Lifestyle and Prevention
or
Better Living through Better Living

By Molly Roberts, MD
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LightHearted Medicine
Objectives

• 1) Learn about the social factors of health and well-being related to family, community, and risky behaviors.

• 2) Discuss risk reduction factors related to epigenetics, self-care, healthy behaviors, environmental exposures, etc.

• 3) Discuss barriers to change and learn skills in motivational interviewing.
How many of you believe...has an impact on health?

• Self care
• Healthy behaviors
• Risky behaviors
• Addictions
• Epigenetics
• Environmental exposures
• Family
• Community
• Sleep
How many of you talk to your patients about...

- Self care
- Healthy behaviors
- Risky behaviors
- Addictions
- Epigenetics
- Environmental exposures
- Family
- Community
- Sleep
How many of you create treatment plans regarding...

- Self care
- Healthy behaviors
- Risky behaviors
- Addictions
- Epigenetics
- Environmental exposures
- Family
- Community
- Sleep
Case Study

• Lisa M is a 53-year-old woman in previously good health until a severe back injury in 2013.

• Symptoms: Her initial symptoms included severe back pain, right leg neuropathy and inability to walk or stand up past a 90-degree angle. She was confined to a wheelchair for a month and given large amounts of steroids to try to decrease inflammation and avoid surgery. These treatments were unsuccessful and she had back surgery a month after the injury which was partially successful.

• Medications: Steroids and narcotic pain meds. The steroids renewed her menopausal symptoms & contributed to weight gain. She was concerned that she was getting physically dependent on the narcotics.

• Activity: Patient was in the wheelchair for a month and then advised to have minimal movements for several months after the surgery. After that, exercise was mostly on the weekends and confined to walking due to her risk of further back injury.

• Occupation: She returned to part-time work 4 months after the initial injury, with a 45-minute car commute both ways and a sedentary job, both of which continued to contribute to back pain and neuropathy.

• Course of illness: Patient got off of pain meds by choice after returning to work but engaged in stress eating particularly when in pain. She gained 30 pounds over the course of the last two years and with few lifestyle changes in her work, diet or activity levels, not much has changed for the better. She now wants to do something to lose the weight, get more active and boost her overall health.
Self Care

The World Health Organization 2009 definition of self care is:
• The ability of individuals, families and communities to promote health, prevent disease, and maintain health and to cope with illness and disability with or without the support of a health-care provider. (WHO, 2009).

• The International Self-Care Foundation offers their “seven pillars” of self care:
  1. Health literacy
  2. Self-awareness of physical and mental condition
  3. Physical activity
  4. Healthy eating
  5. Risk avoidance or mitigation
  6. Good hygiene
  7. Rational and responsible use of products, services, diagnostics and medicines
Pillars 1, 2, 6 and 7

• Pillar 1: Health literacy – the capacity of individuals to obtain, process and understand basic health information and services needed to make appropriate health decisions
  • You or the internet?

• Pillar 2: Self-awareness of physical and mental condition – knowing body mass index (BMI), cholesterol level, blood pressure, diabetes checks
  • Health screening for prevention

• Pillar 6: Good hygiene – washing hands regularly, brushing teeth, washing food.

• Pillar 7: Rational and responsible use of products, services, diagnostics and medicines
  • Being aware of dangers, using responsibly when necessary.
Pillar 3: Physical Activity benefits...

- Multiple Sclerosis (decreasing symptoms and improving memory)
- Depression
- Gestational Diabetes
- Polycystic Ovarian Syndrome
- Cancer Treatment
- Obesity
- Preventing premature death in the elderly
- Quality of life in Parkinson’s Disease
- Osteoarthritis and joint pain
- Back pain
- Improved outcome of childbirth
- Improved immune functioning
- Heart failure risk
- Irregular heartbeat
- Brain health
- Exercise as a child reduces later heart disease
- Coordination
- ADHD

- Depression
- Performance in school testing (esp. for girls)
- Insomnia (long-term not that night)
- Lower breast cancer risk
- Blood pressure during pregnancy
- Life satisfaction
- Body image
- Bone Health after alcoholism
- Plaque formation in Alzheimer’s Disease
- Breast, Prostate, Uterine and Colon Cancer survival rates
- Reduces burnout & improves mental health
- Lymphedema in breast cancer patients
- Exercise during pregnancy reduces child’s risk of Alzheimer’s
- Longer life
- Neurodegeneration
- COPD
WHO Physical Activity Recommendations
Children 5-17 years of age

• Accumulate at least 60 minutes of moderate- to vigorous-intensity physical activity daily
• Gain greater benefit from being active for more than 60 minutes per day
• Generally focus on aerobic physical activity. Vigorous-intensity activities should be incorporated, including those that strengthen muscle and bone, such games or sports that include jumping, running and agility, at least 3 times per week
WHO Physical Activity Recommendations
Adults 18-64 years of age

• Do at least 150 minutes of moderate-intensity aerobic physical activity throughout the week or do at least 75 minutes of vigorous-intensity aerobic physical activity throughout the week or an equivalent combination of moderate- and vigorous-intensity activity

• Perform aerobic activity in bouts of at least 10 minutes duration

• For additional health benefits, increase their moderate-intensity aerobic physical activity to 300 minutes per week, or engage in 150 minutes of vigorous-intensity aerobic physical activity per week

• Muscle-strengthening activities should be done involving major muscle groups on 2 or more days a week
WHO Physical Activity Recommendations
Adults over 65 years of age

• Do at least 150 minutes of moderate-intensity aerobic physical activity throughout the week. Or do at least 75 minutes of vigorous-intensity aerobic physical activity throughout the week or an equivalent combination of moderate- and vigorous-intensity activity
• Perform aerobic activity in bouts of at least 10 minutes duration
• For additional health benefits, increase their moderate-intensity aerobic physical activity to 300 minutes per week, or engage in 150 minutes of vigorous-intensity aerobic physical activity per week
• Include muscle-strengthening activities, involving major muscle groups, on 2 or more days a week
• Older adults, with poor mobility, should perform physical activity to enhance balance and prevent falls on 3 or more days per week
• When older adults cannot do the recommended amounts of physical activity due to health conditions, they should be as physically active as their abilities and conditions allow
Exercise Prescription

• Overload principle – sort of like the Goldilocks principle!
• Specificity of exercise

• Five components of fitness
  • Cardiorespiratory or aerobic fitness
  • Muscle strength and endurance
  • Flexibility
  • Body composition (and fat-free body mass)
    • Goal is <25% for men and <38% for women
    • Fat free body mass may be the better marker
    • DEXA or BIA for evaluation
• Balance and agility
FITT Principle

- Exercise prescription should address:
  - Frequency
  - Intensity
  - Type
  - Time (duration)
- The best exercise is the one the patient will do regularly.
- American College of Sports Medicine (ACSM) guidelines well worth reading
FITT Cardiorespiratory Recommendations

• Frequency
  • 3-5 days a week

• Duration
  • 20-60 minutes of continuous or intermittent exercise

• Intensity
  • Maximum heart rate = 200-age in years (but not very precise)
    • In healthy adults: 65-90% of maximum heart rate
    • In unfit adults: 55-64% of maximum heart rate
  • Borg scale – from 6-7 (very very light) to 19-20 (very very heavy)
    • Moderate to heavy rating of perceived exertion (RPE) - 13-15 is the goal
    • Beginners can start at RPE 11-13
  • OMNI RPE scale – pictures with 0-10 scale – good for kids and adults
  • METs (metabolic equivalents) – lists available for different exercises
    • Sitting quietly =1 METs
    • Level walking at 3.5 mph = 3.7 METs
    • Running at 7 mph = 11.8 METs
  • Number of steps
Resistance Training

• Sarcopenia = the age or disuse-related loss of muscle and FFB
  • Often not addressed by doctors
  • Both preventable and treatable with strength training
• FFB (fat-free body mass)
  • Worsens with aging and inactivity
  • More FFB = decreased metabolic rate
  • More FFB = decreased strength, mobility, balance, metabolism, bone
density and independence of older adults
• Rates of FFB
  • 8-13% in adults <70
  • 17.5% in those >75
  • over 50% in the oldest adults

• Key Three exercises – challenge 85% of your muscles
  • Double-leg press or dumbbell squat
  • Chest press machine or supine dumbbell bench press
  • Lat pulldown/seated row machine or single-arm dumbbell row
FITT Resistance Training Recommendations

• Frequency
  • 2 or 3 days per week
  • Best to include weight-bearing activity most days

• Duration
  • 8-10 weight exercised that work all major muscle groups
  • At least one set of repetitions

• Intensity
  • A weight load that causes muscle fatigue in 8-12 repetitions
  • Older or frail adults: 10-15 reps before fatigue
FITT Flexibility Recommendations

- **Frequency**
  - Bending and stretching daily

- **Duration**
  - Hold for 20-30 seconds

- **Intensity**
  - For general health: 2-4 limitation-specific stretches after activity, 1 rep
  - For enhanced flexibility: 6-10 whole body stretches after activity and before competition, 1-2 reps
  - Add yoga, Pilates or facilitated stretches with a partner

- **Flexibility vs Stability**
FITT Body Composition Recommendations

• Men
  • For basic health: >5% and <25% fat
  • For enhanced fitness: 12% to 20% fat
  • For performance-enhanced fitness: 8% to 15% fat
  • Maintain FFB mass at 125 to 150 lbs or more

• Women
  • For basic health: >14% and <38% fat
  • For enhanced fitness: 20% to 30% fat
  • For performance-enhanced fitness: 17% to 25% fat
  • Maintain FFB mass at 90 to 110 lbs or more
Balance and Agility

• A CNS response to cues from the inner ears, eyes, postural muscles in the legs and back and touch
• If you don’t use it, you’ll lose it

• For basic health: “act like a child”
  • Walk a balance line
  • Stand on one foot while doing other activities (ankle exercise)
  • Stand on a balance board at your desk
  • Sit on a ball
• For enhanced fitness:
  • Recreational sports like tennis, bicycle, tai chi, boating, etc
  • Social dancing
  • Stability ball training
• For performance-enhanced fitness:
  • High-level sports like skiing, skating, surfing
  • Yoga
  • Martial arts
  • Performance dancing
  • Agility drills
Pillar 4: Healthy Eating

- 17 Day Diet
- 3-Day Diet
- Abs Diet
- Acid Alkaline Diet
- Anti-Inflammatory Diet
- Atkins Diet
- Cookie Diet
- DASH Diet
- Dukan Diet
- Eco-Atkins Diet
- Engine 2 Diet
- Flat Belly Diet
- Flexitarian Diet
- Gluten Free Diet
- Glycemic Index Diet
- Jenny Craig Diet
- Low FODMAP Diet
- Macrobiotic Diet
- Master Cleanse Diet
- Mayo Clinic Diet
- Medfast Diet
- Mediterranean Diet
- Nutrisystem Diet
- Ornish Diet
- Paleo Diet
- Raw Food Diet
- Slim-Fast Diet
- South Beach Diet
- Spark Solution Diet
- The Fast Diet
- TLC Diet
- Traditional Asian Diet
- Vegan Diet
- Vegetarian Diet
- Volumetrics Diet
- Weight Watchers Diet
- Zone Diet
Diet Advice is Not Always Cut and Dried...  
...except when it is!

• Eat mostly vegetables and fruits, from the color wheel.
• Make small ocean fish and grass-fed meat a side dish – try to get protein from plant sources.
• High fiber.
• Cook with liquid fats or water.
• Drink at least 5 eight-ounce glasses of water a day.
• Drink green tea regularly.
• Drink red wine in moderation.
• Use spices on your food.

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• Consider going gluten and dairy free – and free of processed gluten substitutes.
• Low or no added sugar or artificial sugar substitutes.
• Avoid refined carbohydrates.
• Avoid processed foods and junk food.
Food Intolerances

- IgE Food allergy
- Celiac disease
- Cross-allergy
- Pseudoallergies
- Eosinophilic esophagogastritis
- IgG or IgA-related intolerance
- Physiologic reactions
- Pharmacologic reactions
- Toxin mediated
- Enzymatic
- Structural
- Infectious
- Psychogenic
- Other (mastocytosis, carcinoid, GI neoplasms)
Elimination/Re-introduction Diets

• May be helpful for a number of illnesses
• Start with a food diary
• Questions:
  • What foods do you frequently eat?
  • What foods do you crave?
  • What foods make you feel better?
  • What foods would be difficult to give up or go without?
• Symptom discussion and past medical history
• Most common foods to eliminate
  • Citrus, dairy, eggs, fish, peanuts, soy, gluten, shellfish, tree nuts
  • Others – Beef, corn, food additives, food colors, nitrates/nitrites, preservatives, biogenic amines, disaccharides, foods high in nickel and salicylates
  • Whatever the patient suspects is an issue
Elimination/Re-introduction Diets

- Step 1: The Planning Phase
- Step 2: The Avoidance Phase
- Step 3: The Challenge Phase
- Step 4: Creating a Long-Term Diet Plan
The Glycemic Index and Glycemic Load

• Glycemic Index
  • Especially for diabetes, cardiovascular disease, inflammation, and some cancers.
  • The GI measures how quickly a consumed carbohydrate affects postprandial serum glucose levels in a specified time – provides a measure of carbohydrate quality.
  • Glucose and white bread are a value of 100. Others are some lower value.
  • High (>70), Medium (56-69), Low (<55)

• Glycemic Load
  • Calculated by multiplying the GI value by the amount of carbohydrates in grams provided by a serving of food and dividing the total by 100.
  • A more accurate measure of a food’s overall effect on pancreatic insulin release and serum glucose levels.
  • A low GL diet has been found to be helpful for cardiovascular disease, certain cancers, insulin resistance, diabetes, rebound hypoglycemia, fatigue, food cravings, hemorrhagic and ischemic stroke, myocardial infarction, inflammation.
  • High (>20), Medium (11-19), Low (<10)
How to Lower Your Glycemic Index

• Eat fruits, vegetables, and legumes
• Consume under-ripe fruits
• Consume traditionally processed grains
• Avoid puffed grains and finely ground flour
• Acid in food lowers GI (eg., sourdough bread)
• Limit potatoes and concentrated sugars
• Consume high glycemic foods with fat & protein to lower their GI
• Reduce “white foods” and increase the rainbow in your whole, unprocessed foods
Low Inflammatory Diet

- Modulation of amount and types of eicosanoid activity
- Increases pro-oxidant and antioxidant effects.
- Exerts effects on insulin and glucose levels.
- Intracellular signaling, transcription factor activity and gene signaling are improved.
- Decrease gastrointestinal dysbiosis.
- Minimally processed whole foods, beneficial fats, vegetables, fruit, healthy proteins, some whole grains, mono- and polyunsaturated fats, a 2:1 Omega 3:Omega 6 ratio.
- Mediterranean and Okinawan diets are good examples.
- Helpful for Coronary Heart Disease, Type 2 Diabetes, Rheumatoid Arthritis, COPD, Alzheimer’s Disease, Inflammatory Bowel Disease, Atopic Disease, Asthma, Cancer, Fibromyalgia, Low Back Pain, Depression
DASH Diet

- DASH = Dietary Approaches to Stop Hypertension
- Good for other illnesses too
- Looks very similar to the other anti-inflammatory diets
- Low in sodium and animal/dairy fat and rich in fruits, vegetables, nuts, seeds, beans, whole grains
- Smaller portion sizes – 2000 calories a day
- BP dropped by an average of 11.6 points systolic and 5.3 points diastolic
- Decreases blood pressure, enhances antioxidant capacity and lowers pro-inflammatory markers
- Helps lower Total Cholesterol, LDL, triglycerides, fasting glucose, Hgb A1C, weight, strokes, heart failure, CAD, colorectal cancer, bone density and even kidney stones
Pillar 5: Risk Avoidance

• **ISF’s List**
  - Making sure you are vaccinated
  - Not smoking or quitting smoking
  - Practicing safe sex
  - Drinking in moderation
  - Protecting yourself from the sun
  - Driving carefully and wearing a seat belt
  - Wearing your helmet when you ride a bicycle

• **My additions – An ounce of prevention is worth a pound of cure**
  - Wearing seatbelts even in a taxi or bus
  - Putting your phone on “airplane mode” when driving
  - Not driving if tired, distracted, upset, drunk, high or otherwise not at your best
  - Wearing your helmet on a motorcycle or scooter
  - Crossing at the crosswalk and with the lights
  - Avoiding road rage while driving
  - Trampoline safety
  - Diving and swimming carefully and without alcohol or other drugs in your system
  - Learning self-determination skills – ability to go against the crowd
  - Avoiding guns in your house or in a friend’s house
  - Paying attention to warning signs
  - Ask for help
Addictions

• American Society of Addiction Medicine definition:
  • Addiction is a primary, chronic disease of brain reward, motivation, memory and related circuitry. Dysfunction in these circuits leads to characteristic biological, psychological, social and spiritual manifestations. This is reflected in an individual pathologically pursuing reward and/or relief by substance use and other behaviors.

• Addiction is characterized by inability to consistently abstain, impairment in behavioral control, craving, diminished recognition of significant problems with one’s behaviors and interpersonal relationships, and a dysfunctional emotional response. Like other chronic diseases, addiction often involves cycles of relapse and remission. Without treatment or engagement in recovery activities, addiction is progressive and can result in disability or premature death.
Addictions

- Tobacco
- Alcohol
- Marijuana
- Other Drugs both illicit and prescribed
- Food and Sugar
- Exercise
- Work
- Internet
- Video games
- Pornography
- Sex
- Relationships
- Diet Coke – Lisa M’s drug of choice
During a visit, ask the CAGE questions

- Have you ever felt you should *Cut down on your drinking*?
- Have people *Annoyed* you by criticizing your drinking?
- Have you ever felt bad or *Guilty* about your drinking?
- Have you ever had a drink first thing in the morning to steady your nerves or to get rid of a hangover (*Eye opener*)?

**Scoring:**

- Item responses on the CAGE are scored 0 or 1, with a higher score an indication of alcohol problems. A total score of 2 or greater is considered clinically significant.
AUDIT-C is another option

1. How often do you have a drink containing alcohol?
   - Never (0)
   - Monthly or less (1)
   - Two to four times a month (2)
   - Two to three times a week (3)
   - Four or more times a week (4)

2. How many drinks containing alcohol do you have on a typical day when you are drinking?
   - 1 or 2 (0)
   - 3 or 4 (1)
   - 5 or 6 (2)
   - 7 to 9 (3)
   - 10 or more (4)

3. How often do you have six or more drinks on one occasion?
   - Never (0)
   - Less than monthly (1)
   - Monthly (2)
   - Two or three times a week (3)
   - Four or more times a week (4)

Total Score: ______________
Alcohol risk terms

• Abstinence
  • No alcohol use

• Moderate
  • Men: no more than 2 standard drinks per drinking day
  • Women and persons older than 65: no more than 1 standard drink per drinking day

• Risky or Hazardous
  • Men
    • More than 4 standard drinks per drinking day
    • More than 14 standard drinks per week
  • Women and persons older than 65:
    • More than 3 standard drinks per drinking day
    • More than 7 standard drinks per drinking week
Pathophysiology of Addiction

• Process of substance abuse
  • Craving
  • Active abuse
  • Intoxication
  • Withdrawal
  • Detoxification
  • Recovery
  • Relapse prevention

• Mechanism
  • Causes a sudden release of dopamine in the reward pathway linking the midbrain to the prefrontal cortex.
  • Causes brain alteration over time to go from abuse to addiction
  • Environmental, social, cultural, genetic and behavioral factors also important
Treatments

• Should be treated like a chronic disease
• Both acute injuries and chronic illness are exacerbations of disease
• Treatment programs
• AA, NA, OA or their equivalents
• The “broken spirit” factor in addictions
• Studies in Rat Park, addiction and the importance of the cage
• Medications – can be helpful if used with caution
• Psychospiritual treatments
• Community support
• Telehealth support
Pharmaceutical Agents Used for Treatment of Alcoholism and Substance Abuse

<table>
<thead>
<tr>
<th>Substance of Abuse</th>
<th>Agents Used for Detoxification/Withdrawal</th>
<th>Agents Used for Craving/Relapse Prevention</th>
<th>Agents Used for Other Purposes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>Benzodiazepines Phenobarbital</td>
<td>Naltrexone Acamprosate Topiramate</td>
<td>Disulfiram</td>
</tr>
<tr>
<td>Tobacco</td>
<td>Nicotine Bupropion</td>
<td>Nicotine Varenicline</td>
<td>Bupropion</td>
</tr>
<tr>
<td>Opiates</td>
<td>Methadone Clonidine Buprenorphine</td>
<td>Opiates</td>
<td>Naloxone</td>
</tr>
<tr>
<td>Cocaine</td>
<td>Selective serotonin reuptake inhibitors</td>
<td>Tricyclic antidepressants</td>
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</tr>
<tr>
<td>Marijuana</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td></td>
</tr>
</tbody>
</table>
Nicotine Abuse

• Treatments
  • Tapered nicotine replacement therapy is effective
  
  • Zyban (buproprion) helpful for anxiety
  
  • Chantix (Varenicline) – a partial nicotine receptor agonist
    • But be careful to watch for behavior changes (hostility, agitation, depression and suicidality) on this med. Don’t smoke AND take this med for too long.
Opiate Abuse

• Treatment
  • Methadone – used both for treatment and for maintenance. It is an opioid receptor agonist that can block withdrawal symptoms without producing euphoria like opioids.
  • Clonidine - effective in lessening opiate withdrawal symptoms and does not foster physiological dependence.
  • LAAM (L-Alpha-acetylmethadol) - derived from methadone and acts similarly. The advantage is that its effect lasts 72 hours, allowing dosing every other day or three times per week
  • Naloxone - an opiate antagonist used for treatment of acute opiate overdose
  • Buprenorphine – an opiate receptor partial agonist helpful for managing opioid addiction and preventing relapse. Bind to the receptor but only partially turns it on so high is less high. Potential for abuse is less.
Cocaine Abuse

• No treatments approved by FDA

• Antidepressants tried but with mixed results

• Amantadine, a dopamine agonist, should theoretically help but studies not proving this to be so.

• Buprenorphine tried with mixed results
Botanical Treatments for Addiction

• **No good studies to prove their effectiveness**

• Traditional treatments
  • Kudzu – used as an “anti-inebriation” treatment

• Anxiolytics may decrease anxiety and depression
  • Valerian
  • Kava kava – use with caution due to risk of liver toxicity
  • Kavinace (phenibut) – GABA precursor that crosses the blood-brain barrier – may help with benzodiazepine dependence

• St. John’s wort – similar to an SSRI – unclear if it helps addiction

• Lobelia – a homeopathic respiratory stimulant may help stop smoking

• Milk thistle – hepatoprotective, looks promising for cirrhosis
Acupuncture for Addiction

• 5 point auricular acupuncture treatment protocol has been developed for addiction treatment
• Used for addictions to alcohol, cocaine, opiates and marijuana
• Guidelines from the National Acupuncture Detoxification Association (NADA)
• Proposed mechanism of action
  • Balancing qi
  • Relaxation, calming
  • Relief from cravings
  • Release of endorphins
• A study in 1989 showed a positive effect at 1, 3, and 6 months
• A study in 1998 showed fewer re-admissions for detoxification
• A study in 2000 showed less use of cocaine in those with acupuncture compared to sham treatment and relaxation treatment.
• Other studies have had mixed results or no benefit.
Mind/Body Treatments for Addiction

- Meditation
  - Transcendental Meditation studied
    - Seems to raise serotonin and decrease cortisol in as little as 4 months of practice.
    - Several studies have shown benefit of Transcendental Meditation (TM) but there were flaws in the studies.
    - A randomized controlled trial showed benefit of TM or biofeedback when compared to electronic neurotherapy and AA or counseling.
- Mindfulness-based meditation
  - A study showed that mindfulness and goal management training together showed significant improvement with emotional risks associated with substance use.
- Prayer has also been suggested
- Yoga may help
- Hypnosis and guided imagery may help
Other addiction treatments

• Biofeedback has been shown to help substance abuse as well as other stress-related disorders

• Hypnosis – standardization is difficult for this modality but this has case reports showing benefit. Controlled trials have not shown long-term benefits but may help with self-esteem and serenity.

• Guided Imagery may help patient to gain insight into their addiction.

• Yoga has been shown to have a beneficial effect on recovery from addiction but no randomized controlled trials. Does help as part of a comprehensive program.
Community Support and Spirituality
The 12 Steps to Recovery

1. We admitted we were powerless over alcohol and that our lives had become unmanageable.
2. We came to believe that a power greater than ourselves could restore us to sanity.
3. We made a decision to turn our will and our lives over to the care of God as we understood Him.
4. We made a searching and fearless inventory of ourselves.
5. We admitted to God, to ourselves and to another human being the exact nature of our wrongs.
6. We were entirely ready to have God remove all these defects of character.
The 12 Steps of Recovery cont.

7. We humbly asked Him to remove our shortcomings.
8. We made a list of all persons we had harmed and became willing to make amends to them all.
9. We made direct amends to such people wherever possible, except when to do so would injury them or others.
10. We continued to take personal inventory and when we were wrong, promptly admitted it.
11. We sought through prayer and meditation to improve our conscious contact with God as we understood Him, praying only for knowledge of His will for us and the power to carry that out.
12. Having had a spiritual awakening as the result of these steps, we tried to carry this message to alcoholics and to practice these principles in all our affairs.
Community Support and Spirituality

- Native American concept of the “broken spirit”
- Using the medicine wheel and talking circles for healing
Environmental Factors

• Benefits
  • Nature deficit disorder
  • Reduced asthma, improved healing times, made people more likely to exercise, and improved mental health
  • Noise/sound can be helpful or harmful
  • Temperature can be helpful or harmful

• Environmental exposures can play a large role in cancer, hormone functioning, eye health, HRV, heart health
  • BPA
  • Xenobiotics (herbicides, pesticides) in the environment and high fat foods
  • PCBs (polychlorinated biphenyls in plastic, ink and electrical equipment)
  • Dioxins
  • Mercury, arsenic, chromium, nickel and other toxic metals
  • Manufacturing byproducts (asbestos, tar, diesel exhaust)
  • Ionizing radiation
# Organic or Not Organic? That is the question!

<table>
<thead>
<tr>
<th>Dirty Dozen – Buy Organic</th>
<th>Clean 15 – OK to buy non-organic</th>
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<tbody>
<tr>
<td>Celery</td>
<td>Onions</td>
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<tr>
<td>Peaches</td>
<td>Avocado</td>
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<td>Strawberries</td>
<td>Sweet corn</td>
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<td>Apples</td>
<td>Pineapple</td>
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<td>Blueberries</td>
<td>Mangoes</td>
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<td>Bell peppers</td>
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<td>Spinach</td>
<td>Kiwi</td>
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<td>Cabbage</td>
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<tr>
<td>Kale and collard greens</td>
<td>Eggplant</td>
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<td>Potatoes</td>
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<td>Grapes (imported)</td>
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<td>Sweet potato</td>
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<tr>
<td>Honeydew melon</td>
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</tbody>
</table>
Environmental Suggestions

• Get out in nature daily
• Wash all produce
• Peel nonorganic produce
• Buy organic
• Eat lots of fruits and vegetables
• Avoid plastic especially when cooking
• Limit high fat foods, meat, dairy
• Drink green tea
• Seek out moments of quiet and stillness
• Follow the rhythms of the day
Epigenetic considerations of lifestyle

• Epigenetics are the study of the role that environment plays on the expression of genetics.
• This is a really new science
• Influences can be pre-birth, post-natal, across generations, developmental, environmental, can have different effects for men and women, related to both physical and emotional traumas, through infection (prions, bacteria).
• Telomere length is a marker for longevity. Telomerase protects the ends of chromosomes to preserve telomere length.

• Illnesses with epigenetic features:
  • Cardiovascular disease and mortality rates
  • Schizophrenia, bipolar and mood disorders
  • Colon cancer
  • Mental retardation
  • Lupus
  • Autism and neurodegenerative disorders
  • Alzheimer’s disease
Epigenetics and Diet

• Some foods that seem to have epigenetic effects
  • Cruciferous vegetables increase histone acetylation
  • Soya/genestein decreases DNA methylation in certain genes
  • Green tea seems to have many epigenetic effects
  • Curcumin/turmeric can have multiple effects on gene activation
  • Resveratrol seems to decrease DNA damage
  • High blood glucose can literally change your DNA by damaging our telomeres

• Queen bees and royal jelly – they’re all born to royalty!
• Mice with yellow hair and obesity - methylation

• After 3 months of healthy lifestyle changes including moderate exercise, a low-fat plant-based diet, and social support, the telomerase levels rose and oncogene expression was inhibited in prostate patients.
Epigenetics of exercise

• Exercise seems to decrease the hyper-methylation in cancer
• Exercise alone increases telomerase activity and brain volume.
• Amish community has the obesity gene but they walk an average of 18,000 steps a day and so are not heavy. Another example is the Tohono O’odham tribe in Mexico and Arizona.
• Exercise affects the epigenetics of: Prostate cancer, breast cancer, aging and diabetes

Epigenetics of stress

• Stress can decrease telomerase levels and alter gene expression in the brain
• Practicing the relaxation response can have positive effects on genetic expression.
Family and Community

• Ask about their support structure

• Family dinners decrease children’s obesity and improve teen mental health

• Family support and CPAP effectiveness for sleep apnea

• Family and criminal/addiction behavioral problems:
  • For boys, problems at school were the most important predictor of behavioral problem scores
  • For girls, problems at home were the more important predictor

• Marital conflict can decrease immunity

• Married men live longer lives.

• Shared traumatic community events – less need for counseling when the event is openly discussed and relationships are formed (less social isolation, from “I” to “we”).
Family and Community

• Study on friends and exercise: Among those who reported that friends never or were almost never physically active with them, 38 percent were in the highest physically active category, but if friends joined in, 76 percent reported being in the highest physically active category. Family was less influential than friends.

• Study on hugs and immune functioning: The results showed that perceived social support reduced the risk of infection associated with experiencing conflicts. Hugs were responsible for one-third of the protective effect of social support. Among infected participants, greater perceived social support and more frequent hugs both resulted in less severe illness symptoms whether or not they experienced conflicts.

• Social isolation is statistically as bad for your health as smoking, high blood pressure, high cholesterol, obesity or lack of exercise.
Sleep

- 60 million adults in the US deal with sleep problems.
- Increases with age and female gender
- Chicken or the Egg: Associated with hyperarousal, chronic pain, CVD, cancer, neurological disorders, GI problems, obesity, diabetes, disruptions of cortisol, immune problems, inflammation, depression, anxiety, substance abuse, breathing disorders, circadian rhythm disorders, RLS, GERD, nocturia, shift work, accidents, decreased quality of life, economic problems, suppressed REM sleep, decreased deep sleep, nightmares, temperature dysregulation.
- Creates fatigue at the same time that there is hyperarousal
Etiology of Sleep Problems

• Predisposing factors
  • Dependence on substances – caffeine, nicotine, etc.
  • Long-term use of medications that shift the circadian rhythm
  • Nocturnal pain
  • Sleep disorders – RLS, periodic limb movements, GERD, apnea
  • Circadian Rhythm factors – shift work, jet lag, sleep phase syndromes

• Precipitating factors
  • Stress – family, work, or health

• Perpetuating factors
  • Excessive time spent in bed when awake – sleep efficiency <85% is a problem
  • Irregular sleep/wake schedule
  • Excessive use of caffeine, alcohol, etc.
  • Anxiety about sleep problem
  • Sleep medications themselves may be the culprit

• Others
  • Iatrogenic causes – medications, hospitalization
  • Environment – light, noise, others in the room, temperature, bedding
Medications/substances that decrease sleep

- Alcohol
- Antiarrhythmics
- Anticonvulsants
- Antihistamines
- Appetite suppressants
- Benzodiazepines
- Bronchodilators
- Caffeine
- Carbidopa/levodopa
- Corticosteroids
- Diuretics
- Decongestants

- Estrogen
- Lipophilic beta blockers
- Monoamine oxidase inhibitors
- Nicotine
- Pseudoephedrine
- Selective serotonin reuptake inhibitors
- Sedatives
- Statins
- Sympathomimetics
- Tetrahydrozoline
- Thyroid hormones
- Tricyclic antidepressants
Evaluation & treatment of sleep problems

• Keep a sleep diary for 1-2 weeks
• Talk to the sleep partner
• Self-report scales might be useful
• Testing with sleep study (polysomnography) – home or center tests

• Main Rx treatment is sedative-hypnotics but the data is minimal, the side effects are significant and they are not addressing the primary problem of hypersomnia
• Getting knocked out is not healthy sleep architecture
• Address predisposing, precipitating and perpetuating factors
• Treat lifestyle
Supplements for sleep

- L-tryptophan and 5-HTP – mixed results
- Kava – helpful but rough on the liver
- Melatonin
  - Important for circadian rhythms, sleep, dreaming, nighttime temperature, decreasing inflammation, and clearing free radicals
  - May have cancer-treating properties
  - Marijuana (THC) increases melatonin
  - Need to take in moderation – too much will interfere with sleep
  - Sustained release sublingual, oral and transdermal formulations
  - Dose is 0.3-0.5 mg
- Valerian root
  - Anxiolytic and hypnotic properties but without the cognitive side effects
  - May need weeks of use before effective
  - Dose is 300-900 mg standardized extract of 0.8% valerenic acid or as a tea of 2-3 grams of dried root steeped for 10-15 minutes and taken 30-120 minutes before bedtime
- Hops
  - Modest hypnotic effect. Also antispasmodic and helpful for hot flashes.
  - Dose is 5:1 ethanolic extract, 1/2 -1 dropper full, 30-60 minutes before bedtime
Noise Reduction Approach (NRAI)

• Goal is to improve the sleepiness to noise ratio
• Reducing noise through body, mind, emotions and spirit
  • Body
    • Treat other comorbid conditions such as pain and depression
    • Manage all medication’s sleep effects
    • Avoid energy drinks
    • Manage alcohol and caffeine use
    • Treat hormonal issues (menopause, PMS)
  • Mind
    • Cognitive behavioral therapy (CBT-I) – individual, group or web-based
    • At least as effective as meds but also with more deep sleep, decreased wake time, decreased depression, no adverse side effects and long-term benefit
CBT-I includes...

- Sleep hygiene education – may be helpful in combination with others
- Cognitive restructuring – let go of could, should, must
- Stimulus control therapy – staying out of bed when awake, not watching the clock, wake up at the same time each day, avoid napping
- Sleep restriction therapy – start small and go up in increments
- Relaxation practices
- Restoring dream health
- Reducing bed noise – bedding, comfort
- Creating a healthy sleep environment – allergies, irritants
- Regulate circadian rhythms with sleep, meals, exercise, socialization, light 7 days a week
- Create sanctuary space
- Spiritual perspective on sleep and ritual
Barriers to Change & Motivational Interviewing
Three Helping Styles
Directing Practitioner as Expert

Ask to make a point
Following
Patient as Expert

LISTEN
ASK
Inform

Ask so client talks
Guiding
Both as Experts

Ask so client learns
Who is Talking?

Directing

Guiding

Following
Motivational Interviewing
Collaboration

• You are not the boss of another human being’s life. The most you can do is to be in collaboration with them as they find their own answers.
• This is a good position for the practitioner. It takes the pressure off.
• If there is a power play about change, the patient always “wins”
• Assume ambivalence and don’t read resistance into it. We all know that change is not easy.
• Change talk predicts later change behavior
• If there is going to be change, they need to say it, not you. Help drive the conversation toward
  • Their desire to change
  • Their ability to change
  • Their need to change
  • The steps needed to change
  • Their commitment to change
Respect Autonomy

- Do away with judgments – really!
- If you can’t own anything else, you ought to be able to own your own mind, body, spirit and decisions.
- We are all doing the best we can with the knowledge we have available to us at the time.
- There is no such thing as non-compliance.
Curiosity

• Assume your patient’s sacredness, wholeness and wisdom.
• Have a healthy curiosity about their life and maintain healthy boundaries around their life decisions.
• Ask a lot of questions, both for your own understanding & for the patient’s.
• Create safe space so that they can talk you about anything.
• Recognize that this person in front of you is the best expert on him- or herself. They are living with themselves 24 hours a day, 7 days a week. You will make more mistakes in your care if you don’t listen to what they have to say about their own life.
• Ask open questions – be prepared to be surprised by the answers.
  • What might happen if you continue this behavior? What might happen if you change this behavior?
  • How does...help you? How does it hurt you?
  • If you were to make a change, how would you go about it?
  • How does this fit into the rest of your life, both for the good and the bad?
  • How would this change affect those around you, both positively and negatively
• When offering advice, try elicit-provide-elicit (see Steven Rollnick’s work)
Stages of Change

• Pre-contemplation – the issue isn’t on their radar.
• Contemplation – the issue is on their radar but the perceived benefits of changing don’t clearly outweigh the risks of changing.
• Planning – an educational phase learning more about the risks of not changing and the benefits of changing.
• Action – the perceived benefits have outweighed the risks and a decision is made to move forward with the change. This usually takes about 6 months.
• Maintenance – maintaining the change over the long run. This usually starts about 6 months after a change.
Change statements vs Sustain statements

• A change statement is an inroad to eventual shifts.
• A sustain statement may be
  • Announcing their autonomy from you or their friends/family
  • A habit
  • An indication that they may be downplaying the benefits and overestimating the risks of change
  • A statement of peace around their decision, even if it is not healthy for them.
  • A recognition that something else is more up front and center for them.
• The goal is for the patient to say the change statements.
• If you say the change statements, the patient will be tempted to counter with sustain statements
Change statements

• Watch for these inroads to change
  • I would like
  • I should
  • I need to
  • ...would be helpful
  • I might try
  • I will do...

• Reinforce and repeat
• Ask more questions about desire, ability, needs, steps and commitment.
Sustain statements

• Don’t get into a power play with a sustain statement – acknowledge first, then deflect toward collaboration
• See if you can find some other inroads to their health and happiness and/or explore their concerns about this particular change
• Problem solve with them but let them choose the problem.
• Sustain statements include
  • I don’t want
  • I can’t
  • I don’t need to
  • ...won’t help
  • It’s too hard
  • I won’t
  • I forgot

• Important point – they may be right
• Acknowledging the difficulty of change or even saying it first can diffuse a lot
• Most important point – it is their right to do what they want with their body, mind and soul. You are an invited guest in their life, not the host – act with respect in another person’s home. Shift happens when they claim ownership so don’t short-circuit it with dictums.
• End the visit on a note of change
Effect size comparing motivational & non-motivational interviewing

Strength of Recommendation Taxonomy Rating for Motivational Interviewing

• Grade A for health behaviors such as substance use and human immunodeficiency virus risk behaviors.
• For other health behaviors such as nutrition, exercise, and smoking, the rating may be grade B.
• The rating for potential harm may be grade 1 for all health behaviors.
Let’s Practice!

• I can’t stop smoking.
• I wish I could stop smoking.
• I don’t like health food.
• I have started on a gluten-free diet.
• I couldn’t get a ride to my yoga class.
• I am not going to weigh myself.
• I forgot that we had talked about making that change.
• I didn’t have time.
• I decreased my sugar intake but I haven’t started exercising yet.
Health Coaching – Transformation vs Change

• People make changes most successfully when they
  • Know why the change is needed
  • Want to make the change
  • Have values that are reinforced by the change
  • Have necessary support and resources
  • Have a plan
  • Understand and work with their own motivations, fears and resistance

• 4 Pillars of Health Coaching
  • Mindful Presence
  • Authentic Communication
  • Self-awareness
  • Safe and Sacred Space
Some last thoughts about facilitating change

• Consider using rituals and ceremony to help facilitate transformation
• Follow their lead
• Tap into their hopes and dreams
• Address the roadblocks openly
How many of you feel more comfortable creating treatment plans regarding...

- Self care
- Healthy behaviors
- Risky behaviors
- Addictions
- Epigenetics
- Environmental exposures
- Family
- Community
- Sleep
Lisa M. is...
Me!
Walking My Talk

• I quit my sedentary job with the 45 minute car commute.
• I went into private practice with my husband so that I can listen to my body when it wants to move and hang out with my husband and daughter all day 😊
• Our commute includes:
  • A 15 minute walk down the beautiful Vulcan staircase.
  • A 10 minute public transit ride downtown (balance).
  • A 20 minute walk along the Embarcadero.
• Our office is surrounded by trees, grass, birds, the Bay and nature.
• My patient-care day starts at 10 am.
• The clinic rooms have sit/stand desks, a balance board & a treadmill desk.
• One of our offerings is a Walk Your Talk session and the patient gets to decide when those will happen.
• We have created LightHearted Club, with San Francisco as our playground.
• I am making changes in my diet & have my husband & daughter as supports.
• I am quitting Diet Coke – wish me luck!
How many of you can identify something on this list where you would benefit from creating your own personal change prescription?

• Self care
• Healthy behaviors
• Risky behaviors
• Addictions
• Epigenetics
• Environmental exposures
• Family
• Community
• Sleep
How many of you feel motivated to Walk Your Talk?
How many of you are going to create a personal treatment plan regarding...

- Self care
- Healthy behaviors
- Risky behaviors
- Addictions
- Epigenetics
- Environmental exposures
- Family
- Community
- Sleep

Tell your neighbor (if you want to)
Let us know how we can help you with your own healthy Lifestyle and Prevention!

• Thank you!

Molly Roberts, MD, MS
LightHearted Medicine
www.lightheartedmedicine.com
Some helpful resources

• Overall

• Self Care
  • Webber et al. Self-care in health: We can define it, but should we also measure it? Self Care. 2013 4(5): 101-106
  • The International Self-Care Foundation
    • http://isfglobal.org.

• Physical activity
  • World Health Organization,
    • http://www.who.int/dietphysicalactivity/factsheet_recommendations/en/
Some helpful resources

- Addiction
  - American Society of Addiction Medicine
    - http://www.asam.org
  - Harl, J. The likely cause of addiction has been discovered, and it is not what you think. Huffington Post article, 7/10/15
- AUDIT-C from National Council for Community Behavioural Healthcare.
- Substance Abuse Treatments from Warne, D. Alcoholism and Substance Abuse in Rakel, D, *Integrative Medicine.* Chapter 81, Saunders; 3 edition (May 1, 2012).
- Buprenorphine treatment
  - http://buprenorphine.samhsa.gov
Some helpful resources

• Epigenetics
Environmental Influences


- Environmental Working Group: [www.ewg.org](http://www.ewg.org); [www.ewg.org/safefishlist](http://www.ewg.org/safefishlist).


Sleep


• Naiman RR. Healing night: The science and spirit of sleeping, dreaming and awakening. *Minneapolis. Syren;2006.*
Some helpful resources

• Family
Some helpful resources

• Community
  • Friends keep kids active, a talk given by Jessica Graus Woo at the American Heart Association’s Epidemiology/Lifestyle Scientific Sessions 2015.
Some helpful resources

• Motivational interviewing
  • Arloski, M (2007) *Wellness Coaching for Lasting Lifestyle Change*. Whole Person Associates
Some helpful resources

- Motivational Interviewing continued:
  - Health Coaching Program with the Center for Spirituality & Healing (UMN)
    - www.csh.umn.edu/program-areas-section/health-coaching
  - Motivational interviewing
    - www.motivationalinterviewing.org
  - MI Nordic
    - www.motiverandesamtal.org/ICMI
  - Stephen Rollnick
    - www.stephenrollnick.com