client are "on the same page" by comparing your understanding of a therapeutic relationship with theirs, and discussing disparities in the way you and the client perceive your relationship, including difficulties and desired objectives. This kind of clarification can help you determine the scope of the problem and whether it is the result of miscommunication or misinterpretation, something that can be remedied, or requires termination.

If it is necessary to terminate the client, be sure it is done when you have sufficient time to discuss the subject fully. Take the time to respond to any questions the client may have, and give the client sufficient time to react to the news, respond to it, and regain composure. Do your best to leave the client with positive feelings about you and the practice of massage therapy. Provide referrals to other massage practitioners or health care professionals, as appropriate.

Sexuality and massage

Sexual misconduct, one of the most egregious examples of inappropriate behavior, refers to any sexual activity between the massage therapist and client. While women are less likely than men to be accused of sexual misconduct, they are not immune to such allegations. Some practitioners employ strategies of avoidance, ignoring the issue of sexuality entirely, either consciously or unconsciously, due to their own embarrassment or discomfort with the topic. While this approach may save you an awkward moment or two, an inability or refusal to address the subject when necessary (ignoring signs of sexual arousal, for example) may not only be inappropriate, but professionally irresponsible and a breach of ethical conduct.

Strategies for client safety

The emotional, financial, and legal consequences of professional misconduct for both the client and professional community are profound. Preventive policies should include an educational component explaining power dynamics in the therapeutic session, what constitutes appropriate and inappropriate conduct with individuals of the same and opposite genders, and strategies for speaking and acting in ways that delineate and reinforce appropriate boundaries.

Ensuring your clients' safety requires more than not being sexual toward them, or avoiding overt sexual behaviors with them. It means actively and consciously "desexualizing" the experience of massage; that is, making something with potential sexuality no longer sexual, or de-emphasizing that dimension. Desexualizing massage is a process of deconstructing the experience into its component parts, acknowledging human sexuality as a given, and accepting the practitioner and client as sexual beings.

It's natural for clients to feel some degree of anxiety or insecurity related to the process of disrobing and draping. Minimize anxiety or concern by stating and/or providing written information regarding disrobing. Before the client undresses, state that a draping procedure is required for purposes of modesty and physical comfort. Mention or have a written notice that explains draping; that it will cover all parts of the client's body except the specific area receiving attention. Once you finish work in that area, you will recover it, and move to the next area. Tell clients to let you know if they have a question or concern, or are uncomfortable in any way. If you encounter a client who prefers not to be draped, explain that you are unable to proceed with the session until the client agrees to this customary procedure.

Explain to clients what can and cannot be removed or left on without impeding your access to those parts of the body; reassure the client that it is not necessary to remove any more clothing than their personal comfort or modesty will allow. Request that clients do not begin undressing until you have left the room. Never allow the client to dress or undress in your presence. Inform your client before you begin what areas will be your focus and ask permission to proceed. Expose and work on only one area of the body at a time, and cover the exposed part before moving on to another area.

Avoid ambiguity or the appearance of impropriety in your words and manner. Dress appropriately in a professional manner, avoiding any outfit that could be construed as revealing or provocative. Your demeanor should approximate that of other professional health care personnel. Use appropriate language; avoid cursing or indelicate comments. Use medical terminology when referring to physical conditions or parts of the body. Never discuss sexual topics with or in

front of the client, joke about sexual matters, make sexual remarks or jokes, or use sexual innuendo.

Maintain a comfortable and professional environment. Avoid meeting new clients at unknown locations, at hotels, or in the client's home, where your personal safety may be at greater risk. If you meet the client on-site, set up the massage table in a neutral location, rather than a bedroom. Encourage relaxation through your client's visual, auditory, and olfactory senses, but keep the look and smell of your environment subdued and professional. Avoid creating an overly perfumed, romantic, or sensual atmosphere. Remember that a client may be allergic to certain odors, have strong negative reactions to certain smells, or associate a given odor with an unpleasant memory or incident. Music should also be soothing and subtle, and played only after you have asked your client about his or her preference for music or silence during the massage.

Misconduct

Misconduct has been a persistent and troubling issue in health care and medical professions since the early days of modern medicine. Written more than 2,000 years ago, the Hippocratic Oath urged members of the medical profession to refrain from "mischief, and in particular, sexual relationships with both female and male persons."[4] In recent years, accusations of misconduct in the health care and personal service industries have become increasingly common, due in part to formal regulation of the complaint process and greater awareness of the issue among the general public.

Misconduct takes many different forms that vary considerably in type and degree of severity. The following examples of misconduct demonstrate the need for ethical vigilance in every aspect of business practice, from organizational matters, to billing, to social interactions. Even in cases where inappropriate behaviors are the unintended result of thoughtlessness, errors in judgment, or improper planning, they risk potentially serious repercussions for the client and heavy penalties for the practitioner. Victims may face emotional and physical scarring with lifelong implications, and allegations of misconduct – even false ones – wreak havoc with practitioners' lives and livelihoods[5]. Misconduct takes many forms. The following list provides some examples:

- **Misrepresentation of educational status:** Identifying yourself as a craniosacral therapist after taking a two-hour course.
- **Substance abuse:** Practicing under the influence of alcohol, drugs, or any illegal substances (with the exception of prescribed dosage of prescription medication which does not significantly impair the practitioner).
- **Financial impropriety:** Charging a cash-paying client a different fee than an insurance-paying client.
- **Exploiting the power differential:** Asking a stockbroker for financial tips during a treatment.
- **Misleading claims of curative abilities:** Telling a client you guarantee her pain will be gone in two sessions.
- **Accessibility:** Refusing to adapt your office (or making some reasonable accommodation) for those with physical challenges.
- **Bigotry:** Refusing to work with someone due to race, religion, size, or sexual orientation.
- **Inappropriate advertising:** Using a provocative picture in advertising; presenting misleading qualifications.
- **Dual relationships:** Dating a client.
- **Violation of laws:** Practicing out of your home, when it is not permitted by law.
- **Confidentiality:** Name-dropping famous clients; telling a spouse details about his partner's session.
- **Contraindications:** Treating a client when you are sick/infectious; ignoring signs of conditions that preclude physical contact.
- **Informed consent:** Working on a minor without parental knowledge; treating someone's injury without permission.
- **Practicing beyond scope of practice:** Doing spinal adjustments, massage or counseling without appropriate training.
- **Sexual misconduct:** Watching a client undress or hugging a client in a sexual way.

Harassment

Harassment is a specific kind of misconduct or boundary violation in which an individual of equal or greater authority is inappropriately familiar with a co-worker or junior employee. Harassment can manifest itself in abusive remarks or behavior, belittling statements and actions, and discussion or commentary of an overly personal or offensive nature. Sexual harassment is abuse of power, typically exercised within the context of work, containing a sexual or gender-specific component.

The Equal Employment Opportunity Commission defines sexual harassment as any unwelcome advance, request, verbal statement, or physical conduct of a sexual nature, including visual displays, in which:[6]

- Submission is made a condition of an individual's employment, either explicitly or implicitly.
- Submission forms the basis for work-related evaluations, such as decisions regarding employment benefits or advancement.
- The individual is subject to intimidating, offensive, or hostile environmental elements that interfere with the individual's ability to work effectively or productively.

Sexual harassment, like sexual misconduct, is not defined by any specific sexual interaction between two individuals. Harassment may include the discussion of sexually explicit topics of conversation at a place of business, unnecessary or inappropriate references to specific body parts or functions, and visual depictions of a provocative or offensive nature, such as posters or calendars featuring photos of nude or scantily clad models. Sexual harassment can occur between men and women, women and women, men and men, or any other combination of sexual or gender identity. Sexual harassment may feel humiliating or shameful, making the victim reluctant to report the incident.

Reporting misconduct

If you believe another practitioner is acting unethically or illegally, you have a responsibility to report it. Contact your state board, the certifying organization (NCBTMB, AMTA, etc.), or the Agency for Healthcare Administration (AHCA) to file a complaint. The AHCA is responsible for analyzing complaints and reports involving potential misconduct and initiating investigations. The boards and councils within statewide organizations determine probable cause and disciplinary action.

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ETHICS IN MASSAGE THERAPY

Final Examination Questions

Select the best answer for each question and mark your answers on the answer sheet found on page 72 or complete your test online at **Massage.EliteCME.com**.

1. Because virtually all state licensing authorities, certifying/accrediting agencies, and professional associations establish their own standards of conduct and ethical guidelines for their members, you will need to:
   a. Memorize the AMTA and NCBTMB ethical codes.
   b. Ignore external ethical codes and create your own.
   c. Refer to the literature or websites of prominent organizations in other fields of study.
   d. Refer directly to the organizations and academic or training institutions with which you are affiliated, as well as state, local, and national associations, to review the ethical guidelines that apply specifically to you and your practice.

2. The nature of the practitioner-client relationship is a fiduciary one. This means:
   a. The client and the practitioner are subject to interpersonal dynamics
   b. The client trusts that the practitioner will act in the client's best interests
   c. The client and practitioner are equal in the power differential
   d. The relationship is not therapeutic

3. If massage therapists suspect they are acting out of an unhealthy need or motive, or feel their interactions or relationship with the client are impeding rather than facilitating the therapeutic relationship, they should:
   a. Respectfully and courteously discuss the topic with your client.
   b. Encourage the client to take an active interest in health concerns.
   c. Seek assistance and/or supervision with a professional massage therapy organization.
   d. Explain your fiduciary responsibilities to the client.

4. Transference and countertransference can:
   a. Activate strong emotional reactions and/or feelings of sexual attraction.
   b. Raise realistic expectations on the part of clients and practitioners.
   c. Keep you from overreacting.
   d. Identify red flags.

5. If massage therapists uncharacteristically deviate from normal session structure or protocol, they should suspect their impulses may be motivated by self-interest, or are having strong emotional responses to a client, they should:
   a. Seek peer support or supervision.
   b. Discuss your concern with the client.
   c. Provide services outside your scope of practice.
   d. Defer responsibility for maintaining protective boundaries.

MFL02ETE18

Chapter 2: Laws and Rules Governing Massage Practice in the State of Florida

2 CE Hours – state required

By: Staff Writer

Learning objectives

- Define "massage" according to the Florida Massage Therapy Act.
- List the qualifications for licensure as a professional massage therapist under Florida law.
- Explain the meaning and significance of "biennial" licensing renewal, and list the necessary continuing education requirements.
- List the acts that are grounds for disciplinary action against massage therapists.
- Describe the relationship and responsibilities of apprentices and sponsors in an approved apprenticeship training program.
- Describe the requirements for instructors and massage therapy students training in colonics irrigation.
- List the laws and guidelines governing establishments of massage therapy.

Introduction

Two main areas of law pertain to the practice of massage therapy in the State of Florida. They are:

The Florida Massage Practice Act: Chapter 480 of the Florida Statutes.[1]

Chapter 64B7 of the Florida Administrative Code.[2]

The following pages guide you through important excerpts of these documents, clarifying how to interpret the laws and rules that address you, personally, as a massage therapist, and discuss your responsibilities and obligations under the law.

Notes pertaining to the development of the law in specific subject areas are detailed in the History sections, referred to at points throughout the text. Each corresponds to a section of the Florida Statutes [FS] or Florida Administrative Code [FAC], with "citations to the section and chapter number of the creating act and each subsequent amendatory act as located in the laws of Florida. Consult the laws of Florida to determine the effective date of a creating act or a particular amendment [3]."

Other chapters that apply to the practice of massage therapy, but are not addressed in this course are: Chapter 120: Administrative Procedure Act; Chapter 119: Public Records; Chapter 408: Health Care Administration; and Chapter 112: Public Officers and Employees – General Provisions.

Please note that only excerpts of these documents are reproduced here. Please refer to the document directly for full text.

The Massage Practice Act

480.031 Short title.
This act shall be known and may be cited as the "Massage Practice Act."

480.032 Purpose.
The Legislature recognizes that the practice of massage is potentially dangerous to the public in that massage therapists must have a knowledge of anatomy and physiology and an understanding of the relationship between the structure and the function of the tissues being treated and the total function of the body. Massage is therapeutic, and regulations are necessary to protect the public from unqualified practitioners. It is therefore deemed necessary in the interest of public health, safety, and welfare to regulate the practice of massage in this state; however, restrictions shall be imposed to the extent necessary to protect the public from significant and discernible danger to health and yet not in such a manner which will unreasonably affect the competitive market. Further, consumer protection for both health and economic matters shall be afforded the public through legal remedies provided for in this act.

480.033 Definitions. As used in this act:

1. "Board" means the Board of Massage Therapy.
2. "Department" means the Department of Health.
3. "Massage" means the manipulation of the soft tissues of the human body with the hand, foot, arm, or elbow, whether or not such manipulation is aided by hydrotherapy, including colonic irrigation, or thermal therapy; any electrical or mechanical device; or the application to the human body of a chemical or herbal preparation.
4. "Massage therapist" means a person licensed as required by this act, who administers massage for compensation.
5. "Apprentice" means a person approved by the board to study massage under the instruction of a licensed massage therapist.
6. "Colonic irrigation" means a method of hydrotherapy used to cleanse the colon with the aid of a mechanical device and water.
7. "Establishment" means a site or premises, or portion thereof, wherein a massage therapist practices massage.
8. "Licensure" means the procedure by which a person, hereinafter referred to as a "practitioner," applies to the board for approval to practice massage or to operate an establishment.
9. "Board-approved massage school" means a facility that meets minimum standards for training and curriculum as determined by rule of the board and that is licensed by the Department of Education pursuant to chapter 1005 or the equivalent licensing authority of another state or is within the public school system of this state or a college or university that is eligible to participate in the William L. Boyd, IV, Florida Resident Access Grant Program.

480.034 Exemptions.

1. Nothing in this act shall modify or repeal any provision of chapters 458-464, inclusive, or of chapter 476, chapter 477, or chapter 486.
2. Athletic trainers employed by or on behalf of a professional athletic team performing or training within this state shall be exempt from the provisions of this act.
3. The state and its political subdivisions are exempt from the registration requirements of this act.
4. An exemption granted is effective to the extent that an exempted person's practice or profession overlaps with the practice of massage.

480.035 Board of Massage Therapy

1. The Board of Massage Therapy is created within the department. The board shall consist of seven members, who shall be appointed by the Governor and whose function it shall be to carry out the provisions of this act.
2. Five members of the board shall be licensed massage therapists and shall have been engaged in the practice of massage for not less than 5 consecutive years prior to the date of appointment to the board. The Governor shall appoint each member for a term of 4 years. Two members of the board shall be laypersons. Each board member shall be a high school graduate or shall have received a high school equivalency diploma. Each board member shall be a citizen of the United States and a resident of this state for not less than 5 years. The appointments will be subject to confirmation by the Senate.

3. The Governor may at any time fill vacancies on the board for the remainder of unexpired terms. Each member of the board shall hold over after the expiration of her or his term until her or his successor has been duly appointed and qualified. No board member shall serve more than two terms, whether full or partial.
4. The board shall, in the month of January, elect from its number a chair and a vice chair.
5. The board shall hold such meetings during the year as it may determine to be necessary, one of which shall be the annual meeting. The chair of the board shall have the authority to call other meetings at her or his discretion. A quorum of the board shall consist of not less than four members.
6. Board members shall receive per diem and mileage as provided in s. 112.061 from the place of residence to the place of meeting and return.
7. The board has authority to adopt rules pursuant to ss. 120.536(1) and 120.54 to implement the provisions of this chapter.

480.036 Accountability of board members.
Each board member shall be held accountable to the Governor for the proper performance of all duties and obligations of such board member's office. The Governor shall cause to be investigated any complaints or unfavorable reports received concerning the actions of the board or its individual members and shall take appropriate action thereon, which may include removal of any board member for malfeasance, misfeasance, neglect of duty, commission of a felony, incompetency, or permanent inability to perform official duties.

480.039 Investigative services.
The department shall provide all investigative services required in carrying out the provisions of this act.

Qualifications

480.041 Massage therapists; qualifications; licensure; endorsement.
1. Any person is qualified for licensure as a massage therapist under this act who:
   a. Is at least 18 years of age or has received a high school diploma or high school equivalency diploma;
   b. Has completed a course of study at a board-approved massage school or has completed an apprenticeship program that meets standards adopted by the board; and
   c. Has received a passing grade on an examination administered by the department.
2. Every person desiring to be examined for licensure as a massage therapist shall apply to the department in writing upon forms prepared and furnished by the department. Such applicants shall be subject to the provisions of s. 480.046(1). Applicants may take an examination administered by the department only upon meeting the requirements of this section as determined by the board.
3. An applicant must submit to background screening under s. 456.0135.
4. Upon an applicant's passing the examination and paying the initial licensure fee, the department shall issue to the applicant a license, valid until the next scheduled renewal date, to practice massage.
5. The board shall adopt rules:
   a. Establishing a minimum training program for apprentices.
   b. Providing for educational standards, examination, and certification for the practice of colonic irrigation, as defined in s. 480.033(6), by massage therapists.
   c. Specifying licensing procedures for practitioners desiring to be licensed in this state who hold an active license and have practiced in any other state, territory, or jurisdiction of the United States or any foreign national jurisdiction which has licensing standards substantially similar to, equivalent to, or more stringent than the standards of this state.
6. Massage therapists who were issued a license before July 1, 2014, must submit to the background screening requirements of s. 456.0135 by January 31, 2015.
7. The board shall deny an application for a new or renewal license if an applicant has been convicted or found guilty of, or enters a plea of guilty or nolo contendere to, regardless of adjudication, a violation of s. 796.07(2)(a) which is reclassified under s. 796.07(7) or a felony offense under any of the following provisions of state law or a similar provision in another jurisdiction:
   a. Section 787.01, relating to kidnapping.
   b. Section 787.02, relating to false imprisonment.
   c. Section 787.025, relating to luring or enticing a child.
   d. Section 787.06, relating to human trafficking.
   e. Section 787.07, relating to human smuggling.
   f. Section 794.011, relating to sexual battery.
   g. Section 794.08, relating to female genital mutilation.
   h. Former s. 796.03, relating to procuring a person under the age of 18 for prostitution.
   i. Former s. 796.035, relating to the selling or buying of minors into prostitution.
   j. Section 796.04, relating to forcing, compelling, or coercing another to become a prostitute.
   k. Section 796.05, relating to deriving support from the proceeds of prostitution.
   l. Section 796.07(4)(a)3., relating to a felony of the third degree for a third or subsequent violation of s. 796.07, relating to prohibiting prostitution and related acts.
   m. Section 800.04, relating to lewd or lascivious offenses committed upon or in the presence of persons less than 16 years of age.
   n. Section 825.1025(2)(b), relating to lewd or lascivious offenses committed upon or in the presence of an elderly or disabled person.
   o. Section 827.071, relating to sexual performance by a child.
   p. Section 847.0133, relating to the protection of minors.
   q. Section 847.0135, relating to computer pornography.
   r. Section 847.0138, relating to the transmission of material harmful to minors to a minor by electronic device or equipment.
   s. Section 847.0145, relating to the selling or buying of minors.

480.0415 License renewal.
The board shall prescribe by rule the method for renewal of biennial licensure which shall include continuing education requirements not to exceed 25 classroom hours per biennium. The board shall by rule establish criteria for the approval of continuing education programs or courses. The programs or courses approved by the board may include correspondence courses that meet the criteria for continuing education courses held in a classroom setting.

480.042 Examinations.
1. The board shall specify by rule the general areas of competency to be covered by examinations for licensure. These rules shall include the relative weight assigned in grading each area, the grading criteria to be used by the examiner, and the score necessary to achieve a passing grade. The board shall ensure that examinations adequately measure an applicant's competency. Professional testing services may be utilized to formulate the examinations.
2. The board shall ensure that examinations comply with state and federal equal employment opportunity guidelines.
3. The department shall, in accordance with rules established by the board, examine persons who file applications for licensure under this act in all matters pertaining to the practice of massage. A written examination shall be offered at least once yearly and at such other times as the department shall deem necessary.
4. The board shall adopt rules providing for reexamination of applicants who have failed the examination.
5. All licensing examinations shall be conducted in such manner that the applicant shall be known to the department by number until her or his examination is completed and the proper grade determined. An accurate record of each examination shall be made; and that record, together with all examination papers, shall be filed with the State Surgeon General and shall be kept for reference and inspection for a period of not less than 2 years immediately following the examination.

Massage establishments

480.043 Massage establishments; requisites; licensure; inspection.

1. No massage establishment shall be allowed to operate without a license granted by the department in accordance with rules adopted by the board.
2. A person who has an ownership interest in an establishment shall submit to the background screening requirements under s. 456.0135. However, if a corporation submits proof of having more than $250,000 of business assets in this state, the department shall require the owner, officer, or individual directly involved in the management of the establishment to submit to the background screening requirements of s. 456.0135. The department may adopt rules regarding the type of proof that may be submitted by a corporation.
3. The board shall adopt rules governing the operation of establishments and their facilities, personnel, safety and sanitary requirements, financial responsibility, insurance coverage, and the license application and granting process.
4. Any person, firm, or corporation desiring to operate a massage establishment in the state shall submit to the department an application, upon forms provided by the department, accompanied by any information requested by the department and an application fee.
5. Upon receiving the application, the department may cause an investigation to be made of the proposed massage establishment.
6. If, based upon the application and any necessary investigation, the department determines that the proposed establishment would fail to meet the standards adopted by the board under subsection (3), the department shall deny the application for license. Such denial shall be in writing and shall list the reasons for denial. Upon correction of any deficiencies, an applicant previously denied permission to operate a massage establishment may reapply for licensure.
7. If, based upon the application and any necessary investigation, the department determines that the proposed massage establishment may reasonably be expected to meet the standards adopted by the department under subsection (3), the department shall grant the license under such restrictions as it shall deem proper as soon as the original licensing fee is paid.
8. The department shall deny an application for a new or renewal license if a person with an ownership interest in the establishment or, for a corporation that has more than $250,000 of business assets in this state, the owner, officer, or individual directly involved in the management of the establishment has been convicted or found guilty of, or entered a plea of guilty or nolo contendere to, regardless of adjudication, a violation of s. 796.07(2)(a) which is reclassified under s. 796.07(7) or a felony offense under any of the following provisions of state law or a similar provision in another jurisdiction:
   a. Section 787.01, relating to kidnapping.
   b. Section 787.02, relating to false imprisonment.
   c. Section 787.025, relating to luring or enticing a child.
   d. Section 787.06, relating to human trafficking.
   e. Section 787.07, relating to human smuggling.
   f. Section 794.011, relating to sexual battery.
   g. Section 794.08, relating to female genital mutilation.
   h. Former s. 796.03, relating to procuring a person under the age of 18 for prostitution.
   i. Former s. 796.035, relating to selling or buying of minors into prostitution.
   j. Section 796.04, relating to forcing, compelling, or coercing another to become a prostitute.
   k. Section 796.05, relating to deriving support from the proceeds of prostitution.
   l. Section 796.07(4)(a)3., relating to a felony of the third degree for a third or subsequent violation of s. 796.07, relating to prohibiting prostitution and related acts.
   m. Section 800.04, relating to lewd or lascivious offenses committed upon or in the presence of persons less than 16 years of age.
   n. Section 825.1025(2)(b), relating to lewd or lascivious offenses committed upon or in the presence of an elderly or disabled person.
   o. Section 827.071, relating to sexual performance by a child.
   p. Section 847.0133, relating to the protection of minors.
   q. Section 847.0135, relating to computer pornography.
   r. Section 847.0138, relating to the transmission of material harmful to minors to a minor by electronic device or equipment.
   s. Section 847.0145, relating to the selling or buying of minors.
9. a. Once issued, no license for operation of a massage establishment may be transferred from one owner to another.
   b. A license may be transferred from one location to another only after inspection and approval by the board and receipt of an application and inspection fee set by rule of the board, not to exceed $125.
   c. A license may be transferred from one business name to another after approval by the board and receipt of an application fee set by rule of the board, not to exceed $25.
10. Renewal of license registration for massage establishments shall be accomplished pursuant to rules adopted by the board. The board is further authorized to adopt rules governing delinquent renewal of licenses and may impose penalty fees for delinquent renewal.
11. The board is authorized to adopt rules governing the periodic inspection of massage establishments licensed under this act.
12. A person with an ownership interest in or, for a corporation that has more than $250,000 of business assets in this state, the owner, officer, or individual directly involved in the management of an establishment that was issued a license before July 1, 2014, shall submit to the background screening requirements of s. 456.0135 before January 31, 2015.
13. This section does not apply to a physician licensed under chapter 458, chapter 459, or chapter 460 who employs a licensed massage therapist to perform massage on the physician's patients at the physician's place of practice. This subsection does not restrict investigations by the department for violations of chapter 456 or this chapter.

480.044 Fees; disposition.

1. The board shall set fees according to the following schedule:
   a. Massage therapist application and examination fee: not to exceed $250.
   b. Massage therapist initial licensure fee: not to exceed $150.
   c. Establishment application fee: not to exceed $200.
   d. Establishment licensure fee: not to exceed $150.
   e. Biennial establishment renewal fee: not to exceed $150.
   f. Biennial massage therapist licensure renewal fee: not to exceed $200.
   g. Massage therapist reexamination fee: not to exceed $250.
   h. Fee for apprentice: not to exceed $100.
   i. Colonics examination fee: not to exceed $100.
   j. Colonics reexamination fee: not to exceed $100.
   k. Application and reactivation for inactive status of a massage therapist license fee: not to exceed $250.
   l. Renewal fee for inactive status: not to exceed $250.
2. The department shall impose a late fee not to exceed $150 on a delinquent renewal of a massage establishment license.
3. The board may establish by rule an application fee not to exceed $100 for anyone seeking approval to provide continuing education courses and may provide by rule for a fee not to exceed $50 for renewal of providership.
4. The department is authorized to charge the cost of any original license or permit, as set forth in this chapter, for the issuance of any duplicate licenses or permits requested by any massage therapist or massage establishment.
5. All moneys collected by the department from fees authorized by this act shall be paid into the Medical Quality Assurance Trust Fund in the department and shall be applied in accordance with the provisions of s. 456.025. The Legislature may appropriate any excess moneys from this fund to the General Revenue Fund.

480.046 Grounds for disciplinary action by the board.

1. The following acts constitute grounds for denial of a license or disciplinary action, as specified in s. 456.072(2):
   a. Attempting to procure a license to practice massage by bribery or fraudulent misrepresentation.

b. Having a license to practice massage revoked, suspended, or otherwise acted against, including the denial of licensure, by the licensing authority of another state, territory, or country.
c. Being convicted or found guilty, regardless of adjudication, of a crime in any jurisdiction which directly relates to the practice of massage or to the ability to practice massage. Any plea of nolo contendere shall be considered a conviction for purposes of this chapter.
d. False, deceptive, or misleading advertising.
e. Advertising to induce or attempt to induce, or to engage or attempt to engage, the client in unlawful sexual misconduct as described in s. 480.0485.
f. Aiding, assisting, procuring, or advising any unlicensed person to practice massage contrary to the provisions of this chapter or to a rule of the department or the board.
g. Making deceptive, untrue, or fraudulent representations in the practice of massage.
h. Being unable to practice massage with reasonable skill and safety by reason of illness or use of alcohol, drugs, narcotics, chemicals, or any other type of material or as a result of any mental or physical condition. In enforcing this paragraph, the department shall have, upon probable cause, authority to compel a massage therapist to submit to a mental or physical examination by physicians designated by the department. Failure of a massage therapist to submit to such examination when so directed, unless the failure was due to circumstances beyond her or his control, shall constitute an admission of the allegations against her or him, consequent upon which a default and final order may be entered without the taking of testimony or presentation of evidence. A massage therapist affected under this paragraph shall at reasonable intervals be afforded an opportunity to demonstrate that she or he can resume the competent practice of massage with reasonable skill and safety to clients.
i. Gross or repeated malpractice or the failure to practice massage with that level of care, skill, and treatment which is recognized by a reasonably prudent massage therapist as being acceptable under similar conditions and circumstances.
j. Practicing or offering to practice beyond the scope permitted by law or accepting and performing professional responsibilities which the licensee knows or has reason to know that she or he is not competent to perform.
k. Delegating professional responsibilities to a person when the licensee delegating such responsibilities knows or has reason to know that such person is not qualified by training, experience, or licensure to perform.
l. Violating a lawful order of the board or department previously entered in a disciplinary hearing, or failing to comply with a lawfully issued subpoena of the department.
m. Refusing to permit the department to inspect the business premises of the licensee during regular business hours.
n. Failing to keep the equipment and premises of the massage establishment in a clean and sanitary condition.
o. Practicing massage at a site, location, or place which is not duly licensed as a massage establishment, except that a massage therapist, as provided by rules adopted by the board, may provide massage services, excluding colonic irrigation, at the residence of a client, at the office of the client, at a sports event, at a convention, or at a trade show.
p. Violating any provision of this chapter or chapter 456, or any rules adopted pursuant thereto.

2. The board may enter an order denying licensure or imposing any of the penalties in s. 456.072(2) against any applicant for licensure or licensee who is found guilty of violating any provision of subsection (1) of this section or who is found guilty of violating any provision of s. 456.072(1).
3. The board shall have the power to revoke or suspend the license of a massage establishment licensed under this act, or to deny subsequent licensure of such an establishment, in either of the following cases:
   a. Upon proof that a license has been obtained by fraud or misrepresentation.
   b. Upon proof that the holder of a license is guilty of fraud or deceit or of gross negligence, incompetency, or misconduct in the operation of the establishment so licensed.
4. Disciplinary proceedings shall be conducted pursuant to the provisions of chapter 120.

480.0465 Advertisement.
Each massage therapist or massage establishment licensed under the provisions of this act shall include the number of the license in any advertisement of massage services appearing in a newspaper, airwave transmission, telephone directory, or other advertising medium. Pending licensure of a new massage establishment pursuant to the provisions of s. 480.043(7), the license number of a licensed massage therapist who is an owner or principal officer of the establishment may be used in lieu of the license number for the establishment.

480.047 Penalties.
1. It is unlawful for any person to:
   a. Hold himself or herself out as a massage therapist or to practice massage unless duly licensed under this chapter or unless otherwise specifically exempted from licensure under this chapter.
   b. Operate any massage establishment unless it has been duly licensed as provided herein, except that nothing herein shall be construed to prevent the teaching of massage in this state at a board-approved massage school.
   c. Permit an employed person to practice massage unless duly licensed as provided herein.
   d. Present as his or her own the license of another.
   e. Allow the use of his or her license by an unlicensed person.
   f. Give false or forged evidence to the department in obtaining any license provided for herein.
   g. Falsely impersonate any other licenseholder of like or different name.
   h. Use or attempt to use a license that has been revoked.
   i. Otherwise violate any of the provisions of this act.
2. Except as otherwise provided in this chapter, any person violating the provisions of this section is guilty of a misdemeanor of the first degree, punishable as provided in s. 775.082 or s. 775.083.

480.0475 Massage establishments; prohibited practices.
1. A person may not operate a massage establishment between the hours of midnight and 5 a.m. This subsection does not apply to a massage establishment:
   a. Located on the premises of a health care facility as defined in s. 408.07; a health care clinic as defined in s. 400.9905(4); a hotel, motel, or bed and breakfast inn, as those terms are defined in s. 509.242; a timeshare property as defined in s. 721.05; a public airport as defined in s. 330.27; or a pari-mutuel facility as defined in s. 550.002;
   b. In which every massage performed between the hours of midnight and 5 a.m. is performed by a massage therapist acting under the prescription of a physician or physician assistant licensed under chapter 458, an osteopathic physician or physician assistant licensed under chapter 459, a chiropractic physician licensed under chapter 460, a podiatric physician licensed under chapter 461, an advanced registered nurse practitioner licensed under part I of chapter 464, or a dentist licensed under chapter 466; or
   c. Operating during a special event if the county or municipality in which the establishment operates has approved such operation during the special event.
2. A person operating a massage establishment may not use or permit the establishment to be used as a principal domicile unless the establishment is zoned for residential use under a local ordinance.
3. A person violating the provisions of this section commits a misdemeanor of the first degree, punishable as provided in s. 775.082 or s. 775.083. A second or subsequent violation of this section is a felony of the third degree, punishable as provided in s. 775.082, s. 775.083, or s. 775.084.

480.0485 Sexual misconduct in the practice of massage therapy.
The massage therapist-patient relationship is founded on mutual trust. Sexual misconduct in the practice of massage therapy means violation of the massage therapist-patient relationship through which the massage

therapist uses that relationship to induce or attempt to induce the patient to engage, or to engage or attempt to engage the patient, in sexual activity outside the scope of practice or the scope of generally accepted examination or treatment of the patient. Sexual misconduct in the practice of massage therapy is prohibited.

480.049 Civil proceedings.
As cumulative to any other remedy or criminal prosecution, the department may file a proceeding in the name of the state seeking issuance of a restraining order, injunction, or writ of mandamus against any person who is or has been violating any of the provisions of this act or the lawful rules or orders of the department.

480.052 Power of county or municipality to regulate massage.
A county or municipality, within its jurisdiction, may regulate persons and establishments licensed under this chapter. Such regulation shall not exceed the powers of the state under this act or be inconsistent with this act. This section shall not be construed to prohibit a county or municipality from enacting any regulation of persons or establishments not licensed pursuant to this act.

480.0535 Documents required while working in a massage establishment.

1. In order to provide the department and law enforcement agencies the means to more effectively identify, investigate, and arrest persons engaging in human trafficking, a person employed by a massage establishment and any person performing massage therein must immediately present, upon the request of an investigator of the department or a law enforcement officer, valid government identification while in the establishment. A valid government identification for the purposes of this section is:
   a. A valid, unexpired driver license issued by any state, territory, or district of the United States;
   b. A valid, unexpired identification card issued by any state, territory, or district of the United States;
   c. A valid, unexpired United States passport;
   d. A naturalization certificate issued by the United States Department of Homeland Security;
   e. A valid, unexpired alien registration receipt card (green card); or
   f. A valid, unexpired employment authorization card issued by the United States Department of Homeland Security.
2. A person operating a massage establishment must:
   a. Immediately present, upon the request of an investigator of the department or a law enforcement officer:
      1. Valid government identification while in the establishment.
      2. A copy of the documentation specified in paragraph (1)(a) for each employee and any person performing massage in the establishment.
   b. Ensure that each employee and any person performing massage in the massage establishment is able to immediately present, upon the request of an investigator of the department or a law enforcement officer, valid government identification while in the establishment.
3. A person who violates any provision of this section commits:
   a. For a first violation, a misdemeanor of the second degree, punishable as provided in s. 775.082 or s. 775.083.
   b. For a second violation, a misdemeanor of the first degree, punishable as provided in s. 775.082 or s. 775.083.
   c. For a third or subsequent violation, a felony of the third degree, punishable as provided in s. 775.082, s. 775.083, or s. 775.084.

Florida Administrative Code: 64B7 Board of Massage Organization

64B7-24.0091 Attendance of Meetings by Board Members.
Unexcused absences of a board member are absences not due to the following situations:

1. Medical problems of a board member or a board member's family including but not limited to illness, surgery, emergency care and/or hospitalization;
2. Death of a family member and/or attendance at the family member's funeral;
3. Any conflict, extraordinary circumstance, or event approved by the chairman of the board.

64B7-24.016 Time for Payment of Civil Penalties.
In cases where the Board imposes a civil penalty for violation of Chapter 456 or 480, F.S., or the rules promulgated thereunder, the penalty shall be paid within thirty (30) days of its imposition by order of the Board, or as otherwise directed by the Board.

64B7-24.017 Board Business.
For the purposes of Section 456.011(4), F.S., the Board defines "other business involving the Board" as:

1. All regularly scheduled meetings of Board committees; and,
2. Whenever a board member has been requested by the State Surgeon General or the Department staff to participate in a meeting or in the preparation, administration, or grading of the examination.
3. Meetings or business at the direction or request of the Board.

64B7-24.020 Public Comment.
The Board of Massage Therapy invites and encourages all members of the public to provide comment on matters or propositions before the Board or a committee of the Board. The opportunity to provide comment shall be subject to the following:

1. Members of the public will be given an opportunity to provide comment on subject matters before the Board after an agenda item is introduced at a properly noticed board meeting.
2. Members of the public shall be limited to three (3) minutes to provide comment. This time shall not include time spent by the presenter responding to questions posed by Board members, staff or board counsel. The chair of the Board may extend the time to provide comment if time permits.
3. Members of the public shall notify board staff in writing of their interest to be heard on a proposition or matter before the Board. The notification shall identify the person or entity, indicate support, opposition, or neutrality, and identify who will speak on behalf of a group or faction of persons consisting of three (3) or more persons. Any person or entity appearing before the Board may use a pseudonym if he or she does not wish to be identified.

Examination

64B7-25.001 Examination Requirements.

1. The Department shall issue a license by examination to a person who:
   a. Pays to the Department the initial licensure fee set forth in subsection 64B7-27.100, F.A.C.;
   b. Submits a completed application on form DH-MQA 1115, "Massage Therapist Licensure Application," (Rev. 7/16). The form and the attached instructions are incorporated herein by reference and may be obtained from the Board Office at 4052 Bald Cypress Way, Bin C-06, Tallahassee, Florida 32399 or from the website located at http://floridasmassagetherapy.gov/applications/massage-app.pdf or http://www.flrules.org/Gateway/reference.asp?No=Ref-07947. To apply on-line, visit https://flhealthsource.gov/mqa-services;
   c. Provides proof of graduation per Rule 64B7-32.002, F.A.C., from a Board-approved massage school as defined in Section 480.033(9). F.A.C.;
   d. Presents certification to the Board of successful completion of an approved examination for licensure; and,
   e. Submits to the background screening provisions as set forth in Section 456.0135, F.S.
2. Prior to the practice of colon hydrotherapy, any licensed massage therapist or massage therapy apprentice must:
   a. Submit a completed application entitled Application for Colon Hydrotherapy Upgrade to Massage Therapist License with Instructions, form DH-MQA 1247 (Rev. 01/13). The form is incorporated herein by reference and may be obtained from the Board Office at 4052 Bald Cypress Way, Bin C-06, Tallahassee, Florida 32399 or from the website located at http://floridasmassagetherapy.gov/applications/massage-colon-upgrade.pdf or http://www.flrules.org/Gateway/reference.asp?No=Ref-09173. To apply on-line, visit http://fflhealthsource.gov/mqa-services;

b. Provide proof of completion of a course of study in colonic irrigation at a Board approved massage school per Rule 64B7-32.005, F.A.C., or a course of study equal to or more stringent than the course of study in colonic irrigation in subsection 64B7-32.005(3), F.A.C., with an approved provider or school in another state, or a colonic irrigation apprenticeship per Rule 64B7-29.007, F.A.C.; and,
c. Present certification to the Board of successful completion of an approved examination for colonic irrigation.

3. The Board approves the following examinations for licensure:
   a. The Massage and Bodywork Licensing Examination administered by the Federation of State Massage Therapy Boards;
   b. National Certification Board for Therapeutic Massage and Bodywork Examination;
   c. National Certification Examination for Therapeutic Massage;
   d. National Exam for State Licensure option administered by the National Certification Board for Therapeutic Massage and Bodywork.
   e. The state examination in Florida, offered prior to 1996.
4. The Board approves the following examination for certification in colonic irrigation: The National Board for Colon Hydrotherapy Examination.

64B7-25.004 Endorsements.
The Department shall issue a license by endorsement to a person who:
1. Pays to the Department the initial licensure fee set forth in subsection 64B7-27.001, F.A.C.;
2. Submits a completed application on form DH-MQA 1115, "Massage Therapist Licensure Application," (Rev. 7/16), adopted and incorporated by reference in Rule 64B7-25.001, F.A.C.;
3. Is currently licensed and has practiced massage under the laws of another state, and was required, in order to be so licensed to meet standards of education or apprenticeship training substantially similar to, equivalent to, or more stringent than those required for licensure by Sections 456, 480, F.S., and Rule Title 64B7, F.A.C.
4. Demonstrates that the out-of-state license was issued upon the satisfactory completion of an examination comparable to the examination approved by the Board or presents certification to the Board of successful completion of an approved examination for licensure subsequent to the issuance of the our-of-state license;
5. Has no outstanding or unresolved complaints filed in any jurisdiction where licensure is held; and,
6. Completes a 10 hour Florida Laws and Rules course offered by a Board approved school or Board approved continuing education provider.

Massage establishments

64B7-26.001 Definitions.
1. The term "owner" means the sole proprietor, partnership, limited partnership or corporation that operates the massage establishment.
2. The term "business name" means the name under which the owner applies for the establishment license to provide massage therapy, if different from the name of the owner.

64B7-26.002 Licensure of Massage Establishments.
1. Each establishment, shall obtain a license from the Department as required by Section 480.043(1), F.S., by submitting a completed form DH-MQA 1263, "Massage Establishment Licensure Application" (Rev. 11/15), incorporated herein by reference, together with the fee set forth in subsection 64B7-27.100(2), F.A.C. The form and the attached instructions may be obtained from the Board office at 4052 Bald Cypress Way, Bin C-06, Tallahassee, Florida 32399 or from the website located at http://floridasmassagetherapy.gov/applications/app-bus-original-mt.pdf or http://www.flrules.org/Gateway/reference.asp?No=Ref-06532
2. The application for licensure shall be submitted in the name of the owner or owners of the establishment. If the owner is a partnership, limited partnership or corporation, the application shall be submitted in the name of the business entity and shall be signed by an authorized representative.
3. An owner operating an establishment under a fictitious name as defined in Section 865.09, F.S., must provide such name to the Board on the application for licensure. Any advertisement by the establishment of massage therapy must include the fictitious name, and must comply with Rule 64B7-33.001, F.A.C.
4. The applicant shall submit proof confirming property damage and bodily injury liability insurance coverage for the proposed establishment. If the establishment is operated under a business name, the proof of insurance shall include both the name of the owner and the business name.

64B7-26.003 Massage Establishment Operations.
1. Facilities, Each establishment shall meet the following facility requirements:
   a. Comply with all local building code requirements.
   b. Provide for the use of clients a bathroom with at least one toilet and one sink with running water. Such facilities shall be equipped with toilet tissue, soap dispenser with soap or other hand cleaning materials, sanitary towels or other hand-drying device such as a wall-mounted electric blow dryer, and waste receptacle.
   c. Maintain toilet facilities in a common area of the establishment. Establishments located in buildings housing multiple businesses under one roof such as arcades, shopping malls, terminals, hotels, etc., may substitute centralized toilet facilities. Such central facilities shall be within three hundred (300) feet of the massage establishment.
   d. If equipped with a whirlpool bath, sauna, steam cabinet and/or steam room, maintain clean shower facilities on the premises.
2. Personnel. A licensed massage therapist must be on the premises of the establishment if a client is in a treatment room for the purpose of receiving massage therapy.
3. Safety and sanitary requirements. Each establishment shall:
   a. Provide for safe and unobstructed human passage in the public areas of the premises; provide for removal of garbage and refuse; and provide for safe storage or removal of flammable materials.
   b. Maintain a fire extinguisher in good working condition on the premises. As used herein "good working condition" means meeting the standards for approval by the State Fire Marshal. Such standards are presently contained in Chapter 69A-21, F.A.C.
   c. Exterminate all vermin, insects, termites, and rodents on the premises.
   d. Maintain all equipment used to perform massage services on the premises in a safe and sanitary condition, including the regular application of cleansers and bactericidal agents to the massage table. Unless clean sheets, towels, or other coverings are used to cover the massage table for each client, "regular application," as used herein, means after the massage of each client. If clean coverings are used for each client, then "regular application" shall mean at least one time a day and also whenever oils or other substances visibly accumulate on the massage table surface.
   e. Maintain a sufficient supply of clean drapes for the purpose of draping each client while the client is being massaged, and launder before reuse all materials furnished for the personal use of the client, such as drapes, towels and linens. As used herein "drapes" means towels, gowns, or sheets.
   f. Maintain lavatories for hand cleansing and/or a chemical germicidal designed to disinfect and cleanse hands without the use of a lavatory in the treatment room itself or within 20 feet of the treatment area.
   g. Maintain all bathroom and shower facilities and fixtures in good repair, well-lighted and ventilated.
4. Financial responsibility and insurance coverage. Each establishment shall maintain property damage and bodily injury liability insurance coverage. The original or a copy of such policy shall be available on the premises of the establishment.

64B7-26.004 Inspection Upon Application for License.
Upon receipt of an application for a massage establishment license, employees of the Department shall cause an inspection to be made of the site. Such inspection shall be to confirm that the site is to be utilized for "massage" as defined by Section 480.033(4), F.S., and that the criteria enunciated in Rule 64B7-26.003, F.A.C., are satisfied.

64B7-26.005 Periodic Inspections.
The Department shall make periodic inspections of all massage establishments licensed in this state no less than once each year. Such

inspection shall include, but not be limited to, whether the establishment is in compliance with Rule 64B7-26.003, F.A.C., governing the establishment's operation facilities, personnel, safety, sanitary requirements, and a review of existing insurance coverage.

64B7-26.007 Transfer of Massage Establishment License.

1. When there is no change of ownership or location, the owner may change the business name of the establishment. The owner shall apply for a change of business name by submitting a completed Form DH-MQA 1264 "Massage Establishment Change of Location/ Name Application" (Rev. 6/14), incorporated herein by reference, accompanied by the application fee provided in paragraph 64B7-27.100(2)(d), F.A.C. The form and the attached instructions may be obtained from the Board Office at 4052 Bald Cypress Way, Bin C-06, Tallahassee, Florida 32399 or from the website located at http://floridasmassagetherapy.gov or http://www.flrules.org/Gateway/reference.asp?No=Ref-04618. When a massage establishment business name is changed, without a change in ownership or location, a new establishment inspection is not required.
2. When there is no change of ownership, the owner of a massage establishment may transfer the license from one location to another. The owner shall apply for a change of location by submitting a completed Form DH-MQA 1264 "Massage Establishment Change of Location/Name Application" (Rev. 6/14), accompanied by the application fee provided in paragraph 64B7-27.100(2)(e), F.A.C. A massage establishment license may not be transferred from one location to another until after inspection by the department.

64B7-26.010 Sexual Activity Prohibited.

1. Sexual activity by any person or persons in any massage establishment is absolutely prohibited.
2. No massage establishment owner shall engage in or permit any person or persons to engage in sexual activity in such owner's massage establishment or use such establishment to make arrangements to engage in sexual activity in any other place.
3. No licensed massage therapist shall use the therapist-client relationship to engage in sexual activity with any client or to make arrangements to engage in sexual activity with any client.
4. As used in this rule, "sexual activity" means any direct or indirect physical contact by any person or between persons which is intended to erotically stimulate either person or both or which is likely to cause such stimulation and includes sexual intercourse, fellatio, cunnilingus, masturbation, or anal intercourse. For purposes of this subsection, masturbation means the manipulation of any body tissue with the intent to cause sexual arousal. As used herein, sexual activity can involve the use of any device or object and is not dependent on whether penetration, orgasm, or ejaculation has occurred. Nothing herein shall be interpreted to prohibit a licensed massage therapist, duly qualified under Rule 64B7-31.001, F.A.C, from practicing colonic irrigation.

Fee Schedule

64B7-27.100 Fees.

1. Fees applicable to massage therapists:
   a. Application fee for applicants graduating from a board-approved massage program: $50.00.
   b. Application fee for applicants completing an apprenticeship program: $100.00.
   c. Initial licensure fee: $100.00.
   d. Renewal fee (active or inactive license): $100.00.
   e. Delinquent license fee: $100.00.
   f. Reactivation fee: $100.00.
   g. Change in status fee: $50.00.
   h. Retired status fee: $50.00.
2. Fees applicable to massage establishments:
   a. Application fee: $150.00.
   b. Initial licensure fee: $100.00.
   c. Renewal fee: $100.00.
   d. Change of business application fee: $25.00.
   e. Transfer of location application fee: $125.00.
   f. Delinquent license fee: $75.00.
3. Other fees:
   a. Duplicate license fee: $25.00.
   b. Unlicensed activity fee: $5.00.

License Renewal

64B7-28.002 Biennial Renewal of Massage Establishment License.
All license renewals for massage establishments shall meet the requirements as set forth in Chapter 480, F.S., and these rules. All massage establishments shall renew their licenses on or before August 31 of each biennial year, according to the fee schedule as set forth in Rule 64B7-27.100, F.A.C., and the insurance coverage requirements of subsection 64B7-26.002(4), F.A.C. If, however, the massage establishment does not renew its license timely, the license shall be considered delinquent. If a massage establishment is operating with a delinquent license, said establishment is in violation of Section 480.047(1)(b), F.S., and is subject to the criminal penalties as provided for in Section 480.047(2), F.S. In order to renew a delinquent license, the massage establishment shall pay the late fee for delinquent renewal in the amount of seventy-five dollars ($75.00) as set forth in Section 480.044(2), F.S., and the biennial renewal fee as specified in Rule 64B7-27.100, F.A.C.

64B7-28.0042 Requirements for Reactivation of an Inactive License.
An inactive license shall be reactivated upon demonstration that the licensee has paid the reactivation fee set forth in paragraph 64B7-27.100(1)(f), F.A.C., and has complied with the following requirements:

1. As a condition to the reactivation of an inactive license, a massage therapist must submit proof of having completed the appropriate continuing education requirements as set forth in Rule 64B7-28.009, F.A.C.
2. However, any licensee whose license has been inactive for more than two consecutive biennial licensure cycles and who has not practiced for two out of the previous four years in another jurisdiction shall be required to appear before the Board and establish the ability to practice with the care and skill sufficient to protect the health, safety, and welfare of the public. At the time of such appearance, the licensee must:
   a. Show compliance with subsection (1), above;
   b. Account for any activities related to the practice of massage therapy in this or any other jurisdiction during the period that the license was inactive and establish an absence of malpractice or disciplinary actions pending in any jurisdiction;
   c. Prove compliance with Section 456.065, F.S., and subsection 64B7-28.001(2), F.A.C.
3. The Department shall not reactivate the license of any massage therapist who has:
   a. Committed any act or offense in this or any other jurisdiction which would constitute the basis for disciplining a licensee pursuant to Section 480.046, F.S.
   b. Failed to comply with the provisions of Section 456.036, F.S., and subsections 64B7-28.001(2) and (3), F.A.C.
4. Any licensed massage therapist whose license has been in an inactive or retired status for more than two consecutive biennial licensure cycles shall be required to successfully complete and pass the NBCHT, prior to resuming the practice of colonic irrigation.
5. Any applicant for massage therapist licensure or licensed massage therapist, who in conjunction with previous massage therapist licensure was certified to practice colonic irrigation, shall be required to successfully complete and pass the NBCHT prior to practicing colon hydrotherapy.

64B7-28.0043 Delinquent Status License.

1. The failure of any license holder to either renew the license or elect inactive status before the license expires shall cause the license to become delinquent.
2. The delinquent status licensee must affirmatively apply for active or inactive status during the licensure cycle in which the license becomes delinquent. The failure by the delinquent status licensee to cause the license to be renewed or made inactive before the expiration of the licensure cycle in which the license became

delinquent shall render the license null and void without further action by the Board or the Department.

3. The delinquent status licensee who applies for license renewal or inactive status shall:
   a. Apply to the department for either license renewal as required by Section 480.0415, F.S., or inactive status as required by Section 456.036, F.S.
   b. Pay to the Board either the license renewal fee as set forth in Rule 64B7-27.006, F.A.C., or the inactive status fee as set forth in Rule 64B7-27.010, F.A.C.; the delinquency fee as set forth in Rule 64B7-27.015, F.A.C., and the change of status fee as set forth in Rule 64B7-27.016, F.A.C., if applicable; and,
   c. If renewal is elected, demonstrate compliance with the continuing education requirements found in Rule 64B7-28.009, F.A.C.

64B7-28.0044 Retired Status and Reactivation of Retired Status License.

1. A licensee may place an active or inactive license in retired status at any time. If the license is placed in retired status at the time of renewal the licensee shall pay the retired status fee set forth in Rule 64B7-27.100, F.A.C. If the licensee chooses to place the license in retired status at any time other than at the time of license renewal the licensee shall pay a change of status processing fee of $50.00 and the retired status fee.
2. A licensee may reactivate a retired status license at any time, subject to meeting the following requirements:
   a. Paying the reactivation fee described at Rule 64B7-27.100, F.A.C.;
   b. Demonstrating satisfaction of the continuing education requirements that would have been imposed on an active status licensee under this title for each licensure biennial period in which the licensee was on retired status.

64B7-28.007 Exemption of Spouses of Members of Armed Forces From Licensure Renewal Provisions.

A licensee who is the spouse of a member of the Armed Forces and was caused to be absent from Florida for a period of at least six consecutive months because of the spouse's duties with the armed forces and who at the time the absence became necessary was in good standing with the Board of Massage and entitled to practice massage in Florida shall be exempt from all licensure renewal provisions under these rules. The licensee must show satisfactory proof of the absence and the spouse's military status.

64B7-28.008 Display of Licenses.

1. Each licensed practitioner shall conspicuously display a current license issued by the Department, or photo copy thereof, at each location at which he or she practices.
   a. Effective on August 1, 2012, for each inital license or duplicate license issued the licensee must attach to the displayed license a 2 inch by 2 inch photograph of the individual whose name appears on the certificate which was taken within the previous two years.
   b. Effective on September 1, 2013, the licensee must attach to the displayed license a 2 by 2 inch photograph of the individual whose name appears on the certificate which was taken within the previous two years.
2. Each apprentice shall conspicuously display his or her apprentice certificate issued by the Board office, in the establishment for which it has been issued. Effective on August 1, 2012, the licensee must attach to the displayed license a 2 inch by 2 inch photograph of the individual whose name appears on the certificate which was taken within the previous two years.
3. The owner of each massage establishment shall conspicuously display a current establishment license issued by the Department on the premises.

64B7-28.009 Continuing Education.

1. During each biennium, each licensee shall complete a minimum of one classroom hour of continuing education from a Board-approved provider for each month the license is active, up to a maximum requirement of 24 months for the renewal period.
2. For the purposes of this chapter a "classroom hour" shall be defined as no less than 50 minutes of any one clock hour during which the student participates in a learning activity of the continuing education provider.
3. Continuing education for licensees who are renewing their license for the first time shall include the following:
   a. Two classroom hours of instruction on prevention of medical errors that meet the requirements of Section 456.013(7), F.S.
   b. The remaining classroom hours may be satisfied by completing instruction in any of the subject matter listed in paragraphs 64B7-28.009(4)(a)-(d), F.A.C., of this rule.
4. The continuing education requirement for all other licensees, not renewing for the first time, shall include the following:
   a. At least twelve (12) of the classroom hours of instruction must be relevant to and focus on massage therapy techniques, skills, and protocols as defined in Section 480.033(3), F.S. The instruction must be provided in the presence of the Board approved instructor(s) and must include hands-on participation by the licensee and/or a demonstration by the instructor(s).
   b. Two classroom hours of instruction in professional ethics. This requirement may be satisfied by attending two continuous hours of a meeting of the Board, provided the licensee does not have a disciplinary or licensure matter on the agenda and the licensee signs in and out of the meeting to demonstrate compliance.
   c. Two classroom hours of instruction on Chapters 456 and 480, F.S., and the rules promulgated by the Board. This requirement may be satisfied by attending two continuous hours of a meeting of the board, provided the licensee does not have a disciplinary or licensure matter on the agenda and the licensee signs in and out of the meeting to demonstrate compliance.
   d. Two classroom hours of instruction on prevention of medical errors that meet the requirements of Section 456.013(7), F.S.

64B7-28.0095 Continuing Education for Pro Bono Services.

1. Up to 6 hours of continuing education per biennium in satisfaction of the live classroom hours that include instruction, Rule 64B7-28.0095, F.A.C., Continuing Education for Pro Bono Services.
2. Up to 6 hours of continuing education per biennium in satisfaction of the live classroom hours that include instruction, demonstration and/or hands on practice in Rule 64B7-28.009, F.A.C., may be awarded, on an hour per hour basis, for the performance of pro bono services to the indigent, underserved populations or in areas of critical need within the state where the licensee practices. The standard for determining indigence shall be that recognized by the Federal Poverty income guidelines produced by the United States Department of Health and Human Services.
3. In order to receive credit under this rule, the licensee must receive prior approval from the Board by submitting a formal request for approval on form DH-MQA 1243 "Request for Approval of Continuing Education for Pro Bono Services For the Biennial Renewal period of _____ (rev. 04/13)" http://www.flrules.org/Gateway/reference.asp?No=Ref-03420, hereby adopted and incorporated by reference, and can be obtained from the Department of Health's website at http://www.doh.state.fl.us/MQA/massage, which must include the following information:
   a. The type, nature and extent of services to be rendered;
   b. The location where the services will be rendered;
   c. The number of patients expected to be served; and,
   d. A statement indicating that the patients to be served are indigent, underserved or in an area of critical need.
4. A statement of completion of preapproved services performed must be submitted on form DH-MQA 1244 (rev. 4/13) "Statement of Performance of Continuing Education Credits for Preapproved Pro Bono Services for the Biennial Renewal Period of _____ Pursuant to Rule 64B7-28.0095, F.A.C.," incorporated herein by reference, and available at http://www.flrules.org/Gateway/reference.asp?No=Ref-03421. The form can be obtained from the Board of Massage Therapy, ATTN: Pro Bono Services, 4052 Bald Cypress Way #C-06, Tallahassee, FL 32399-3256 or from the following website: http://www.doh.state.fl.us/MQA/massage
5. Approval for pro bono services is only granted for the biennium for which it is sought. The licensee must request approval for each biennium they wish to receive credit for pro bono services.

64B7-28.010 Requirements for Board Approval of Continuing Education Programs.

1. In order to receive Board approval as a provider to provide one or more programs, an applicant shall:
   a. Submit a completed Massage Continuing Education Programs Provider Registration Application, Form B: Course Offering Data Form, Form #DH-MQA 1258 (rev. 7/13/13), and Massage Continuing Education Provider Application – Form C: Instructor Qualifications Form, Form #DH-MQA 1259 (rev. 7/13/13), incorporated herein by reference, and a non-refundable application fee of $100.00. Copies of the forms may be obtained at the following website https://www.cebroker.com/public/pb_educational_providers.aspx, or http://www.flrules.org/Gateway/reference.asp?No=Ref-03640, and http://www.flrules.org/Gateway/reference.asp?No=Ref-03641
   b. Sign and abide by written agreement to:
      1. Provide an identifiable person to be responsible for ensuring that each program presented under their Board of Massage Therapy provider registration number meets program requirements set forth in subsection (2) or (3), below.
      2. Retain a "sign-in-sheet" with the signature of participants and copies of any promotional materials for at least 4 years following the course.
      3. Provide each participant with a certificate of attendance verifying the program has been completed. The certificate shall not be issued until completion of the program and shall contain the provider's name and registration number, title of program and program number, instructor, date, number of contact hours of credit, the licensee's name and license number.
      4. Notify the Board of any significant changes relative to the maintenance of standards as set forth in these rules.
2. Each continuing education program presented to meet the requirements of paragraph 64B7-28.009(2)(a), F.A.C., shall:
   a. Be taught via live classroom instruction including hands-on instruction and/or demonstration;
   b. Have stated learning objectives;
   c. Be instructed by a person who meets at least one of the following criteria:
      1. Holds a minimum of a bachelor's degree from a college or university which is accredited by a regional accrediting body recognized by the U.S. Department of Education or a substantially equivalent accrediting body of a foreign sovereign state, with a major in a subject directly related to the content of the program to be offered, or
      2. Has graduated from a school of massage or an apprenticeship program which has a curriculum equivalent to requirements in this state and was approved by a state licensing authority, a nationally recognized massage therapy association, or a substantially equivalent accrediting body, or the Board, and has completed three years of professional experience in the practice of massage; and,
         a. Has, within the last five years of practical experience, had a minimum of two years teaching experience in the subject matter to be offered, or
         b. Has taught the same courses on this approved subject a minimum of 3 times in the past 2 years before a professional convention, professional group or at a massage therapy school, or
         c. Has completed specialized training in the subject matter and has a minimum of two years of practical experience in the subject, or
      3. Is licensed as a massage therapist in another state or foreign sovereign state having standards of education or apprenticeship training substantially similar to or more stringent than those required for licensure in Florida and has practiced massage therapy for a minimum of 10 years; and,
         a. Has, within the last five years of practical experience, had a minimum of two years teaching experience in the subject matter to be offered, or
         b. Has taught the same courses on this approved subject a minimum of 3 times in the past 2 years before a professional convention, professional group or at a massage therapy school, or
         c. Has completed specialized training in the subject matter and has a minimum of two years of practical experience in the subject, or
      4. Has taught at a school of massage which has a curriculum equivalent to requirements in this state and was approved by a state licensing authority, a nationally recognized massage therapy association, or a substantially equivalent accrediting body, or the Board for a minimum of two years; and,
         a. Has, within the last five years of practical experience, had a minimum of two years teaching experience in the subject matter to be offered, or
         b. Has taught the same courses on this approved subject a minimum of 3 times in the past 2 years before a professional convention, professional group or at a massage therapy school, or
         c. Has completed specialized training in the subject matter and has a minimum of two years of practical experience in the subject.
3. Each continuing education program presented to meet the requirements of paragraphs 64B7-28.009(2)(b), (c), (d), or subsection (3), F.A.C., shall:
   a. Be taught via live classroom instruction or by correspondence, home study, video or digital media, or distance learning;
   b. Have stated learning objectives;
   c. Include a test graded by the provider if the course is not taught via live classroom instruction;
   d. Be instructed by a person who meets at least one of the following criteria:
      1. Holds a minimum of a bachelor's degree from a college or university which is accredited by a regional accrediting body recognized by the U.S. Department of Education or a substantially equivalent accrediting body of a foreign sovereign state, with a major in a subject directly related to the content of the program to be offered, or
      2. Has, within the last five years of practical experience, had a minimum of two years teaching experience in the subject matter to be offered, or
      3. Has taught the same courses on this approved subject a minimum of 3 times in the past 2 years before a professional convention, professional group, or at a massage therapy school, or
      4. Has completed specialized training in the subject matter and has a minimum of two years of practical experience in the subject.
4. The Board retains the right and authority to audit and/or monitor programs given by any provider. The Board will reject individual programs given by a provider if the provider has disseminated any false or misleading information in connection with the continuing education program, or if the program provider has failed to conform to and abide by the written agreement and rules of the Board.
5. One classroom hour of continuing education is defined as no less than 50 uninterrupted minutes of learning.
6. Presenters/moderators/instructors of courses shall not receive credit for courses they present.
7. A provider of Board approved programs must revise and update all course materials that are affected by changes occurring during the biennial renewal period. The Board will rescind approval of any program that is found to be obsolete, erroneous, and/or outside the scope of practice, or if the Board determines the program provider has violated the Board's rules or Chapter 456 or 480, F.S. The revised course materials must be submitted with the biennial renewal form and renewal fee.
8. Provider registration numbers must be renewed biennially on or before August 31 of the biennial renewal year. The provider must return the renewal form provided by the department together with a renewal fee of $50.00. If the renewal form and renewal fee are not received by the department on or before August 31 of the biennial year, the provider must submit a new application for approval of any continuing education programs offered for license renewal or

initial licensure requirements, and, if any programs are approved, receive a new provider registration number.

9. The following courses, that meet the criteria for approval under this section, are approved by the Board:
   a. Organized and accepted courses of study offered by providers approved by the National Certification Board for Therapeutic Massage and Bodywork;
   b. Organized courses offered by a Board Approved Massage School;
   c. Continuing education courses offered by or sponsored by the Florida Board of Massage Therapy;
   d. Continuing education courses sponsored by the Florida State Massage Therapy Association; and,
   e. Continuing education courses sponsored by the American Massage Therapy Association or the American Massage Therapy Association Florida Chapter.
   f. Continuing education courses offered by the Associated Bodywork and Massage Professionals.

Apprenticeship

64B7-29.001 Definitions.

1. "Massage apprentice" means a person meeting the qualifications in Rule 64B7-29.002, F.A.C., studying massage under the direct supervision of a sponsor.
2. "Colonic irrigation apprentice" means a licensed massage therapist, a massage apprentice, or a student in a Board-approved massage school who is studying colonic irrigation under the direct supervision of a sponsor.
3. "Sponsor" means a licensed massage therapist who has no disciplinary action taken against their license and has been engaged in the practice of massage for at least three years prior to sponsorship. If the apprenticeship includes training in colonic irrigation, the sponsor must be authorized to practice colonic irrigation under Chapter 64B7-31, F.A.C., and must have been engaged in the practice of colonic irrigation for a minimum of three years.
4. "Sponsorship" means assumption of the responsibility to provide training pursuant to Rules 64B7-29.003 and/or 64B7-29.007, F.A.C., under the sponsor's direct supervision.
5. "Direct supervision" means the physical presence of the sponsor in the qualified establishment during training.
6. "Qualified establishment" means a massage establishment licensed pursuant to Section 480.043, F.S., which, in addition to meeting the requirements of Chapter 64B7-26, F.A.C., is equipped with:
   a. Massage tables.
   b. Linens and linen storage areas.
   c. Hydrotherapy equipment, including cold and hot packs.
   d. Textbooks and teaching materials on the following subjects:
      1. Anatomy.
      2. Physiology.
      3. Theory of Massage.
      4. Hydrotherapy.
      5. Chapters 456 and 480, F.S.
      6. Rule Title 64B7, F.A.C.
   e. If the apprenticeship includes training in colonic irrigation, the qualified establishment must also be equipped with:
      1. Colonic irrigation equipment.
      2. Sterilization equipment if non-disposable colonic attachments are used.
      3. Textbooks and teaching materials on the subject of colonic irrigation.

64B7-29.002 Qualification.

Persons seeking to be apprentices shall meet the following requirements:

1. The applicant must complete form DH-MQA 1265, "Massage Apprentice Application," 7/16, and pay the fee set forth in paragraph 64B7-27.100(1)(b), F.A.C. The form is incorporated herein by reference at http://www.flrules.org/Gateway/reference.asp?No=Ref-08077, or may be obtained from the Board Office at 4052 Bald Cypress Way, Bin C-06, Tallahassee, Florida 32399.
2. A massage apprentice applicant may not be enrolled simultaneously as a student in a Board-approved massage school.

64B7-29.003 Massage Apprenticeship Training Program.

1. All apprenticeship training shall be conducted by the sponsor, in a qualified establishment.
2. Apprenticeship training shall be completed in four quarters of three months each, and must be completed within 12 months. Apprenticeship training must be completed at a rate of no more than 500 hours per quarter.
3. The course of study for a massage apprentice must include:
   a. 300 hours of Anatomy.
   b. 300 hours of Physiology.
   c. 20 hours of Basic Massage Theory and History.
   d. 50 hours of Theory and Practice of Hydrotherapy.
   e. 25 hours of Florida Laws and Rules regulating the practice of massage therapy.
   f. 50 hours of Allied Modalities.
   g. 700 hours of Clinical Practicum.
   h. 3 hours of HIV/AIDS instruction.
4. The massage apprentice must complete within the first quarter:
   a. 100 hours of Anatomy.
   b. 100 hours of Physiology.
   c. 15 hours of Florida Laws and Rules regulating the practice of massage therapy.
5. The sponsor must report completed training hours to the Department quarterly. Each quarterly report must include the following:
   a. The name and certificate number of the apprentice.
   b. The name and license number of the sponsor.
   c. The name and license number of the qualified establishment.
   d. The starting and ending date of the quarter.
   e. The number of hours completed in each area of the course of study in the quarter.
   f. The total number of hours completed in each area of the course of study during the apprenticeship.
   g. The signature of the sponsor.
6. Massage apprenticeship training is complete once four quarterly reports have been submitted to the Department that demonstrate completion of the training program.

64B7-29.004 Termination.

1. If an apprentice or sponsor terminates training, the sponsor must notify the Department within 30 days.
2. If disciplinary action is taken against the sponsor or qualified establishment, the apprenticeship shall be terminated.

64B7-29.006 Change of Sponsoring Massage Therapist.

If for any reason the sponsor is no longer able to train an apprentice, the sponsor or the apprentice must notify the Department within 30 days if the apprentice desires to remain in the apprenticeship program. The apprentice must secure another sponsor. The apprentice shall receive credit for training received from the prior sponsor as reported by the prior sponsor to the Department.

64B7-29.007 Colonic Irrigation Apprenticeship Program.

1. The applicant must complete form DH-MQA 1265, "Massage Apprentice Application," 7/16, and pay the fee set forth in paragraph 64B7-27.100(1)(b), F.A.C. The form is incorporated by reference in Rule 64B7-29.002, F.A.C., or may be obtained from the Board Office at 4052 Bald Cypress Way, Bin C-06, Tallahassee, Florida 32399.
2. The colonic irrigation apprentice shall complete colonic irrigation training within 12 months of commencement.
3. The course of study for a colonic irrigation apprentice must meet minimum standards for a course of study in colonic irrigation as provided in subsection 64B7-32.005(3), F.A.C.
4. The sponsor shall certify training is complete by reporting the following to the Department:
   a. The name of the colonic irrigation apprentice.
   b. The colonic irrigation apprenticeship certificate number.

c. The name and license number of the sponsoring massage therapist.
d. The name and license number of the qualified massage establishment.
e. The starting and ending date of the trainings.
f. A record of completion of the course of study, indicating number of hours completed by date, and treatments provided by date.

Disciplinary Action

64B7-30.001 Misconduct and Negligence in the Practice of Massage Therapy.
The following acts shall constitute the failure to practice massage therapy with that level of care, skill, and treatment which is recognized by a reasonably prudent similar massage therapist as being acceptable under similar conditions and circumstances:

1. Administering treatment in a negligent manner.
2. Violating the confidentiality of information or knowledge concerning a client.
3. Offering massage therapy at a sports event, convention or trade show without obtaining the written approval of the owner or property manager of the site at which the sports event, convention or trade show is held.
4. Failure to explain expected draping techniques to a client. As used in this rule, draping means towels, gowns, sheets or clothing.
5. Failure to appropriately drape a client. Appropriate draping of a client shall include draping of the buttocks and genitalia of all clients, and breasts of female clients, unless the client gives specific informed consent to be undraped.

64B7-30.002 Disciplinary Guidelines.

1. When the Board finds that an applicant, apprentice, or licensee whom it regulates under Chapter 480, F.S., has committed any of the acts set forth in Sections 480.041, 480.043, 480.0485, 480.046, 480.047 and 456.072, F.S., and/or Division 64B7, F.A.C., it shall issue a final order imposing appropriate penalties within the ranges recommended in the following disciplinary guidelines after consideration of the aggravating and mitigating factors set forth in subsection (4), of this rule. Discipline may include any of the following: letter of concern, reprimand, license with conditions, probation, suspension, revocation and/or fines.
2. If the offense is for fraud or making a false or fraudulent representation, the recommended penalties are:
   a. Licensee:
      1. First offense: $10,000 fine,
      2. Second offense: $10,000 fine and suspension,
      3. Subsequent offense: $10,000 fine and revocation.
   b. Applicant:
      1. First offense: $10,000 fine and a denial of licensure,
      2. Subsequent offense: $10,000 fine, denial of licensure, and prohibition on reapplication for 2 to 5 yrs.
   c. Massage Establishment:
      1. $10,000, revocation of the license, and prohibition of reapplication by the holder of the license for a period of 2 yrs.
      2. In addition, if owned by a Licensed Massage Therapist:
         a. First offense: $10,000 fine and suspension of owner's massage therapy license.
         b. Subsequent offense: $10,000 fine and revocation of the owner's massage therapy license.
3. Disciplinary Guidelines

PENALTY RANGE			
VIOLATION	**FIRST OFFENSE**	**SECOND OFFENSE**	**THIRD OFFENSE**
(a) Section 480.046(1)(a) or 456.072(1)(h), F.S. Bribery	$1000 fine and suspension or denial of licensure	Revocation	
Fraudulent misrepresentation	$10,000 fine	$10,000 fine and suspension	$10,000 fine and revocation
Licensed through error of Department or Board	Revocation		
(b) Section 480.046(1)(b) or 456.072(1)(f), F.S.	Discipline consistent with penalty or actions imposed in other jurisdiction or denial of licensure		
(c) Section 480.046(1)(c) or 456.072(1)(c), F.S. Misdemeanors	$250 fine	$500 fine and probation	$500 fine and suspension
Felonies	$500 fine and probation	$500 fine and suspension	$1,000 fine and suspension
Crimes relating to assault, battery, abuse or which otherwise cause bodily harm, prostitution or solicitation for prostitution	$1,000 fine and revocation		
Crimes relating to fraud	$10,000 fine	$10,000 fine and suspension	$10,000 fine and revocation
(d) Section 480.046(1)(d), F.S.	$500 fine and reprimand	$750 fine and probation	$1,000 fine and suspension
(e) Section 480.046(1)(e) or 456.072(1)(j), F.S.	$1,000 fine and suspension	$1,000 fine and suspension for a minimum of 2 years	Revocation
(f) Section 480.046(1)(f) or 456.072(1)(a) or (m), F.S.	$1,000 fine and reprimand	$1,000 fine and probation	Revocation
Fraudulent misrepresentations	$10,000 fine	$10,000 fine and suspension	$10,000 fine and revocation

(g) Section 480.046(1)(g) or 456.072(1)(z), F.S.	Suspension until PRN evaluation and contract if recommended, suspension stayed while compliant	Suspension until compliant	Revocation
(h) Section 480.046(1)(h), F.S.	$1,000 fine and probation	$1,000 fine and suspension	Revocation
(i) Section 480.046(1)(i) or 456.072(1)(o), F.S.	$1,000 fine and probation	$1,000 fine and suspension	Revocation
(j) Section 480.046(1)(j) or 456.072(1)(p), F.S.	$500 fine and probation	$1,000 fine and suspension	Revocation
(k) Section 480.046(1)(k) or 456.072(1)(q), F.S.	Suspension until compliant	Revocation	
(l) Section 480.046(1)(l), F.S.	$500 fine and suspension	$1,000 fine and suspension	Revocation
(m) Section 480.046(1)(m), F.S.	$250 fine and reprimand	$1,000 fine and suspension	Revocation
(n) Section 480.046(1)(n), F.S. 1. Establishment license delinquent	$100 fine for the first month and $50 for each succeeding month or part thereof and reprimand		
2. Establishment license suspended – site owned by massage therapist	Suspension of owner's massage therapy license	Revocation of licensed owner's massage therapy license	
(o) Section 480.046(1)(o) or 456.072(1)(b) or (dd), F.S.	Unless an offense is specifically set forth in this subsection $250 fine	$250 fine and probation	
1. Section 480.0465, F.S.	Reprimand, $500 fine	Revocation	
2. Section 480.0485, F.S.	$2,500 fine and revocation		
3. Section 456.036(1), F.S. Delinquent license	$100 fine for first month and $50 for each succeeding first month or part thereof and reprimand		
4. Section 456.036(1), F.S. Suspended or inactive license	Revocation		
5. Section 480.047(1)(b), F.S. Violator's license Delinquent	$100 fine for first month and $50 for each succeeding month or part thereof and reprimand		
6. Section 480.047(1)(b), F.S. Violator's license Suspended or inactive	Revocation		
7. Section 480.047(1)(c), F.S.	$1,000 fine and suspension	$1,000 fine and suspension for minimum of 2 years	Revocation
8. Section 480.047(1)(d), F.S. Licensee	$1,000 fine	Revocation	
Applicant	Denial of licensure	Denial of licensure and prohibition on reapplication for 2-5 years	
9. Section 480.047(1)(e), F.S.	Revocation		
10. Section 480.047(1)(f), F.S. Licensee	$1,000 fine and probation	$1,000 fine and suspension	Revocation
Applicant	Denial of licensure	Denial of licensure and prohibition on reapplication for 2-5 years	
11. Section 480.047(1)(g), F.S. Licensee	$1,000 fine and probation	$1,000 fine and revocation	
Applicant	Denial of licensure	Denial of licensure and prohibition on reapplication for 2-5 years	
12. Failure to respond to continuing education audit	$500 fine and suspension	$500 fine and revocation	
13. Any violation of Rule 64B7-26.010, F.A.C.	$2,500 fine and revocation		
(p) Section 456.072(1)(e), F.S.	Letter of Concern	Reprimand and $250	
(q) Section 456.072(1)(g), F.S.	$500 fine and suspension	$1,000 fine and revocation	

(r) Section 456.072(1)(i), F.S.	$500 fine and reprimand	$1,000 fine and suspension	
(s) Section 456.072(1)(k), F.S.	$250 fine	$500 fine	$1,000 fine
(t) Section 456.072(1)(l), F.S.	$500 fine and probation	$2,000 fine and revocation	
(u) Section 456.072(1)(n), F.S.	$500 fine and probation	$1,000 fine and revocation	
(v) Section 456.072(1)(r), F.S.	$500 fine and probation	$1,000 fine and revocation	
(w) Section 456.072(1)(t), F.S.	Letter of concern	Reprimand and $250 fine	
(x) Section 456.072(1)(v), F.S.	$2,500 fine and revocation		
(y) Section 456.072(1)(x), F.S.	Reprimand, $250 fine and continuing education	Reprimand, $500 fine and continuing education	Revocation
(z) Section 456.072(1)(y), F.S.	$500 fine and probation	$500 fine and suspension	$500 fine and revocation
(aa) Section 456.072(1)(aa), F.S.	Suspension until PRN evaluation, contract if recommended under stayed suspension	Suspension until appearance to demonstrate safety to practice with PRN facilitated evaluation	Revocation
(bb) Section 456.072(1)(bb), F.S.	Reprimand and $500 fine	$1,000 fine to revocation	
(cc) Section 456.072(1)(cc), F.S.	Reprimand and $1,000 fine	Revocation	
(dd) Section 456.072(1)(ff), F.S.	Reprimand and $1,000 fine	Revocation	
(ee) Section 456.072(1)(hh), F.S.	Suspension until compliant up to suspension until compliant with program followed by up to five (5) years probation with conditions	Suspension until compliant with program and up to five (5) years probation with conditions, or revocation, and up to $2,000 fine	
(ff) Section 456.072(1)(ii), F.S.	Reprimand and $5,000 fine to revocation		
(gg) Section 456.072(1)(jj), F.S.	Reprimand and $1,000 fine to revocation		
(hh) Section 456.072(1)(kk), F.S.	Reprimand, $1,000 fine to revocation		
(ii) Section 456.072(1)(ll), F.S.	Reprimand, and $10,000 fine to revocation		
(jj) Section 456.072(1)(nn), F.S.	Letter of concern		
(kk) Section 480.0535(2)(b), F.S.	$500 fine to revocation		
(ll) Section 480.041(6), F.S.	Suspension until compliant up to Suspension until compliant and $1,000 fine	Revocation	
(mm) Section 480.043(12), F.S	Suspension until compliant up to Suspension until compliant and $1,000 fine	Revocation	

4. Based upon consideration of aggravating or mitigating factors, present in an individual case, the Board may deviate from the penalties for the violations charged. The Board shall consider as aggravating or mitigating factors the following:
   a. The danger to the public;
   b. The length of time since the violation;
   c. The number of times the licensee has been previously disciplined by the Board;
   d. The length of time licensee has practiced;
   e. The actual damage, physical or otherwise, caused by the violation;
   f. The deterrent effect of the penalty imposed;
   g. The effect of the penalty upon the licensees livelihood;
   h. Any effort of rehabilitation by the licensee;
   i. The actual knowledge of the licensee pertaining to the violation;
   j. Attempts by licensee to correct or stop violation or refusal by licensee to correct or stop violation;
   k. Related violations against licensee in another state including findings of guilt or innocence, penalties imposed and penalties served;
   l. Actual negligence of the licensee pertaining to any violation;
   m. Penalties imposed for related offenses under subsections (1) and (2), above;
   n. Any other mitigating or aggravating circumstances.
5. When the Board finds any person guilty of the grounds set forth in subsection (1), or of any grounds set forth in the applicable practice act, including conduct constituting a substantial violation of subsection (1), or a violation of the applicable practice act which occurred prior to obtaining a license, it shall enter an order imposing one or more of the following penalties:
   a. Refusal to certify, or to certify with restrictions, an application for a license.
   b. Suspension or permanent revocation of a license.
   c. Restriction of practice.
   d. Imposition of an administrative fine not to exceed $10,000 for each Count or separate offense.
   e. Issuance of a reprimand.
   f. Placement of the licensee on probation for a period of time and subject to such conditions as the Board may specify. Those conditions shall include requiring the licensee to undergo treatment, attend continuing education courses, submit to be reexamined, work under the supervision of another licensee, or satisfy any terms which are reasonably tailored to the violations found.
   g. Corrective action.
6. The provisions of subsections (1) through (4), above, are not intended and shall not be construed to limit the ability of the Board to informally dispose of disciplinary actions by stipulation, agreed settlement, or consent order pursuant to Section 120.57(4), F.S.
7. The provisions of subsections (1) through (4), above, are not intended and shall not be construed to limit the ability of the Board to pursue or recommend the Department pursue collateral, civil or criminal actions when appropriate.
8. In any proceeding where the Board is authorized to take disciplinary action, the Board will also impose costs of investigation and prosecution as authorized by Section 456.072(4), F.S.

9. Whenever the Board, in accordance with this rule, imposes a monetary fine against a respondent in an Administrative Complaint, it shall also impose a suspension of the respondent's license until the fine is paid. However, to enable the respondent to pay the monies fine, the Board shall stay the imposition of the suspension for the same time period as specified, in accordance with Rule 64B7-24.016, F.A.C., for payment of the monies fine. If the fine is paid within the specified time, then the order of suspension shall not take effect; if the fine is paid after the order of suspension has taken effect, then the stay shall be lifted.

64B7-30.004 Citations.

1. Definitions. As used in this rule:
   a. "Citation" means an instrument which meets the requirements set forth in Section 456.077, F.S., and which is served upon a subject in the manner provided in Section 456.077, F.S., for the purpose of assessing a penalty in an amount established by this rule;
   b. "Subject" means the licensee, applicant, person, partnership, corporation, or other entity alleged to have committed a violation designated in this rule.
2. In lieu of the disciplinary procedures contained in Section 456.072, F.S., the Department is hereby authorized to dispose of any violation designated herein by issuing a citation to the subject within six months after the filing of the complaint which is the basis for the citation.
3. The Board hereby designates the following as citation violations, which shall result in a penalty as specified below:
   a. Refusing to allow the department to inspect the business premises of the licensee during regular business hours as required by Section 480.046(1)(l), F.S., shall result in a penalty of $500.00.
   b. Failing to display a license or certificate as required by Rule 64B7-28.008, F.A.C., shall result in a penalty of $250.00.
   c. Failing to keep the equipment and premises of a massage establishment in a clean and sanitary condition as required by Section 480.046(1)(m), F.S., shall result in a penalty of $250.00.
   d. Failing to maintain property damage and bodily injury liability insurance coverage as required by subsection 64B7-26.003(4), F.A.C., shall result in a penalty of $250.00.
   e. Failure to include the license number of either the massage therapist or the massage establishment in advertisements as required by Section 480.0465, F.S., shall result in a penalty of $250.00.
   f. Practicing with a delinquent license in violation of Section 480.047(1)(a), F.S., when the license, has become delinquent automatically for failure to renew, so long as the license is reactivated within 30 days of becoming delinquent, shall result in a penalty of $250.00. Practice for more than 30 days after a license has become delinquent shall not be a citation violation.
   g. Violations of Rule 64B7-28.009, F.A.C., by licensees provided that the violation did not involve bribery or fraudulent misrepresentation, shall result in a penalty of $25.00 per hour for each hour of deficit of the continuing education hour requirement, and completion of the required continuing education.
   h. Failure of a massage therapist to notify the Board of a change of address as required by Section 456.035(1), F.S., shall result in a penalty of $250.00.
   i. False, misleading or deceptive advertising by advertising massage therapy services under a name under which a license has not been issued in violation of Section 480.046(1)(d), F.S., shall result in a penalty of $250.00.
   j. Violating Section 456.072(1)(h), F.S., by tendering a check that is dishonored by the institution upon which it is drawn shall result in a penalty of $250.00.
   k. Failing to identify to a patient verbally or in writing, which may include wearing of a name tag, that a licensee is practicing as a licensed massage therapist, in violation of Section 456.072(1)(t), F.S., shall result in a penalty of $100.00.
   l. Failure to disclose conviction of or entry of a plea to a criminal offense on initial application for licensure for any licensee whose initial application was submitted prior to July 1, 2014, shall result in a fine of $500.00 for each conviction or plea not disclosed on the application.
4. In addition to the fines imposed herein, the costs of investigation and prosecution for each offense shall be assessed in the citation.
5. All fines and costs imposed in a citation shall be paid within 90 days of the date the citation is filed.

64B7-30.005 Mediation.

Pursuant to Section 456.078, F.S., the Board designates first time violations of the following as appropriate for mediation:

1. Violation of Section 480.046(1)(d), F.S.: failure to include license number in an advertisement.
2. Violation of Section 480.046(1)(e) or (j) or Section 480.047(1)(a), F.S.: practicing or allowing another person to practice on a delinquent license for 60 days or less.
3. Violation of Section 480.046(1)(m), F.S., if the violation did not present an immediate threat to public health.
4. Violation of Section 480.046(1)(n), F.S.: practicing at an establishment with a license delinquent 60 days or less.
5. Violation of Section 456.072(1)(i), F.S.: failure to report a licensee known to be in violation.
6. Violation of Section 456.072(1)(k), F.S.: failure to perform a legal obligation.
7. Violation of Section 456.072(1)(u), F.S.: failure to comply with Sections 381.026 and 381.0261, F.S.
8. Violation of Section 456.072(1)(x), F.S.: failure to report convictions to the Board.
9. Violation of Rule 64B7-28.008, F.A.C.: failure to display a license or certificate.
10. Violation of Rule 64B7-26.003(4), F.A.C.: failure to maintain insurance coverage.
11. Violation of Section 456.035(1), F.S.: failure to notify change of address.
12. Violation of Section 456.072(1)(t), F.S.: failure to properly identify licensee.

Noncompliance

64B7-30.006 Notice of Noncompliance.

Pursuant to Sections 120.695 and 456.073(3), F.S., the Board designates the following as minor violations for which a notice of noncompliance may be issued for the first violation thereof:

1. Failure to provide written notice of licensee's current mailing address and place of practice in violation of Rule 64B7-28.015, F.A.C.
2. Failure to have proof of active insurance available at an establishment as required by subsection 64B7-26.003(4), F.A.C.
3. Failure to include license number or numbers in any advertisement as required by Section 480.0465, F.S.

64B7-30.007 Probable Cause Panel.

The determination of probable cause shall be made by the probable cause panel of the board. The probable cause panel shall consist of two members, and may include a former board member. The chair of the board shall appoint the panel members.

64B7-30.008 Probationary Conditions and Definitions.

1. Indirect Supervision. Whenever a license is placed on probation or otherwise restricted in such a manner as to require the respondent to practice under indirect supervision, the term indirect supervision does not require that the monitoring practitioner practice on the same premises as the respondent; however, the monitor shall practice within a reasonable geographic proximity to the respondent, which shall be within 20 miles unless otherwise authorized by the Board, and shall be readily available for consultation.
2. Direct Supervision. Whenever a license is placed on probation or otherwise restricted in such a manner as to require the respondent to practice under direct supervision, the term direct supervision requires that the respondent practice only if the supervisor is on the premises.
3. Provisions governing all supervised or monitored practitioners.
   a. The supervisor/monitor shall be furnished with copies of the Administrative Complaint, Final Order, Stipulation (if applicable), and other relevant orders.

b. The respondent shall not practice without a supervisor/monitor unless otherwise ordered. The respondent shall appear at the next meeting of the Board with his proposed supervisor/monitor unless otherwise ordered.
c. After the next meeting of the Board, the respondent shall only practice under the supervision of the supervisor/monitor. If for any reason the approved supervisor/monitor is unwilling or unable to serve, the respondent and the supervisor/monitor shall immediately notify the Executive Director of the Board, and the respondent shall cease practice until a temporary supervisor/monitor is approved. The Chairman of the Board shall approve a temporary supervisor/monitor who shall serve in that capacity until the next meeting of the Board, at which time the Board shall accept or reject a new proposed supervisor/monitor. If the Board rejects the proposed supervisor, the respondent shall cease practice until the Board approves a new supervisor/monitor.
d. The supervisor/monitor must be a licensee under Chapter 480, F.S., in good standing and without restriction or limitation on his license. In addition, the Board shall reject any proposed supervisor/monitor on the basis that he or she has previously been subject to any disciplinary action against his/her license. The supervisor/monitor must be actively engaged in the same or similar specialty area unless otherwise provided by the Board. The Board will also reject any proposed supervisor/monitor whom the Board finds has violated the Board's rules or Chapter 456 or 480, F.S.

4. For purpose of determining the dates when reports are due, the date the Final Order is filed shall constitute the beginning of the quarter.
   a. All quarterly reports shall be provided to the Board office no later than three months from the filing date of the Final Order.
   b. All semiannual reports shall be provided to the Board office no later than six months from the filing date of the Final Order.
   c. All annual reports shall be provided to the Board office no later than twelve months from the filing date of the Final Order.

Chapter 456 Health Professions and Occupations: General Provisions

456.001 Definitions. As used in this chapter, the term:

1. "Board" means any board or commission, or other statutorily created entity to the extent such entity is authorized to exercise regulatory or rulemaking functions, within the department, except that, for ss. 456.003-456.018, 456.022, 456.023, 456.025-456.034, and 456.039-456.082, "board" means only a board, or other statutorily created entity to the extent such entity is authorized to exercise regulatory or rulemaking functions, within the Division of Medical Quality Assurance.
2. "Consumer member" means a person appointed to serve on a specific board or who has served on a specific board, who is not, and never has been, a member or practitioner of the profession, or of any closely related profession, regulated by such board.
3. "Department" means the Department of Health.
4. "Health care practitioner" means any person licensed under chapter 457; chapter 458; chapter 459; chapter 460; chapter 461; chapter 462; chapter 463; chapter 464; chapter 465; chapter 466; chapter 467; part I, part II, part III, part V, part X, part XIII, or part XIV of chapter 468; chapter 478; chapter 480; part III or part IV of chapter 483; chapter 484; chapter 486; chapter 490; or chapter 491.
5. "License" means any permit, registration, certificate, or license, including a provisional license, issued by the department.
6. "Licensee" means any person or entity issued a permit, registration, certificate, or license, including a provisional license, by the department.
7. "Profession" means any activity, occupation, profession, or vocation regulated by the department in the Division of Medical Quality Assurance.

456.019 Restriction on requirement of citizenship. A person is not disqualified from practicing an occupation or profession regulated by the state solely because she or he is not a United States citizen.

456.046 Practitioner profiles; confidentiality. Any patient name or other information that identifies a patient which is in a record obtained by the Department of Health or its agent for the purpose of compiling a practitioner profile pursuant to s. 456.041 is confidential and exempt from the provisions of s. 119.07(1) and s. 24(a), Art. I of the State Constitution. Other data received by the department or its agent as a result of its duty to compile and promulgate practitioner profiles are confidential and exempt from the provisions of s. 119.07(1) and s. 24(a), Art. I of the State Constitution until the profile into which the data are incorporated or with respect to which the data are submitted is made public pursuant to the requirements of s. 456.041. Any information or record that the Department of Health obtains from the Agency for Health Care Administration or any other governmental entity for the purpose of compiling a practitioner profile or substantiating other information or records submitted for that purpose which is otherwise exempt from public disclosure shall remain exempt as otherwise provided by law.

456.063 Sexual misconduct; disqualification for license, certificate, or registration.

1. Sexual misconduct in the practice of a health care profession means violation of the professional relationship through which the health care practitioner uses such relationship to engage or attempt to engage the patient or client, or an immediate family member, guardian, or representative of the patient or client in, or to induce or attempt to induce such person to engage in, verbal or physical sexual activity outside the scope of the professional practice of such health care profession. Sexual misconduct in the practice of a health care profession is prohibited.
2. Each board within the jurisdiction of the department, or the department if there is no board, shall refuse to admit a candidate to any examination and refuse to issue a license, certificate, or registration to any applicant if the candidate or applicant has:
   a. Had any license, certificate, or registration to practice any profession or occupation revoked or surrendered based on a violation of sexual misconduct in the practice of that profession under the laws of any other state or any territory or possession of the United States and has not had that license, certificate, or registration reinstated by the licensing authority of the jurisdiction that revoked the license, certificate, or registration; or
   b. Committed any act in any other state or any territory or possession of the United States which if committed in this state would constitute sexual misconduct.

For purposes of this subsection, a licensing authority's acceptance of a candidate's relinquishment of a license which is offered in response to or in anticipation of the filing of administrative charges against the candidate's license constitutes the surrender of the license.

3. Licensed health care practitioners shall report allegations of sexual misconduct to the department, regardless of the practice setting in which the alleged sexual misconduct occurred.

456.065 Unlicensed practice of a health care profession; intent; cease and desist notice; penalties; enforcement; citations; fees; allocation and disposition of moneys collected.

1. It is the intent of the Legislature that vigorous enforcement of licensure regulation for all health care professions is a state priority in order to protect Florida residents and visitors from the potentially serious and dangerous consequences of receiving medical and health care services from unlicensed persons whose professional education and training and other relevant qualifications have not been approved through the issuance of a license by the appropriate regulatory board or the department when there is no board. The unlicensed practice of a health care profession or the performance or delivery of medical or health care services to patients in this state without a valid, active license to practice that profession, regardless of the means of the performance or delivery of such services, is strictly prohibited.
2. The penalties for unlicensed practice of a health care profession shall include the following:
   a. When the department has probable cause to believe that any person not licensed by the department, or the appropriate regulatory board within the department, has violated any provision of this chapter or any statute that relates to the practice of a profession regulated by the department, or any rule adopted pursuant thereto, the department may issue and

deliver to such person a notice to cease and desist from such violation. In addition, the department may issue and deliver a notice to cease and desist to any person who aids and abets the unlicensed practice of a profession by employing such unlicensed person. The issuance of a notice to cease and desist shall not constitute agency action for which a hearing under ss. 120.569 and 120.57 may be sought. For the purpose of enforcing a cease and desist order, the department may file a proceeding in the name of the state seeking issuance of an injunction or a writ of mandamus against any person who violates any provisions of such order.

b. In addition to the remedies under paragraph (a), the department may impose by citation an administrative penalty not to exceed $5,000 per incident. The citation shall be issued to the subject and shall contain the subject's name and any other information the department determines to be necessary to identify the subject, a brief factual statement, the sections of the law allegedly violated, and the penalty imposed. If the subject does not dispute the matter in the citation with the department within 30 days after the citation is served, the citation shall become a final order of the department. The department may adopt rules to implement this section. The penalty shall be a fine of not less than $500 nor more than $5,000 as established by rule of the department. Each day that the unlicensed practice continues after issuance of a notice to cease and desist constitutes a separate violation. The department shall be entitled to recover the costs of investigation and prosecution in addition to the fine levied pursuant to the citation. Service of a citation may be made by personal service or by mail to the subject at the subject's last known address or place of practice. If the department is required to seek enforcement of the cease and desist or agency order, it shall be entitled to collect its attorney's fees and costs.

c. In addition to or in lieu of any other administrative remedy, the department may seek the imposition of a civil penalty through the circuit court for any violation for which the department may issue a notice to cease and desist. The civil penalty shall be no less than $500 and no more than $5,000 for each offense. The court may also award to the prevailing party court costs and reasonable attorney fees and, in the event the department prevails, may also award reasonable costs of investigation and prosecution.

d. In addition to the administrative and civil remedies under paragraphs (b) and (c) and in addition to the criminal violations and penalties listed in the individual health care practice acts:

1. It is a felony of the third degree, punishable as provided in s. 775.082, s. 775.083, or s.775.084, to practice, attempt to practice, or offer to practice a health care profession without an active, valid Florida license to practice that profession. Practicing without an active, valid license also includes practicing on a suspended, revoked, or void license, but does not include practicing, attempting to practice, or offering to practice with an inactive or delinquent license for a period of up to 12 months which is addressed in subparagraph 3. Applying for employment for a position that requires a license without notifying the employer that the person does not currently possess a valid, active license to practice that profession shall be deemed to be an attempt or offer to practice that health care profession without a license. Holding oneself out, regardless of the means of communication, as able to practice a health care profession or as able to provide services that require a health care license shall be deemed to be an attempt or offer to practice such profession without a license. The minimum penalty for violating this subparagraph shall be a fine of $1,000 and a minimum mandatory period of incarceration of 1 year.
2. It is a felony of the second degree, punishable as provided in s. 775.082, s. 775.083, or s.775.084, to practice a health care profession without an active, valid Florida license to practice that profession when such practice results in serious bodily injury. For purposes of this section, "serious bodily injury" means death; brain or spinal damage; disfigurement; fracture or dislocation of bones or joints; limitation of neurological, physical, or sensory function; or any condition that required subsequent surgical repair. The minimum penalty for violating this subparagraph shall be a fine of $1,000 and a minimum mandatory period of incarceration of 1 year.
3. It is a misdemeanor of the first degree, punishable as provided in s. 775.082 or s. 775.083, to practice, attempt to practice, or offer to practice a health care profession with an inactive or delinquent license for any period of time up to 12 months. However, practicing, attempting to practice, or offering to practice a health care profession when that person's license has been inactive or delinquent for a period of time of 12 months or more shall be a felony of the third degree, punishable as provided in s. 775.082, s. 775.083, or s. 775.084. The minimum penalty for violating this subparagraph shall be a term of imprisonment of 30 days and a fine of $500.

3. Because all enforcement costs should be covered by professions regulated by the department, the department shall impose, upon initial licensure and each licensure renewal, a special fee of $5 per licensee to fund efforts to combat unlicensed activity. Such fee shall be in addition to all other fees collected from each licensee. The department shall make direct charges to the Medical Quality Assurance Trust Fund by profession. The department shall seek board advice regarding enforcement methods and strategies. The department shall directly credit the Medical Quality Assurance Trust Fund, by profession, with the revenues received from the department's efforts to enforce licensure provisions. The department shall include all financial and statistical data resulting from unlicensed activity enforcement as a separate category in the quarterly management report provided for in s. 456.025. For an unlicensed activity account, a balance which remains at the end of a renewal cycle may, with concurrence of the applicable board and the department, be transferred to the operating fund account of that profession. The department shall also use these funds to inform and educate consumers generally on the importance of using licensed health care practitioners.
4. The provisions of this section apply only to health care professional practice acts administered by the department.
5. Nothing herein shall be construed to limit or restrict the sale, use, or recommendation of the use of a dietary supplement, as defined by the Food, Drug, and Cosmetic Act, 21 U.S.C. s. 321, so long as the person selling, using, or recommending the dietary supplement does so in compliance with federal and state law.

456.066 Prosecution of criminal violations. The department or the appropriate board shall report any criminal violation of any statute relating to the practice of a profession regulated by the department or appropriate board to the proper prosecuting authority for prompt prosecution.

456.067 Penalty for giving false information. In addition to, or in lieu of, any other discipline imposed pursuant to s. 456.072, the act of knowingly giving false information in the course of applying for or obtaining a license from the department, or any board thereunder, with intent to mislead a public servant in the performance of his or her official duties, or the act of attempting to obtain or obtaining a license from the department, or any board thereunder, to practice a profession by knowingly misleading statements or knowing misrepresentations constitutes a felony of the third degree, punishable as provided in s. 775.082, s. 775.083, or s.775.084.

456.068 Toll-free telephone number for reporting of complaints. The Agency for Health Care Administration shall establish a toll-free telephone number for public reporting of complaints relating to medical treatment or services provided by health care professionals.

456.073 Disciplinary proceedings. Disciplinary proceedings for each board shall be within the jurisdiction of the department.

1. The department, for the boards under its jurisdiction, shall cause to be investigated any complaint that is filed before it if the complaint is in writing, signed by the complainant, and legally sufficient. A complaint filed by a state prisoner against a health care practitioner employed by or otherwise providing health care services within a facility of the Department of Corrections is not legally sufficient unless there is a showing that the prisoner complainant has exhausted all available administrative remedies within the state

correctional system before filing the complaint. However, if the Department of Health determines after a preliminary inquiry of a state prisoner's complaint that the practitioner may present a serious threat to the health and safety of any individual who is not a state prisoner, the Department of Health may determine legal sufficiency and proceed with discipline. The Department of Health shall be notified within 15 days after the Department of Corrections disciplines or allows a health care practitioner to resign for an offense related to the practice of his or her profession. A complaint is legally sufficient if it contains ultimate facts that show that a violation of this chapter, of any of the practice acts relating to the professions regulated by the department, or of any rule adopted by the department or a regulatory board in the department has occurred. In order to determine legal sufficiency, the department may require supporting information or documentation. The department may investigate, and the department or the appropriate board may take appropriate final action on, a complaint even though the original complainant withdraws it or otherwise indicates a desire not to cause the complaint to be investigated or prosecuted to completion. The department may investigate an anonymous complaint if the complaint is in writing and is legally sufficient, if the alleged violation of law or rules is substantial, and if the department has reason to believe, after preliminary inquiry, that the violations alleged in the complaint are true. The department may investigate a complaint made by a confidential informant if the complaint is legally sufficient, if the alleged violation of law or rule is substantial, and if the department has reason to believe, after preliminary inquiry, that the allegations of the complainant are true. The department may initiate an investigation if it has reasonable cause to believe that a licensee or a group of licensees has violated a Florida statute, a rule of the department, or a rule of a board. Notwithstanding subsection (13), the department may investigate information filed pursuant to s. 456.041(4) relating to liability actions with respect to practitioners licensed under chapter 458 or chapter 459 which have been reported under s. 456.049 or s. 627.912 within the previous 6 years for any paid claim that exceeds $50,000. Except as provided in ss. 458.331(9), 459.015(9), 460.413(5), and461.013(6), when an investigation of any subject is undertaken, the department shall promptly furnish to the subject or the subject's attorney a copy of the complaint or document that resulted in the initiation of the investigation. The subject may submit a written response to the information contained in such complaint or document within 20 days after service to the subject of the complaint or document. The subject's written response shall be considered by the probable cause panel. The right to respond does not prohibit the issuance of a summary emergency order if necessary to protect the public. However, if the State Surgeon General, or the State Surgeon General's designee, and the chair of the respective board or the chair of its probable cause panel agree in writing that such notification would be detrimental to the investigation, the department may withhold notification. The department may conduct an investigation without notification to any subject if the act under investigation is a criminal offense.

2. The department shall allocate sufficient and adequately trained staff to expeditiously and thoroughly determine legal sufficiency and investigate all legally sufficient complaints. For purposes of this section, it is the intent of the Legislature that the term "expeditiously" means that the department complete the report of its initial investigative findings and recommendations concerning the existence of probable cause within 6 months after its receipt of the complaint. The failure of the department, for disciplinary cases under its jurisdiction, to comply with the time limits of this section while investigating a complaint against a licensee constitutes harmless error in any subsequent disciplinary action unless a court finds that either the fairness of the proceeding or the correctness of the action may have been impaired by a material error in procedure or a failure to follow prescribed procedure. When its investigation is complete and legally sufficient, the department shall prepare and submit to the probable cause panel of the appropriate regulatory board the investigative report of the department. The report shall contain the investigative findings and the recommendations of the department concerning the existence of probable cause. The department shall not recommend a letter of guidance in lieu of finding probable cause if the subject has already been issued a letter of guidance for a related offense. At any time after legal sufficiency is found, the department may dismiss any case, or any part thereof, if the department determines that there is insufficient evidence to support the prosecution of allegations contained therein. The department shall provide a detailed report to the appropriate probable cause panel prior to dismissal of any case or part thereof, and to the subject of the complaint after dismissal of any case or part thereof, under this section. For cases dismissed prior to a finding of probable cause, such report is confidential and exempt from s. 119.07(1). The probable cause panel shall have access, upon request, to the investigative files pertaining to a case prior to dismissal of such case. If the department dismisses a case, the probable cause panel may retain independent legal counsel, employ investigators, and continue the investigation and prosecution of the case as it deems necessary.
3. As an alternative to the provisions of subsections (1) and (2), when a complaint is received, the department may provide a licensee with a notice of noncompliance for an initial offense of a minor violation. Each board, or the department if there is no board, shall establish by rule those minor violations under this provision which do not endanger the public health, safety, and welfare and which do not demonstrate a serious inability to practice the profession. Failure of a licensee to take action in correcting the violation within 15 days after notice may result in the institution of regular disciplinary proceedings.
4. The determination as to whether probable cause exists shall be made by majority vote of a probable cause panel of the board, or by the department, as appropriate. Each regulatory board shall provide by rule that the determination of probable cause shall be made by a panel of its members or by the department. Each board may provide by rule for multiple probable cause panels composed of at least two members. Each board may provide by rule that one or more members of the panel or panels may be a former board member. The length of term or repetition of service of any such former board member on a probable cause panel may vary according to the direction of the board when authorized by board rule. Any probable cause panel must include one of the board's former or present consumer members, if one is available, is willing to serve, and is authorized to do so by the board chair. Any probable cause panel must include a present board member. Any probable cause panel must include a former or present professional board member. However, any former professional board member serving on the probable cause panel must hold an active valid license for that profession. All proceedings of the panel are exempt from s. 286.011until 10 days after probable cause has been found to exist by the panel or until the subject of the investigation waives his or her privilege of confidentiality. The probable cause panel may make a reasonable request, and upon such request the department shall provide such additional investigative information as is necessary to the determination of probable cause. A request for additional investigative information shall be made within 15 days from the date of receipt by the probable cause panel of the investigative report of the department or the agency. The probable cause panel or the department, as may be appropriate, shall make its determination of probable cause within 30 days after receipt by it of the final investigative report of the department. The State Surgeon General may grant extensions of the 15-day and the 30-day time limits. In lieu of a finding of probable cause, the probable cause panel, or the department if there is no board, may issue a letter of guidance to the subject. If, within the 30-day time limit, as may be extended, the probable cause panel does not make a determination regarding the existence of probable cause or does not issue a letter of guidance in lieu of a finding of probable cause, the department must make a determination regarding the existence of probable cause within 10 days after the expiration of the time limit. If the probable cause panel finds that probable cause exists, it shall direct the department to file a formal complaint against the licensee. The department shall follow the directions of the probable cause panel regarding the filing of a formal complaint. If directed to do so, the department shall file a formal complaint against the subject of

the investigation and prosecute that complaint pursuant to chapter 120. However, the department may decide not to prosecute the complaint if it finds that probable cause has been improvidently found by the panel. In such cases, the department shall refer the matter to the board. The board may then file a formal complaint and prosecute the complaint pursuant to chapter 120. The department shall also refer to the board any investigation or disciplinary proceeding not before the Division of Administrative Hearings pursuant to chapter 120 or otherwise completed by the department within 1 year after the filing of a complaint. The department, for disciplinary cases under its jurisdiction, must establish a uniform reporting system to quarterly refer to each board the status of any investigation or disciplinary proceeding that is not before the Division of Administrative Hearings or otherwise completed by the department within 1 year after the filing of the complaint. Annually, the department, in consultation with the applicable probable cause panel, must establish a plan to expedite or otherwise close any investigation or disciplinary proceeding that is not before the Division of Administrative Hearings or otherwise completed by the department within 1 year after the filing of the complaint. A probable cause panel or a board may retain independent legal counsel, employ investigators, and continue the investigation as it deems necessary; all costs thereof shall be paid from a trust fund used by the department to implement this chapter. All proceedings of the probable cause panel are exempt from s. 120.525.

5. A formal hearing before an administrative law judge from the Division of Administrative Hearings shall be held pursuant to chapter 120 if there are any disputed issues of material fact. The determination of whether or not a licensee has violated the laws and rules regulating the profession, including a determination of the reasonable standard of care, is a conclusion of law to be determined by the board, or department when there is no board, and is not a finding of fact to be determined by an administrative law judge. The administrative law judge shall issue a recommended order pursuant to chapter 120. Notwithstanding s. 120.569(2), the department shall notify the division within 45 days after receipt of a petition or request for a formal hearing.
6. The appropriate board, with those members of the panel, if any, who reviewed the investigation pursuant to subsection (4) being excused, or the department when there is no board, shall determine and issue the final order in each disciplinary case. Such order shall constitute final agency action. Any consent order or agreed-upon settlement shall be subject to the approval of the department.
7. The department shall have standing to seek judicial review of any final order of the board, pursuant to s. 120.68.
8. Any proceeding for the purpose of summary suspension of a license, or for the restriction of the license, of a licensee pursuant to s. 120.60(6) shall be conducted by the State Surgeon General or his or her designee, as appropriate, who shall issue the final summary order.

9a. The department shall periodically notify the person who filed the complaint, as well as the patient or the patient's legal representative, of the status of the investigation, indicating whether probable cause has been found and the status of any civil action or administrative proceeding or appeal.

b. In any disciplinary case for which probable cause has been found, the department shall provide to the person who filed the complaint a copy of the administrative complaint and:
   1. A written explanation of how an administrative complaint is resolved by the disciplinary process.
   2. A written explanation of how and when the person may participate in the disciplinary process.
   3. A written notice of any hearing before the Division of Administrative Hearings or the regulatory board at which final agency action may be taken.

c. In any disciplinary case for which probable cause is not found, the department shall so inform the person who filed the complaint and notify that person that he or she may, within 60 days, provide any additional information to the department which may be relevant to the decision. To facilitate the provision of additional information, the person who filed the complaint may receive, upon request, a copy of the department's expert report that supported the recommendation for closure, if such a report was relied upon by the department. In no way does this require the department to procure an expert opinion or report if none was used. Additionally, the identity of the expert shall remain confidential. In any administrative proceeding under s.120.57, the person who filed the disciplinary complaint shall have the right to present oral or written communication relating to the alleged disciplinary violations or to the appropriate penalty.

10. The complaint and all information obtained pursuant to the investigation by the department are confidential and exempt from s. 119.07(1) until 10 days after probable cause has been found to exist by the probable cause panel or by the department, or until the regulated professional or subject of the investigation waives his or her privilege of confidentiality, whichever occurs first. Upon completion of the investigation and a recommendation by the department to find probable cause, and pursuant to a written request by the subject or the subject's attorney, the department shall provide the subject an opportunity to inspect the investigative file or, at the subject's expense, forward to the subject a copy of the investigative file. Notwithstanding s.456.057, the subject may inspect or receive a copy of any expert witness report or patient record connected with the investigation if the subject agrees in writing to maintain the confidentiality of any information received under this subsection until 10 days after probable cause is found and to maintain the confidentiality of patient records pursuant to s. 456.057. The subject may file a written response to the information contained in the investigative file. Such response must be filed within 20 days of mailing by the department, unless an extension of time has been granted by the department. This subsection does not prohibit the department from providing such information to any law enforcement agency or to any other regulatory agency.
11. A privilege against civil liability is hereby granted to any complainant or any witness with regard to information furnished with respect to any investigation or proceeding pursuant to this section, unless the complainant or witness acted in bad faith or with malice in providing such information.

12a. No person who reports in any capacity, whether or not required by law, information to the department with regard to the incompetence, impairment, or unprofessional conduct of any health care provider licensed under chapter 458, chapter 459, chapter 460, chapter 461, chapter 462, chapter 463, chapter 464, chapter 465, or chapter 466 shall be held liable in any civil action for reporting against such health care provider if such person acts without intentional fraud or malice.

b. No facility licensed under chapter 395, health maintenance organization certificated under part I of chapter 641, physician licensed under chapter 458, or osteopathic physician licensed under chapter 459 shall discharge, threaten to discharge, intimidate, or coerce any employee or staff member by reason of such employee's or staff member's report to the department about a physician licensed under chapter 458, chapter 459, chapter 460, chapter 461, or chapter 466 who may be guilty of incompetence, impairment, or unprofessional conduct so long as such report is given without intentional fraud or malice.

c. In any civil suit brought outside the protections of paragraphs (a) and (b) in which intentional fraud or malice is alleged, the person alleging intentional fraud or malice shall be liable for all court costs and for the other party's reasonable attorney's fees if intentional fraud or malice is not proved.

13. Notwithstanding any provision of law to the contrary, an administrative complaint against a licensee shall be filed within 6 years after the time of the incident or occurrence giving rise to the complaint against the licensee. If such incident or occurrence involved criminal actions, diversion of controlled substances, sexual misconduct, or impairment by the licensee, this subsection does not apply to bar initiation of an investigation or filing of an administrative complaint beyond the 6-year timeframe. In those cases covered by this subsection in which it can be shown that fraud, concealment, or intentional misrepresentation of fact prevented the discovery of the violation of law, the period of limitations is extended forward, but in no event to exceed 12 years after the time of the incident or occurrence.

End Notes

Current version can be viewed at http://www.flsenate.gov/Statutes

Current version can be viewed at https://www.flrules.org/gateway/organization.asp?divid=330

LAWS AND RULES GOVERNING MASSAGE PRACTICE IN THE STATE OF FLORIDA

Final Examination Questions

Select the best answer for each question and mark your answers on the answer sheet found on page 72 or complete your test online at ***Massage.EliteCME.com***.

6. All of the following are considered grounds for disciplinary action by the Board of Massage Therapy EXCEPT:
   a. Attempting to procure a license to practice massage by bribery or fraudulent misrepresentation.
   b. Allowing the Department of Health to inspect the business premises of the licensee during regular business hours.
   c. False, deceptive, or misleading advertising.
   d. Failing to keep the equipment and premises of the massage establishment in a clean and sanitary condition.

7. Under the laws governing the practice of massage therapy in the state of Florida, it is unlawful for any person to:
   a. Present as his or her own the license of another.
   b. Allow the use of his or her license by an unlicensed person.
   c. Give false or forged evidence to the department in obtaining any license provided by state statutes.
   d. All of the above.

8. Massage establishments may be opened 24 hours a day?
   a. True.
   b. False.

9. Which of the following acts is an example of misconduct and negligence in the practice of massage therapy?
   a. Explaining expected draping techniques to a client.
   b. With the venue's permission, offering massage therapy at a sports event, convention or trade show.
   c. Protecting the confidentiality of information or knowledge concerning a client.
   d. Failure to appropriately drape a client.

10. Failure to display a license or certificate as required by Florida law can result in a fine of:
    a. $250.00.
    b. $100.00.
    c. $500.00.
    d. $1,000.00.

MFL02LRE18

Chapter 3: Preventing Medical Errors

2 CE Hours – state required

By: Valerie Wohl, Ph.D.

Learning objectives

- Discuss the rationale for studying medical errors and strategies for prevention.
- Explain the meaning of "error" according to the Institute of Medicine's (IOM) definition.
- Explain the concept of root-cause analysis and describe how it can be used to identify and prevent medical error.
- List the most common sources of medical error, and the most effective steps in preventing them from occurring.
- Identify some common behaviors and situations that create high risk potential.
- Identify and correct unsafe conditions rooted in behavioral, procedural, and/or environmental characteristics that potentially threaten patient safety in your practice.
- Describe your responsibilities in regard to the law for reporting medical error.
- Revise forms and documents to help individuals identify themselves as individuals or members of populations at greater risk, according to age, genetic or medical profiles, cultural characteristics, or personal habits.

Preventing medical error in health care

A particularly shocking and influential investigation into areas of potential risk in medical treatment, published in 1999 by the Institute of Medicine's (IOM) Committee on Quality of Healthcare in America, concluded that between 44,000 and 98,000 hospital deaths per year were the result of medical error[1]. The report, called ***To Err is Human***, suggests some part of the problem, in cases of medical error, is the way we think about the issue, and encourages the use of a new conceptual or ideological framework that focuses less on assigning blame, and more on developing strategies to prohibit the occurrence of medical error.

Responsibilities

As a member of the health care industry, you have a responsibility to be aware of the risk of medical errors as well as learn strategies to minimize that potential risk. Remember that medical errors can occur at any point in treatment, even in preventive care, and do not always result in patient injury or death.

Health care personnel and institutions are held accountable for establishing and maintaining a safe health care environment for their patients. An investigation of sentinel events focuses primarily on systems and processes, rather than attaching blame to the actions of specific individuals. While personal responsibility is essential to reducing medical errors and increasing patient safety, a root-cause analysis addresses the issue of personal fault within the existing health care framework. Understanding the context of medical errors is essential to minimizing their occurrence and providing strategies through the implementation of appropriate organizational and systemic changes[2].

Careful review and analysis of sentinel events and near-misses (situations in which a medical error occurred but did not cause harm to the patient) suggests close scrutiny of sentinel events can be key to determining whether adverse events, such as patient injury or death, were caused by the patient's diagnosed condition, a medical intervention, or inaction on the part of a health care provider. As such, "sentinel events" signal the need for immediate attention and investigation, in order to reduce occurrence of medical error.

The Joint Commission on Accreditation of Healthcare Organizations [JCAHO] requires health care organizations to establish internal processes to recognize sentinel events, conduct root-cause analyses, identify and document areas of risk, and implement a plan of risk-reduction measures to correct system failures. Once a sentinel event is identified, a root-cause analysis should be completed within 45 days. All personnel involved in the systems and processes under review must participate. A thorough analysis should inquire into all associated aspects of the event and include the following points:

- What factor or factors relate most directly to the sentinel event, and what systems and processes are associated with it?
- What underlying systems and processes allowed the event, and how can they be made more foolproof?
- What other areas of risk exist and could potentially contribute to a similar event?
- What improvements, if any, in systems and processes could be implemented to reduce the likelihood of such an event in the future?
- Finally, individuals are assigned responsibility for implementing necessary improvements. Once in place, these changes should be evaluated to determine their degree of efficacy.

All health care professionals should be obligated to report adverse incidents, defined as:

> An event over which health care personnel could exercise control and which is associated in whole or in part with medical intervention, rather than the condition for which such intervention occurred, and which also satisfies one of the following requirements:
>
> 1. Was the performance of a surgical procedure on the wrong patient, a wrong surgical procedure, a wrong-site surgical procedure, or a surgical procedure otherwise unrelated to the patient's diagnosis or medical condition.
> 2. Required the surgical repair of damage resulting to a patient from a planned surgical procedure, where the damage was not a recognized specific risk, as disclosed to the patient and documented through the informed-consent process.
> 3. Was a procedure to remove unplanned foreign objects remaining from a surgical procedure.
> 4. Resulted in one of the following injuries:
> a. Death.
> b. Brain or spinal damage.
> c. Permanent disfigurement.
> d. Fracture or dislocation of bones or joints.
> e. A resulting limitation of neurological, physical, or sensory function which continues after discharge from the facility.
> f. Any condition that required specialized medical attention or surgical intervention resulting from non-emergency medical intervention, other than an emergency medical condition, to which the patient has not given his or her informed consent.

g. Any condition that required the transfer of the patient, within or outside the facility, to a unit providing a more acute level of care due to the adverse incident, rather than the patient's condition prior to the adverse incident.

Many states require all licensed health care facilities to maintain internal systems for the reporting and documentation of adverse events. Be sure to check with your state regarding specific requirements.

Recommendations for the practitioner and staff

Safety systems must encompass all elements of a practice, including personnel, operational processes, technologies, environment, and materials. Some measures will be more obvious to you than others, so make sure you investigate all dimensions of your practice for potential hazards.

Root-cause analysis

Figure 1. Framework for identifying errors

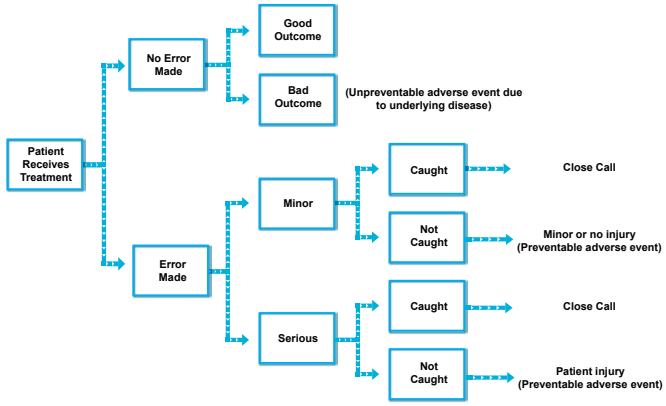

Figure from Report of the QuIC To the President, February 2000[3]

Guidelines established by The Joint Commission on Accreditation of Healthcare Organizations (JCAHO), a national organization dedicated to improving the quality of health care, are used to determine cause in the investigation of medical error, a process known as "root-cause analysis." (See figure 1.)

The following standardized nomenclature for root-cause analysis and reporting of sentinel events was developed by the IOM:

IOM glossary of terms[4]

Adverse event: an injury that was caused by medical management and that results in measurable disability.

Error: the failure of a planned action to be completed as intended or the use of a wrong plan to achieve an aim. Errors can include problems in practice, products, procedures, and systems.

Unpreventable adverse event: an adverse event resulting from a complication that cannot be prevented given the current state of knowledge.

Medical error: an adverse event or near miss that is preventable with the current state of medical knowledge.

Near miss: an event or situation that could have resulted in an accident, injury or illness, but did not, either by chance or through timely intervention.

System: a regularly interacting or interdependent group of items forming a unified whole.

Systems error: an error that is not the result of an individual's actions, but the predictable outcome of a series of actions and factors that comprise a diagnostic or treatment process.

The IOM defines error as **"the failure of a planned action to be completed as intended or the use of a wrong plan to achieve an aim [5]."** Note that this definition does not consider whether an error is intended or accidental. Instead, it emphasizes how the failure may have occurred:

1. An **error of planning:** the failure to determine the appropriate or necessary course of action (a diagnostic error, for example); or
2. **An error of execution**: the failure to carry out that appropriate or necessary course of action through to the point of completion.

   If a patient dies after undergoing a surgical procedure, for example, the death may be attributed to the patient's pre-existing condition – the reason for surgery – or it may be attributed to some complication of the surgery, or another aspect of medical care. If it is determined that the surgical patient died from a post-operative infection caused by unhygienic surgical instruments, for example, the situation would be considered a preventable adverse event, or "sentinel event," defined as a case in which patient injury cannot reasonably be attributed to the underlying medical condition of the patient.

Sentinel events

Since the inception of its Sentinel Event Policy in 1995, the JCAHO has compiled data from more than a thousand incidents. Reporting facilities associated sentinel events with root causes relating to:

- Inadequate safety or security of the physical environment.
- Inadequate assessment or incomplete reassessment of the patient.
- Inappropriate assignment of the patient.
- Incomplete examination of the patient.
- Infrequent or incomplete patient observations.
- Factors related to insufficient training or orientation of personnel, including inadequate staffing or competency reassessments.
- Factors related to the unavailability or miscommunication of information among health care personnel and other caregivers.

A study conducted by Medical Assurance Inc. (a company specializing in risk assessment and management) suggests the vast majority of adverse outcomes are not dependent on individual behavior or decision-making alone, but result from a cluster of risk factors.[6] Even relatively minor changes in any one area of weakness, however, can significantly reduce patient risk.[7] Some of the most common hazards to patient safety are detailed in the following pages, with practical recommendations applicable to your practice.

Common medical errors

Preventable medical errors are most commonly related to operative and post-operative complications, surgical mistakes, issues of medication, and patient falls. Older patients are far more likely to be injured in these incidents, with individuals over the age of 65 experiencing medical error two to four times as often as patients under the age of 45. Many preventable errors occur in hospitals, with the likelihood of injury growing the longer the patient stays in the hospital and the greater the severity of illness[8].

Figure 2. Client Information Sheet

To maximize the effectiveness and safety of your massage sessions, please take the time to carefully fill in this questionnaire. This information will be treated confidentially.

Name: _____ Date: _____

Address: _____ City/State/Zip: _____

Telephone: Home: _____ Work: _____

Email: _____ Occupation: _____

Referred by: _____ Marital Status: ☐ Single ☐ Married ☐ Divorced ☐ Widow/ Widower

Date of Birth: _____

Emergency Contact

Name: _____ Telephone: _____

Any area of complaint, pain, or tension? _____

Do you experience any difficulty lying face up or face down? _____

Have you had a professional massage before? If yes, when? _____

Medical History: Please mark a P for personal experience and/or an F if the disease runs in your family.

Hypertension	☐	Cancer/malignancy	☐
Fibromyalgia	☐	Edema (swelling)	☐
Herniated disk	☐	Inflammation	☐
Heart disease	☐	Osteoarthritis	☐
Fibrocystitis	☐	Allergies	☐
Varicose veins	☐	Skin rashes	☐
PMS/painful menstruation	☐	Diabetes	☐
Balance problems	☐	Chronic fatigue	☐
Phlebitis	☐	Rheumatoid arthritis	☐
Pregnancy	☐	Skin sensitivity	☐
Epilepsy	☐	Osteoporosis	☐
Abscess or open sore	☐	Headaches	☐
Thrombosis/embolism/stroke	☐	Easy bruising	☐
HIV/AIDS	☐		

Surgery/fractures (please explain): _____

Musculoskeletal pain/stiffness (i.e. low back, neck, shoulder, feet, etc.): _____

Any other physical or emotional difficulties? (Please explain): _____

Do you wear contacts? _____

Are you under medical care or supervision at this time? If yes, for what condition(s)? _____

Are you taking any medication at this time? If yes, what type(s)? _____

Did you take any over-the-counter medication today? If yes, what type(s)? _____

Do you consume vitamins/herbs on a regular basis? If yes, which ones? _____

Do we have your permission to contact your physician should the need arise? ☐ Yes ☐ No

Name of Physician:_____ Tel:_____

I, _____, understand that the massage therapy performed will be for the purpose of stress reduction, relief from muscular tension or spasm, or for increasing circulation and energy flow.

I understand that the massage therapist does not diagnose illness, disease or any other physical or mental disorder. As such, the massage therapist does not prescribe medical treatment or pharmaceuticals, nor do he/she perform any spinal manipulations. It has been made clear to me that massage therapy is not a substitute for medical examinations and/or diagnosis and that it is recommended that I see a physician for any physical ailment that I might have. Because a massage therapist must be aware of existing physical conditions, I have stated all my known medical conditions and take it upon myself to update the massage therapist about my physical health.

Signature: _____

Date: _____

A culture of patient safety

Part of the difficulty in addressing medical errors is the tendency for individuals to attach blame to a single person or cause, rather than understand the error within a faulty context that did not catch the error before it caused harm. Fear of malpractice or other retribution motivates individuals and organizations to hide, ignore, or deny the existence of dangers, so that this defensive posture becomes a weakness in itself. A culture of patient safety uses an incident as a tool for change: accepting responsibility, acting decisively to investigate it, and incorporating what is learned into operations, systems, and training. Tools for managing error and error-producing conditions include:

- Strong leadership, accountability, and commitment to patient safety at the highest organizational levels.
- A non-punitive environment (no blame-game).
- Internal and interdisciplinary review of any incidents and thorough root-cause analysis.
- Open and honest discussion of safety issues and options at all levels of the organization.
- Staying attuned to the occurrence of errors and near misses.
- Communicating and educating staff, patients, and families[9].

Communication

William Greenberg, a former chair of The American Massage Therapy Association (AMTA) Grievance Committee, writes:

"Nearly every one of the complaints that we receive [involves] the lack of communication between the parties. ... Many of the grievances begin because there was not clear communication between therapist and client. Others have developed because of lack of clear communication between massage school teachers and students. Yet others have come to us because of lack of clarity between licensing officials and therapy applicants."

Not only do practitioners need to demonstrate sensitivity and good listening skills, they must also be attentive and responsive to subtle or nonverbal communication cues. Some patients are reluctant to mention pain, injury, or personal sensitivities, both psychological and physical, that affect their experience as a patient. Always familiarize yourself with a client's medical history and current treatment status before beginning. Ask patients at the start of a session if they are currently experiencing any pain or discomfort, and let them know it is important that they tell you honestly about any discomfort or pain during or as a result of the session, as well as any other issues affecting their comfort.

At minimum, the practitioner should know the client's reasons for seeking massage services, and what they expect or hope to gain from the experience. While questions like these can be asked verbally, it is useful to record this information in writing and keep it with the patient's chart or records. It is best to review medical history questionnaires or other intake forms in person to clarify any ambiguous points and/or learn more specific information about the client's condition or specific needs. All additional comments should be included in the written records at the time of the interview.

Practitioners should develop informational materials for their clients that describe the general policies and procedures used at your place of business, including protocol for late or missed appointments, terms of payment and billing, or hours of business, for example.

Documentation and record keeping

Keep records of all treatments, including specific products used in a session, client's health and response to treatment, sensitivity and tolerance levels associated with allergens or medication, insurance and financial information, and any other useful or important points about the client. Review these records before the session to reacquaint yourself with the facts.

Keep records in a secure location and the information in them confidential. Never discuss or provide personal information about a client, except if required by law. Personal information should not be discussed without the client's consent, and shared with other health professionals only if it is in the client's best interest.

Intake forms should be as comprehensive as possible, and include basic medical information, personal history or family history of disease, contact information for use in case of emergency, and any legal or medical disclaimers required in your practice. Use the above form as a general guide only (see figure 2).

Design forms so they are easy to read and understand. Be aware that some clients may not be able to read very well, or have very low comprehension skills. If a client leaves any questions blank, review each question with the client, one by one, and write the answer for them. Then, review and expand on each point, as necessary, by discussing the answer with the client.

Find out if the client has had any previous experience with massage. If he or she is new to the experience, it is useful to provide a list and description of services offered, explaining each procedure and how it might benefit the client. Ask the client if he or she has any questions, and keep them apprised of their progress throughout the course of treatment.

If you are unsure about a client's condition or have any questions about their treatment, it is best to refer the client to a physician or other health professional for a more thorough assessment. Treatment strategies should be developed with client input, and be based on his or her preferences and needs.

Establish systems for error reporting and documentation, so that common and unusual errors can be tracked and their cause(s) examined. The use of automated systems and office management software (for basic medical forms, etc.) can reduce common errors in documentation and increase operating efficiency.

Up-to-date, accurate notes are important. Do your records pass this checklist[10]?

Style

- Date and sign each new entry with your initials.
- All entries should be neat, legible and written in ink.
- Use objective, precise language and avoid subjective "casual" remarks and abbreviations that might not be understood.

Content

- Remember to record the source of referral of the patient (which general practitioner, hospital consultant, etc.).
- Record relevant conversations with the family or friends of the patient.
- Record the details of the information given to patients at their time of discharge, if applicable.

To avoid mistaken identities

- The patient's name should be printed on every page.

The notes are an accurate record that should not be modified later

- Clearly identify the date and time and year that entries relate to.
- Do not skip lines or leave blank spaces.

Mistakes

- Draw a single line through incorrect entries.
- Initial the error.
- Add today's date.
- Make a note in the margin that the entry was made in error, and note what the correct entry should be.
- Never erase or use correction fluid or tape.

Consent forms

- Record any information you have given to the patient before he/she made the decision to sign any consent forms; this helps ensure that you have informed consent.
- Consent forms are signed by the patient after the treatment has been discussed with the doctor.

Adverse reactions and other information

- Remember to record any adverse reaction or problems including drug allergies on prescription charts, case notes and head sheets/ treatment sheets. Also record any other allergies on the alert forms provided in the case notes.

Confidentiality

- Do not remove case notes or send original case notes to other clinics or hospitals.

Facilities and equipment

Use the physical and spatial arrangement of your environment to facilitate efficient movement and decrease potential risk. While massage therapy rarely requires the use of dangerous equipment or practices, potential hazards relating to facilities and equipment nonetheless exist. Review the following checklists:

Safety and sanitation

- Hallways and walkways clear and well-lit.
- Carpets cleaned and vacuumed.
- Handwashing facilities should include germicidal soap and paper towels.
- Use fresh, clean linens with each client.
- Wash hands before and after contact with each client.
- Avoid contact with open wounds and sores.
- Do not have contact with clients if you suspect you might be ill or contagious.
- Linens should be washed in hot water with detergent and bleach, if necessary, and dried in a hot dryer.
- Clean linens should be stored in a closed cabinet; soiled linens should be stored in a covered container, outside the massage room. If possible, sanitize:
  - Floors.
  - Restroom facilities.
  - Bathing facilities and surfaces.
  - Any equipment surface that comes in contact with clients, including tables, linens, applicators, etc., between each use.
  - Hydrotherapy tubs, steam cabinets, shower stalls between each use.
- Mark wet floors with caution signs.
- Check all tables, chairs, stools, and stands and so on for safety and stability, including all hinges and locks.
- Avoid use of any substances to which your client may be allergic or sensitive.

Ventilation, heating, and electrical appliances

- Maintain a comfortable, warm environment for the client; use auxiliary heating in the massage room, if necessary.
- Keep heating and ventilation systems well maintained and clean; use filters to minimize dust and contaminants cycling through the system.
- Use auxiliary heating devices with automatic shut-off or confirm that devices are turned off when not in use.
- Make sure auxiliary heating devices are shut off when not required.
- Inspect electrical appliances and connections for safety.
- Confirm that all unnecessary appliances, such as coffee makers or hot-pots, have automatic shut-off features, or are turned off when not in use.
- Check electrical cords for fraying edges or unsafe connections.

Fire safety and first aid

- Test smoke and carbon monoxide detectors.
- Know the location of fire extinguishers and how to use them.
- Mark fire exits and establish and post evacuation procedures.
- Ensure that candles and incense are used safely and extinguished appropriately.
- Have your local fire department inspect the premises to ensure a safe environment.
- Have a complete first aid kit on the premises and inform all personnel where it is located.
- Encourage personnel to learn first aid and CPR techniques.
- Post emergency information near all telephones; include telephone numbers for police and fire departments, ambulance, hospital, emergency room, doctors, and taxicabs.

Safety and health policy statement and safety inspection checklist

Each practice should have a safety and health policy statement confirming the intent to provide for safety in the environment and operations under its control. Develop a basic statement that assures staff, clients, and visitors at your place of business that you adhere to national and state standards of safety and health as defined by the Occupational Safety and Health Act (OSHA), state fire laws, Worker's Compensation Bureau or others, and what person, position, or organization is assigned the responsibility for administering existing safety measures or programs.

Emergency action plan

Establish policies and procedures for responding to emergency situations, providing a means of notifying employees, customers, and local authorities in case of emergency, and a system of accounting for employees who are on the premises at the time of emergency.

Include methods for responding and reporting in case of fire, tornado, earthquake, power outage, hazardous materials, robbery/burglary or other threat, including methods and materials for first aid and safe and orderly evacuation.

Preventing falls

Falls are a leading cause of preventable injury, especially in children and the elderly. More than one-third of adults ages 65 years and older fall each year[11]. Common tripping hazards include the lack of stair railings or grab bars, unstable furniture, slippery surfaces, and poor lighting[12]. Use the following checklist to spot potential hazards at your place of business and make your working environment a safe one:

- Are steps, stairs, and walkways leading in and out of the area in good repair?
- Are steps, stairs, and walkways free of snow, ice, leaves, or other clutter?
- Do steps, stairs, and walkway surfaces have good walking surfaces and traction?
- Are entrances, rooms, and hallways well lit?
- Are light switches located at the top and bottom of stairways, and by each doorway?
- Are flashlights available in case of power outage or emergency?
- Remove tripping hazards including throw rugs and clutter from walkways or tack down rug edges securely.
- Use non-slip mats on bathroom floor surfaces and any other slippery areas.
- Put grab bars next to the toilet and any bathing or showering facilities.
- Put handrails on both sides of a stairway.
- Increase lighting along walkways.
- Position needed items in easy-to-reach locations.
- Use a steady step stool with safety rail or ladder for reaching high shelves and cabinets.
- Clearly mark entrances, exits, and bathrooms.

Contraindications

Contraindications are conditions where the usual course of treatment is inadvisable. Absolute contraindications, associated with severe cases of hypertension, shock, pneumonia, or toxemia, mean no part of the body should be massaged, while other contraindications may refer only to localized areas of the body, to avoid a wound, for example. Modified therapeutic applications are available in some cases, but the practitioner should always err on the side of caution. Some conditions may be both indicated and contraindicated; one patient's condition might be aggravated by a specific massage technique, while another responds favorably.

As a practitioner, it is critical to know when massage is not advisable. If in doubt, do not proceed. Your judgment should be based on the client's medical history and your discussions and experiences with the patient from the initial consultation and ongoing treatments. Knowing the client's state of health and reasons for seeking massage are important, but be sure to include a medical history checklist on your client intake form, and review it along with the client to clarify any ambiguities.

If the client's condition calls for caution, he or she is probably already under a physician's care. In these cases, the practitioner and doctor should confer before any massage treatments commence. In some cases, during the course of massage, you and the client may become aware of some condition that should be brought to the attention of a doctor. Get a physician's report and doctor's recommendations, if at all possible, before beginning or continuing massage treatments, and review the intended plan of treatment with the client's doctor before you begin, including any electrical or mechanical devices you plan to use. Massage may also be contraindicated with certain prescribed medications. Safety considerations are intended to protect not only the health of the client, but also the health of the massage practitioner and the practitioner's other clients. Major contraindications include:

- **Fever:** Massage should not proceed if body temperature exceeds 99.4 degrees F.
- **High blood pressure:** Proceed on advice of physician.
- **Acute infectious disease:** Such as severe colds and flu.
- **Acute inflammation of any part of the body:** In cases of arthritis, inflammation of the joints can sometimes be relieved through work on a reflex, related, or proximal area.
- **Tissue damage:** Usually characterized by inflammation; swelling, redness, heat, and pain.
- **Bacterial infestation:** Do not proceed if there are any signs of pus.
- **Osteoporosis:** If the client is elderly or appears frail, proceed on advice of physician.
- **Varicose veins or broken blood vessels:** Do not proceed (very light massage proximal to the affected area can be used in some cases).
- **Phlebitis (inflammation of a vein):** Do not proceed.
- **Anerosa or aneurysm (localized dilation of a blood vessel or artery):** Do not proceed.
- **Acute hematoma (internal bleeding):** Do not proceed.
- **Edema (excess accumulation of fluid in the tissues):** Proceed on advice of physician.
- **Cancer:** Proceed on advice of physician.
- **Hernia/rupture:** Do not proceed.

The following skin conditions or injuries are contraindications for the affected area only:

Acne	Carbuncles	Moles
Tumor	Blisters	Eczema
Pimples	Warts	Boils
Impetigo	Rashes	Skin tags
Bruises	Scaly skin	Sores
Burns	Lumps	Scratches
Stings/bites	Lacerations/cuts/wounds	

The practitioner should not begin any course of treatment without the physician's knowledge. Patients suffering from diabetes, asthma, or a pulmonary or heart condition should have their physician approve the intended plan of treatment before proceeding.

Contraindications and endangerment sites by nervous, vascular and organ systems[13]

Nerves	Location	Notes
Occipital foramen magnum.	Base of skull superior to 1st cervical. Vertebra greater. Occipital nerve. Suboccipital nerve. Cranial nerves II. (Optic) III. (Oculomotor) IV trochlear.	Do not work the occipital area during passive extension Static pressure OK in lengthened position.
Trigeminal nerve (V cranial).	TMJ.	Pressure on nerve may cause Trigeminal neuralgia or tic douloureux with nerve inflammation Caution when working with jaw open.
Brachial plexus.	Above lateral clavicle. Posterior triange of neck. Insertion of deltoid pec major and biceps. Medial upper arm between the biceps and triceps.	Impingement can cause pain/tingling down arm/hand.
Axilliary nerve.	Deep inside arm on the humerus.	
Musculotaneous nerve. Median nerve.	Lateral to biceps and triceps at the elbow.	Accessed when elbow is bent. Work with the arm straight.
Lumbar plexus.	Between the 12th rib and the T12 along top edge of quadratus lumborum. Along the transverse processes of T12 and lumbars.	
Vagus nerve.	Deep in abdomen.	Deep psoas work is risky with people with high blood pressures as it may over-stimulate the vagus nerve and cause sweating, nausea.
Femoral nerve.	Anterior pelvis lateral to psoas. Femoral triangle.	Caution when doing iliacus work. Follow the contour of the pelvis.
Common peroneal nerve. Common popliteal nerve.	Back of knee.	Tendon flattens when knee is straight. Hamstring work done with knee bent.

Veins and Arteries	Location	Notes
Common carotid external jugular vein.	Medical to SCM in anterior triangle.	Pressure may cause dizziness or blackouts.
Subclavian artery/vein.	Behind clavicle in the hollow under the clavicle between the pec major and deltoid.	
Aorta.	Lateral to navel.	Move off if you feel pulse. May cause blackouts.
Cephalic vein.	Anterior to deltoid, medial to triceps, lateral to pectoralis.	Can be impinged to the humerus.
Basilic vein.	Upper arm.	Can be trapped between the biceps and triceps.

Organs	Location	Notes
Heart.		Heavy compression on sternum is contraindicated.
Liver.	Below rib cage extending from the right side to the left of center.	Press liver down as you press under rib cage to work diaphragm.
Spleen.	Left abdominal region behind stomach.	Feels mushy.
Kidneys.	Protected by lower rib cage between T10 and T12 on both sides.	No compression or vibration over kidneys on back. No high psoas work through abdomen.
Lymphatic structures.	Many locations: cervical area, axillary, abdomen, femoral triangle, popliteal area.	Avoid.
Eyes.		Do not apply pressure on eyeballs: retinal detachment indicated by flashes of light or color.

General Areas of Endangerment for Swedish Massage

Area of concern	Anatomy	Notes
Temporal and forehead.	Temporal artery – lateral sides of cranium. Temporal branches of facial nerve. Opthalmic branch of trigeminal nerve.	

Area of concern	Anatomy	Notes
Temporomandibular joint (TMJ) submandibular areas.	Parotid gland on ramus of mandible on top of masseter. Facial nerve anterior and superior to parotid gland. Facial artery inferior to parotid gland. Styloid process of temporal bone posterior to mandible, anterior to mastoid process.	Styloid process may break with excessive pressure. Opening the jaw exposes nerve more. Compressing or damaging the nerves can cause trigeminal neuralgia.
Anterior triangle of neck.	SCM, mandible, trachea. Carotid artery. Internal jugular vein. Trachea. Thyroid. Hyoid bone. Submandibular. Salivary glands.	Pressure on carotid can slow heart rate or cut off blood supply to head, causing dizziness or blackouts.
Posterior triangle of neck.	SCM, clavicle, trapezius. External jugular vein. Brachial plexus. Subclavian artery and vein.	Pressure on brachial plexus can cause pain down arm and hand.
Occipital area.	Occipital foramina. Greater occipital nerve (C2). Suboccipital nerve (C1).	Digging too deep in the occipital area with the head in passive extension can entrap the nerves there. Static pressure with caution is OK.
Delto-pectoral triangle.	Inferior fibers of anterior deltoid, clavicle, and superior fivers of the clavicular head of the pec major. Cechalic vein. Brachial plexus. Axilliary artery and vein.	
Axillary region.	Anterior border: deltoid, biceps and pec major. Posterior border: deltoid, triceps, latissimus. Axillary nerve, artery, vein, lymph nodes. Cephalic vein. Brachial plexus. Median nerve. Brachial artery.	There are many very effective techniques for working the muscles of the pecs, subscapularis, through the armpit. Know what you are doing before proceeding.
Brachial region.	Superior border: inferior aspects of the biceps. Inferior border: superior aspect of the triceps. Median nerve. Brachial artery. Basilic, brachial and cephalic veins. Radial nerve.	Basilic vein can be trapped medial to the humerus between the biceps and triceps. Cephalic vein can be pinned to the humberus just lateral to the biceps.
Antecubital fossa-anterior elbow.	Distal to biceps brachii. Border: lateral common extensor tendon, medial – common flexor tendon. Median and radial nerve. Basilic vein. Bracjoa; artery.	Caution when using cross fiber friction on the insertions of the biceps and brachialis in the shortened position as it may entrap the median nerve.
Cubital notch-posterior elbow.	Posterior to medial epicondyle, anterior to olecranon ulnar nerve.	“Funny bone” cross fiber work on the triceps insertion requires a lengthened position to protect ulnar nerve.
Anterior surface of distal forearm and wrist.	Radial nerve and artery. Median nerve. Ulnar nerve and artery.	
Xiphoid process.	Xiphoid process.	Heavy direct pressure could break off bone.
Abdominal region.	Liver, spleen, stomach, gall bladder, reproductive organs, intestines, colon. Abdominal aorta, vena cava. Vagus nerve.	Visceral manipulation is an advance technique that can be learned. Deep pressure on the psoas may over-stimulate the vagus nerve and cause symptoms such as sweating, nausea.
Femoral triangle.	Sartorius, inguinal ligament, adductor longus. Femoral nerve, artery and vein. Inguinal lymph nodes. Great saphenous vein.	Area prone to herniation. Avoid pulse when palpating psoas tendon.

Area of concern	Anatomy	Notes
Gluteal region.	Between sacrum and greater trochanter. Sciatic nerve.	When working the piriformis, watch for referred pain.
Posterior knee.	Tibial and peroneal nerve (split off from sciatic nerve). Popliteal artery and vein.	

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Julie Onofrio, LMP *Reprint permission by Julie Onofrio LMP December 2003*

Lifting, transferring and positioning

Lifting, transferring, and positioning are skills requiring some degree of instruction and experience. Do not attempt to move a client without taking the time to learn proper body mechanics (ergonomics). Good body alignment, posture, and balance will significantly reduce strain on muscles and joints.[14]

Client handling and transfer, especially with frail or heavy clients, or those with limited mobility, can be injurious to the practitioner as well as the client. Always assist clients on and off the massage table. When transferring clients from one location to the other, such as from a chair or bed, use the following procedure: Explain what you plan to do to the client, and ask how they would prefer to make the move. Assess the situation and obtain assistance, if necessary. Make sure there are no obstacles in the way and any necessary equipment, such as a lifter or hoist, is available. If movement is to or from a wheelchair, make sure the wheels are securely locked in place.

Other considerations

Recommendations for the client

Informed clients are likely to be safer clients. Share information about preventing medical errors with your patients and encourage them to actively participate in health care decisions. The following Patient Fact Sheets were developed by the AHRQ and Federal agencies in the Quality Interagency Coordination (QuIC) Task Force, in partnership with other health care purchasers and providers, to educate patients and assist them in taking an active role in their health care.

PATIENT FACT SHEET

20 tips to help prevent medical errors

Medical errors are one of the nation's leading causes of death and injury. A recent report by the Institute of Medicine estimates that as many as 44,000 to 98,000 people die in U.S. hospitals each year as the result of medical errors. This means that more people die from medical errors than from motor vehicle accidents, breast cancer, or AIDS.

Government agencies, purchasers of group health care, and health care providers are working together to make the U.S. health care system safer for patients and the public. This fact sheet tells what you can do.

What are medical errors?

Medical errors happen when something that was planned as a part of medical care doesn't work out, or when the wrong plan was used in the first place. Medical errors can occur anywhere in the health care system, including hospitals, clinics, outpatient surgery centers, doctors' offices, nursing homes, pharmacies and patients' homes.

Errors can involve:
Medicines, surgery, diagnosis, equipment, lab reports.
They can happen during even the most routine tasks, such as when a hospital patient on a salt-free diet is given a high-salt meal.

Most errors result from problems created by today's complex health care system. But errors also happen when doctors and their patients have problems communicating. For example, a recent study supported by the Agency for Healthcare Research and Quality (AHRQ) found that doctors often do not do enough to help their patients make informed decisions. Uninvolved and uninformed patients are less likely to accept the doctor's choice of treatment and less likely to do what they need to do to make the treatment work.

What can you do? Be involved in your health care.

The single most important way you can help to prevent errors is to be an active member of your health care team. That means taking part in every decision about your health care. Research shows that patients who are more involved with their care tend to get better results. More specific tips, based on the latest scientific evidence about what works best, follow.

Medicines

1. **Make sure that all of your doctors know about everything you are taking**. This includes prescription and over-the-counter medicines, and dietary supplements such as vitamins and herbs. At least once a year, bring all of your medicines and supplements with you to your doctor. "Brown bagging" your medicines can help you and your doctor talk about them and find out if there are any problems. It can also help your doctor keep your records up to date, which can help you get better quality care.
2. **Make sure your doctor knows about any allergies and adverse reactions you have had to medicines**. This can help you avoid getting a medicine that can harm you.
3. **When your doctor writes you a prescription, make sure you can read it**. If you can't read your doctor's handwriting, your pharmacist might not be able to either.
4. **Ask for information about your medicines in terms you can understand, both when your medicines are prescribed and when you receive them**.
   - What is the medicine for?
   - How am I supposed to take it, and for how long?
   - What side effects are likely? What do I do if they occur?
   - Is this medicine safe to take with other medicines or dietary supplements I am taking?
   - What food, drink, or activities should I avoid while taking this medicine?
5. **When you pick up your medicine from the pharmacy, ask: Is this the medicine that my doctor prescribed?**
   A study by the Massachusetts College of Pharmacy and Allied Health Science found that 88 percent of medicine errors involved the wrong drug or the wrong dose.
6. **If you have any questions about the directions on your medicine labels, ask**.

Medicine labels can be hard to understand. For example, ask if "four doses daily" means taking a dose every 6 hours around the clock or just during regular waking hours.

7. **Ask your pharmacist for the best device to measure your liquid medicine. Also, ask questions if you're not sure how to use it**. Research shows that many people do not understand the right way to measure liquid medicines. For example, many use household teaspoons, which often do not hold a true teaspoon of liquid. Special devices, like marked syringes, help people to measure the right dose. Being told how to use the devices helps even more.
8. **Ask for written information about the side effects your medicine could cause.** If you know what might happen, you will be better prepared if it does, or if something unexpected happens instead. That way, you can report the problem right away and get help before it gets worse. A study found that written information about medicines can help patients recognize problem side effects and then give that information to their doctor or pharmacist.

Hospital stays

1. **If you have a choice, choose a hospital at which many patients have the procedure or surgery you need.** Research shows that patients tend to have better results when they are treated in hospitals that have a great deal of experience with their condition.
2. **If you are in a hospital, consider asking all health care workers who have direct contact with you whether they have washed their hands**. Hand washing is an important way to prevent the spread of infections in hospitals. Yet, it is not done regularly or thoroughly enough. A recent study found that when patients checked whether health care workers washed their hands, the workers washed their hands more often and used more soap.
3. **When you are being discharged from the hospital, ask your doctor to explain the treatment plan you will use at home**. This includes learning about your medicines and finding out when you can get back to your regular activities. Research shows that at discharge time, doctors think their patients understand more than they really do about what they should or should not do when they return home.

Surgery

1. **If you are having surgery, make sure that you, your doctor, and your surgeon all agree and are clear on exactly what will be done**. Doing surgery at the wrong site (for example, operating on the left knee instead of the right) is rare. But even once is too often. The good news is that wrong-site surgery is 100 percent preventable. The American Academy of Orthopaedic Surgeons urges its members to sign their initials directly on the site to be operated on before the surgery.

Other steps you can take

1. **Speak up if you have questions or concerns**. You have a right to question anyone who is involved with your care.
2. **Make sure that someone, such as your personal doctor, is in charge of your care**. This is especially important if you have many health problems or are in a hospital.
3. **Make sure that all health professionals involved in your care have important health information about you**. Do not assume that everyone knows everything they need to.
4. **Ask a family member or friend to be there with you and to be your advocate (someone who can help get things done and speak up for you if you can't)**. Even if you think you don't need help now, you might need it later.
5. **Know that "more" is not always better.** It is a good idea to find out why a test or treatment is needed and how it can help you. You could be better off without it.
6. **If you have a test, don't assume that no news is good news.** Ask about the results.
7. **Learn about your condition and treatments by asking your doctor and nurse and by using other reliable sources**. For example, treatment recommendations based on the latest scientific evidence are available from the National Guidelines Clearinghouse at *http://www.guideline.gov*. Ask your doctor if your treatment is based on the latest evidence[15].

More Information: A federal report on medical errors can be accessed online, and a print copy (Publication No. OM 00-0004) is available from the AHRQ Publications Clearinghouse: phone, 1-800-358-9295 (outside the United States, please call 410-381-3150) or e-mail: ahrqpubs@ahrq.gov

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PREVENTING MEDICAL ERRORS

Final Examination Questions

Select the best answer for each question and mark your answers on the answer sheet found on page 72 or complete your test online at ***Massage.EliteCME.com***.

11. According to the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), once a sentinel event is identified, a root-cause analysis should be completed within _____.
    a. 3 days.
    b. 10 days.
    c. One month.
    d. 45 days.

12. Preventable medical errors are most commonly related to all the following, except:
    a. Operative and post-operative complications.
    b. Incorrect documentation.
    c. Issues of medication.
    d. Patient falls.

13. Tools for managing error and error-producing conditions include all the following, except:
    a. Strong leadership, accountability, and commitment to patient safety at the highest organizational levels.
    b. A punitive environment (blame-game).
    c. Internal and interdisciplinary review of any incidents and thorough root-cause analysis.
    d. Staying attuned to the occurrence of errors and near misses.

14. All of the following steps are associated with correcting documentation mistakes, except:
    a. Draw a single line though incorrect entries.
    b. Initial the error.
    c. Make a note in the margin that the entry was made in error, and note what the correct entry should be.
    d. Erase or use correction fluid or tape.

15. Which of the following statements about contraindications is false?
    a. Contraindications are conditions where the usual course of treatment is recommended.
    b. Absolute contraindications are associated with severe cases of hypertension, shock, pneumonia, or toxemia.
    c. Absolute contraindications mean no part of the body should be massaged.
    d. Other contraindications may refer only to localized areas of the body, to avoid a wound, for example.

MFL02MEE18

Chapter 4: Elements of Massage Therapy

2 CE Hours

By: John Vinacci

Learning objectives

- Identify the cultures in which massage is first referenced.
- List the reasons why massage was practiced in those cultures.
- Recall the most commonly used massage strokes.
- Recognize several auxiliary massage strokes.
- Explain the benefit(s) of each stroke.
- Differentiate when to use certain strokes as opposed to others.
- Summarize professional therapist standards of appearance.
- Describe a typical massage room setting.
- Understand the purpose of interviewing a client or patient.
- Describe a typical Swedish massage sequence.
- Recognize why some conditions contraindicate massage.
- Identify the common contraindications for massage.
- List the characteristics of each contraindication.
- Describe at least 5 complimentary modalities to Swedish massage.
- Differentiate use between the various modalities.
- List the 10 most common essential oils used in aromatherapy.
- Describe the ethical standards applicable to a massage therapist.
- Identify the ethical standards that govern the massage.
- Recall the ethical standards applicable to the interaction with the client or patient.
- List the three key elements involved in starting a massage business.
- Understand what information a business plan should address.
- Identify several advertising and marketing strategies.
- List five business expenses particular to the massage profession.

Introduction

This course is designed to familiarize you with the most common elements of massage as practiced in the United States.

Massage – sometimes referred to more generally as *bodywork* – is one of the oldest known forms of therapy. It is a 'touch therapy,' meaning it requires the touch of one person's hands, forearms, or elbows (or even feet) on a receiver's body for the purpose of relieving aches, pains, fatigue, stress, and improving circulation and muscle and joint mobility. Basically, massage is soft-tissue manipulation. Since numerous studies are now showing the benefits of massage, it is gradually becoming an acceptable practice of Western medicine and used to treat an ever-growing field of maladies. Benefits of massage that are now widely accepted:

- Loosens hypertonic muscles.
- Relieves aching muscles.
- Reduces chronic pain.
- Increases flexibility and range of motion.
- Passively exercises and tones atrophied muscles.
- Reduces scar tissue.
- Reduces spasms and cramping.
- Improves circulation.
- Relaxes the nervous system.
- Stimulates the nervous system (with certain strokes).
- Reduces bouts of insomnia.
- Lowers blood pressure.
- Lowers heart rate.
- Improves skin tone.
- Speeds up recovery process from injuries and illnesses.
- Strengthens the immune system.

There are many elements and features of massage. This specialized practice can be performed by a therapist in numerous ways; with their hands alone, which may or may not include auxiliary components such as skin lubricants, and tools, such as stones. Due to the many elements of massage and the varying degrees of treatment for injuries and illnesses, an increasing number of U.S. states are requiring at least 500 hours of training before a person can be certified to perform massage. Once trained, many states then require therapists to pass a state exam in order to be licensed in that particular state.

In this course, you will identify the elements of massage that are known to almost every licensed therapeutic massage therapist in the United States. This is the minimum amount of information any therapist should know in order to ethically treat clients or patients.

SECTION I: A HISTORY OF MASSAGE

Massage dates back to at least 3000 B.C. It was known to be practiced in India about this time as part of Ayurvedic ("Art of Life") philosophy. Massage was integrated with other medical practices such as herbal remedies and hot baths to treat fatigue and muscular tension. A sacred Indian book written about 1860 B.C. described the positive benefits of integrating massage, "Rise early, bathe, and [massage the head] to reduce fatigue and promote well-being."

Similarly, it was known of the Chinese to be practicing massage during the same time frame, if not earlier. The Chinese lay claim to the first written record of massage being practiced, which occurred either in 4000 B.C. or 2700 B.C. [Though there are conflicting reports regarding the first written record, the date of 2700 B.C. is more widely accepted and still earlier than any other record.] Massage was used to relieve pain, tension, and even treat paralysis. A quote from *The Yellow Emperor's Classic of Internal Medicine,* circa 300 B.C., tells us that massage was used to treat, "…complete paralysis, chills and fever, most fittingly treated with breathing exercises, and massage of the skin and flesh."

Massage in China evolved over centuries and began with Chinese massage practitioners identifying *channels* in the body through which the universe's energy (referred to as 'Qi' among the Chinese) and blood flowed. It was believed by the Chinese, and still is, that the blockage of these channels results in ailments. By applying suitable pressure to specific points along the body's channels, the flow of the universe's energy and blood can be restored, thus bringing the body back into harmony. It also appears from Chinese medical texts that they were the first to include stretching and joint mobilization into massages. Not surprisingly, the Chinese are also credited with establishing the first massage schools around the turn of the first century A.D. Soon thereafter, massage migrated east to Japan.

It appears as though the ancient Egyptians were also practicing massage as early as 3000 B.C. as hieroglyphics and paintings dated between 2700-3000 B.C. depict reflexology of the hands and feet and the application of herb and spice infused oils to the skin. For the Egyptians, massage was believed to have been used for maintaining beauty as well as for its medicinal benefits.

The history of massage in the Western world begins with the Greeks, who appear to have started using massage around 800 B.C. primarily to keep athletes in peak condition. It was because of Herodicus, physician and teacher of the ancient Greek, Hippocrates, that it became routine for athletes to receive massage and be treated with oils on the skin before participating in games. Herodicus is one of the first physicians to believe that massage should be applied in a specific fashion and he supported it alongside an exercise program to maintain good health. By 460 B.C. Hippocrates – known to us as "the father of medicine" – was writing about the benefits of massage. He wrote, "Rubbing can bind a joint that is too loose and loosen a joint that is too rigid…hard rubbing binds, much rubbing causes atrophy, but moderate rubbing makes parts grow."

Between 100 and 200 A.D., massage was a widespread practice in the spas of Ancient Rome. The physicians Galen and Aulus Cornelius both wrote books during this time, promoting massage as a panacea for stiff and sore muscles, improving circulation, and treating neuralgia and other diseases. Roman gladiators, like the Greek athletes before them, also received massages before and after their competitions. Like Herodicus, Galen believed massage should be applied in a systematic way and considered himself a professional who distained any degradation of massage in the manner he used it. In one book, *Hygiene,* he wrote that he had a distaste for people who received massages for sexual gratification, feeling this sullied the importance of massage towards one's well-being.

Unfortunately, massage would not become widespread in Europe due to the repressive religious dogma that accompanied the Middle Ages. During this time, touching, pleasure, even appreciating beauty was frowned upon by religious authorities to the point of being considered sinful. Due to this perception, massage began losing whatever medical credibility it may have so far gained and its effects became mythical. The benefits of massage would come to be considered supernatural in origin and typically associated with witchcraft. In Europe, massage continued to be practiced in the farther reaches of western and northeastern Europe (primarily in the Scandinavian territories) by average citizens as a part of their folk medicine. Only in Islamic territories farther east, did massage continue to be practiced, according to the Greco-Roman tradition.

Finally, in the early 19th century, the Swede, Per Henrik Lik, developed massage into a systematic form of therapy for the benefit of gymnasts. His research and development led to the formulation of what is now known as Swedish massage and is the most widely used form of massage practiced in the United States and Europe. Over the following century, professional massage associations formed, such as Britain's *Society of Trained Masseuses* in 1894, New York State's *Society of Medical Massage Therapists* in 1927, and *The Florida State Massage Therapy Association* in 1939. Today's most well-known association, the *American Massage Therapy Association* was established in 1943.

As time passes and more research is conducted, the credibility of massage gains ground scientifically while its mysticism recedes into the background. As the credibility of massage increases, it moves from being considered an 'alternative medicine,' to its proper place among other Western medical practices.

SECTION II: BASIC MASSAGE STROKES

In Swedish massage, there are five commonly used strokes:

- **Effleurage** – gliding or stroking the skin.
- **Petrissage** – kneading or squeezing large areas of skin or muscle.
- **Friction** – short and concise pressing or rubbing motions.
- **Tapotement** – quick percussion or striking movements.
- **Vibration** – a quick shaking along the skin or muscles.

Effleurage

Effleurage may be considered the most common stroke of all as it is typically used in the application of lubricants (e.g. oil, cream, or gel) to a client or patient's skin. Effleurage strokes are long, broad, gentle, and gliding, and are meant to cover large areas of the body with a single stroke. Furthermore, these single strokes should bring the entire surface of the palm of one or both hands into contact with the receiver's skin. Normally, effleurage strokes are done with light to medium pressure since it is usually a preparatory stroke. Effleurage strokes may also be used as transitional strokes between the areas of the body a therapist is working on. The purpose of this stroke is to provide a general sense of relaxation and prepare the muscles for any deeper massage that may take place. Effleurage is effective in relieving tension associated with a hectic lifestyle or anxiety, but is not very effective in reducing the tension associated with injuries (e.g. strains or sprains).

Petrissage

Petrissage is effective for relieving chronic stress and loosening muscles in preparation for exercise. It is something of a kneading or squeezing motion in which large areas of either skin or muscle tissue are handled in the entire hand between the fingers and thumbs. This technique serves multiple functions such as increasing blood flow and loosening the muscles, as well as assisting the lymphatic system to move waste products through the body so they can be removed. To perform petrissage, moderate to firm pressure is applied to a large muscle group such as the biceps or upper trapezius and are lifted away from the bone and squeezed and released in a slow, circular, rhythmic fashion. Although this stroke targets the belly, or "meat", of a muscle, petrissage can also be applied using the first two fingers and the thumbs on small areas such as the face and around the jaw area. Doing petrissage in this manner is not common, but is reportedly effective for unbinding tension when other techniques are ineffective.

Friction

Friction, when applied correctly, can loosen tension at the joints by realigning muscle fibers. It is also useful in breaking down adhesions and scar tissue that can reduce one's mobility. Typically applied with medium to firm pressure with the thumbs or fingertips, friction movements are quick and short at either the origin or insertion of a muscle and move first along with the muscle fibers then perpendicular to the muscle fibers. A circular motion may also be used. Among the various strokes, friction is one of the more uncomfortable techniques and may result in soreness of the targeted area after a massage is performed. It is important to let a client or patient who is unfamiliar with massage know about the application of friction and what may result from its use.

Tapotement

Tapotement is characterized by rhythmically striking the muscles with light to moderate force in quick succession. It is used to stimulate the muscles and nerves or bring a client or patient out of a deep relaxation. There are several versions of this technique and they can be applied with the fingers, fists, palms, or edge of the hands. Finger tapping, for example, is done lightly as if raindrops are falling over areas where there are many nerve endings, such as the face. Cupping the hands and striking the chest or mid-back may have the effect of loosening mucous from the lungs and respiratory tract. Cupping is done correctly when it results in a suctioning sound.

With slapping, the entire palm comes in contact with the skin to create a slapping sound. Pummeling is done with the fists and only on "meaty" areas of the body such as the upper back, gluteal region, and the posterior and anterior thighs. Care should be taken not to apply pummeling to the lumbar region or spine. Finally, hacking or chopping is performed with the edge of the hands striking in very quick succession. Most Swedish massages end with this technique. Note that when using any variation of this technique, do not prolong its use for clients or patients using anti-psychotic prescription medicines; too much tapotement may induce psychosis.

Vibration

Vibration is a broad term used to indicate the application of rocking, shaking, or trembling muscles. A soft and gentle rocking, typically used at either the beginning or end of a massage, can be very soothing and is a technique well-suited for clients or patients suffering from stress. However, shaking or trembling muscles can also be performed at a more vigor pace, which energizes muscles and prepares them for physical activity.

When vibration is used for relaxation purposes, it should be performed for no more than 10-15 seconds. Prolonging vibration past this threshold is more suitable for sports massage since sustained shaking may result in an excitation of the muscles. As with tapotement, do not use prolonged vibration for clients or patients using anti-psychotic prescription medicines; too much vibration may induce psychosis. Vibration should also not be used over the abdomen as it may induce slight nausea.

Other techniques

While these are the most common strokes a client or patient is likely to encounter when they receive a massage in the United States or Europe, many states require their licensed massage therapists obtain a certain number of continuing education hours per year. Fulfilling this requirement often brings to a therapist new techniques they are likely to integrate into their massages. The following techniques may be encountered in a massage session, though they may be less commonly used than the traditional Swedish massage strokes.

Stretching is used to lengthen muscles thereby increasing a client or patient's range-of-motion (ROM) allowing their joints to move more freely. There are two methods of stretching a therapist is likely to use during therapy; passive (or static) stretching and Proprioceptive Neuromuscular Facilitation (usually referred to as a PNF stretch).

With passive stretching, a muscle is pushed or pulled away from its origin by the therapist so that it is at a greater length than it would be at rest. This type of stretch is usually held for seven to ten seconds, which is the time it takes for muscle fibers to relax into a greater length using this technique.

A more effective stretch can be achieved with Proprioceptive Neuromuscular Facilitation. This technique takes a client or patient through several rounds of contracting and relaxing a target muscle while the therapist resists their ability to move the muscle through its full (ROM). Specifically, the therapist first uses a passive stretch to take a muscle to the end of its (ROM), then asks the client or patient to contract the muscle with approximately 10 percent of their strength for seven to ten seconds. When the client or patient relaxes, the therapist should be able to draw the muscle into a longer passive stretch. This cycle is repeated once then the technique is performed on the antagonistic muscle or muscle group. The resulting stretch will have a greater effect and is longer lasting than if passive stretching is done alone.

Compressions are usually performed with the entire palm of the hand, pushing muscles down straight into the massage table or mat. Since this technique uses the broadest part of the hand, it is used with medium to firm pressure. Compressions are used to assist blood and lymphatic flow and help initial a stretch response in tight muscles. They also release acetylcholine, a neurotransmitter that helps muscles fire more quickly. This is why compressions are used throughout a sports massage (mentioned below). Outside of a sports massage, compressions may be performed before lubricants are applied and the massage begins, prior to working an area of the body, or when transitioning from one part of the body to another. Compressions should not be used where the receiver has varicose veins or over areas of bruising.

Feathering is a technique used on the skin to affect nerves (as opposed to muscles) and sooth them. It can also be used to reduce discolorations of the skin due to bruising when applied for a sustained amount of time (1-3 minutes). The touch should be light enough that a client or patient can feel the therapist's fingers touching the finer hairs on their body. Feathering may be ticklish and the onus is on the therapist when and when not to use this technique. Also, due to the sensitivity with which this stroke is applied, feathering may be misinterpreted as sensual in intent. A clear channel of communication between the therapist and the receiver should prevent such misinterpretations. Holding is similar to compressions in that it is used to assist blood and lymphatic flow. The main difference between the two techniques is that holding involves lightly compressing a muscle in the palm of the hands for 10-15 seconds and then releasing the muscle. Like compressions, this technique should not be used over varicose veins or bruises.

Forearms and elbows are used by therapists for two reasons, to either access deeper layers of muscles or to spare a therapist "wear and tear" of their hands, fingers, and wrists. To access the deeper layers of muscles, such as those of the back, it is not uncommon for a therapist to use a slow and controlled forearm to apply more pressure than they could with their hands or fingers.

An elbow may also be used to access deep layers of muscle but is more commonly reserved for areas where muscles meet the bone and for muscles that are extremely hypertensive. But forearms and elbow are also used to protect against overuse of the hands and fingers of therapists, and can extend a career that may otherwise be cut short by injury. In either case, a therapist should take care not to use too much pressure too quickly, especially with a sharp elbow, as doing so may result in the client or patient "muscle guarding" (muscle tightening that occurs to protect against injury).

Tools used by a massage therapist are not massage strokes but may enhance massage strokes by enhancing pressure, adding vibration or texture, adding hot or cold therapy, or by helping to correctly align the receiver's body.

Common tools include:

- A hand-held and smooth tipped stone, wood or plastic device to replace thumb pressure.
- A mechanical vibration device to prolong the vibrational stroke.
- Light rubber mallets to enhance tapotement.
- Hot stones, ice cups, and yoga bands to assist stretching.
- Neck cradles for positioning the head.

SECTION III: CONDUCTING THE MASSAGE

In a Swedish massage, there is a general sequence with which a therapist may proceed. However, before a massage can take place, there are some preparations.

Preparing for the massage

Even before arriving for an appointment, a therapist should be showered, free of scents, and have their fingernails trimmed short. The therapist should also be wearing clean, comfortable clothing that is not so loose it will brush a client or patient's skin. Dark colored clothing is preferred as it hides stains from oils, gels, and lotions. Any loose or hanging jewelry should also be removed as they may fall or cause noise.

The massage room should be in an area that is as private and noise free as possible, except for any music the therapist wishes to play. The therapist may choose to dim the lighting in the room as doing so produces melatonin, a hormone associated with relaxation and sleep. Because natural sunlight is particularly inhibiting to the body's production of melatonin, care should be taken by a therapist to block out all natural light if relaxation is the goal of the massage.

Swedish massages are usually given on tables that feature thick padding. With tables that are portable, padding may be minimal, in which case a therapist may choose to add additional cushioning by using extra sheets or thick blankets under the second of their top two sheets. The table should be clean and free of scents.

Additionally, the therapist should have props, bolsters, and pillows on hand to ensure the client or patient's body stays properly aligned on the table during the massage. Place a prop under the ankles in the prone position or under the knees in the supine position (face up) takes pressure off the lower back, for instance. Or, in cases where a client or patient's shoulders are rolled forward, a prop is usually placed under the shoulders in the prone position to prevent overstretching the upper back muscles.

Props are especially important during prenatal massages, as a client or patient cannot lie in their normal positions due to their pregnancy.

Since a receiver's body alignment during a massage is important, many massage tables feature a face cradle or face hole to place their face in while being in the prone position. This helps keep a client or patient's spine in alignment, which helps muscles relax. Note that face cradles or face holes place pressure on a receiver's nasal cavities which may result in congestion. The therapist should have tissues on hand in the event this occurs. Certain essential oils also alleviate congestion.

Other items that the massage therapist should have on hand include skin lubricants, which – with the large number of possible lubricants on the market – will be a matter of the therapist's discretion. However, the therapist should take into consideration the scent associated with some lubricants especially if adding aromatherapy to the massage session. Additional items in the massage room may include extra blankets or linens to place on top of a client or patient for warmth, antiseptics (for cleaning the feet before massaging them), and towels so the client or patient can wipe off excess lubricants when the massage is over.

Once the massage room is fully prepared, a therapist should conduct a short interview with the receiver. This is to gain information about the client or patient's goals for the massage, whether they are taking any medications the therapist should be aware of, if there are any injuries that have not healed, if there are any areas of the receiver's body the therapist should not touch, as well as the receiver's preferences for lubricants and pressure. Once the interview concludes, the therapist should give the client or patient a few moments of privacy to undress to their level of comfort and lie on the table. This time should be taken by the therapist to wash and warm their hands before beginning the massage.

Conducting the massage

In a Swedish massage, it is usually the case that a client or patient begins in the prone position (face down). The general sequence begins with the upper back (including some shoulder and neck work), then moves down to the lower back, down to the legs, and finishing with the feet. With the conclusion of the feet, any props are removed and the receiver turns over onto their back. (Care should be taken by the therapist not to expose a client or patient during this maneuver.)

The therapist then proceeds with the front of the legs, to the arms and hands, to the abdomen and chest, the neck, and after a quick disinfecting of their hands, finally the face. Some therapists elect not to follow this routine once the receiver is in the supine position, choosing instead to start with the face, then the neck, then the chest and abdomen, then the arms and hands, the front of the legs, and finally the feet. This is a matter of personal preference on the part of a therapist. There are no particular rules for the sequence in which a massage should proceed, although the receiver should have a sense of flow about where the massage is going next. It is beneficial for a client or patient to always know where a therapist's hands are, as this can reduce anxiety if it is their first massage, especially if the therapist and receiver are of the opposite sex.

As stated, a therapist will typically begin a massage on the back, first placing one hand on the upper back and one on the lower back and rocking the client or patient. This preliminary technique is relaxing and gives the therapist a moment to become completely focused.

Next, the back is undraped and tucked just under the waistline. A lubricant such as oil or lotion is spread with effleurage over large areas of the back, from the upper back to the lower back, up the rib cage, and around the shoulders and up the neck. Effleurage strokes should feel lengthy and complete, covering as much as the uncovered body without making the receiver feel as though boundaries are being crossed (refer to "Ethics of Massage," Section VI). Once the oil or lotion is evenly spread, the therapist may move on to the neck and shoulders using petrissage.

While any number of techniques may be used, friction feels particularly good at the base of the skull if kept slow and done without too much pressure. From the upper back, the therapist will move to the lower back, or they may massage one side of the entire back before moving on to the opposite side. Across the lower back, a broad forearm through the region between the iliac crest and the rib cage feels good.

The therapist then moves on to the posterior legs and gluteal muscles, where compressions, deep effleurage, and petrissage can relieve stiffness brought on by clients or patients who spend long hours in an office chair. For the lower legs (calves), petrissage often works best. Finally, the feet in the prone position typically require the focused and specific pressure of thumbs and knuckles along and across the various muscles, while adding stretches of the toes away from each other and lightly pulled out. Working the feet is incredibly relaxing for many clients and patients.

Once the client or patient has turned over onto their back, the lower leg (specifically, the tibialis anterior and peroneal/fibularis muscles) is worked with stretches and thumb or forearm pressure. Meanwhile, the upper leg – the quadriceps muscles – are usually treated with compressions, petrissage and forearm pressure. Then, the arms and hands are massaged with any number of massage strokes, although forearms and elbows are not usually used due to the smaller muscle size of most people's arm muscles and the potential to damage superficial nerve pathways.

The abdomen, if massaged, is usually treated with effleurage while the stroke used on the chest usually incorporates effleurage with a pectorals stretch. Next, the many muscles of the neck provide the opportunity for a therapist to utilize several different strokes: effleurage, petrissage, friction, vibration, feathering, and holding all feel pleasurable and are pain relieving for the neck. Of course, stretches for the neck are usually included. Finally, a face massage using light effleurage and feathering can send a client or patient into a deep relaxation. Depending on how deep this relaxation is and the goals of the receiver, the therapist may elect to finish the massage with tapotement over the whole body to stimulate the nervous system.

There are some points a therapist should consider when doing a massage. Naturally, the first is not to do any harm. If a client or patient looks uncomfortable during a stroke, the therapist should check in with them about the amount of pressure being used. The therapist should

also be thinking about how one area of tension relates to the body as a whole; is one area affecting another? Massage therapists learn that everything is connected in one way or another.

The therapist should be focusing not only on the person on their table, but should be mindful of their own body mechanics so as not to injure themselves or cause themselves undo strain.

After the massage is over, the therapist should exit the room to wash their hands and arms which allows the client or patient time to collect themselves, dress, and exit the room. It is usually after the massage that payment is rendered for services.

SECTION IV: COMMON CONTRAINDICATIONS FOR MASSAGE

While some therapists might like to think they can treat almost any condition with massage, there are times when it is wise – both for the practitioner of massage and a client or patient – not to conduct a massage, first because of safety concerns and secondly, due to liability issues.

Contraindication is when a client or patient's body or mental state indicates a particular condition; a massage should not be performed. This section lists conditions a therapist is likely to encounter with someone at some point in their career. When these conditions are encountered, they should be referred to a physician for medical clearance before a massage is performed.

- **Broken bones** – Even light pressure should be avoided in regions adjacent to bones healing from breaks within the first few days of injury. Once the bone has healed, friction is useful for reducing any scar tissue associated with the break. Massaging the area around the broken bone during rehabilitation, however, may speed recovery by improving circulation in the area. Massaging the area around the broken bone may also reduce local pain and bruising associated with the break.
- **Cancer** – Conventional wisdom asserts that massage may spread cancer throughout the body, particularly to the lymph nodes; a situation to be avoided at all costs. Although more research needs to be conducted to confirm this assertion, massaging clients or patients with cancer must be given approval by a physician beforehand.
- **Diabetes** – A client or patient with diabetes may have reduced sensitivity to pressure. It is important for the therapist to verbally check-in with the receiver every few minutes regarding pressure. The area of a recent (within 6 hours) insulin injection should not be massaged because massage may accelerate insulin absorption.
- **Embolism** – Whenever there is a blockage of a blood vessel, massage is contraindicated since it may release the blockage and lead to a heart attack or stroke. Massage only with the approval of a physician.
- **Fever** – Clients or patients showing signs of a fever should not receive a massage as a fever may indicate the presence of an infectious disease. Although preliminary studies indicate that massage may reduce the higher bodily temperature associated with low-grade fevers not associated with communicable diseases, more research needs to be conducted. Until then, it is the safest course of action to avoid massage.
- **Hernia** – A hernia is the protrusion of an organ through the cavity wall that contains it. Massaging the area of the hernia or attempting to push the organ back into place can be extremely painful to the receiver and cause additional damage. Most hernias require surgery to repair and should be left alone by a therapist.
- **High blood pressure** – The excessive pressure build-up in blood vessels means that this condition is contraindicated for sports massage and deep tissue massage and any other type or technique of massage that stimulates blood flow, such a tapotement. A relaxing massage with light pressure intended to sedate the nervous system is satisfactory.
- **HIV/AIDS** – AIDS cannot be contracted by skin-to-skin contact; instead, this virus can only be transmitted by the exchange of bodily fluids. Nonetheless, it is wise to avoid open cuts or sores on a client or patient regardless of their HIV/AIDS status. A therapist should always be aware of their own open cuts or sores before performing a massage and use medical gloves, if necessary. Also, note that persons with late-stage AIDS may be suffering from a communicable disease, so a massage may be contraindicated depending upon the specific illness.
- **Infectious diseases** – According to the CDC, influenza, hepatitis A & B, measles, meningitis, pneumonia, shingles, and strep throat are the most common viral (sometimes bacterial) infections in the U.S. that are contagious. Performing a massage on persons with any other these conditions may exacerbate their symptoms as well as expose the therapist to contagions.
- **Inflammation** – Although post-activity inflammation in athletes is common and massage is tolerable in such a case, the general rule is the areas of inflammation are to be avoided. In particular, inflammation of the veins (phlebitis) and skin (dermatitis) are contraindicated for massage. (Note that localized dermatitis can be worked around.) Ice may be administered at joints where inflammation appears, but the area of inflammation itself should not be massaged.
- **Osteoporosis** – This condition typically affects the elderly, causing their bones to become porous and fragile. A massage with light to moderate pressure may be allowed with a physician's approval, but firm to deep pressure should be ruled out. Massaging areas of bony protrusions, such as along the transverse processes of the vertebral column, should be avoided altogether.
- **Skin disorders** – Blisters, boils, burns, cuts, rashes, wounds, etc. should be locally avoided. Bruises, however, may be reduced in size and discoloration by prolonged feathering strokes. Anything more than light pressure should be avoided with bruises.
- **Varicose veins** – Veins (usually in the lower leg) that are swollen, enlarged, and discolored due to poor circulation or some type of blockage. Varicose veins commonly affect middle-aged and older women more than men. Rigorously massaging the area or attempting to stimulate blood flow in the area of varicose veins should be avoided so additional trauma to the vein does not occur. Dislodging a blockage in a varicose vein could be particularly dangerous for the client or patient. Massaging around varicose veins with non-specific strokes and stretching muscles in the vicinity of the varicose veins is considered acceptable.
- **Neuritis** – The inflammation of one or more nerves. A client or patient may be insensitive to pressure levels and pain, or be overly sensitive to pressure and pain. This condition is often brought about by circumstances massage cannot prevent, such as pressure placed upon nerves by tumors, aneurisms, or superficial wounds. A physician's approval should be sought before massaging a client or patient with neuritis. Once approved, a massage may be conducted with light pressure techniques such as feathering, holding, or vibration, with the therapist checking in at regular intervals to monitor the receiver's sensitivity. Hot stones and cold/ice therapy should be avoided altogether.

SECTION V: COMMON MODALITIES OF MASSAGE

The modalities of massage you will read about in this section are the most common modalities of massage, besides Swedish massage, that are practiced in the United States. Some of these modalities may be briefly encountered during what is otherwise considered a Swedish massage; it is not uncommon for a therapist to use utilize freshly acquired techniques they think may benefit their client or patient.

Sports massage

Sports massage – This modality of massage is geared towards athletes to facilitate their performance and recovery. Depending upon the needs of an athlete, they may elect to receive a massage at a particular time during their training cycle. Typically, an athlete may choose to receive a pre-event massage at the site of the competition in order to prepare their muscles for competition. The pre-event massage is characterized by quickly paced strokes. Petrissage, compressions, and vibration are used in order to stimulate blood flow to the muscles and it is usually performed with the athlete fully clothed for their competition.

A post-event massage, may likewise be performed at the competition, or will otherwise take place within a few hours of competing. Post-event massage focuses on relaxing the body with slower strokes while also stimulating blood and lymphatic flow with petrissage to reduce recovery time. Stretches are commonly incorporated with both pre- and post-event massages and will target the muscles particular to the athlete's sport. Athletes may also use massage to recover more quickly from injuries. A 2010 study, cited in the Journal of Strength and Conditioning Research, discovered that even a few moments of targeted massage can improve the range of motion through the hips. In her own studies, Margaret Jones, Ph.D., of the American College of Sports Medicine, noted a decrease in muscle soreness in athletes receiving either pre- or post-event massage ("Deep Tissue Sports Massage").

Deep tissue

Deep tissue – This modality is as its name implies; it usually involves the application of forearms and elbows with firm pressure to access deep layers of muscle that are not typically accessible with hand or finger pressure. This technique is further characterized by a slow and deliberate movement, while the targeted muscle or muscles are minimally lubricated. When performing deep tissue work, the therapist should not be pressing muscles down into bones, as this can damage both the muscles and bone and result in severe bruising. Instead, the applied pressure should be moving perpendicular to the bone or at as much of an angle away from the bone, as possible. The therapist should check in frequently with the receiver for feedback about pressure and pain; some discomfort is normal but sharp pain should be avoided. Deep Tissue Massage is sometimes considered a form of Myofascial Release (mentioned further in this section).

Aromatherapy

Aromatherapy – Although not considered a form of massage, aromatherapy is a relatively common supplement to a massage session. Used as early as ancient Greek and Roman times, essential oils have shown to produce a variety of effects. Oils from lavender or chamomile, for example, have sedative effects while eucalyptus, lemon, and pine oil have antiviral properties. Eucalyptus oil can also be used as a decongestant. Such oils can be used alone or in blends, to produce a variety of effects or enhance the effects of the oil used in the blend.

Essential oils are used during a massage session in one of two ways: (1) The oil is either diffused into the air by warming it with a special container or placing a few drops on a hot moist towel, or (2) the oil is massaged directly into the skin. Massaging oils directly into the skin is the less common method of application, as many essential oils are too powerful to be absorbed quickly into the bloodstream using this method. (Nausea or seizures can result.)

Some oils are more commonly used than others during a Swedish massage session. The following list includes the ten most commonly used oils and the conditions they are used to treat:

- **Basil** – anxiety, depression, digestive issues, insomnia, muscle spasms, poor circulation, poor concentration (caution; do not use during pregnancy).
- **Bergamot** – body odor, depression, infections, insect repellent, stress, ulcers (caution; do not use undiluted).
- **Cedarwood** – fungal infections, poor circulation, poor concentration, respiratory conditions (caution; do not use during pregnancy, do not use undiluted).
- **Chamomile** – acne, allergies, digestive issues, headaches, insomnia, minor pains, muscle spasms, stress (caution; avoid use during first trimester of pregnancy, do not take internally).
- **Eucalyptus** – body odor, congestion, disinfectant, infections, poor circulation, poor concentration, respiratory conditions (caution; do not take internally, do not take if epileptic).
- **Lavender** – bacterial infections, body odor, decongestant, high blood pressure, inflammation, insomnia, minor pains, muscle spasms, stress (caution; avoid use during first trimester of pregnancy, avoid with low blood pressure).
- **Lemongrass** – bacterial and fungal infections, body odor, digestive conditions, fever, insect repellent, poor concentration (caution; avoid during pregnancy, use in low doses).
- **Peppermint** – decongestant, digestive conditions, fever, halitosis, inflammation, lethargy, poor concentration, minor pains, muscle spasms (caution; avoid during pregnancy, use in low doses).
- **Rosemary** – antiseptic, congestion, digestive conditions, insect repellent, lethargy, poor circulation, poor concentration, muscle pains, muscle spasms (caution; avoid during pregnancy, avoid with high blood pressure).
- **Sandalwood** – antiseptic, bacterial infections, depression, inflammation, respiratory conditions, stress (caution; always dilute with a carrier oil or water).

Hot stone massage

Hot stone massage – This modality utilizes warm-to-hot stones (120-150 degrees) to direct heat deeply into muscles. The application of deep heat on muscles can have a sedative effect and is effective for treating hypertension and managing pain by dilating blood vessels, loosening tense muscles, and allowing a therapist quick access to deeper layers of soft tissue in less time. Hot stones can be utilized in one of two ways, either as an extension of the therapist's hands so that the stones are kept in motion, or by careful placement. When used as an extension of a therapist's hands, stones are usually heated to a temperature of 120-130 degrees and kept in constant motion so they do not burn a client or patient's skin. As the stones cool, the pace of the massage may slow until the stones are no longer at an effective temperature (less than 116 degrees). A therapist trained in hot stones will know when a stone is too cool to be effective. Stones may be carefully placed directly on the skin provided they are not more than 120 degrees. Hot stones at a temperature greater than 120 degrees should be buffered by a towel or blanket to prevent burns on the receiver. As with a deep tissue massage, an open channel of communication is necessary between the therapist and receiver, to establish the client or patient's comfort zone regarding the heat of the stones. While the stones are often effective in loosening soft tissue and are very relaxing, there are cautions against their use.

A hot stone massage is generally contraindicated for clients or patients with diabetes, high blood pressure, heart disease, or those on blood thinners. Hot stones are also contraindicated for women who are pregnant or women experiencing menopausal hot flashes, or if the receiver has a sunburn. The stones commonly used for hot stone massages are usually polished basalt river stones which are high in iron, an element that

effectively retains heat. Many types of stones can be used to apply heat to the body; however, it is best to ask specific questions before giving a hot stone massage for the first time, considering this modality often costs considerably more than a regular Swedish massage.

Shiatsu

Shiatsu – This modality was developed in Japan, and applies pressure to specific points along pathways of the body, called meridians. The goal of applying pressure along these pathways is to unblock the flow of Qi (life energy) throughout the body. Traditionally, it is believed that blocked Qi results in physical and mental unbalances, if left untreated. When applying pressure to specific points along the meridians, a practitioner may use fingers, thumbs, palms, elbows, or their knees. Like Swedish massage, pressure along the meridians stimulates blood and lymphatic flow, if nothing else. While there is some skepticism among Western medical physicians towards the treatment of Qi in a Shiatsu session, recent studies of a similar modality, acupuncture (which applies needles to the same points along meridians), has been shown to be effective for managing pain. Continuing research into these related modalities reveals a variety of benefits, ranging from nausea relief to curing insomnia.

Reflexology

Reflexology – This modality applies pressure to reflex points on the hands or feet to stimulate changes in other parts of the body. Practitioners of this modality believe the hands and feet represent a small mirror image of the human body, and as such, they can treat distant ailing body parts by massaging them. For example, a client or patient with tight shoulder and neck muscles may have the base of their toes and the pads of their feet massaged. Similarly, to treat digestive issues, a practitioner may massage specific areas within the arch of the foot, as this area corresponds to abdominal organs. Numerous studies conducted throughout China, Britain, and Finland found that reflexology positively affected many ailments, from colic in children, to heart disease in adults. Still, noting that many reflexology charts differ in small details, more research needs to be conducted to verify the connectivity between pressure points on the hands and feet and distant body parts. At any rate, the positive benefits unveiled by research, demonstrates the power of touch.

Trigger point therapy

Trigger point therapy – This modality was developed in the 1940's by Janet Travel when she discovered that the palpation of some irritable muscle bundles (commonly referred to as **knots**) resulted not only in local pain, but pain distant from the site of palpation, as well. Biopsies have shown these irritable muscle bundles (clinically referred to as **trigger points**) were electrically active and tight spindles of muscle in the general muscle tissue. The tightness and electrical activity found in these trigger points causes them to become self-perpetuating. The tightness stimulates an electrical impulse to the muscle spindles and the electrical impulses cause the spindles to contract, causing tightness.

Although it is not known what initiates a trigger point, left untreated they may cause chronic pain across broad areas of the body. Trigger Point Therapy attempts to relieve these sources of pain through a very particular application of pressure. The technique requires holding pinpoint pressure upon the irritable muscle bundle until the trigger point begins to twitch. At this time, the therapist will apply more pressure until the client or patient tells the therapist the pain is about seven to eight on a scale of ten. At this time, if the trigger point is **active**, the receiver may also feel pain at a location away from the trigger point. Trigger points that do not refer pain away from their general area are considered latent. The therapist continues to maintain pressure until the twitching stops – indicating that the perpetuating electrical signal has been interrupted – and the pain has subsided to at least a two to three on a scale of ten. Trigger points are a widely accepted reality among many health practitioners such as physical therapists, chiropractors, and occupational therapists. Various studies have estimated that in 75–95 percent of cases regarding regional pain find trigger points are the principal cause.

Lymphatic massage

Lymphatic massage – Unlike blood which is pumped by the heart, lymph fluid moves through the body when muscles contract. However, sometimes a patient or client is not able to move about enough to stimulate the lymphatic flow, or they suffer from edema (swelling) a symptom of another condition. This type of massage is designed to help move lymph fluid through the body, assisting the body's cleansing cycle and improving the immune system.

Lymphatic massage is designed to move toxins and waste material collected from the body's bloodstream towards the lymph nodes, liver, and kidneys, as well as other cleansing organs. Performing this type of massage requires a deft touch, to the point where a receiver may barely perceive they are being touched, despite the rhythmic and constant pace of the technique. Nevertheless, the practitioner will guide lymph towards the various lymph node areas (such as the underarms, neck, and groin regions) so it can be collected and subsequently drained from the body. As an added benefit, lymphatic massage has a sedative quality that helps alleviate pain.

As with every modality, there are situations when lymphatic massage should not be performed. The National Lymphedema Network lists four situations contraindicating massage:

1. Patients developing lymphedema after surgery who suddenly experience a marked increase in localized swelling. Under these circumstances, patients are advised to stop treatment and to see their physicians for evaluation, as soon as possible.
2. Patients developing a sudden infection should immediately discontinue treatment until the infection is treated and completely clears up. Patients, who have an increased risk for blood clotting, should be tested to rule out deep-venous thrombosis, before being treated.
3. Patients who have congestive heart failure must be monitored closely to avoid moving too much fluid [through the body] too quickly, which could put a strain on the heart.
4. When pain is present, treatment should be withheld until the underlying cause has been determined.

Reiki

Reiki – There are at least two varieties of this modality. However, the Usui System developed in the early 20th century by Mikao Usui, is the variety more commonly utilized to treat a client or patient's Qi (life force). Practitioners of this modality assert that they are able to access their own Qi and use it to manipulate the Qi of a receiver, with the goal being to balance a receiver's physical, mental, and spiritual health. This is done by the practitioner placing their hands lightly, on or above specific areas of the receiver's body, for three to five minutes. Then, the practitioner moves to the next in a series of twelve positions, which will positively affect the well-being of the client or patient. As of this writing, there has been very little scientific research into the claims made by Reiki practitioners, and as such, there is little more than anecdotal evidence to suggest that this modality is beneficial.

Myofascial release

Myofascial release – This modality is designed to eliminate restrictions that develop in fascia; broad, thin sheaths of connective tissue that surround muscles, bones, and organs. It is thought that by loosening this connective tissue, mechanical issues, such as scoliosis or range-of-motion issues, can be corrected. While deep tissue massage is usually considered a separate modality, it can be considered a type of myofascial release, as the pressure of the deep tissue technique overloads restrictions in deep layers of muscles and connective tissue until they release. Clients or patients seeking a myofascial release treatment, though, are often referring to the less invasive technique that utilizes light finger, thumb, or knuckle pressure.

Generally, the technique begins by the therapist placing their fingers, thumbs, or knuckles upon a muscle's origin with light pressure and taking a moment to "sink into" the soft tissue. The therapist then moves towards the insertion of the muscle, feeling for any restrictions or hardened areas within the tissue. Light pressure is maintained at the restriction for up to five minutes until the tissue begins to warm up and subsequently becomes softer. Finally, the therapist continues to move toward the muscle insertion until completing the stroke and removing their touch from the skin, slowly. This modality is sometimes uncomfortable for receivers as no lubricant is used on their skin and heat may be generated from their bodies in a manner they are not used to.

Prenatal massage

Prenatal massage – Prenatal or pregnancy massage is designed to address the anxiety, aches, pains, and swelling associated with pregnancy. Due to changes the female body undergoes when pregnant, several areas of concern must be addressed when giving a massage. First, the client or patient must be properly supported with pillows or other props to ensure the safety of the mother and child. In fact, most of the massage takes place with the receiver in the side-lying position, which reduces strain on the lower back. Second, some modalities should not be used during a prenatal massage, such as deep tissue, which may exacerbate damage to tissue already prone to bruising and swelling. Firm pressure, in general, should also be avoided on the legs in particular. As blood volume increases during a pregnancy and tends to settle in the legs, the risk of dislodging a blood clot in the leg rises.

Third, there are several contraindications when it comes to prenatal massages. If a potential client or patient is experiencing any nausea or vomiting, or is considered to be at a high risk for miscarriage by their physician, massage should not be performed.

There is also some debate as to whether prenatal massages should be performed when a woman is in her first trimester of pregnancy. Although women are at a higher risk for miscarriage during this phase of their pregnancy, many therapists will not perform prenatal massages for women in their first trimester for liability reasons, in case there is a correlation between the time a woman receives a prenatal massage and a miscarriage. Finally, a therapist should avoid any heat therapy during a prenatal massage, as the introduction of additional heat to the body, at this time, is considered potentially hazardous to the unborn child.

Craniosacral therapy

Craniosacral therapy – This modality involves the gentle movement of the bones of the skull and cranium to affect the fluid surrounding the brain and spinal cord. By using light pressure on the face and head, craniosacral therapy purports to restore the body's natural balance, and functioning of the nervous system. This form of therapy is typically used in cases of chronic headaches, whiplash, and scoliosis.

Lomi lomi

Lomi lomi – Literally translated from the Hawaiian language as "rub rub," this form of massage uses broad strokes with the entire hand and forearms flowing constantly over large areas of the body. Lomi lomi focuses on treating the entire body, not just physically, but emotionally, mentally, and spiritually, as well. The therapist will usually invoke a Hawaiian prayer before the massage begins.

Ayurvedic massage

Ayurvedic massage – This modality is a complimentary therapy to a larger system of Indian medicine intended to detoxify, relax, and rejuvenate a receiver's spiritual being. During an ayurvedic treatment, the body is massaged vigorously with a warm blend of oils and herbs particular to the needs of an individual. This technique is based upon the Indian system of five elements and three mind/body classifications. This system allows a therapist to not only know what oils and herbs to use for each treatment, but also how much pressure and how quickly the massage should be performed.

SECTION VI: ETHICS OF MASSAGE

As research continues to confirm the benefits of massage, many therapists have come to consider themselves as legitimate health care providers. While practitioners of massage do not take the Hippocratic Oath like new physicians, all therapeutic massage schools in the U.S. and most of the well-known professional massage organizations (American Massage Therapy Association (AMTA), Associated Bodywork & Massage Professionals (ABMP), National Certification Board for Therapeutic Massage and Bodywork (NCBTMB)) require their practitioners to uphold certain ethical standards.

Likewise, many U.S. states with a regulatory board that oversees licensing massage therapists include *Codes of Conduct* in their rules and regulations. The reason schools, organizations, and licensing boards require adherence to ethical standards is to project and preserve professionalism in the field, as well as, for the safety of both therapists and their clients or patients. Broadly speaking, ethical standards cover three basic areas of concern: self-conduct, in relation to giving a massage, self-conduct in business dealings, and self-conduct when interacting with clients or patients in general. What follows is a generalized *Code of Conduct* for massage therapists, based upon the ethical standards expected of the aforementioned schools, organizations, and licensing boards.

Regarding the Practice of Massage, a Massage Therapist Shall:

1. Provide the highest quality massage therapy for clients or patients seeking a professional service.
2. Practice only techniques they are trained, qualified, or otherwise certified to perform.
3. Project a professional appearance by being punctual, well-groomed, wearing clean clothes, and being free of odors.
4. Accurately inform a client or patient about the intended course of therapy and acquire their consent prior to the massage.
5. Properly drape or cover a client or patient to ensure their safety and comfort in accordance with local and state laws.
6. Provide therapy only in regards to what a client or patient requests and respect their desire to stop therapy at any time for any reason.
7. Withhold therapy for a client or patient if their medical condition indicates possible contraindications.
8. Refuse to diagnose possible medical conditions and instead refer the client of patient to a physician for a proper assessment.

9. Maintain and continue to develop skills through regularly scheduled continuing education classes.

Regarding Business Practices, a Massage Therapist Shall:

1. Provide therapy regardless of a client or patient's gender or ethnicity, or otherwise arbitrarily discriminate.
2. Provide a safe and secure setting and meet local and state health code regulations.
3. Maintain adequate liability insurance, in accordance with local and state laws.
4. Maintain accurate records of appointments, billing, taxes, and legal obligations.
5. Keep all client or patient information confidential, except when required by law enforcement officials.
6. Securely store and destroy all client or patient files, when necessary.
7. Honestly and accurately represent their experience and credentials, as well as their services when advertising and marketing.
8. Refrain from any and all activity that is illicit, illegal, or prohibited.
9. Conduct business transactions with honesty and integrity, disclosing fees for services clearly and concisely.
10. File all applicable state and federal taxes.
11. Refrain from the defamation of other therapists, health and wellness providers.
12. Treat all co-workers, employers, and employees with respect.
13. Clearly define the expectations of employees by providing a precise job description and internal company policies (if applicable).

Regarding Client/Patient Interactions, a Massage Therapist Shall:

1. Act in a manner conducive to the best interests of the client or patient, while safeguarding the reputation of the massage profession.
2. Ask only for information that is relevant to the practice of massage or a course of therapy.
3. Respect a client or patient's privacy by not disclosing sensitive information, discussed during therapy.
4. Refuse to engage in any and all sexual relations with a client or patient unless such relationships exist, prior to the onset of therapy.
5. Refrain from providing therapy when either the therapist or client/patient is under the influence of drugs or alcohol, except for prescription drugs.
6. Refrain from providing therapy if a client or patient is physically or emotionally abusive, in any respect.
7. Refuse any and all gifts intended to influence a course of therapy, or that results in personal gain.
8. Retain the right to refuse therapy for reasonable causes, such as unwanted sexual advances.

It is the responsibility of each and every professional massage therapist to uphold these ethical guidelines. Taking responsibility for their actions increases the respectability of each therapist, as well as their profession, and can lead to a long and possibly profitable career.

SECTION VII: BASICS OF THE MASSAGE BUSINESS

Learning how to massage consumes a great deal of a student's time, especially in schools that meet the minimum number of hours it takes to be considered a school that U.S. states recognize as "therapeutic massage schools." Although there is a trend towards requiring more hours of training to be a massage therapist, the number of hours dedicated to learning the business of massage is often minimal. While newly licensed therapists coming out of school tend to work as employees of spas and hotels, some new and experienced therapists go into business for themselves as the sole proprietor of a massage business. There is the opportunity to make more money conducting one's own business in the massage profession as opposed to being an employee, but few therapists know the basics of what is involved. This section is intended to provide that information.

Starting a massage business requires a vision or "mission statement," detailing what kind of service the therapist intends to provide. Are they going to serve a specific segment of the population, such as athletes, or provide relaxation massages for the general public? The mission statement is akin to an elevator speech – a 30 second speech about one's business – but even shorter. It should be thought about carefully and be creative enough that it sets the therapist apart, not only from other therapists, but therapists serving the same demographic.

It is helpful for the therapist to think about their ideal client or patient in order to create a memorable mission statement. Second to the mission statement is the *business name*. In the massage business, any and all sexual innuendos should be avoided. Even though the massage profession is growing in regards to respectability, some clients still view the touch of another human being as sensual. Both the mission statement and business name should be unambiguous towards this end.

Once the mission statement has been completed and business name decided upon, a *business plan* can be developed. The business plan should detail important information such as:

- Advertising and marketing.
- Billing.
- Bookkeeping.
- Business expenses.
- Company policies.

Each of these areas are important in their own respect, but without advertising and marketing, there will be few clients or patients for a therapist, which means no income either. There is an incredible number of ways to advertise a business, but in this digital age it is necessary to maintain a website. Whether the business website is built by a therapist themselves or outsourced, there is some key information it should include: who does the business serve, the therapist's credentials, services provided, pricing information, contact information, a cancellation policy, and the location details with a map. Some therapists also include a blog about their business or recent trends in massage, printable forms for perspective clients to bring to the massage, and/or an online scheduling calendar. A good website is also easy to navigate and easy to read. Many professional massage associations include a free website for a therapist's business, provided the therapist is a member, but paid-for web-hosting offers more opportunity for creativity. Of course, any cost associated with maintaining a website should be recorded and receipts kept, as it is tax deductible.

While a website is essential, there are many other ways to advertise. Therapists often wear t-shirts with their company logo and information or put a business bumper-sticker on their vehicle. Business cards, flyers, and sidewalk signs are another standard in the massage business. Less common marketing strategies include presentations about the benefits of massage at other local businesses and giving brief introductory massages at festivals, fundraisers and sporting events. A clientele may also be built by offering special discounts, package deals, and gift certificates.

It is suggested to speak with at least one person a day about massage. Therapists who wish to enter the orthopedic massage field (treating musculoskeletal disorders), may want to talk to doctors about how massage can benefit their patients. This can provide a steady source of income. Perhaps, the best advertising could be the clients themselves. As therapists provide reliable and consistent service along with good results, they create word-of-mouth, an invaluable tool, towards creating a reputation in the market.

Next, a business plan should cover billing. First, therapists have to consider what is a fair but competitive price for their services? What are other therapists charging in the same area, or marketing to the same demographic, charging? Charging too little may result in potential clients thinking little of the therapist's credentials. Charging too much may make potential clients look elsewhere for a massage.

Second, what forms of payment should a therapist accept? It is almost necessary to accept credit cards in this day and age. There are many processing companies willing to provide business owners with this ability. Business owners should be aware that contracts vary widely among such companies. Some may offer low processing fees but bind a therapist to a two-to-three year agreement charging them, even if a therapist quits their business. Or they may offer a contract that can be terminated any time but charge high processing fees. Contracts concerning credit card processing fees should be carefully reviewed.

Third, some therapists are able to charge medical insurance as a form of payment. Accepting insurance payments can be lucrative as insurance pays well, although not immediately, and car accident victims or workman's comp cases often need massage several times a week, in order to rehabilitate. Although Washington and Florida recognize massage therapists as health care providers and make it relatively easy for them to bill insurance, almost every state allows therapists to bill health insurance provided the massage therapist submits a lengthy amount of detailed paperwork. While the imminent implementation of The Affordable Health Care Act should make it easier for therapist to join the ranks of those providing massage, therapists should note that charting (discussed below) and coding for insurance cases is very precise and they should take a class in medical transcription for massage, or learn from a therapist, already billing insurance.

Fourth, all money collected must go into a business bank account and not a personal account, and any bank can provide those necessary arrangements for a small monthly fee. There are several reasons to have a business account as opposed to having money going in and out of a personal account; it makes balancing the respective accounts easier, keeping tax-deductible business expenses manageable to track, and it renders a therapist more professional. Fourth, every transaction should include a receipt. This is important for bookkeeping purposes.

Bookkeeping serves several purposes; one reason is knowing how much to pay in taxes. With federal and state tax regulations changing on an almost yearly basis, it is best for a therapist to set aside at least 20 percent of their earnings per quarter to pay quarterly taxes. However, what is owed in taxes can be reduced by the deduction of business expenses: oils, linens, and other massage supplies, office supplies, room/space rental, business utilities such as a dedicated phone line, work clothing, business license fees, insurance liability fees, continuing education fees, business related books, and even car mileage, when used for business, are all tax-deductible. As mentioned before, receipts should always be kept for six years in the event of an audit.

A therapist should take notes on every client or patient they see, not only charting what happens each session, but any pertinent personal information. Charting observations and assessments of each session allows a therapist to know if progress is being made and allows a therapist to remember what happened in each session. Charting each massage is also important in regards to liability; massage therapists can be sued for injuring a person, but well written notes may protect a therapist by indicating the patient or client had a pre-existing condition.

Some tax deductible business expenses involved in a massage business may be:

- Massage table or mat (usually a one-time expense).
- Lubricants such as oils, lotions, and gels.
- Sheets and linens (as well as cleaning supplies or a cleaning service for them).
- Massage tools (such as hot stones and heater).
- Office space or room rental (as well as room decorations).
- Massage license, business license, and liability insurance fees.
- Advertising and marketing materials (such as business cards).
- Office supplies (pens, notebooks, tax software, etc.).
- Work clothing.
- Bank account fees.
- Continuing education courses and conference fees.
- Professional association fees.
- Legal consultation fees.
- Business related books.
- Travel costs (log of distance travelled if deducting automobile miles).
- Cost of revenue lost to time training new employees (if having employees).

All of these expenses factor into a massage business start-up and monthly costs from which revenue projections can be made. Including such expenses in the business plan can help a therapist determine a fair price for their service so as to profit from their profession. Also, taking into account something as essential as office space may influence where the business takes place; would the therapist rather stay near home or rent a room in a location with a lot of foot traffic? Price is often a factor in such decisions. (Office space is often shared with another therapist which helps drive down the cost of the room for all therapists involved. All involved therapists should sign an agreement overseeing scheduled room usage and what, if any, supplies or other business expenses are shared.)

Policies of the massage company need to be included in the business plan. Policies should cover vital information for potential clients and patients such as:

- **Arrival time** – arriving 5-15 minutes before the scheduled appointment to fill out paper work and allow for undressing/dressing time and the protocol for late arrivals (usually shortening the session time, but charging the full price).
- **Cancellation and no-show policy** – cancelling or not showing up for an appointment, with less than 24 hour notice, usually results in a cancellation fee, sometimes up to the full cost of service. The protocol for the therapist cancelling or rescheduling an appointment may also be covered here.
- **Accepted forms of payment** – almost all therapists accept credit cards, checks with a matching ID, and cash. This section should include a returned check policy. Any form of payment not taken should be clearly noted.
- **Scope of practice** – what techniques the therapist is qualified and not qualified to employ as well as a disclaimer indicating that a therapist is not qualified to diagnose medical conditions.
- **Confidentiality** – information between a therapist and client or patient is private unless sought by authorities. The necessity of the full-disclosure of all medical conditions and prescription drugs may also be mentioned here.
- **Professional boundaries** – how the therapist will treat unsolicited sexual advances or sexual conversation, the draping policy, the clothing policy for the receiver, the client's right to refuse or end service, and issues related to client comfort should all be addresses here.

A gratuity policy is sometime included among these business policies but is not considered vital information. Anything a therapist thinks a client or patient should know should be mentioned in their business' policies. Too much information is better than too little information in this regard as clearly defined policies may protect a therapist during legal proceedings.

While a lot of work goes into developing and maintaining a massage business, there is still the matter of the therapist actually doing massages. But, doing massage can be physically demanding, especially for long hours and the type of massage a therapist likes to do. Even a therapist with excellent body mechanics is still prone to injuries. Usually sore hands, wrists, elbows, shoulders, and lower back. A therapist's self-care is as essential to a massage business as any other element; without taking care of themselves, they cannot take care of others. This is usually meant in a physical capacity, meaning a therapist needs massages as much as their clients do. However, self-care relates to a therapist's mental well-being, too. Are they giving themselves enough time to rest every day? What about spending enough time with their family or friends? Do they have time for their hobbies or favorite activities? Are they exercising and eating right? Such shortcomings can be as damaging to a therapist as doing too many massages and no business will succeed for long

unless such personal needs are met. Even professional development is critical. Learning new techniques may train a therapist to use their body differently, reducing the wear and tear that comes from doing the same techniques, repeatedly. Learning new skills keeps the therapist's mind fresh and flexible and ready for unexpected challenges. A therapist who addresses these self-care issues is better able to meet the demand of doing massage while running a massage business.

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ELEMENTS OF MASSAGE THERAPY

Final Examination Questions

Select the best answer for each question and mark your answers on the answer sheet found on page 72 or complete your test online at **Massage.EliteCME.com**.

16. Who is credited with developing Swedish massage?
    a. Herodicus.
    b. Per Henrik Lik.
    c. Hippocrates.
    d. The Egyptians.

17. Which massage stroke is characterized by a kneading or squeezing motion?
    a. Petrissage.
    b. Effleurage.
    c. Holding.
    d. Feathering.

18. In what position do most Swedish massage sessions begin?
    a. Standing up.
    b. Side-lying position.
    c. Supine position.
    d. Prone position.

19. Which condition is contraindicated for massage?
    a. Inflammation.
    b. Soreness.
    c. Headache.
    d. Sleepiness.

20. When is a sports massage usually conducted?
    a. The day before an athlete competes.
    b. The day after an athlete competes.
    c. During an athlete's competition.
    d. Just before or within a few hours after an athlete competes.

MFL02EME18

Chapter 5: Medication and Massage Therapy: Introduction to Pharmacology

4 CE Hours

By: Valerie Wohl, Ph.D. with Deborah Converse, MA, Ed.S.

Learning objectives

- Explain the concept of affinity and the process of neurotransmission of drug molecules.
- Compare and contrast pharmacodynamics and pharmacokinetics.
- Explain the concept of bioavailability.
- List and discuss the contraindications for massage on specific systems of the body.
- Identify and discuss the four primary processes of pharmacokinetics.
- Define the effects of different massage strokes on systems of the body.
- Discuss the efficacy of massage to treat pain and symptoms of prescription and illicit opioid use disorder.

Introduction

Massage and medicine

Massage is a highly effective treatment for many conditions, but can do considerable harm if applied inappropriately. As a practitioner, awareness of contraindications and endangerment sites related to specific organs and organ systems (for example, avoiding pressure or compression on the heart, liver, spleen, kidneys and lymphatic structures) is critical to the client's health. If there are any doubts or concerns regarding a specific case, always err on the side of caution. If a physician or other health care professional's approval is required, do not proceed without explicit permission from the client's personal physician, specialist or other appropriate health care professional.

As part of a thorough assessment, the massage practitioner should question the client regarding all the medications he or she is taking, both prescription and non-prescription, including herbal supplements and/or vitamins. Many medications may influence or be influenced by massage, so update any client information sheets regularly to take changing medication into account over any extended period of care, and make necessary adjustments to the treatment regime.

Massage can magnify the effects of vasodilators used in the treatment of stroke or high blood pressure. Beta blockers, calcium channel blockers, antihypertensives and antiarrhythmics used to treat angina, arrhythmias and migraines, can also be altered through the effects of massage as they slow the heart rate and reduce blood pressure. Clients using these drugs may become dizzy after massage and should be encouraged to contract and relax leg muscles for a few minutes before leaving the table. Clients using anticoagulants like heparin and warfarin can experience increased bruising, joint swelling and aching; therefore, methods with a potential for bruising should be avoided.

Gastrointestinal medications (such as anti-ulcer medications) may be more effective when used with stress-reducing massage. Diabetics should generally not receive vigorous massage because it can overstress the system; however, with regular monitoring of prescription dosages to guard against blood sugar changes, diabetic individuals can safely receive massage.

Hormones such as estrogen and testosterone can impact the body's ability to benefit from massage. Estrogen can cause fluid retention and increased blood clotting, while testosterone can cause mood swings as well as physiologic effects. Massage can help even moods and lower stress levels caused by hormone imbalances.

Anti-inflammatories may alter mood as well as pain perception; therapists should not perform any massage likely to increase inflammation. Changes in client stress levels can also influence the effects of steroids and thyroid medications. Additionally, steroids can cause inflammation, so therapists should avoid massage methods that tend to increase the inflammatory response.

Central nervous system medications, such as anti-anxiety medications, antipsychotics, antidepressants, amphetamines and opioids can influence or have effects influenced by massage. Depending on the type of massage, it may either increase or decrease the effectiveness of these medications. With any of these drugs, it is important to work in conjunction with the treating professional, carefully monitor the dosage and note any perceived increase or decrease in the medication's effect.

Anti-infectives, such as antivirals or antifungals, compromise the immune system. Use universal precautions as necessary, and avoid exposing clients to contagious diseases. Respiratory medications like expectorants, decongestants, bronchodilators and antihistamines can reduce perspiration. Antihistamines can both excite or depress the nervous system, altering the effects of the massage. Most of the medications in this class can also cause either drowsiness or anxiety.

How massage affects the body

Massage improves blood circulation, increases metabolic rate, nourishes cells and facilitates the removal of wastes; it encourages relaxation, relieves stress and can reduce cramping, soreness and pain resulting from trauma, fatigue and/or illness. Massage has been used to alleviate painful afflictions and discomfort associated with a wide range of common symptoms and physical disorders, including:

- Arthritis.
- Occupational injuries.
- Bursitis.
- Circulatory disorders.
- Dislocations or fractures.
- Fibromyalgia.
- Headaches (migraine, tension and sinus).
- Joint stiffness and pain.
- Metabolic disorders.
- Neuralgia/neuritis.
- Pain due to trauma or stress.
- Physical rehabilitation.
- Repetitive strain injury.
- Respiratory conditions.
- Sciatica.
- Strains, sprains, muscle spasms.
- Temporal mandibular joint disorder.
- Tendonitis.

More specifically, massage produces two types of physiological effects: Mechanical and reflex. Mechanical effects are direct, often localized effects that are the result of physical pressure, movement and manipulation of the soft tissue. These actions normalize connective tissue, and move body fluids and digestive content. Reflex effects are characterized by changes in the nervous system that release chemicals in the body.

Simple categorization is complicated by the fact that the mechanism by which massage produces its effects is not always clearly identified.

Many effects of massage are a product of interrelationships among the peripheral and central nervous system, the autonomic nervous system (ANS), and neuroendocrine secretions. Rather than a one-to-one correspondence, the effects of massage are a combination of mechanical, neural, chemical and psychological factors (Crawford et al., 2016).

Massage strokes

Each massage stroke is associated with specific qualities of application that greatly influence its effects. In general, movements that are more rapid than the heart rate stimulate, while movements that are slower than the heart rate relax. Movements may be centrifugal, away from the heart and corresponding to arterial flow; centripetal, toward the heart and corresponding to venous flow; or cross-fiber, perpendicular to the direction of tissue fibers. Application also varies according to duration and frequency of treatment and the physical positioning of the body. Pressure can vary from light to deep, with varied rate of application (speed) and intervals of application (rhythm).

Massage uses a variety of specific strokes (described below), including as many as five to eight categories. (Some massage therapists distinguish the following actions: Rocking from petrissage; shaking from vibration; and compression from friction.)

- **Effleurage (gliding)**: This technique is carried out with long, gliding strokes toward the heart. May include nerve strokes or feathering (a very light stroke), and is typically performed to relax, stimulate, stretch and broaden tissue to increase circulation (lymph and blood movement) and reduce edema.
- **Petrissage (kneading)**: This technique manipulates fleshy areas with actions including rolling (using both hands to compress the muscle against the bone, then rolling it), compressing, and chucking (using one hand to hold a limb while the other hand moves along the bone). Petrissage is primarily used to assist metabolic function and the removal of wastes; promote the movement of blood in deeper tissue; break up adhesions; stretch muscle fascia; increase blood and lymph circulation; and support weakened muscle.
- **Friction**: This technique includes a number of different types of vigorous, rhythmic actions that largely benefit the bony areas of the body. This stroke includes circular friction, which promotes circulation and stimulates muscle tissue and nerves; transverse friction, which is applied perpendicularly to muscle fibers to break up adhesion; parallel strokes, which stimulate deep tissue and reduce adhesion; and compression, or pumping. In each case, friction increases circulation, promotes flexibility of the joints, increases circulation and breaks down sediment in the fascia.
- **Tapotement (percussion)**: This stroke uses pounding, tapping and other movements in rapid and alternating succession over primarily fleshy areas, avoiding any sensitive or injured area. The stroke is used to stimulate tissue, increase circulation, improve muscle tonus and loosen lung congestion.
- **Vibration (shaking)**: Rhythmic shaking and manipulation of surface tissues used to soothe and calm or to stimulate, depending on the pressure and rate of the application.

Action	Strokes	Results
Local mechanical.	Effleurage, petrissage, friction.	Localized warming and softening of the tissue; increase in blood and lymph circulation to the targeted area; increasing cellular exchange of nutrients and wastes.
Local (somatic) reflex.	Vibration, friction.	Massage action on the muscles and tendons activates nervous system feedback to contract or relax the targeted muscle fibers (tonus).
Systemic mechanical.	Effleurage, tapotement.	Effleurage increases blood pressure, heart rate and blood/lymph flow; tapotement mechanically stimulates the central and peripheral nervous systems.
Systemic reflux.	Effleurage, friction, tapotement.	Stimulation of the sensory receptors of the skin and deeper tissues activates neuroendocrine chemicals associated with relaxation or stimulation.

Physiologic effects of massage therapy

The physiological effects of massage are briefly reviewed in this table, and described at greater length below:

General.	• Increase in local blood supply to soft tissues, muscles and joints, vasodilation. • Increase in lymphatic and venous return (causing reduction of edema). • Increases drainage and reduced swelling in soft tissue, muscles and periarticular areas. • Prevention of adhesions and fibrosis in ligaments, muscles and associated tissues. • Reduction in muscle atrophy during extended periods of disuse or immobility. • Muscle relaxation and reduced muscle "guarding." • Increases flexibility and mobility, including joint range of motion. • Pain reduction or interruption of pain cycle with increased mobility. • Balances pH levels. • Increases hormonal release with systemic results. • Reduces pain and inflammation due to chemical release. • Increases cellular metabolism, removes metabolic wastes. • Promotes healing.
Cardiovascular/circulatory system.	• Facilitates cell nutrition and oxygen supply. • Removes metabolic waste. • Increases vascular health. • Changes heart rate and blood pressure.
Lymphatic system.	• Facilitates movement of lymph through circulator system, increases flow, and reduces edema. • Increases urine excretion.
Integumentary system.	• Increased blood flow to skin, with increased skin temperature, perspiration and sebaceous secretions.
Muscular system.	• Increases muscle tonus, relaxation and stretching. • Reduces incidence of muscle spasm and cramping. • Reduces pain and promotes healing.
Nervous system.	• Reduces pain through chemical means and nervous response. • Restores homeostasis in the parasympathetic and sympathetic systems. • Releases natural pain killers.

Respiratory system.	• Facilitates ease of breathing through relaxation of muscles and increased fluid removal (percussion stroke).
Immune system.	• Increases production of T cytotoxic cells and reduces stress, with effects on the immune system and parasympathetic nervous system.

Effects of massage on the cardiovascular and circulatory systems
Many of the physical benefits associated with massage are a function of its ability to increase blood flow to a given area. This action, called hyperemia, is visible in the reddening of the skin that occurs during massage. Increasing the blood flow through massage corrects ischemia, a reduction in blood flow that is associated with a variety of physical ailments and disorders. Improving or restoring blood flow increases nutritional delivery, promoting healing and the restoration of damaged cells and tissues in health clients. Individuals with impaired circulatory system function are not candidates for circulatory massage.

Healthy clients can see many benefits from circulatory massage; it normalizes blood pressure and can help maintain fitness of the cardiovascular system (though it is not a replacement for exercise). Massage causes vasodilation – dilation of the blood vessels and capillaries – which is due to the powerful relaxation response induced in the nervous system through massage. When the practitioner strokes the tissues toward the heart, the dilated vessels can carry more blood back through the system, allowing for improved removal of waste products and toxins and delivery of healing oxygen.

Massage can increase the efficiency of the circulatory system mechanically in clients who are unable to exercise aerobically. Massage increases blood flow to body areas in two ways: Through the application of manual pressure or by stroking the tissues toward the heart. Manual pressure by the practitioner pushes the blood out of that area. When the pressure is released, fresh blood rushes back into the tissues. Massage can encourage arterial circulation (blood flow to the tissues) or venous circulation (blood flow from the tissues back to the heart). Venous return flow is assisted by short and long stroking from the fingers and toes toward the heart; deep stroking in the other direction, from the heart to the extremities, is contraindicated, as it can endanger the system of valves within the veins.

Contraindications related to cardiovascular and circulatory system organs
Massage is contraindicated in situations or conditions where increased blood flow could be detrimental to tissue health, such as in the case of varicose veins, edema and hematoma. Varicose veins appear when damaged valves cause a vein to enlarge or twist. In the case of varicose veins, it is important to avoid any action that might put additional pressure on the valve, causing further damage to the vein. Edema, or inflammation, can result from a variety of conditions, such as arthritis, bursitis, sprains, strains, synovitis and tenosynovitis. Massage can aggravate these inflammatory conditions by causing increased blood flow to the already inflamed area.

Massage is also contraindicated when a virus or infection is present. When a virus occurs in the body, the body systems try to isolate and destroy the virus. Therefore, massage, which would cause increased circulation of the virus throughout the body, should not be performed. In the case of infections such as chicken pox, measles, influenza, scarlet fever, nephritis and hepatitis, massage may be too stressful on the body. A physician's approval is necessary for massage in patients or clients experiencing any infection. In advanced diabetes, when there is poor circulation to the extremities along with a loss of sensation, massage is likely to cause further tissue damage and should be avoided. In less advanced cases, circulatory strokes may still be beneficial, but a physician's approval should be obtained.

Medical clearance and extreme caution is advised for massage treatment in some elderly populations, particularly if the individual has experienced recent trauma. Massage can dislodge blood clots, increasing the likelihood of heart attacks or strokes. Additionally, clients with signs of arteriosclerosis or unstable or high blood pressure may be unable to tolerate increased circulation. It is especially important with elderly clients to be aware of any skin discolorations and also to check whether they are taking any blood-thinning medications. Massage should either be used with great caution or not at all in clients with hemophilia, a condition associated with excessive bleeding, the inability of blood to clot and swelling of the joints.

Effects of massage on the lymphatic system
Massage has many positive effects on the lymphatic system. Stimulating the lymphatic system through massage increases the flow of lymph, subsequently reducing edema and increasing urinary output, relieving the body of excess fluids. Massage relieves muscle tension, creating a kind of compression throughout the system that assists in the proper drainage of lymph through the channels. Massaging above the heart with light pressure along the lymphatic routes is indicated to assist in lymphatic drainage. Encouraging the client to use deep breathing during this process can also facilitate movement of the lymph through the system.

Lymphatic massage is contraindicated for anyone with a lymphatic pathology. In clients without pathology, a healthy lymphatic system can be aided by proper nutrition, exercise, adequate fluid intake and rest, in addition to regular massage. There are multiple schools of thought regarding the proper massage technique for lymphatic drainage, with the most popular approach calling for light pressure in the superficial fascial layer. Excessive pressure can cause the capillaries to close, rather than open, the objective of lymphatic massage.

Effects of massage on the digestive system
Massage can have beneficial effects on the digestive system because it promotes activity in the parasympathetic nervous system, stimulating digestive activity and encouraging the movement of wastes through the intestines. Massage can also help relieve pain or discomfort due to constipation, colic and/or gas.

Effects of massage on the urinary system
Massage increases circulation and lymph drainage from the tissues, benefiting the body by enhancing its ability to remove wastes and toxins and resulting in increased urinary output.

Effects of massage on the endocrine system
The endocrine system is regulated by the nervous system through the use of chemical messages that maintain an internal system of feedback and regulation coordinating all body functions. Neuroendocrine chemicals are central to this control system in that they carry messages that regulate physiologic processes. A neuroendocrine chemical that is in the synapse of a nerve is called a neurotransmitter, while a neuroendocrine chemical in the bloodstream is called a hormone.

Our bodies produce a constantly fluctuating mix of chemicals, responding to external or internal requirements of the moment and adapting to maintain homeostasis. The specific chemical mix is associated with many aspects of mood and personality as well as characteristic ways individuals respond to stress and pain. Neuroendocrine substances influenced by massage include the following neuroendocrine chemicals:

Adrenaline/epinephrine and noradrenalin/norepinephrine: Epinephrine (which is also known as adrenaline) activates or arouses; it produces the alert response and sympathetic arousal mechanisms associated with the "fight or flight" response in the body. Abnormally high levels of epinephrine or norepinephrine may cause hypervigilance or hyperactivity and disturb REM sleep, while low levels of epinephrine and norepinephrine (also known as noradrenalin) can leave the individual sleepy and sluggish.

Massage regulates epinephrine and norepinephrine production through stimulation and inhibition of the sympathetic and parasympathetic nervous system, returning to normal or "recalibrating" the balance of these chemicals. The autonomic nervous system may respond to massage in one of two ways: Either making the person more alert or, alternatively, calm. Once massage is initiated, it takes at least 15 minutes of sustained stimulation to trigger parasympathetic function. While a brief massage will increase production of adrenaline and noradrenaline, waking an individual up, a long massage will tend to engage parasympathetic function, reducing adrenaline and noradrenalin levels in the blood, producing an overall relaxing and calming response.

Glucocorticoids are stress hormones produced in the adrenal glands during extended stressful periods. These hormones are a symptom of sympathetic arousal. Cortisol and other glucocorticoids are associated

with stress-related conditions and symptoms, including lowered immunity, poor sleep patterns and the function of neurotransmitters that mediate the transmission of pain impulses, affecting how an individual feels these impulses. Massage has been demonstrated to reduce levels of cortisol and alter neurotransmitter function.

The body is capable of producing pain-inhibiting and opiate-like substances including dopamine and endorphins or enkephalins, chemicals that improve mood, promote feelings of satiety (fullness or satisfaction) and mediate pain. Dopamine effects motor activity, involving types of learned movement, the ability to focus and mood. Low dopamine levels are characterized by poor motor control or coordination and the inability to focus. Massage increases levels of the neurotransmitter dopamine (Michaeli, 2016). Kecskes (2014) states that acupuncture, like deep-tissue massage, often leads to endorphin release. Serotonin is another neurotransmitter that affects mood and focus, and is associated with feelings of satisfaction. It also helps regulate the sleep and waking cycle. Low serotonin is associated with depression, eating and pain disorders and obsessive-compulsive personality traits. Massage appears to increase the availability of serotonin.

The overall composition of neuroendocrine chemicals changes during massage. Dopamine, serotonin and endorphin levels rise, increasing production of immune system cells, while cortisol levels fall. Massage also assists in the regulation of epinephrine and norepinephrine, and facilitates growth hormone function. Growth hormone promotes cell division, tissue renewal and repair, and is necessary to healing functions carried out primarily during sleep. Massage encourages sleep by reducing the level of cortisol and increasing the availability of growth hormone.

Oxytocin is a hormone associated with attachment or bonding functions; it is active in pregnancy, delivery and lactation. Massage tends to increase levels of oxytocin.

Effects of massage on the respiratory system
Lung capacity and breathing can be greatly improved through massage of the chest, shoulders and back. Massage deepens respiration and improves lung capacity by relaxing tightness in the respiratory muscles. Reduced tension allows more full expansion of the chest cavity and lungs as well as increased removal of congestion. The rate of respiration typically slows due to reduced stimulation of the sympathetic nervous system.

Effects of massage on the integumentary system
Massage improves the condition and appearance of the skin, since the increased blood flow results in better delivery of nutrients to the cells and encourages cell regeneration. The effects of vasodilation improve skin color, giving us the "rosy glow" associated with good health. Massage also improves the elasticity of the skin due to increased sebum production and aids the skin's ability to resist infection through increased sweat production, resulting in the more efficient excretion of waste products through the skin.

Effects of massage on the musculoskeletal system
One of the most common reasons for getting a massage is relief from muscle tension. Massage releases built-up tension in the muscle through increasing both the blood flow into the area and the removal of toxins and wastes out of the area. Massage produces a number of desirable effects on the muscles; regular massage treatments can increase muscle firmness and elasticity, decrease inflammation, reduce fatigue and stiffness, and relieve muscle spasms and soreness. This improved muscle tone in turn reduces the amount of physical stress on bones and joints. Massage can even strengthen muscles in very weak limbs incapable of voluntary movement.

Massage can soothe joint pain caused by injury, inflammation and everyday exertion by promoting increased blood flow to the affected areas. Regular massage can break down scar tissue, allowing injured muscle tissues to heal more rapidly with less scarring and thickening of connective tissue. This in turn results in increased joint mobility and range of motion.

Effects of massage on the nervous system
Massage can:

- Stimulate sensory receptors (either stimulating or soothing nerves depending on the techniques used).
- Stimulate the parasympathetic nervous system, promoting relaxation and reducing stress.
- Reduce pain through the release of endorphins.

Massage can either relax or invigorate the client, depending on their needs. Swedish massage, effleurage and other slow-stroking movements can have a sedating effect, activating the parasympathetic nervous system and stimulating the vagus nerve to slow down the heart rate (Noonan, 2018). Massage reduces hyperactivity of the nervous system, lowering the level of electrochemical noise and encouraging better organ and organ system integration.

As might be expected, faster and firmer movements and techniques are used in sports massage as stimulation prior to a competition. While most pre-event massage is for stretching muscles and increasing blood flow, soothing massage may also contribute to an optimal performance by relaxing a stressed-out competitor. Be alert to client sensitivity, as some deep-tissue work that provides a sense of relief and peace during or after treatment may also cause increased sensitivity or even some degree of pain during the massage.

Because the nervous system regulates all other body systems, the effects of massage on the nervous system can also influence the operation of other body systems. Many of the endocrine and autonomic nervous system's operations that are not easily altered through conscious effort. Massage can modify the individual's unconscious systems, potentially changing the way stressful events affect the sympathetic nervous system (Noonan, 2018).

Because many of the reflexive effects of massage are mediated through the nervous system, the following section will review functions of the central nervous system in more detail.

The nervous system is divided into the central nervous system (CNS), including the brain and spinal cord, and the peripheral nervous system, including the cranial and spinal nerves.

The peripheral nervous system is divided into the autonomic and somatic sub-systems. The somatic nervous system controls organs under voluntary control (primarily muscles). The autonomic nervous system (ANS), regulates organ function and homeostasis, and is in large part not subject to voluntary control. The ANS is also known as the visceral or automatic system. The ANS transmits impulses from the CNS to peripheral organ systems, affecting heart rate and the contraction and relaxation of smooth muscle, pupil size and digestive secretions.

The following diagram notes the division between the central nervous system (CNS) and the peripheral nervous system.

Divisions of the nervous system

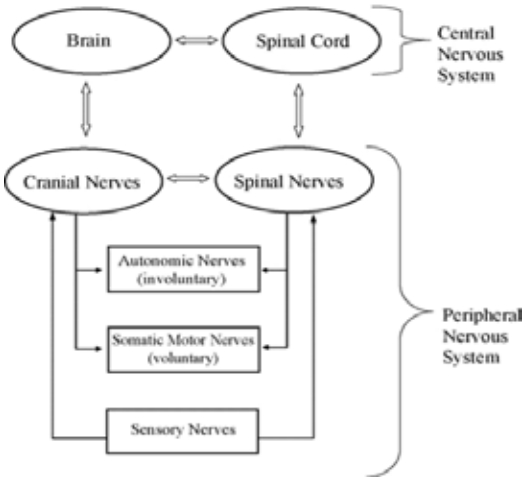


Image adapted from Patton, K.T., Thibodeau, G.A., the Human Body in Health and Disease, 7th ed. St. Louis: Elsevier, 2018

Autonomic nervous system
The autonomic nervous system is composed of two parts that act as counterweights to one another: The sympathetic and parasympathetic nervous systems. The sympathetic nervous system is centered in the spinal cord and travels to areas throughout the body. The sympathetic and parasympathetic systems regulate and maintain homeostasis through a feedback system. Both are associated with specific muscles and both affect, and are affected, by endocrine glands.

The sympathetic nervous system is primarily responsible for preparing the body for activities related to the "flight or fight" response – either running or fighting – while the parasympathetic nervous system, rooted in the brain stem and the spinal cord of the lower back, is responsible for the "relaxation" response and restoring the body to normalcy. When we physically or emotionally tire, parasympathetic functions return us to a peaceful, calm state. Depression may be associated with parasympathetic dysfunction.

The sympathetic autonomic system governs functions that expend energy in an emergency situation, while the parasympathetic part restores the body to a more normal, non-emergency state. Activation of the sympathetic nervous system is associated with a number of effects in the viscera or organs. The following table reviews a number of the changes associated with sympathetic and parasympathetic nervous system function:

Autonomic nervous system

Organ	Sympathetic arousal	Parasympathetic arousal
Heart.	Heartbeat accelerates.	Heartbeat decelerates.
Majority of blood vessels (Skeletal muscle blood vessels).	Vasoconstriction (Vasodilation).	None.
Iris.	Dilation of pupil.	Constriction of pupil.
Bladder.	Inhibits bladder (relaxes).	Stimulates bladder (contracts).
Lungs.	Opens bronchial tubes.	Constricts bronchial tubes.
Intestines.	Decreases peristalsis.	Increases peristalsis.
Digestive gland.	Inhibits digestive juices.	Increases digestive juices.

Stress and sympathetic arousal

Stress-related illnesses are associated with exaggerated sympathetic effects, which may include headaches, digestive problems, feelings of anxiety, high blood pressure and a variety of aches and pains. Long-term activation of the sympathetic nervous system typically results in what we have come to call "stress," which can take its toll on the body.

The flight-or-fight response is the body's first reaction to stress or risk. During activation of the sympathetic nervous system, the adrenal glands release adrenaline (epinephrine). In a response that lasts up to a half hour, the blood pressure increases, skeletal muscles tighten, and elimination and digestive function are put on hold.

The second stage of stress is resistance, which involves the secretion of regulating hormones that allow the body to continue carrying out the emergency strategy beyond the initial moment of alarm. If there is no relief of the stress or risk (that is, if the stimulus or stress is not interrupted or relief is not possible), the final stage is one of exhaustion. Exhaustion begins when the body is no longer able to tolerate the stress or danger. In this stage, if stress is not alleviated, the body releases cortisol.

Long-term exposure to stress can result in physical wear and tear, including the development of cardiovascular, upper respiratory and digestive difficulties. Massage can slow autonomic arousal and the tension that builds daily from our adrenaline responses. Massage stimulates the nervous system though the sensory receptors, disrupting the existing pattern in the central nervous system, and results in shifting impulses that affect the peripheral nervous system, restoring homeostasis.

Limbic system

The autonomic nervous system is controlled by areas in the cerebral cortex, the medulla oblongata and primarily, the hypothalamus, which receives impulses from sensory fibers in the organs, muscles and joints. The hypothalamus is part of the limbic system, which also includes the hippocampus and the amygdala, along with other areas of the brain. The hypothalamus is responsible for homeostasis or self-regulation. It sends instruction to the body through the autonomic nervous system, controlling blood pressure, heart rate and perspiration, as well as through the pituitary gland, regulating the body's metabolism and growth.

The limbic system is largely responsible for and closely associated with emotions and the creation of memories. Known as the pain and pleasure center, it is also associated with changes in mood and emotional states. The limbic system receives input regarding the fullness or emptiness of the stomach and the skin's temperature, and also manages feelings of hunger, thirst, pleasure, pain, sexual response and aggression.

Introduction to pharmacology

Pharmacology is the study of substances that interact with living systems through chemical processes, especially by binding to regulatory molecules and activating or inhibiting normal body processes (Katzung, 2017). More simply, it is the study of the interaction of chemicals with living things. This section introduces the following concepts of pharmacology:

- **Drugs**: Chemicals that act on living things at the molecular (chemical) level.
- **Pharmacodynamics**: The action of a drug on the body, i.e., the way the drug produces effects on the body, encompassing mechanisms of therapeutic vs. toxic actions, receptor interactions and dose-response phenomena.
- **Pharmacokinetics**: The way the drug is absorbed, distributed, metabolized and excreted from the body.
- **Medical pharmacology**: The study of substances used to prevent, diagnose and treat disease.

Nearly all of the thousands of existing drugs can be classified into about 70 different groups, and many of the drugs within each group share similar pharmacodynamic and pharmacokinetic properties. In most of these groups, it is possible to identify a small number of prototype drugs that are associated with significant characteristics that typify that group of drugs.

Nature and composition of drugs

A drug is a substance that causes a change in biological processes through chemical actions. Hormones are drugs made within the body. In general, a drug molecule interacts with a particular molecule of the living thing that regulates some aspect of the biological system. This molecule in the biological system is called a receptor.

In order to interact chemically with a receptor, the drug molecule must match the specific size and shape of the receptor, as well as the appropriate electrical charge and atomic composition. Additionally, as most drugs are administered far from the target action site (a pill is taken by mouth and must travel to its needed location in the body), the drug must have the ability to travel from the site of administration to the site of action during the time period in which it is effective, avoiding excretion or inactivation before its mission is complete.

The vast majority of drugs range from a molecular weight of 100 to 1,000. Drugs within this range are large enough to allow selectivity of action (sufficiently unique in fit and charge to prevent binding to other receptors), and small enough to allow movement throughout the different compartments of the body. Very large drugs that will not diffuse through body compartments must be administered directly into the target area.

Drug administration

Drugs are commonly administered through the following routes. Each method has different pharmacokinetic implications:

- Oral (swallowed).
- Intravenous.
- Sublingual (under the tongue).
- Rectal (suppository).
- Intramuscular.
- Transdermal.
- Subcutaneous.
- Inhalation.
- Topical.
- Transdermal.

Drugs typically enter the body through areas that are some distance from the targeted tissue. Before a drug can enter the bloodstream, it must be absorbed from the site of administration. The completeness or efficiency of absorption, as well as the rate, varies according to the type of drug and route of administration.

Drugs actions may be local, limited to a specific area, or systemic, meaning the drug enters the body tissues through the vascular and

lymphatic systems. Most drugs intended for local action are applied topically to the target area, while oral or subcutaneous administration is typically used for systemic action. Topical applications, used in adequately large or frequent doses, may also be absorbed into systemic circulation over time.

Topical agents are applied to the skin or mucous membrane, and may be intended for absorption through the cheek, throat, nose, cornea, ear, urethra, rectum or vagina. Topical preparations take many forms, including creams, gels, plasters and patches, as well as sprays, powders and suppositories. Transdermal medications are applied to the skin for systemic effect. They typically take the form of patches that stick to the skin, and may be worn for a period of hours or days.

Orally administered medications, which are taken by mouth, may be in the form of a solid pill, tablet, capsule or lozenge, but may also be powder or granular in form. Orally administered preparations also take the form of liquids and may be referred to as solutions, emulsions, syrups or tinctures, among other names. Oral medication is convenient, but may be slower and less complete than dosage through parenteral (non-oral) channels. Solid medication must be dissolved and withstand exposure to stomach acid. Additionally, oral medications are subject to metabolism by the gut and liver before reaching circulation (first-pass effect).

Sublingual medications are directly absorbed into systemic venous circulation, avoiding first-pass effect. The absorption can vary from fast to slow, according to the composition of the drug. Inhalation drugs are commonly used for respiratory diseases, as this method brings the drug into close contact with the target organ (the lungs). Suppositories are also directly absorbed into systemic venous circulation. This method allows for the absorption of larger doses of a drug and may be useful for patients who cannot use sublingual or orally administered medication.

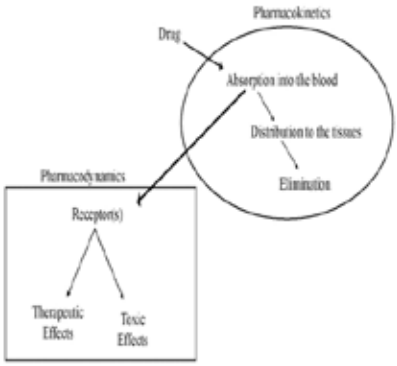
Some drugs are administered parenterally, meaning they enter the body through a route other than the alimentary (gastrointestinal) tract. Parenteral administration includes injection or infusion of a sterile preparation into the tissue, and includes the use of subcutaneous, intramuscular, intravenous, intrathecal and intra-articular routes. Intravenous administration introduces the drug into systemic circulation immediately and provides complete absorption.

Both intramuscular and subcutaneous administrations allow faster and more complete absorption than oral administration, although subcutaneous administration is slower than intramuscular methods. Intramuscular injections tend to be more painful than subcutaneous injections, but facilitate larger dosages of the drug, which are not possible in subcutaneous administration.

Drug-body interaction

It is sometimes said that pharmacokinetics is the study of what the body does to a drug, while pharmacodynamics is the study of what a drug does to the body.

Therapeutic drug administration attempts to achieve the desired beneficial effect of the drug with minimum negative, or adverse, effects. The dose-effect relationship can be separated into pharmacokinetic (dose-concentration) and pharmacodynamic (concentration-effect) portions. Concentration is the link between pharmacokinetics and pharmacodynamics. The three main processes of pharmacokinetics are absorption, distribution and elimination. See figure below (Masters & Trevor, 2012):



Pharmacokinetics

Pharmacokinetics refers to the movement of drugs within the body and its effects, often in relation to a specific time-frame. Once a drug is administered though one of the routes discussed above, it is absorbed, distributed, metabolized and excreted by the body. Many factors, including the drug's composition, the dose and the health or condition of the client, determine the therapeutic value of the drug and manner and the timing in which it undergoes absorption, distribution, metabolism and excretion.

The administration route is chosen for its convenience as well as the associated bioavailability. Hepatic first-pass effect can be avoided by using inhaled drugs, under-the-tongue tablets or transdermal administration, all of which bring the drug into systemic circulation through a vascular network. Drugs administered through rectal suppositories avoid hepatic first-pass effect to a lesser degree than either transdermal or sublingual administration, with about half of the drugs absorbed through vessels that empty into the inferior vena cava; the other half of the rectal dose moves into an area where veins feed into the liver.

Measurements of drug concentrations may be taken by invasive methods (blood or spinal fluid, for example) or non-invasive methods, as in the case of urine, feces or saliva samples. The concentration of the drug in plasma (the liquid portion of blood) serves as a reference point for the amount of drug in the body's compartments because the drug is fairly evenly distributed and can be sampled fairly easily. Plasma is in constant contact with body tissues as it distributes the blood to body compartments. Plasma concentration is measured by taking a sample of blood.

Principles of permeation

A drug must be absorbed into the blood from its administration site and distributed to its target action site. To do this, the drug must permeate through the barriers that separate the compartments of the body. These barriers include the tissues that make up the intestinal walls, capillaries that line the gut, and the blood-brain barrier – the walls of the capillaries bordering the brain.

Drug permeation takes the form of four main mechanisms:

- Aqueous diffusion.
- Lipid diffusion.
- Special carriers.
- Endocytosis and exocytosis.

Aqueous diffusion occurs within compartments of the body (called aqueous compartments) and across certain membranes with porous linings. Most drugs are prohibited from passing through special barriers, called lipid barriers, which separate aqueous compartments of the body. Where the lipid partitions and aqueous compartments border one another, the drug molecule will move from one compartment to another in a predictable way, depending on properties of the chemical and each compartment.

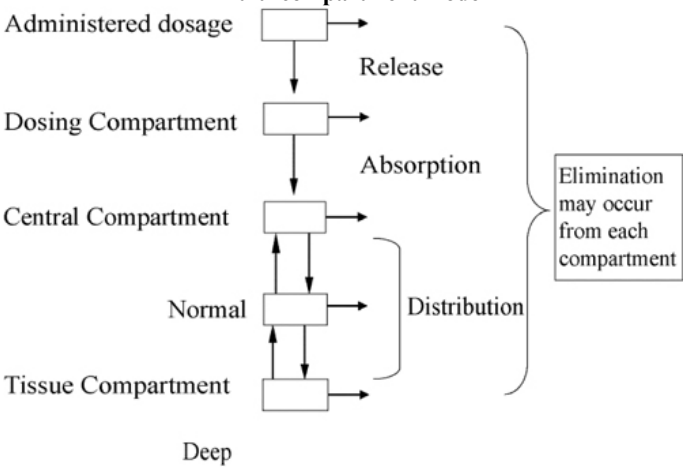
Special carrier molecules are able to carry substances necessary for cell function but too large or insoluble to pass through lipid barriers. Very large substances that are unable to pass though barriers, even with the help of special carriers, may use endocytosis, a process in which the substance is engulfed by the cell membrane, where it is broken down and released. The reverse of this process, exocytosis, causes the secretion of a substance from a cell.

Compartments of the body

Compartment models treat the body as a set of interconnected compartments: Within each compartment, the drug concentration (percentage of drug) is assumed to be evenly (homogenously) distributed, and movement of the drug between the compartments proceeds in a predictable way. Most drugs exhibit properties of multicompartment pharmacokinetics, meaning the drug accumulates and is eliminated from different compartments of the body at varying rates, resulting in different concentrations of the drug in different compartments of the body.

The number of compartments in the simplest models typically includes a compartment associated with the administration route. If the release from dosage form is very fast, as is the case in IV injection or with use of a dissolved drug, no dosing compartment is included. Tissue compartments may include both normal and deep distribution (adapted from Vallabhaneni, 2014).

Multi-compartment model



Absorption

To be of any use to the body, drugs must be absorbed. Absorption moves the drug from the area of administration into the circulatory or lymphatic systems. The term "bioavailability" refers to the percentage or proportion of the administered drug that has entered the circulatory system and is available to produce the effect.

Intravenously administered drugs are typically 100 percent bioavailable because they are administered directly into circulation, with potentially all of the drug causing an effect. When drugs are administered by other means, topically or orally, for example, a portion of the drug's molecules are lost in the process and will not be absorbed and distributed, reducing bioavailability of the drug. In other words, bioavailability is the fraction (or percentage) of the administered dose that reaches systemic circulation.

Changes in the drug's absorption rate and degree of bioavailability affect the duration of drug action and drug effectiveness.

Different drug routes vary in their efficiency or complete use of the drug. Administered drugs may have less than 100 percent of the drug available due to incomplete absorption and first-pass elimination, which is discussed below. Medications taken by mouth may not be completely absorbed. Their low bioavailability is due to the fact that the drug may be too hydrophilic or lipophilic to be completely absorbed; drugs that are too hydrophilic cannot cross lipid membranes, while lipophilic drugs are not soluble enough to cross water barriers between cells. Some substances may increase or decrease the drug's absorption. Grapefruit juice, for example, enhances drug absorption.

Drugs are typically absorbed less efficiently through skin or mucous membranes than oral or parenteral routes. The rate of rectal and sublingual absorption is relatively rapid due to the abundant blood supply available to the mucosal surfaces. Liquid medicines are absorbed more quickly than solid preparations. Lipid-soluble drugs are absorbed quickly, while enteric coatings slow absorption.

Injected drugs will absorb at varying degrees according to tissue perfusion of the site. Intradermal drugs travel from the injection site into the capillaries more slowly than subcutaneously administered drugs. Drugs injected into the muscle will absorb even more quickly due to the abundant supply of blood to the muscles. Fat acts as a storage location for lipid-soluble drugs (like anticoagulants). Drugs may accumulate there, building up and remaining for an extended period, and releasing long after administration of the drug is complete.

Drug distribution

Distribution involves movement of the drug from the administration site to the area targeted for a specific desired effect of the drug. Distribution of drug molecules depends on many interrelated factors, including blood flow, binding of the drug and barriers between body compartments. Some drug molecules are deposited in storage areas along the route, and some are rendered inactive or never distributed.

Tissue with the most abundant blood flow tends to receive the drug first; increased blood flow to the tissue means increased uptake of a drug. Tissues receiving the most blood, like the brain and kidney, have the highest rate of uptake, while tissues with low blood supply, like fat, accumulate the drug at a slower rate. Highly vascular organs like the liver, kidney and heart will acquire the drug more quickly than bone, muscle, fat or skin tissues, which have low vascularity. Other characteristics of the individual, including activity level and tissue temperature, can also affect the drug's distribution to the skin and muscle.

Lipid-solubility and the degree of ionization: Solubility refers to the drug's ability to enter tissues; highly lipid-soluble drugs can travel throughout the body, while highly ionized drugs are unable to cross lipid membranes. Ion channels are selective porous passages in the cell membrane that allow ion movement in and out of the cell. Some drugs block these routes.

Ability to cross barriers: Certain areas of the body, like the brain and testis, are resistant to drug penetration because these tissues are lined with capillaries made of endothelial cells; these cells create a barrier between those tissues and the rest of the body (i.e., blood-brain barrier). This issue is of special concern in the case of pregnant women, as some drugs can cross the placenta, causing harm to the fetus, or may be passed on to an infant through the mother's breast milk. Drugs administered orally must travel through a number of cell membrane barriers before reaching circulation.

Binding: Binding of the drug to other molecules in the blood and tissue limit its distribution to specific areas of the body. For example, drugs bound to plasma proteins are limited in that they can only travel where the proteins go.

Volume of distribution and clearance

Volume of distribution refers to the amount of the drug in the body divided by the concentration of the drug in blood or plasma. The volume of distribution can be discussed in terms of blood, plasma or water (also referred to as "unbound"). Drug clearance refers to its elimination from the body tissues. Clearance describes the rate of elimination divided by the drug concentration.

Clearance, like volume of distribution, can be referred to in terms of blood, plasma or unbound in water. Total clearance may be composed of many different kinds or processes of clearance in different parts of the body. Clearance from the entire body, including all body tissues, is referred to as systemic clearance. Systemic clearance is made up of clearance from body organs, like the liver and kidney. Elimination from the body occurs in many organs.

The two primary areas of drug elimination are the liver and kidneys. Little change occurs to the drug that is eliminated in urine, while biotransformation of the drug occurs when it is metabolized by the liver and excreted.

Rate of absorption: Zero order and first order elimination

The rate of absorption is largely dictated by the route of administration and drug composition. Drug absorption can be referred to as graphically "nonlinear" or "zero-order" when the rate of drug release is not associated with the amount of drug remaining in the originating compartment; for example, in the case of a time-released drug. A model that exhibits this characteristic may also be referred to as "saturable," "capacity-limited elimination," "dose-dependent" or "concentration dependent."

Graphically linear or "first order" kinetics, in contrast, refer to a rate of absorption that is typically proportional to the amount in the gastrointestinal concentration (gut) or drug concentration in the originating compartment.

First-pass effect

After the drug is absorbed across the gut wall, the drug is delivered by blood to the liver before it reaches systemic circulation. Drugs can be metabolically processed by the gut wall as well as the blood, but typically, it is the liver that is responsible for most metabolism before the drug enters systemic circulation. The liver may also excrete the drug in bile. Each of these channels may contribute to the loss in bioavailability, the sum of which is referred to as first-pass effect or elimination. This means that a drug is swallowed and absorbed with its effects diminished through processing by the liver. Because of this effect, some types of medications are administered intravenously rather than orally, so the active ingredients are utilized appropriately for therapeutic benefits rather than rendered inactive or used up through the liver's metabolic properties.

A number of interrelated factors influence an individual's ability to metabolize drugs, including physical condition, genetic differences and age. In cases of liver disease or dysfunction, where there is destruction of hepatocytes, metabolic action will be disturbed or slowed. Reduced hepatic blood flow may also be a result of cardiac failure or shock.

Drug metabolism is largely mediated by the individual's enzyme system functions, which is widely genetically determined. Individuals vary considerably in their response to certain drugs, especially those with hepatic metabolism. First-pass metabolism is often reduced in the elderly, resulting in greater bioavailability of the drug. The elderly may also experience delayed production and elimination of active metabolites, which can extend drug action. In such cases, reduced dosages may be necessary. Newborns – who do not have fully effective enzyme systems – may be at increased risk of toxic drug effects.

Drugs in the gastrointestinal tract

Many interacting factors determine how drugs are absorbed from the gastrointestinal tract. Because the gastrointestinal tract's pH varies at different points of the route, and drug absorption varies according to environmental pH, different parts of the body with different pH values will affect how medications work. Antacids, for example, change the environmental pH of the gastrointestinal tract, tending to decrease absorption of acidic drugs and increase absorption of drugs with alkaline pH.

When a drug has a higher concentration in the gastrointestinal tract than in the bloodstream, the drug will move through the cell membrane into circulation. Transport will continue until the drug's concentration is equal on either side of the cell membrane (in both the gastrointestinal tract and the bloodstream).

Drug absorption will also vary according to the amount of food and liquid in the gastrointestinal tract, as well as the amount and rate of movement or action of the digestive system. The presence of food in the gastrointestinal tract can either increase or decrease drug absorption, depending on the type of drug and type of food or fluid consumed. Medications taken with liquids are partly dissolved by them, which facilitates the drug's passage to the small intestine.

In cases where the gut's content moves quickly through the system, there is less time for the drug to be absorbed. Depending where the drug is located among the food will influence how much and how quickly it is absorbed. The rate of drug absorption is greatest in the small intestine, as it has the largest surface area for absorption and also a strong blood supply – two factors that facilitate drug absorption. Gastric emptying is associated with a faster absorption rate, while delayed emptying will slow drug delivery to the intestine, reducing the rate of absorption.

Elimination

A drug's rate of elimination refers to the disappearance of active drug molecules from the blood stream or body, which is typically associated with the end of pharmacodynamic effect. Most metabolic activity occurs in the liver, where hepatic enzymes biochemically react with drug molecules, but may also occur in the kidneys, intestines, lungs and plasma. In some cases, where drugs are administered repeatedly, metabolism becomes more efficient due to enzyme induction. This efficiency is referred to as drug tolerance, in which increasingly large doses of the drug become necessary to produce the same effect.

The rate of elimination is typically discussed in terms of plasma concentrations of the drug, which characterize the intensity and duration of a drug's effect. Drugs are most commonly eliminated by excretion, either through the kidney in the form of urine or, in small amounts, through the bile duct as feces.

In order to be excreted by the kidneys, drugs must be relatively hydrophilic (readily dissolving in water) to remain in fluid state. Individuals with impaired kidney function are less able to excrete hydrophilic drugs, typically requiring adjusted dosages. The majority of drugs and metabolites are excreted by the kidneys. A number of factors influence at what rate the drug is excreted, including healthy condition or the presence of kidney disease, urine pH, renal blood flow, and the concentration and the molecular weight of the drug.

Drugs that are not excreted are metabolized in the following manner. Metabolism, or enzymatic conversion, is a process that terminates the action of many drugs, particularly lipophilic compounds, which readily dissolve in lipids. In most cases, metabolism forms a more water-soluble compound that can more easily be excreted in urine. The majority of enzymes encountered by the drug are located in the gastrointestinal tract and liver.

Drugs and metabolites that are secreted by the liver into bile enter the duodenum by the common bile duct, where they pass through the small intestine. Some drugs are reabsorbed back into the blood stream and return to the liver though the process of enterohepatic circulation. The drug is further metabolized or is secreted back into bile (referred to as enterohepatic cycling, which may extend drug action). Drugs secreted into bile move into the large intestine to be excreted as fecal matter.

Drugs may enter breast milk through a network of capillaries surrounding milk-producing glands. While amounts are very small, they may affect the infant, who has reduced ability to metabolize or excrete the drug. Lipid-soluble drugs may also be excreted passively though perspiration, saliva and tears.

Drug half-life

Half-life is the amount of time necessary to alter the amount of drug in the body by one-half. In the simplest example, the human body is considered as a single compartment of a size equal to the volume of distribution (Vd). The time course of the drug in the body is proportional to both the volume of distribution and the clearance, or elimination, of the drug from the body.

Drug metabolism and excretion dictate the drug's half-life. Elimination half-life (signified by "t1/2") is defined as the time taken for the concentration of the drug in the blood to fall to 50 percent of its original value (for the plasma drug concentration to reduce by 50 percent). Elimination is 94 percent complete after four half-lives. Dosage intervals are typically based on half-life estimations, and dosage regimes are developed to produce stable drug concentrations in the plasma, keeping the concentration at or above the minimum effective level and below toxic levels.

In some circumstances, when an effective level of concentration in the plasma must be achieved quickly, a larger than normal dosage, called a loading dose, is given. Once the required plasma level of drug is reached, the normal recommended dose is repeated at regular intervals (called the maintenance dose) to maintain a stable concentration of the drug in the plasma (plasma level). Drugs with a relatively narrow therapeutic span are typically prescribed according to the therapeutic index, which is the ratio of the drug's toxic dose to its minimally effective dose. Plasma levels must be monitored to assess appropriate dosage.

Pharmacodynamics

Pharmacodynamics describe how a drug affects the body, including its mode of action:

- **Drug**: A chemical substance that interacts with a biological system to produce a physiologic effect.
- **Receptor**: The part of the complex cell or macromolecule to which a drug binds to initiate drug action.
- **Ligand**: An ion, molecule or molecular group, including hormones and neurotransmitters, that binds to another chemical entity to form a larger complex.

Receptors and selectivity

Receptors are a primary focus of pharmacodynamics, in that the receptor is the part of the cell or organism that associates with or interacts with the drug, setting off a chain of biochemical events that are the drug's effects. A receptor is commonly a protein molecule found on the surface of the cell or within the cell in the cytoplasm. Receptors are selective, in that they can only bind with certain complex molecules (ligands).

In order for a drug to interact with a receptor, it must have a complementary chemical structure, fitting like a key into a lock. While most drugs will combine with more than one type of receptor, there are highly selective drugs that only bind to one particular receptor. Such a drug is said to be specific – that is, producing effects by specifically interacting with a single receptor.

Most drugs interact with several receptors and thus have the capability to produce distinctly different pharmacologic effects. While drugs are classified according to a particular or primary function, no drugs cause only one single, specific effect. This is because drug molecules tend to bind to more than one type of receptor molecule. Even if a drug did

bind to only one kind of receptor, the effects would vary because the subsequent biochemical processes would take place in different cell types with a range of biochemical functions.

In the development and use of drugs, selectivity is measured by separating effects into either beneficial – or therapeutic – effects, versus toxic effects. In some case, a necessary drug (one that produces desired benefits) causes toxicity when given in dosages that produce the greatest benefits. In these cases, another drug may be prescribed that reduces the toxicity of the initial drug. In many cases, a drug produces both desirable and negative effects by acting on a single type of receptor in a variety of different tissues or two different receptors.

When drugs react with receptors to form a drug-receptor complex, the binding of the receptor to the drug molecule is called coupling. Coupling efficiency refers to the completeness of coupling. In many cases, spare receptors (which are not bound) will also exist on the macromolecule.

Drugs interact with receptors by bonding, a chemical force classified in one of three main ways: Covalent; electrostatic; and hydrophobic. Covalent bonds are very strong and may be irreversible, while electrostatic bonds are weaker and hydrophobic bonds are quite weak. Drugs that bind through weak bonds to their receptors are typically more selective than drugs that bond very strongly. This is the case because weak bonds require a very close fit of the drug to its receptor in order for an interaction to occur. Only a small number of receptor types are likely to fit a particular drug structure precisely. Weaker noncovalent bonds require a better fit of drug to receptor binding site and are usually reversible. Very strong bonding (covalent bonds) usually involves less selectivity and irreversible reaction.

Drug receptors function in the following ways:

- **Receptors determine the quantity of a drug required for a specific response**. Receptors tend to dictate the relationship between a dose or the concentration of a drug and its action or effects. The receptor's affinity for binding a drug determines how much of the drug is necessary to form sufficient numbers of drug-receptor partnerships to produce specific effects, as well as to limit those effects.
- **Receptors regulate chemical signaling in the body**. Receptors are the reason drug action is selective: The size, shape and electrical charge of a drug determine whether and with what affinity it will bind to a specific receptor. There are many chemically different binding sites available in a cell, tissue or organism; changes in a drug's chemical composition can significantly increase or decrease a drug's affinities for different types of receptors, with each of these differences responsible for different therapeutic and toxic effects.
- **Receptors determine the therapeutic and toxic effects of the drug in the body**. Receptors regulate the actions of pharmacologic agonists and antagonists. This will be discussed in more detail later.

Regulatory proteins are a class of receptors that mediate many useful drugs through the regulation of chemical signals, like neurotransmitters and hormones produced in the body. Understanding their function is necessary to a basic understanding of therapeutic and toxic drug action. While most drug receptors are proteins, some DNA and RNA molecules also function as drug-binding targets. In many cases, drugs bind to a site on a protein that normally binds to an endogenous molecule (one produced in the body, i.e., an enzyme). The following table shows examples of different types of endogenous molecules that function as receptors, or targets, of drugs (Masters & Trevor, 2012):

Drug	Use	Drug receptor	Molecule type
Penicillin.	Infection.	Bacterial enzyme.	Secreted bacterial protein.
Digoxin.	Congestive heart failure.	Na, K-ATPase.	Protein transporter on cell surfaces.
Cyclopho-sphamide.	Cancer.	DNA.	Nucleic acid.
Albuterol.	Asthma.	Neurotransmitter receptor.	Protein on cell surfaces.
Lidocaine.	Anesthesia.	Voltage gated sodium channels.	Protein in channel on cell surfaces.

Most drugs must bind to a receptor to cause an effect or activate the receptor. In some cases, drug binding brings about the effect directly by physically opening an ion channel or causing an enzyme to function in a certain way. In other cases, receptors use other molecules to activate the receptor, linking one or more intervening molecules.

Agonists and antagonists

Drugs that interact with receptors can be classified as either agonists or antagonists. Agonists have an affinity for a receptor, and, once bound to it, activate or enhance cellular activity, producing a specific action or response. Many ligands, and some drugs, regulate the function of receptor macromolecules as agonists, meaning they activate the receptor as they bind to it.

Antagonists, in contrast, can bind to a receptor, but do not trigger a sequence of biochemical events that ultimately leads to a change in function. Drugs that bind to receptors and do not cause a response (agonists) are also called receptor blockers because they bind to or occupy a receptor, thus interfering with an agonist's ability to bond, and preventing action. While antagonists bind to receptors, they do not activate them. Instead, their effects result because they prevent other drugs or regulatory molecules produced by the body (agonists) from binding to and activating receptors. Many useful drugs are pharmacologic antagonists, which block, rather than activate, biological actions, therefore blocking drug action or reducing the effects of certain drugs on the body. In some cases, a chemical antagonist may not even involve a receptor; instead, one drug brings about effects in another drug.

Agonists can stimulate a receptor in such a way that its cellular signaling is activated. However, agonists differ in their degree of ability to activate a receptor. As a result, agonists can be further categorized as full or partial agonists. Partial agonists bring about a lower response to complete receptor occupancy than do full agonists. Full agonists produce the maximum response once receptors are occupied and activated.

The drug's action is determined by whether it is the agonist or antagonist that occupies the majority of receptors. Antagonists must compete with agonists for receptor sites. If an antagonist and agonist are competing for the same limited number of receptors, the drug that binds to the receptor in the highest concentration will be determined by two factors:

- The affinities of the agonist and antagonist for the receptor.
- Their relative concentrations.

The effects or clinical response to a competitive antagonist depends on the concentration of agonist that is competing for binding to receptors. Depending on the concentration of agonist, larger concentrations of a competitive antagonist increasingly inhibit the agonist response, with high antagonist concentrations preventing response completely. The opposite is also true: High concentrations of agonist can overpower the effect of a specific concentration of the antagonist. The full spectrum of drug activity can range from a full agonist to a full inverse agonist. Full agonist → Partial agonist → Neutral agonist → Partial inverse agonist → Full inverse agonist

Affinity and intrinsic activity

Two factors that determine the effect of a drug on physiologic processes are affinity and intrinsic activity. Affinity is a measure of tightness with which a drug binds to the receptor. Intrinsic activity is a measure of the ability of a drug, once it occupies or binds to the receptor, to generate an effect.

Agonists have both affinity and intrinsic activity. Antagonists, on the other hand, only have affinity for the receptor, allowing them to bind but not produce an effect. Both affinity and intrinsic activity determine which particular effect of a drug will be observed. For example, consider a drug that can produce actions at two receptors: At each receptor, the ligand, or macromolecule, has a different affinity as well as pharmacologic effect. This means the drug could have either beneficial or toxic effects, depending on the receptor occupied.

The observed effect of the drug is determined by the concentration of the drug and its affinity for the receptor, as well as its degree of receptor occupancy. The sensitivity of a cell, tissue or organism to a particular concentration of drug depends on both factors: The affinity of the receptor for binding the drug as well as the degree of sparseness, that is, the total number of receptors occupied compared to the number required for a maximum biological response.

A cell with four receptors and four effectors (and no spares) will not limit the maximal effects of the drug. If drug concentration is such that only two of the four receptors are occupied or activated, it may produce half of the maximum response. If 40 receptors exist and only two are occupied, the great majority of receptors are spare. The maximum observed effect is a product of all receptors being occupied.

This explains the powerful nature of some drugs, as a drug with very high affinity will achieve a large degree of receptor saturation at very low concentrations.

Therefore, the ability of a drug to produce a physiologic effect is dependent on:

- Receptor occupancy.
- The propensity of the drug to activate the receptor.

Dose-response curves

A basic principle of pharmacology is that a relationship exists between the concentration of a drug at its target site (site of action) and its beneficial or toxic action. The dependence of pharmacodynamic effects upon drug concentration establishes the relationship between pharmacokinetics and pharmacodynamics: It is the action of the body upon the drug (pharmacokinetics) that determines its concentration at the site of action.

The relationship between dosage and effect can be very complicated. At its most simple level, drug effects increase in direct proportion to dosage. At greater doses, however, the amount of effect diminishes, until at some point no further effect is achieved (called the "ceiling effect"). Drug effect reaches a plateau or maximum because there are a finite number of receptors. Note that at low concentrations, the effect of dosage changes rapidly, while at high concentrations, the effect of dosage changes more slowly.

Drug action terminates for a number of reasons. In some cases, drug effects last only as long as the drug occupies the receptor. More typically, the action continues for some period of time after the drug leaves the receptor.

Drug metabolism (biotransformation)

Drug metabolism describes the process by which the body breaks down and converts medications into active chemical substances (metabolites). Metabolism refers to the sum of all physical and chemical processes occurring in the body that maintain life.

The primary site of drug metabolism is the liver. This organ plays a substantial role in metabolism, digestion and elimination of substances from the body. Enzymes in the liver are responsible for chemically changing drug components into substances known as metabolites. Metabolites bind to other substances in the body for excretion through the lungs, reabsorption by the intestines, or through bodily fluids including saliva, sweat, breast milk and urine. The main mode of excretion from the body is through the kidneys.

A number of isoenzymes in the liver (such as cytochrome P-450) are necessary for drug metabolism. These enzymes have been labeled CYP1A2, CYP2C9, CYP2C19, CYP2D6 and CYP3A4. Each has a catabolic action on substances, breaking them down into metabolites. Through this action, they lower the concentration of medication in the bloodstream.

Drug interactions

Drugs can interact with other drugs, foods and beverages. Interactions can lessen or magnify the desired therapeutic effect of a drug, or may cause unwanted or unexpected side effects. There are thousands of possible drug-to-drug and drug-to-food interactions, and many medications and supplements are contraindicated under certain conditions or in patients with specific diseases and disorders. This is why it is imperative that patients always keep their physician fully informed about all drugs and dietary supplements (including herbal remedies) they are taking.

Drug interactions occur in cases where one drug inhibits or produces a P-450 that acts on another drug. One familiar example is nicotine, the drug in tobacco, which is known to induce P-450s. Individuals with liver disease may also have insufficient levels of P-450 enzymes. As a result, the concentration of drugs metabolized by these enzymes is high and can increase to toxic levels. In addition, certain medications and foods, like grapefruit juice, for example, inactivate or decrease the metabolic activity of P-450s. In some cases, it may be necessary to alter drug dosage.

Metabolic rates also vary significantly from person to person. A drug dosage that works quickly and effectively in one individual may not work well in another. Genetic factors as well as environmental variables, nutrition and age also influence drug metabolism. For example, infants and elderly individuals may have a reduced capacity to metabolize certain drugs, requiring an adjusted dose.

Foods and beverages that interact with drugs include:

- **Grapefruit juice**: Grapefruit juice inhibits the metabolism of many medications, including cyclosporine, felodipine, nifedipine, nitrendipine, nisoldipine, carbamazepine, triazolam and midazolam.
- **Foods and beverages with tyramines**: Red wine, malted beers, smoked foods (e.g., fish and meats), dried fruits and aged cheeses may contain tyramines, and can cause a severe and dangerous elevation in blood pressure when taken with MAOI inhibitors (a class of antidepressants).
- **Caffeinated beverages**: The caffeine contained in coffee and colas can influence drug metabolism.
- **Alcohol**: Alcohol is a central nervous system depressant and should not be taken with other CNS depressants (e.g., antipsychotics, antihistamines). In addition, certain fermented beverages may contain tyramines.
- **Dairy products**: Milk, cream and other dairy products containing calcium can prevent the absorption of antibiotics such as tetracycline, doxycycline and ciprofloxacin when they are taken with drugs. In addition, whole milk with vitamin D can cause milk-alkali syndrome in patients taking aluminum hydroxide antacids.

Drugs that interact with other medicines include:

- **Antibiotics**: Antibiotics may reduce the efficiency of oral contraceptives.
- **Metals**: Medications containing metals, such as antacids with aluminum additives and iron supplements, can reduce the absorption of tetracyclines and fluoroquinolones.
- **Diuretics**: Diuretics can reduce serum potassium and sodium electrolyte levels when taken with digoxin and lithium, respectively.
- **Monoamine oxidase inhibitors (MAOIs)**: MAOI antidepressants can cause convulsions and other serious side effects when used with tricyclic antidepressants (e.g., Imipramine, Nortriptyline), selective serotonin reuptake inhibitors (SSRIs) or sympathomimetic drugs (e.g., amphetamines).
- **Drugs that inhibit liver enzyme function**: Drugs that slow drug metabolism include ciprofloxacin, erythromycin, fluoxetine, nefazodone, paroxetine and ritonavir. The therapeutic effect of other medications taken with these drugs may be amplified. Warfarin, a blood thinner, should be used with great caution in individuals taking these drugs.

This list does not include every substance that interacts with medications. For safety, individuals must let their doctor, pharmacist and other health care professionals know when they are taking other medications, including herbal remedies and dietary supplements. If an individual experiences a serious reaction to a drug that is not mentioned on the product label, he or she should report the circumstances to the MedWatch adverse event reporting system of the United States Food and Drug Administration (FDA) and his or her doctor.

Herbal supplements also produce adverse drug interactions. In 2000, the FDA issued a warning on the popular herb St. John's wort, commonly used to treat depression. The supplement was found to inhibit the effect of indinavir, a protease inhibitor used in the treatment of HIV. It may also affect the action of cyclosporine and other protease inhibitors.

Other herbs that may interact with mainstream medications include gingko biloba, ginseng and garlic, all of which may heighten the blood thinning effect of the anticoagulant warfarin. Because herbs are regulated by the FDA as dietary supplements, they do not require the same extensive clinical trials and premarket testing that drugs do before they are accepted for sale in the United States. Potential interactions and adverse effects associated with herbal supplements are a distinct danger, and individuals who experience serious side effects from dietary supplements should report them to FDA's MedWatch program.

In some cases, adverse drug reactions may be difficult to detect, closely resembling the symptoms of the disease or condition the medication was prescribed to treat. Patients who take a number of medications or self-treat with over-the-counter drugs and/or herbal remedies may not be able to determine which drug actually triggered the interaction. A 2017 study found that 35 percent of respondents participating disclosed their use of herbal supplements to their health care providers (Rashrash, 2017). In cases where a serious drug or herb interaction occurs, withholding this information can delay diagnosis and put the patient at increased risk.

Patients with chronic health conditions, particularly those with liver disorders, should always inform their health care professional before taking any over-the-counter medications or dietary supplements. Because of the risk for a drug-to-drug interaction, individuals should also let their doctor know if they are taking drugs prescribed by other physicians. Individuals should closely follow instructions for use and package directions on both prescription and over-the-counter drugs. Consulting with a pharmacist and/or physician may be beneficial if package directions are unclear to the patient.

In general, grapefruit juice should not be taken with medication unless recommended by a doctor. Patients taking MAOI inhibitors should always check food and beverage labels to ensure tyramines aren't included and should avoid all fermented drinks.

Human variation to drug responsiveness

Humans vary considerably in the degree to which they respond to drugs. One individual may even respond differently to the same drug at different points in time. In some cases, an individual will respond in an unusual or idiosyncratic way. These effects may be associated with genetic differences in how the body processes the drug or, in some cases, immunologic mechanisms, known as allergic reactions. In such cases, the individual is considered hypersensitive to the drug.

There are also individuals who react much less (hyporeactive) or more intensely (hyperreactive) than the vast majority of those given the same dose. In some cases, the degree of response changes during the course of treatment. Usually, if the individual's response changes over the course of administration, it is a decrease in effect, called a tolerance, to the drug. When responsiveness decreases rapidly after administration of the drug, the response is referred to as tachyphylaxis.

When administering a drug for the first time, the prescriber must consider a number of factors, including the potential of a particular drug to produce tolerance or tachyphylaxis, as well as the individual's age, gender, body size, health, genetic factors and other drugs the individual is taking. Four main properties are associated with variation in drug responsiveness among different individuals or within a particular individual at different points in time.

1. Changes in the concentration of a drug that reaches a receptor: Pharmacokinetic differences, including differences in absorption rate of a drug, how the drug is distributed through different compartments of the body, and/or differences in eliminating the drug from the blood. Changes in the concentration will alter what receptors it reaches, changing the drug's effects. While many differences can be anticipated according to characteristics like age, weight, health and function of the liver and kidneys, for example, specials tests must be administered to confirm the presence of different drug-metabolizing enzymes or other genetic differences.
2. Variation in the concentration of an endogenous receptor ligand is associated specifically with variability in responses to drug antagonists. Partial agonists may exhibit even more extreme responses.
3. Changes in the number or function of receptors: Studies show that changes in drug responsiveness may be caused by increases or decreases in the number of receptor sites or by changes in the efficiency in the coupling of receptors. In some cases, the change in the number of receptors involved is brought about by hormones; in other cases, the agonist ligand itself causes a decrease in the number of receptor sites involved or the coupling efficiency (desensitization) of its receptors. These properties may contribute to tachyphylaxis, or tolerance to the drug, and can occur with either agonists or antagonists. Genetic factors can also play a role in changing the number or function of specific receptors.
4. The largest and most important set of mechanisms that causes variation in responsiveness to a drug is associated with changes in post receptor processes; that is, events that occur after the drug binds to receptors, involving biochemical processes in the responding cell and organ systems in the body with which it interacts. Before administering treatment, the prescriber must be aware of any individual characteristics that might influence the drug's effects. The most important of these are the age and health of the patient, as well as the degree or severity of the individual's physical impairment by disease or condition.

To avoid toxicity, drugs are typically administered in the lowest dosage that brings about the desired benefit and in conjunction with other drugs that limit the toxicity of the first drug. In addition, specific drug actions may be increased by adjusting the concentration of drug available to receptors in different parts of the body by administering the drug by a different route – as an inhalant, for example, instead of a pill.

These factors are typically incorporated into client assessment when prescribing specific drugs:

- **Age**: Very young and elderly individuals have a limited ability to metabolize and excrete drugs. In neonatal cases, hepatic enzyme systems are not fully functioning, so drug metabolism is reduced and there is increased risk of toxicity. In the elderly, there is a longer period of metabolism by the liver and a decline in renal function, which may produce a situation of delayed excretion by the kidneys and a prolonged drug action.
- **Body weight**: Body size affects the amount of drug distributed and available. This is the reason many drugs are prescribed according to body weight, especially for long-term treatment.
- **Nutritional level**: Malnourishment alters drug distribution and metabolism. Poor diets may slow enzyme activity, which delays the drug's metabolism. Reduction in plasma protein, (i.e., a low-protein diet) may alter drug availability.
- **Food/drug interactions**: Food may enhance or inhibit drug absorption.
- **Diseases**: Diseases like Crohn's disease, renal disease or liver disease (hepatitis, cirrhosis, liver failure) may affect absorption. Circulatory diseases, including heart failure and peripheral vascular disease, reduce distribution and transportation of drugs throughout the body.
- **Genetic/ethnic factors**: Good or poor enzymatic function can be inherited.
- **Pregnancy and lactation**: Both may affect drug absorption and distribution.

Drug development

Drug development can take years, even decades, to complete. Two main phases of research (the pre-clinical, or laboratory testing phase, and the clinical, or human testing phase) are conducted before regulatory agencies review the data.

Pre-clinical testing is the "test tube" phase of the project, in which non-human and human cells are used to learn how a drug works and its effects. The next step is animal testing, in which animal and animal diseases are used as a proxy for humans and human diseases, to see if the drug has any dangerous effects. During pre-clinical testing, drug manufacturing is standardized, and administration options are considered.

Clinical testing begins with human subjects once the FDA gives permission based on an application process. The review process examines all pre-clinical study results to determine whether the drug has sufficient potential for success and is safe enough for use on humans. If the drug is approved for human testing, the drug is referred to as having investigational new drug (IND) status.

The following steps in the clinical program are referred to as Phases I, II and III:

Phase I

The main focus of Phase I clinical trials is the safety and behavior of the drug in the body. Phase I typically involves the use of 15 to 30 healthy participants who receive varying doses of the drug to see if there are any undesirable side effects at different doses. The highest tolerable dosage, referred to as the maximum tolerable dose (MTD), is determined for future studies.

While safety is the primary focus of Phase I testing, the drug's bioavailability and pharmacokinetics are more fully explored. In

some cases, Phase I testing is split into Phase 1a and Phase 1b. Phase 1a consists of a short-term study to confirm drug safety before a more extensive and comprehensive Phase 1b.

To determine optimum bioavailability of the drug, different formulations and drug administration methods are examined to see whether the drug is ideally delivered, for example, by mouth or injection. Pharmacokinetics are carefully recorded, including a description of how the drug behaves in the body, how it breaks down into other compounds and its elimination from the body.

Phase II

Phase II participants may total from 50 to over 200 people who are carefully chosen to meet specific criteria regarding health or disease status, age, gender, previous treatment, current medications or other characteristics.

The main focus of Phase II clinical trials is efficacy – whether or not the drug provides a benefit, and if that benefit is qualitatively superior to currently used treatments. Dosage is fine-tuned during this stage. Phase II trials are typically double-blind and use placebos, meaning that neither the participant nor the scientists/doctors know who is receiving the drug and who is receiving the placebo during the course of the study. (In the case of life-threatening diseases, placebos may not be used.)

Phase III

Phase III is conditional on performance of the drug in Phase II. Phase III research evaluates the clinical benefit and safety of the drug under "real-life" circumstances. Selection criteria for participants include a greater range of characteristics to represent a real population. Phase III studies are typically carried out in a number of locations. Phase III studies are also double-blind and placebo-controlled. Responses to the drug (such as negative side effects or potential interactions with other drug regimens) within the larger population are estimated based on results seen in this phase.

Regulatory approval

Results from all previous studies are submitted to the FDA, along with other regulatory agencies. If the data shows the drug to be sufficiently efficacious, safe and a benefit over currently used strategies, the drug is given new drug approval (NDA) status. At that point, the drug can be marketed as a product. The company selling the drug continues to monitor drug use for adverse effects. The period of ongoing review is sometimes referred to as Phase IV.

The FDA's drug review process: Ensuring drugs are safe and effective

Over the last 150 years, the FDA has evolved from a small division of the U.S. Patent Office to one of the largest consumer protection agencies in the world. Its mission includes ensuring that new medical treatments reach the public as quickly as possible while simultaneously ensuring that new treatments are both safe and effective (Van Norman, 2016). Often, a drug is developed to treat a specific disease. An important use of a drug may also be discovered by accident.

For example, Retrovir (zidovudine, also known as AZT) was first studied as an anti-cancer drug in the 1960s with disappointing results. It wasn't until the 1980s that researchers discovered the drug could treat AIDS. The FDA approved the drug, manufactured by GlaxoSmithKline, for that purpose in 1987.

Most drugs that undergo preclinical (animal) testing never even make it to human testing and FDA review. The drugs that do must undergo the agency's rigorous evaluation process, which scrutinizes everything about the drug – from the design of clinical trials to the severity of side effects to the conditions under which the drug is manufactured.

Stages of drug development and review

- **Investigational new drug application (IND)**: The pharmaceutical industry sometimes provides advice to the FDA prior to submission of an IND. Sponsors – companies, research institutions and other organizations that take responsibility for developing a drug – must show the FDA results of preclinical testing they've done in laboratory animals and what they propose to do for human testing. At this stage, the FDA decides whether it is reasonably safe for the company to move forward with testing the drug in humans.
- **Clinical trials**: Drug studies in humans can begin only after an IND is reviewed by the FDA and a local institutional review board (IRB). The board is a panel of scientists and non-scientists in hospitals and research institutions that oversees clinical research. The local institutional review boards approve the clinical trial protocols, which describe the type of people who may participate in the clinical trial, the schedule of tests and procedures, the medications and dosages to be studied, the length of the study, the study's objectives and other details. The review boards make sure the study is acceptable, that participants have given consent and are fully informed of their risks, and that researchers take appropriate steps to protect patients from harm.
- **Phase 1 studies**: These studies are usually conducted in healthy volunteers. The goal is to determine what the drug's most frequent side effects are and often how the drug is metabolized and excreted. The number of subjects typically ranges from 20 to 80.
- **Phase 2 studies**: Phase 2 begins if Phase 1 studies don't reveal unacceptable toxicity. While the emphasis in Phase 1 is on safety, the emphasis in Phase 2 is on effectiveness. This phase aims to obtain preliminary data on whether the drug works in people who have a certain disease or condition. For controlled trials, patients receiving the drug are compared with similar patients receiving a different treatment – usually an inactive substance (placebo), or a different drug. Phase 2 continues to evaluate safety and studies short-term side effects. Typically, the number of subjects in Phase 2 studies ranges from a few dozen to about 300. At the end of Phase 2, the FDA and sponsors try to come to an agreement on how to conduct the large-scale studies in Phase 3. How often the FDA meets with a sponsor varies, but this is one of two most common meeting points prior to submission of a new drug application. The other most common time is pre-NDA – right before a new drug application is submitted.
- **Phase 3 studies**: Phase 3 begins if Phase 2 shows evidence of effectiveness. These studies gather more information about safety and effectiveness, studying different populations and different dosages and using the drug in combination with other drugs. The number of subjects usually ranges from several hundred to about 3,000 people.
- **Post-marketing study commitments**: Also called Phase 4 commitments, these are studies required of or agreed to by a sponsor that are conducted after the FDA has approved a product for marketing. The FDA uses post-marketing study commitments to gather additional information about a product's safety, efficacy or optimal use.
- **New drug application (NDA)**: This is the formal step a drug sponsor takes to ask that the FDA consider approving a new drug for marketing in the United States. An NDA includes all animal and human data and analyses of the data, as well as information about how the drug behaves in the body and how it is manufactured.

When an NDA comes in, the FDA has 60 days to decide whether to file it so that it can be reviewed. The FDA can refuse to file an application that is incomplete, for example, if some required studies are missing. In accordance with the Prescription Drug User Fee Act (PDUFA), the FDA's Center for Drug Evaluation and Research (CDER) expects to review and act on at least 90 percent of new drug applications for standard drugs no later than 10 months after receiving the application. The review goal is six months for priority drugs.

There is also continuous interaction throughout the review process. For example, over roughly six years, the sponsor, Merck Research Laboratories of West Point, Pa., and the FDA had several face-to-face meetings and about 28 teleconferences regarding the asthma drug Singulair (montelukast sodium).

Reviewing applications

Though FDA reviewers are involved with a drug's development throughout the IND stage, the official review time is the length of time it takes to review a new drug application and issue an action letter – an official statement informing a drug sponsor of the agency's decision.

Once a new drug application is filed, an FDA review team – medical doctors, chemists, statisticians, microbiologists, pharmacologists and other experts – evaluates whether the studies the sponsor submitted show that the drug is safe and effective for its proposed use. No drug is

absolutely safe; all drugs have side effects. "Safe" in this sense means that the benefits of the drug appear to outweigh the risks.

The review team analyzes study results and looks for possible issues with the application, such as weaknesses of the study design or analyses. Reviewers determine whether they agree with the sponsor's results and conclusions, or whether they need additional information to make a decision.

Each reviewer prepares a written evaluation containing conclusions and recommendations about the application. These evaluations are then considered by team leaders, division directors and office directors, depending on the type of application.

Reviewers receive training that fosters consistency in drug reviews, and good review practices remain a high priority for the agency.

Sometimes, the FDA calls on advisory committees made up of outside experts, which help the agency decide on drug applications.

Accelerated approval

Traditional approval requires that clinical benefit be shown before approval can be granted. Accelerated approval is given to some new drugs for serious and life-threatening illnesses that lack satisfactory treatments. This allows an NDA to be approved before measures of effectiveness that would usually be required for approval are available.

Instead, less traditional measures, called surrogate endpoints, are used to evaluate effectiveness. These are laboratory findings or signs that may not be a direct measurement of how a patient feels, functions or survives, but are considered likely to predict benefit. For example, a surrogate endpoint could be the lowering of HIV blood levels for short periods of time with anti-retroviral drugs.

Gleevec (imatinib mesylate), an oral treatment for patients with a life-threatening form of cancer called chronic myeloid leukemia (CML), received accelerated approval. The drug was also approved under the FDA's orphan drug program, which gives financial incentives to sponsors for manufacturing drugs that treat rare diseases. Gleevec blocks enzymes that play a role in cancer growth. The approval was based on results of three large Phase 2 studies, which showed the drug could substantially reduce the level of cancerous cells in the bone marrow and blood.

Most drugs used to treat HIV have been approved under accelerated approval provisions, with the company required to continue its studies after the drug is on the market to confirm that its effects on virus levels are maintained and that it ultimately benefits the patient. Under accelerated approval rules, if studies don't confirm the initial results, the FDA can withdraw the approval.

Because the pre-market review can't catch all potential problems with a drug, the FDA continues to track approved drugs for adverse events through a post-marketing surveillance program.

Bumps in the road

If the FDA decides that the benefits of a drug outweigh the risks, the drug will receive approval and can be marketed in the United States. But if there are problems with an NDA, or if more information is necessary to make that determination, the FDA may decide that a drug is "approvable" or "not approvable."

A designation of approvable means that the drug can probably be approved, provided that some issues are resolved first. This might involve the sponsor and the FDA coming to a final agreement on what should go on the drug's labeling, for example. It could also involve more difficult issues, such as the adequacy of information on how people respond to various dosages of the drug.

A designation of "not approvable" describes deficiencies significant enough that it is not clear that approval can be obtained in the future, at least not without substantial additional data.

Common problems include unexpected safety issues that crop up or failure to demonstrate a drug's effectiveness. A sponsor may need to conduct additional studies including perhaps studies of more people, different types of people, or for a longer time period.

Manufacturing issues are also among the reasons that approval may be delayed or denied. Drugs must be manufactured in accordance with standards called good manufacturing practices, and the FDA inspects manufacturing facilities before a drug can be approved. If a facility isn't ready for inspection, approval can be delayed. Any manufacturing deficiencies found would need to be corrected before approval.

The FDA outlines the justification for its decision in an action letter to the drug sponsor. When the action is either approvable or not approvable, CDER gives the sponsor a chance to meet with agency officials to discuss the deficiencies. At that point, the sponsor can choose to ask for a hearing or correct any deficiencies and submit new information, or they can withdraw the application.

Drug review steps

Preclinical (animal) testing:

1. An investigational new drug application (IND) outlines what the sponsor proposes for human testing in clinical trials.
2. Phase 1 studies (typically involve 20 to 80 people).
3. Phase 2 studies (typically involve a few dozen to about 300 people).
4. Phase 3 studies (typically involve several hundred to about 3,000 people).
5. The pre-NDA period, just before a new drug application (NDA) is submitted. A common time for the FDA and drug sponsors to meet.
6. Submission of an NDA is the formal step asking the FDA to consider a drug for marketing approval.
7. After an NDA is received, the FDA has 60 days to decide whether to file it so it can be reviewed.
8. If the FDA files the NDA, an FDA review team is assigned to evaluate the sponsor's research on the drug's safety and effectiveness.
9. The FDA reviews information that goes on a drug's professional labeling (information on how to use the drug).
10. The FDA inspects the facilities where the drug will be manufactured as part of the approval process.
11. FDA reviewers will approve the application or find it either "approvable" or "not approvable."

The quality of clinical data

The FDA relies on data that sponsors submit to decide whether a drug should be approved. To protect the rights and welfare of people in clinical trials and to verify the quality and integrity of data submitted, the FDA's Division of Scientific Investigations (DSI) conducts inspections of clinical investigators' study sites. DSI also reviews the records of institutional review boards to ensure they are fulfilling their role in patient protection.

DSI seeks to determine such things as whether the study was conducted according to the investigational plan, whether all adverse events were recorded, and whether the subjects met the inclusion/exclusion criteria outlined in the study protocol.

Following each inspection, FDA investigators prepare a report summarizing any deficiencies. In cases where they observe numerous or serious deviations, such as falsification of data, DSI classifies the inspection as "official action indicated" and sends a warning letter or a Notice of Initiation of Disqualification Proceedings and Opportunity to Explain (NIDPOE) to the clinical investigator, specifying the deviations that were found.

The NIDPOE begins an administrative process to determine whether the clinical investigator should remain eligible to receive investigational products and conduct clinical studies.

CDER conducts about 300 to 400 clinical investigator inspections annually. About 3 percent are classified in this "official action indicated" category.

The FDA established an independent Drug Safety Oversight Board (DSOB) in 2005 to oversee the management of drug safety issues and communication to the public about the risks and benefits of medicines (FDA, 2016). The board's responsibilities include conducting timely and comprehensive evaluations of emerging drug safety issues, selecting drugs to be placed on a drug watch website for health professionals and patients, and ensuring that experts both inside and outside of the FDA give their perspectives to the agency.

Drug nomenclature

Three name classifications of drugs are the chemical, or scientific name; the generic name; and the brand or trade name (Smith-Marsh, 2018):

1. **Chemical (scientific) name**: Drugs often have several names. When a drug is first discovered, it is given a chemical name, which describes the atomic or molecular structure of the drug. The chemical

name is thus usually too complex and cumbersome for general use. Next, a shorthand version of the chemical name, or a code name (such as RU 486), is developed for easy reference among researcher.

2. **Generic name**: The generic or official name of a drug is assigned by its producer in collaboration with the Food and Drug Administration and Council on Drugs of the American Medical Association. The United States Adopted Names (USAN) assigns the generic name, which may be used by any interested party. A generic drug name is not capitalized; for example, aluminum hydroxide.
3. **Brand, proprietary or trade name**: Trade names are copyrighted terms selected by a manufacturer to designate a particular product. Copyright laws prevent any other person from using the name, and other laws prevent pharmacists from substituting chemically identical products for the trade name article. When there are no longer any legal restrictions on the use of a brand name, the most widely accepted and familiar name may become the official or generic name.

Sources of drug preparations

There are five main sources from which drugs are obtained:

1. **Mineral**: Many mineral substances found in nature are used in drugs. Examples: Iodine; zinc oxide; and magnesium sulfate (Epsom salt).
2. **Plant**: Certain drugs are derived from vegetables and plants. Examples: Digitalis; morphine; and senna pod extract.
3. **Animal**: The organs, tissues and body fluids of animals (including man) are the source of some drugs. Examples: Hormones; antitoxic serums; and gamma globulin from human blood.
4. **Synthesis**: Synthesis is the artificial building up of a chemical compound by the union of its elements. Drugs such as epinephrine that were once available only from natural sources can now be artificially reproduced through synthesis. Other drugs such as the sulfonamides were originally created through synthesis.
5. **Microorganisms**: Chemical substances produced by microorganisms such as fungi and bacteria are also sources of drugs. Examples: Penicillin; tetracycline; and vaccines.

Types of drug preparations

Drugs are compounded into various types of preparations, depending upon each drug's physical characteristics, its intended purpose, and the method of administration. Some drugs are prepared in more than one form so they may be administered several ways. To give them bulk or form, drugs may be mixed with other substances that have no action or medicinal value. These substances are called vehicles. For a drug in aqueous solution, water is the vehicle; for a drug in an ointment, fatty substances, such as petrolatum or lanolin, are used as the vehicle.

Drugs or drug mixtures that are divided into definite doses are dosage forms. Examples of dosage forms are capsules, tablets, ampules and cartridge units. Some dosage forms prepared for oral administration are enteric coated with a special coating that resists the action of the stomach juices but dissolves in the intestine. This helps prevent nausea, irritation of the stomach lining or destruction of the drug. Scored tablets are marked with an indented line across the surface so that they can be broken in half when half a tablet is the dose required. Drugs prepared with flavored coatings or in flavored vehicles are exceptionally hazardous to children if left where they have access to them.

Solid preparations:

- Capsule: A drug placed in a gelatin container.
- Tablet: A drug compressed or molded into a flat disk or other shape.
- Pill: A powdered drug molded into a sphere. The word "pill" is often misused as a general term for tablets.
- Troche: A drug preparation in a flat disk that is held in the mouth until dissolved.
- Suppository: A drug that is molded into shape for insertion into a body opening other than the mouth. Its vehicle, such as cocoa butter, melts at body temperature and the drug is released.
- Ointment: A drug suspended in a semi-solid base such as petrolatum.
- Powder: A drug that is ground up and used in powder form.

Fluid preparations:

- Fluid extract: A concentrated fluid preparation. Fluid extracts are 100 percent-strength (1 ml. of the preparation contains 1 gram of the crude drug).
- Tincture: An alcoholic solution of a drug. Tinctures of potent vegetable drugs are 10 percent in strength; of less potent drugs, 20 percent in strength.
- Elixir: A solution containing water, alcohol, sugar and flavoring substances, in which one or more drugs may be dissolved.
- Spirit: An alcoholic or hydro-alcoholic solution of a volatile drug.

Classification by therapeutic action

In this major classification, drugs are grouped according to the effect they produce on the body to bring about a desired therapeutic result (as in the case of vasoconstrictors and diuretics), or according to the effect they produce on the pathogenic organism or the signs and symptoms of the disease (as in the case of fungicides, analgesics and antipyretics).

A. **Analgesics**: These drugs are used to relieve pain without loss of consciousness. Aspirin is a mild analgesic. For relief of severe pain, morphine and opium derivative is the most valuable analgesic.
B. **Anesthetics**: These drugs are used to produce either a general or a local loss of sensation. An example of a general anesthetic is ether, which on inhalation produces a loss of consciousness. An example of a local anesthetic is procaine hydrochloride, which, on injection by special technique, produces local analgesia.
C. **Antacids**: Antacids are given to neutralize excess acid in the stomach. An example of an antacid is aluminum hydroxide.
D. **Anthelmintics**: These are drugs used to rid the body of worms (helminths). An example is piperazine citrate syrup.
E. **Antiemetics**: These are drugs used to relieve nausea and vomiting. An example is promazine hydrochloride.
F. **Antibiotics**: Drugs that inhibit the growth of or destroy bacteria and other microorganisms. An example is penicillin.
G. **Sulfonamides**: Drugs that inhibit the growth of or destroy bacteria, particularly the coccus form. One example is sulfisoxazole.
H. **Antimalarials (plasmodicides)**: Drugs that prevent or cure malaria; for example, chloroquine phosphate.
I. **Anti-inflammatories**: These drugs suppress local inflammatory reactions. An example is hydrocortisone ointment, 1 percent, used for some eye inflammatory conditions (ophthalmia).
J. **Antifungals**: These are drugs that check the growth of fungi. An example for external use (local application) is fungicidal foot powder. A recently developed antibiotic drug for oral administration in systemic treatment of fungus diseases of the skin is griseofulvin.
K. **Antihistamines**: These are drugs that counteract the effects of histamine. The release of abnormal amounts of histamine into body tissues is associated with acute allergic and hypersensitivity reactions. An example of an antihistamine is diphenhydramine hydrochloride.
L. **Antiparasitics**: Antiparasitics are used to eliminate skin infestation with mites. Examples for external use are gamma benzene hydrochloride ointment or lotion.
M. **Antipyretics**: These are drugs used to reduce the temperature during a fever. (They do NOT affect normal body temperature.) An example is aspirin.
N. **Antiseptics and germicides**:
   1. Antiseptics are chemical agents that inhibit the growth and development of microorganisms. They may be applied to living tissue. An example is benzethonium chloride solution 1:1000.
   2. Germicides are chemical agents that are capable of destroying organisms (not necessarily spores). They may be applied both to living tissue and to inanimate objects for purposes of disinfection. An example is detergent iodine solution (iodophors).
O. **Astringents**: These are drugs that produce shrinkage of the skin or mucous membrane and cause a decrease in secretions. Astringents help to protect tissue from irritating substances. An example is zinc oxide ointment.
P. **Cathartics**: Cathartics quicken and increase evacuation of the bowels. A laxative is a mild cathartic; a purgative is a stronger or more drastic cathartic. Dosage is frequently the determining factor in whether a cathartic will have a laxative or a purgative action. An example of a laxative is senna pod extract tablets.
Q. **Counterirritants**: These are drugs that cause irritation of the skin, thus increasing circulation and relieving inflammation in the structures beneath the skin. Liniments are counterirritants. An example of a drug with counterirritant action is methyl salicylate (oil of wintergreen).

R. **Diuretics**: These drugs are used to increase the production of urine. An example is acetazolamide.
S. **Emollients and protectives**: These are drug preparations used on the skin and mucous membrane for a soothing effect.
   1. Emollients are fatty preparations that soften the skin. An example is cold cream.
   2. Protectives are preparations that form a film on the skin. An example is compound tincture of benzoin.
T. **Inhalants**: These are drugs that are inhaled and absorbed through the lungs. An example is aromatic spirits of ammonia.
U. **Sedatives, tranquilizers and hypnotics**:
   1. Sedatives are drugs that have a calming, quieting effect and, in large doses, induce sleep. An example is phenobarbital.
   2. Tranquilizers are drugs that have a sedative effect that is characterized by relief of neuromuscular tension and anxiety without producing sleep. An example is chlorpromazine hydrochloride.
   3. Hypnotics are drugs that induce sleep. Many drugs that have a sedative effect in small doses have a hypnotic effect when given in larger doses; for example, phenobarbital.
V. **Stimulants**: Stimulants are drugs that cause an increase in the activity of an organ or a system. Caffeine, a central nervous system stimulant, decreases drowsiness and fatigue. Digitalis, a heart stimulant, strengthens heart muscle contraction.
W. **Vasoconstrictors**: These are drugs that constrict the walls of blood, particularly peripheral vessels. Epinephrine is an example of a powerful systemic vasoconstrictor.

Classification by systemic action

This major classification groups drugs according to the body systems that they affect. They may be applied directly to the system (as in the case of antacids that are administered directly into the gastrointestinal tract to relieve a condition in the digestive system), or they may be administered via one system and affect another (as in the case of a heart stimulant that is administered orally).

A. **Skin and mucous membranes**: The drugs, usually applied locally, that affect the skin or mucous membranes are antiseptics, local anesthetics, counterirritants, antifungals, antiparasitics and local vasoconstrictors.
B. **Gastrointestinal tract**: Antacids and cathartics are among the drugs used to exert their main action on the digestive system. Some drugs used for specific gastrointestinal disorders act through the autonomic nervous system and have a therapeutic effect by decreasing smooth muscle movement and gastric acid secretion.
C. **Respiratory tract**: The drugs that affect respiration include inhalants, stimulants, expectorants and depressants.
D. **Heart and blood vessels**: Heart stimulants, vasodilators and vasoconstrictors are among the drugs that affect this system.
E. **Nervous system**: Drugs classified as analgesics, anesthetics, narcotics, hypnotics, sedatives and tranquilizers act on the central nervous system.

General administration

Administration of drugs and medicines deals with the various ways by which they are applied to the body for local effect, or introduced into the body for systemic or for general effect. Some drugs may be used either way.

External administration

Topical (external) application of a drug is usually made for the local effect it will have on the skin or mucous membrane of a circumscribed area. Sometimes such an application is made for its effect in underlying tissues. The preparations most commonly used are:

A. **Solutions**: These are applied locally as antiseptics, cleaning agents, astringents, vasoconstrictors, counterirritants or emollients (soothing agents). Solutions are also used as wet dressings, mouthwashes, gargles, irrigations and soaks. Since solutions evaporate, the effect produced is often temporary.
B. **Ointments**: These provide a means of applying drugs for a prolonged local effect. The drug is mixed in a fatty material such as lard, petrolatum or lanolin, which becomes soft or liquid when warm but does not evaporate. Thus, the drug is kept in contact with the body for a long period. Ointments are not used on discharging wounds because they prevent free drainage.
C. **Suppositories**: These are used for insertion into a body cavity, for example, in the rectum, urethra or vagina. The drug is mixed with a solid inert base that melts at body temperature. The mixture is shaped into a cone or cylinder that can be easily inserted. An example of a suppository base is cocoa butter. After the base melts in the cavity, the active drug comes in contact with the cavity's mucous membrane. If the nature of the drug is such that it is absorbed through the membrane, a systemic effect may be produced. An example of a drug that produces a systemic effect when administered as a rectal suppository is aspirin.

Internal administration

Drugs may be given internally by several methods. When administered internally, the effect may be upon the whole body, in one of the systems, or only at the site where the drug is administered. The common methods of internal administration are:

A. **Oral**: The most common way to give a medicine is by mouth, either in solid or liquid form. Giving a drug by mouth is the simplest way; it requires no special apparatus, it is painless, and absorption takes place in a natural manner. Furthermore, if a patient is sensitive to the drug, the stomach can be washed out or the patient can induce vomiting to prevent further absorption.
B. **Sublingual**: A limited number of drugs are administered by placing a tablet or drop under the tongue. The drug is held there until absorbed. It is not swallowed, and a drink must not be taken until it has been absorbed. The resulting action of drugs is rapid. (The drug most commonly used sublingually is nitroglycerine).
C. **Rectal**: Medications are given by rectum for the purpose of evacuating the colon, for local treatment of a diseased rectum or colon, and for general absorption. To induce a bowel movement, drugs may be given by an enema. Irrigations may be used to medicate the mucous membrane of the rectum or colon. Rectal suppositories also are frequently used. Another method by which substances are administered through the rectum is proctoclysis. Fluid is allowed to run into the rectum slowly, drop by drop, so that it is absorbed and does not enlarge the rectum. The disadvantages of rectal administration are the uncertainty of absorption and the chance that the drug may be expelled.
D. **Inhalation**: Medications are administered by inhaling them into the lungs. This may be done by inhalation of aqueous preparations such as medicated steam, sprays and aerosols. Drugs given by inhalation include various preparations for respiratory infections and diseases, medicinal gases such as oxygen, and certain general anesthetics. Oily preparations are not given by inhalation since the oil would damage lung tissue.
E. **Injection**: Drugs given by injection are administered with a sterile needle and syringe; injection methods are also referred to as parenteral (beside the intestine). A sterile injection method is used when rapid action by the drug is desired, when the drug might be destroyed by digestive juices or vomited if given by mouth, or when the patient is unconscious or injured so that he cannot take the medication orally.
   1. **Subcutaneous (hypodermic)**: The drug is injected by syringe and needle into the tissue just beneath the skin. A preparation for subcutaneous use must be a sterile liquid capable of complete absorption or it will irritate the tissues. Although the subcutaneous injection may be given in almost any area of the body, the usual sites are the lateral (outer) aspect of the upper arms and the anterior (front) of the thighs.
   2. **Intramuscular**: The drug is injected into a muscle, usually in the buttocks, sometimes in the upper arm or the thigh. The needle is inserted, at right angle to the skin, through the skin and subcutaneous tissue into the underlying muscle. This method gives more rapid absorption of the drug than subcutaneous injection gives.
   3. **Intravenous**: Drugs administered by vein act very rapidly, because the whole dose passes directly into the blood stream. A comparatively small amount of sterile solution is given by intravenous injection; large amounts, administered drop by drop, are given by intravenous infusion. The usual site of injection is into the median basilic or median cephalic vein at the bend of the elbow. Intravenous injection is used when

the drug is too irritating to be injected into other tissues, when immediate action is necessary, or when circulation is so poor that absorption from other tissue would be retarded. The IV administration of drugs is the responsibility of a medical officer; it is not a routine procedure performed by nurses or nonprofessional nursing personnel. When so performed, it must be in accordance with local policy directives.

4. **Intradermal**: The drug is injected into the upper layers of skin, rather than under the skin as in a subcutaneous injection. Minute amounts (0.1 ml. and less) are given intradermally, usually to test for drug sensitivity before administering larger amounts by other methods. Absorption from intradermal injection is slow. The medial (inner) surface of the forearm is the site most frequently used.
5. **Intraspinal (intrathecal)**: Drugs injected into the spinal canal are usually injected into the subarachnoid space. Some anti-infective drugs as well as spinal anesthesia are administered in this manner. The technique is the same as that required for lumbar puncture.
6. **Other**: Drugs may also be injected into the peritoneum (intraperitoneal), into the heart muscle (intracardiac), into bone (intraosseous) and into joints (intrasynovial).

The opioid epidemic

Many individuals with an opioid use disorder began using prescription opioids to treat moderate to severe pain after surgery or injury. Even when taken as prescribed, individuals may suffer from adverse side effects and may develop an opioid use disorder. According to a 2017 report from the Center for Disease Control and Prevention, the United States is in the midst of an opioid overdose epidemic that includes prescription opioids, heroin and fentanyl. In 2017 a record number of 64,000 people died from opioid overdose. Forty percent of all opioid overdose deaths involve a prescription opioid, with 90 to 100 Americans dying every day from an opioid overdose (CDC, 2018).

Categories of opioids

CDC looks at four categories of opioids (CDC, 2017):

1. **Natural opioid analgesics**, including morphine and codeine, and semi-synthetic opioid analgesics, including drugs such as oxycodone, hydrocodone, hydromorphone and oxymorphone.
2. **Methadone**, a synthetic opioid.
3. **Synthetic opioid analgesics** other than methadone, including drugs such as tramadol and fentanyl. Fentanyl is a synthetic opioid that is legally made as a pharmaceutical drug to treat pain, or illegally made as a non-prescription drug and is increasingly used to intensify the effects (or "high") of other drugs, such as heroin. This drug is often mixed with other opioids, unbeknownst to the user, and is extremely powerful.
4. **Heroin**, an illicit (illegally-made) opioid synthesized from morphine that can be a white or brown powder, or a black sticky substance.

The American Psychiatric Association provides the following information in the Diagnostic Manual of Mental Disorders, 5th Edition (DSM-5) (APA, 2013):

DSM-5 Criteria for Opioid Use Disorder

Description

The following are the DSM-5 diagnostic criteria for opioid use disorder:

1. A problematic pattern of opioid use leading to clinically significant impairment or distress, as manifested by at least two of the following, occurring within a 12-month period:
   - Opioids are often taken in larger amounts or over a longer period than was intended.
   - There is a persistent desire or unsuccessful efforts to cut down or control opioid use.
   - A great deal of time is spent in activities necessary to obtain the opioid, use the opioid, or recover from its effects.
   - Craving, or a strong desire or urge to use opioids.
   - Recurrent opioid use resulting in a failure to fulfill major role obligations at work, school or home.
   - Continued opioid use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of opioids.
   - Important social, occupational or recreational activities are given up or reduced because of opioid use.
   - Recurrent opioid use in situations in which it is physically hazardous.
   - Continued opioid use despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance.
   - Tolerance, as defined by either of the following:
     - A need for markedly increased amounts of opioids to achieve intoxication or desired effect.
     - A markedly diminished effect with continued use of the same amount of an opioid (Note: This criterion is not considered to be met for those taking opioids solely under appropriate medical supervision).
   - Withdrawal, as manifested by either of the following:
     - The characteristic opioid withdrawal syndrome (refer to Criteria A and B of the criteria set for opioid withdrawal).
     - Opioids (or a closely related substance) are taken to relieve or avoid withdrawal symptoms (Note: This criterion is not considered to be met for those individuals taking opioids solely under appropriate medical supervision).

Specify if:

- In early remission (three months of no criteria being met (with the exception of cravings) or sustained remission (12 months or longer (with the exception of cravings).
- On maintenance therapy.
- In a controlled environment (where access to opioids is restricted).

See the DSM-5 manual for details on specifications.

Specify current severity:

- 305.50 (F11.10) Mild: Presence of 2–3 symptoms.
- 304.00 (F11.20) Moderate: Presence of 4–5 symptoms.
- 304.00 (F11.20) Severe: Presence of 6 or more symptoms.

Symptoms of opioid intoxication depend on how much of the drug is taken and may include the following (Heller, 2017):

- Altered mental status, such as confusion, delirium or decreased awareness or responsiveness.
- Breathing problems (breathing may slow and eventually stop).
- Extreme sleepiness or loss of alertness.
- Nausea and vomiting.
- Constipation.
- Small pupil.

Symptoms of opioid withdrawal (Heller, 2016):

Early symptoms of withdrawal include:

- Muscle aches.
- Agitation, anxiety.
- Increased tearing.
- Insomnia.
- Runny nose.
- Sweating.
- Yawning.

Late symptoms of withdrawal include:

- Abdominal cramping, diarrhea.
- Dilated pupils.
- Goose bumps.
- Nausea, vomiting.

Medication to treat opioid use disorder

The following medications are used to treat opioid use disorder according to the Substance Abuse and Mental Health Services Administration (SAMHSA, 2016).

Medication for opioid use disorders

Medication-assisted treatment with methadone, buprenorphine or extended-release injectable naltrexone plays a critical role in the treatment of opioid use disorders.

Opioid agonist therapies with methadone or buprenorphine reduce the effects of opioid withdrawal and reduce cravings. They have been shown to increase retention in treatment and reduce risk behaviors that lead to transmission of HIV and viral hepatitis, such as using opioids by injection.

Medication-assisted treatment with extended-release injectable naltrexone reduces the risk of relapse to opioid use and helps control cravings. Extended-release injectable naltrexone is particularly useful

for people exiting a controlled setting where abstinence has been enforced such as jail or residential rehabilitation or in situations where maintenance with an opioid agonist is not available or appropriate. People who misuse prescription opioids benefit from medication-assisted treatment as much as people abusing heroin.

There are no other FDA-approved medications for the treatment of other substance use disorders.

The New England Journal of Medicine (NEJM) provides an overview of current pharmacological treatment for opioid related conditions which is summarized as follows (Schuckit, 2016):

Treatment of acute withdrawal syndromes – medically supervised withdrawal or detoxification – can improve the patient's health and facilitate his or her participation in a rehabilitation program. However, by itself, medically supervised withdrawal is usually not sufficient to produce long-term recovery, and it may increase the risk of overdose among patients who have lost their tolerance to opioids (i.e., the need for higher doses of the drug to produce effects) and resume the use of these drugs.

The abrupt discontinuation of opioids after long-term, intense use produces symptoms that result from physiologic changes during drug use. Symptoms of abstinence syndromes after discontinuation of shorter-acting opioids, such as heroin, begin within hours after receiving the prior dose and decrease greatly by day four, whereas with misuse of longer-acting opioids, such as methadone (Dolophine), withdrawal begins after several days and decreases at approximately day 10. Opioid antagonist-precipitated withdrawal begins almost immediately and lasts approximately an hour after intramuscular or subcutaneous administration of 0.4 to 2 mg of the short-acting antagonist naloxone every two to three minutes (up to a total dose of 10 mg). Acute withdrawal symptoms are followed by weeks to months of protracted withdrawal syndromes that include fatigue, anhedonia, a poor appetite and insomnia.

The most effective approach to treating a patient who has withdrawal is to prescribe a long-acting oral opioid (usually methadone or buprenorphine) to relieve symptoms, and then gradually reduce the dose to allow the patient to adjust to the absence of an opioid. However, only licensed addiction-treatment programs (both office-based treatments and inpatient treatments) and physicians who have completed specific training regarding opioid drugs can administer opioids to treat opioid-use disorders.

Methadone taper

Methadone, an oral mu-opioid agonist, has a half-life of 15 to 40 hours. The patient's condition is first stabilized with a dose that mitigates withdrawal but does not over sedate. Then, in outpatients, doses are decreased by 10 to 20 percent every one to two days over two to three weeks or longer. The taper can occur over approximately one week in inpatients who are going through withdrawal from short-acting drugs, such as heroin, and, as discussed below, can be as slow as 3 percent of the dose per week in patients who are discontinuing methadone maintenance.

Buprenorphine taper

Buprenorphine is an analgesic that is available as a sublingual monotherapy or in combination with naloxone as a film strip for sublingual use (e.g., Suboxone or as a generic formulation) or in a buccal dissolving film (Bunavail). Like methadone, it has advantages of oral administration and a long "functional" half-life of three hours. Methadone and buprenorphine produce similar improvements during opioid withdrawal, although buprenorphine is associated with less sedation and respiratory depression. To avoid precipitating more intense withdrawal, buprenorphine should be initiated 12 to 18 hours after the last administration of opioids in patients who misuse shorter-acting opioids (48 hours in patients who are receiving long-acting drugs such as methadone), with initial doses of 4 to 8 mg. Additional doses up to 16 mg may be administered, depending on the patient's response. After the patient's condition is stabilized for three to five days, the dose is often decreased over two or more weeks; more opioid-free urine samples are seen with a four-week reduction protocol than with a shorter reduction protocol.

Naltrexone for abstinence-oriented opioid rehabilitation

Naltrexone is a mu-opioid receptor antagonist that blocks opioid effects and helps maintain abstinence from opioids in highly motivated patients. It is available in 50-mg daily tablets with effects lasting 24 to 36 hours. To help maintain adherence to treatment when used as part of an outpatient rehabilitation program, it is also available as an extended-release injectable formulation containing 380 mg of naltrexone (Vivitrol) that blocks opioid effects for one month.

Medication treatment is most effective when it is administered as part of a cognitive behavioral approach (to enhance motivation, work toward behavioral changes and prevent relapse) with patient participation in a self-help group. Side effects of these medications include gastrointestinal upset, fatigue and insomnia, as well as elevated levels on liver-function tests at higher doses, although naltrexone is relatively safe in persons who consume large amounts of alcohol and those with hepatitis C or HIV infection. Patients who initiate naltrexone treatment must be free of physiological opioid dependence (e.g., more than seven days without acute withdrawal symptoms).

Methadone maintenance approaches

Maintenance treatment with methadone, an oral mu agonist, has been widely used and intensively studied worldwide. In the United States, methadone is offered only through approved and closely monitored clinics that initially require almost daily patient participation in order to receive the drug, although some take-home doses are usually allowed for patients who adhere to program guidelines. Dangers associated with methadone include overdose if the dose is increased too quickly during the initial treatment stages and cardiac arrhythmias with doses higher than 100 mg per day.

The maintenance phase begins at approximately six weeks, with doses adjusted to avoid drug-related euphoria, sedation or opioid craving. The length of the maintenance phase, which depends on the patient's progress in treatment and his or her motivation, can last years to a lifetime. Tapering off methadone is individualized and may take weeks or months.

During and after tapering, maintain close contact with the patient because discontinuing maintenance carries high risks of relapse to the use of illicit drugs and overdoses that may lead to death.

Buprenorphine maintenance

In the United States, the restriction of methadone to specialized clinics contributed to a search for an alternative oral, long-acting opioid. This search resulted in buprenorphine maintenance therapy. Buprenorphine has effects that last for 24 to more than 36 hours. It reduces opioid-withdrawal symptoms and partially blocks intoxication from other opioids. The risks associated with buprenorphine include overdoses, especially if it is taken along with depressant drugs, and potential illicit diversion of drugs.

Beyond pharmacology the treatment system for substance use disorders is comprised of multiple service components, including the following (SAMHSA, 2016):

- Individual and group counseling.
- Inpatient and residential treatment.
- Intensive outpatient treatment.
- Partial hospital programs.
- Case or care management.
- Recovery support services.
- Peer supports.

Massage and opioid disorder

Massage can be effective in treating opioid use disorder as part of the treatment plan and can take place in any inpatient, outpatient, residential or hospital setting.

Throughout 2016, the American Massage Therapy Association (AMTA) has been actively engaged with several organizations and agencies regarding massage therapy for pain, and specifically as an alternative to opioids (AMTA, 2017). AMTA has worked with the Academy of Integrative Pain Management to foster ongoing dialog on integration of massage therapy into approaches to pain, instead of using opioids.

In 2017 the American College of Physicians (ACP) developed a guideline to present the evidence and provide clinical recommendations on noninvasive treatment of low back pain.

Recommendation 1 involves massage. Given that most patients with acute or subacute low back pain improve over time regardless of treatment, clinicians and patients should select nonpharmacological treatment with superficial heat (moderate-quality evidence), massage, acupuncture or spinal manipulation (low-quality evidence). If pharmacologic

treatment is desired, clinicians and patients should select nonsteroidal anti-inflammatory drugs or skeletal muscle relaxants (moderate-quality evidence). (Grade: strong recommendation).

Low back pain is frequently classified and treated on the basis of symptom duration, potential cause, presence or absence of radicular symptoms, and corresponding anatomical or radiographic abnormalities. Acute back pain is defined as lasting less than four weeks, subacute back pain lasts between four and 12 weeks, and chronic back pain lasts more than 12 weeks. Radicular low back pain results in lower extremity pain, paresthesia, and/or weakness and is a result of nerve root impingement.

Recommendation 2 includes nonpharmacological treatment with exercise, multidisciplinary rehabilitation, acupuncture, mindfulness-based stress reduction (moderate-quality evidence), tai chi, yoga, motor control exercise, progressive relaxation, electromyography biofeedback, low-level laser therapy, operant therapy, cognitive behavioral therapy, or spinal manipulation (low-quality evidence). (Grade: strong recommendation).

Recommendation 3 states that in patients with chronic low back pain who have had an inadequate response to nonpharmacological therapy, clinicians and patients should consider pharmacologic treatment with nonsteroidal anti-inflammatory drugs as first-line therapy, or tramadol or duloxetine as second-line therapy.

The guideline concludes by stating that clinicians should only consider opioids as an option in patients who have failed the aforementioned treatments and only if the potential benefits outweigh the risks for individual patients and after a discussion of known risks and realistic benefits with patients. (Grade: weak recommendation, moderate-quality evidence).

The East West College of Healing Arts in a 2016 article added the following support for massage to treat symptoms of opioid use disorder: Opioid-dependent patients who receive massage therapy may experience the following positive outcomes:

- **Increased body awareness**: Opioid use is often rooted in chronic pain. The opioid user attempts to avoid pain through painkiller medications. Adept massage therapists can help patients feel what the pain is actually like in their bodies. While this may at first be very difficult, over time those with opioid use disorders find the pain isn't their whole world. They eventually discover that they can live with their pain without requiring outside substances.
- **Effective pain treatment**: A May 2016 study published in The Journal Pain Medicine found that massage therapy can reduce pain, minimize anxiety and improve health-related quality of life. All three outcomes are relevant for those with substance dependency issues. By providing a drug-free way to relieve pain, massage can help tremendously.
- **Manage detox symptoms**: Withdrawal symptoms can be intense, extremely painful, stressful and uncomfortable. Massage can help by increasing the levels of natural feel-good chemicals in the brain and decreasing stress hormones like cortisol. For instance, a good massage increases dopamine levels, the body's reward chemicals. By increasing these pleasure chemicals, regular massage can help addicts withstand withdrawal symptoms.

Deep-tissue massage for managing symptoms during opiate recovery

A deep-tissue massage that incorporates acupressure and trigger-point therapy has been recommended to help relieve symptoms that clients may experience while recovering from opiates during phases of tapering off the drug and withdrawal (Finch, 2017). These techniques create the release of an abundance of endorphins, which are our endogenous opioid peptides, natural painkillers, known to reduce pain and produce a sense of euphoria. Matt Finch reports that in 2010, a meta-analysis in The Journal of Clinical Psychiatry found that deep-tissue massage leads to the following benefits:

- Reduction of stress hormone levels.
- Lowered heart rate.
- Elevated mood and relaxation by triggering the release of oxytocin and serotonin.

After 15 minutes of deep-tissue massage techniques, endorphins come into play and the positive benefits may last for 48 hours.

The mind, body and spirit connection

One of the DSM-5 criteria for diagnosis of opioid use disorder is the "continued opioid use despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance." This represents a disconnect or avoidance of the harmful psychological and physical effects of the drug when their only focus is on obtaining more opioids for the next "high," regardless of the damaging effects.

According to the East West College 2016 report, this disassociation occurs when addicts disconnect from their bodies and emotions. During this time, addicts are unaware of what they are feeling or experiencing. Therapists hypothesize that this disassociation is rooted in addiction behavior. In order to continue taking drugs, addicts must ignore their bodily reactions. The healing process must therefore include some time for addicts to adjust to actually experiencing life in the moment, in a body-centered way.

Beyond the physiological benefits of massage, techniques can help clients reconnect to their bodies, be present in the moment, and have a positive experience in the present. This may be something they had not been able to accomplish during drug use because the painful emotional and physical symptoms, caused by the adverse effects of opioids, made living in the present unbearable without drugs.

While patients may be too intimidated to open up in talk therapy, massage therapy meets them where they are. While receiving massage, patients need not explain how they feel, nor why. They can simply relax while the therapist explores and loosens stress points in the body (East West, 2016).

As previously discussed, massage promotes relaxation because it changes the chemistry of the brain through the release of serotonin and dopamine. It also provides the benefit of positive touch and a connection to another person that may have been missing during addiction.

East West concludes:

> Massage helps activate parasympathetic vagal pathways by stimulating pressure receptors. Vagal activation is correlated with better sleep and less anxiety. Overall, addiction patients "just feel better" after a massage. They may leave the session saying, "Oh! That's what relaxation feels like," or, "I didn't know I was so happy/sad." Massage helps addicts feel and heal through touch. This includes opioid addicts.

Consideration

It is important to gather pertinent medical history when conduction massage for clients with chronic illness and injury. This includes a list of medications and that supplements the client is taking. It would be advisable to consult with members of the treatment team for clients who are participating in methadone, buprenorphine and naltrexone treatment programs.

Side effects from those medications include:

Methadone:

- Headache.
- Weight gain.
- Stomach pain.
- Dry mouth.
- Sore tongue.
- Flushing.
- Difficulty urinating.
- Mood changes.
- Vision problems.
- Difficulty falling asleep or staying asleep.

Serious side effects that require immediate medical attention include:

- Seizures.
- Itching.
- Hives.
- Rash.
- Swelling of the eyes, face, mouth, tongue or throat.
- Hoarseness.
- Difficulty breathing or swallowing.
- Extreme drowsiness.
- Agitation, hallucinations (seeing things or hearing voices that do not exist).
- Fever, sweating.

- Confusion.
- Fast heartbeat.
- Shivering.
- Severe muscle stiffness or twitching, loss of coordination.
- Nausea, vomiting, or diarrhea.
- Nausea, vomiting, loss of appetite.
- Weakness or dizziness.
- Inability to get or keep an erection.
- Irregular menstruation.
- Decreased sexual desire.

Source: U.S. National Library of Medicine 2017.

Buprenorphine common side effects:

- Back pain.
- Cough or hoarseness.
- Difficulty having a bowel movement (stool).
- Fever or chills.
- Headache.
- Lower back or side pain.
- Nausea, stomach pain, vomiting.
- Painful or difficult urination.
- Runny nose, sneezing.
- Trouble sleeping.

Less common:

- Diarrhea.
- Feeling faint, dizzy or lightheaded.
- Feeling of warmth or heat.
- Flushing or redness of the skin, especially on the face and neck.
- Lack or loss of strength.
- Sweating.

Serious side effects requiring immediate medical attention:

- Confusion.
- Blurred vision.
- Difficult or troubled breathing.
- Dizziness, faintness or lightheadedness when getting up suddenly from a lying or sitting position.
- Drowsiness.
- Irregular, fast, slow or shallow breathing.
- Pale or blue lips, fingernails or skin.
- Pinpoint pupils.
- Relaxed and calm feeling.
- Sleepiness.
- Unusual tiredness or weakness.

Source: Drugs.com (2018a).

Naltrexone side effects

More common:

- Abdominal or stomach cramping or pain (mild or moderate).
- Anxiety, nervousness, restlessness or trouble sleeping.
- Headache.
- Joint or muscle pain.
- Nausea or vomiting.
- Unusual tiredness.

Less common:

- Chills.
- Constipation, diarrhea.
- Cough, hoarseness, runny or stuffy nose, sinus problems, sneezing or sore throat.
- Dizziness.
- Fast or pounding heartbeat.
- Increased thirst.
- Irritability.
- Loss of appetite.
- Sexual problems in males.

Serious side effects requiring immediate medical attention:

Less common:

- Skin rash.

Rare:

- Abdominal or stomach pain (severe).
- Blurred vision, aching, burning, or swollen eyes.
- Chest pain.
- Confusion.
- Discomfort while urinating or frequent urination.
- Fever.
- Hallucinations or seeing, hearing or feeling things that are not there.
- Itching.
- Mental depression or other mood or mental changes.
- Ringing or buzzing in the ears.
- Shortness of breath.
- Swelling of the face, feet or lower legs.
- Weight gain.

Source: Drugs.com (2018b).

Some caution may be necessary when working with those in recovery, however, as they do present certain challenges (DeMatteo, 2017).

It may be necessary to be clear and firm in your policies and in setting your boundaries as this population often has trouble following rules and respecting others.

There is also an increased likelihood of an emotional release when you are working with clients battling addiction. While addiction is a physical problem, it is also very mental and emotional. Those fighting addiction almost always have some sort of emotional issue that they are holding onto and there is an increased chance for that to surface when they let their guard down on the massage table.

East West College suggests:

- Treat lightly. Recognize that addiction is often rooted in childhood trauma, including the violation of personal boundaries. Therefore, work carefully, asking for plenty of client feedback. Also maintain clear professional boundaries, as addictive behavior may include crossing professional/personal limitations.
- Don't take it personally. The addict's journey is his or her own. You can't force someone to stay on the path. If they relapse, and you become angry in response, they may feel their boundaries have been violated. Provide healing, and then let it go.
- Be willing to provide references. If you don't feel a certain client is within your area of expertise, be willing to refer to a more experienced practitioner.

The National Center for Complementary and Integrated Health, a division of the National Institute of Health, provides the following recommendations (NCCIH, 2017):

- While often preliminary or conflicting, there is scientific evidence that massage may help with back pain and may improve quality of life for people with depression, cancer and HIV/AIDS.
- Massage therapy appears to have few risks if it's used appropriately and provided by a trained mas-sage professional.
- Much of the evidence suggests that these effects are short term and that people need to keep getting massages for the benefits to continue.
- People with some conditions such as bleeding disorders or low blood platelet counts should avoid having forceful and deep-tissue massage. People who take anticoagulants (also known as blood thinners) should also avoid them. Massage should not be done in any potentially weak area of the skin, such as wounds.
- Deep or intense pressure should not be used over an area where the patient has a tumor or cancer, unless approved by the patient's health care provider.
- Clients should not use massage therapy to replace conventional care or to postpone seeing a health care provider about a medical problem. Of course, this would include substance use issues.

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MEDICATION AND MASSAGE THERAPY: INTRODUCTION TO PHARMACOLOGY

Final Examination Questions

Select the best answer for each question and mark your answers on the answer sheet found on page 72 or complete your test online at **Massage.EliteCME.com**.

21. All the following statements about mechanical effects are true, except:
    a. They are a type of physiological effect.
    b. They are characterized by changes in the nervous system that release chemicals in the body.
    c. They are direct, often localized effects that are the direct result of physical pressure, movement and manipulation of the soft tissue.
    d. These actions normalize connective tissue, move body fluids and digestive content.

22. Which of the following massage strokes is carried out with long, gliding strokes toward the heart?
    a. Effleurage.
    b. Petrissage.
    c. Friction.
    d. Tapotement.

23. Which of the following massage strokes is primarily used to assist metabolic function and the removal of wastes, promote the movement of blood in deeper tissue, break up adhesions, stretch muscle fascia, increase blood and lymph circulation, and support weakened muscle?
    a. Effleurage.
    b. Petrissage.
    c. Friction.
    d. Tapotement.

24. Which action is most closely associated with these results: Massage action on the muscles and tendons activates nervous system feedback to contract or relax the targeted muscle fibers (tonus)?
    a. Local mechanical.
    b. Local (somatic) reflex.
    c. Systemic mechanical.
    d. Systemic reflex.

25. Which of the following is not a contraindication for massage related to cardiovascular and circulatory system organs?
    a. Varicose veins.
    b. Influenza.
    c. Advanced diabetes.
    d. Constipation.

26. Which of the following statements about neuroendocrine chemicals is not true?
    a. Adrenaline is also known as epinephrine.
    b. Noradrenalin is also known as norepinephrine.
    c. High levels of epinephrine or norepinephrine may cause hypervigilance or hyperactivity and disturb REM sleep.
    d. The overall composition of neuroendocrine chemicals does not change during massage.

27. Which of the following statements about the nervous system is false?
    a. The autonomic nervous system is composed of two parts that act as counterweights to one another: The sympathetic and parasympathetic nervous systems.
    b. The sympathetic nervous system is primarily responsible for preparing the body for activities related to the "flight-or-fight" response.
    c. The parasympathetic nervous system, rooted in the brain stem and the spinal cord of the lower back, is responsible for the "relaxation" response and restoring the body to normalcy.
    d. Massage cannot slow autonomic arousal and the tension that builds up daily from our adrenaline responses.

28. The way the drug is absorbed, distributed, metabolized and excreted from the body is known as:
    a. Pharmacology.
    b. Pharmacodynamics.
    c. Pharmacokinetics.
    d. Pharmacosis.

29. Absorption moves the drug from the area of administration into the:
    a. Circulatory or lymphatic systems.
    b. Lymphatic or digestive systems.
    c. Digestive or neuroendocrine systems.
    d. Neuroendocrine or skeletal systems.

30. Given that most patients with acute or subacute low back pain improve over time regardless of treatment, clinicians and patients_____ nonpharmacological treatment with superficial heat (moderate-quality evidence), massage, acupuncture, or spinal manipulation.
    a. Should not select.
    b. Have little evidence to select.
    c. Should select.
    d. Should reject.

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Board Contact Information:

Department of Health
Board of Massage Therapy
4052 Bald Cypress Way
Bin C-06
Tallahassee, FL 32399-3257

Phone: (850) 488-0595
Website: http://floridasmassagetherapy.gov

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1	○	○	○	○	7	○	○	○	○	13	○	○	○	○	19	○	○	○	○	25	○	○	○	○
2	○	○	○	○	8	○	○			14	○	○	○	○	20	○	○	○	○	26	○	○	○	○
3	○	○	○	○	9	○	○	○	○	15	○	○	○	○	21	○	○	○	○	27	○	○	○	○
4	○	○	○	○	10	○	○	○	○	16	○	○	○	○	22	○	○	○	○	28	○	○	○	○
5	○	○	○	○	11	○	○	○	○	17	○	○	○	○	23	○	○	○	○	29	○	○	○	○
6	○	○	○	○	12	○	○	○	○	18	○	○	○	○	24	○	○	○	○	30	○	○	○	○

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