Chapter 35
Lifting and Moving Patients

Unit Summary

After students complete this chapter and the related course work, they will understand the body mechanics of patient movement, principles of safe reaching and pulling, urgent and nonurgent moves, how to move patients as a team, types of patient packaging and moving equipment, how to protect from injury when moving patients, and the use of medical restraints.

National EMS Education Standard Competencies

EMS Operations

Knowledge of operational roles and responsibilities to ensure safe patient, public, and personnel safety.

Knowledge Objectives

1. Describe the technical skills and general considerations that are required of the EMTs during patient packaging and patient handling. (pp 1285ï 1313)
2. Define the term body mechanics and discuss how following proper patient lifting and moving techniques can help prevent work-related injuries. (pp 1286ï 1289)
3. Describe the guidelines and safety precautions the EMT should follow when lifting and carrying a patient on a stretcher or backboard, and identify how to avoid common mistakes. (pp 1290ï 1299)
4. Describe the guidelines for lifting a patient, including using a power grip and using a sheet or blanket. (pp 1286ï 1290)
5. Explain how to carry patients safely on stairs, including the selection of appropriate equipment to aid in the process. (pp 1292ï 1295)
6. Summarize the general considerations required to move patients safely without causing them further harm while simultaneously protecting the EMT from injury. (pp 1299ï 1300, 1322)
7. Describe specific situations in which an urgent move or rapid extrication may be necessary to move a patient, and explain how each one is performed. (pp 1300ï 1306)
8. Describe specific situations in which a nonurgent move may be necessary to move a patient, and explain how each one is performed. (pp 1306ï 1311)
9. Discuss special considerations related to moving and transporting geriatric patients and guidelines that must be followed during their lifting and moving. (pp 1311ï 1312)
10. Define the term bariatrics and discuss the guidelines for lifting and moving bariatric patients. (pp 1312ï 1313)
11. Provide seven examples of patient-moving equipment, and explain how each one is used to move a patient. (pp 1313ï 1321)
12. Explain the relationship between equipment decontamination and the prevention of disease transmission. (p 1321)

13. Discuss situations that may require the use of medical restraints on a patient, and explain guidelines and safety considerations for their use. (pp 1321ï 1322)

Skills Objectives

1. Perform a power lift to life a patient. (pp 1287ï 1289, Skill Drill 35-1)
2. Demonstrate using a power grip. (p 1289)
3. Perform the diamond carry to move a patient. (pp 1290ï 1291, Skill Drill 35-2)
4. Perform the one-handed carrying technique to move a patient. (pp 1291ï 1292, Skill Drill 35-3)
5. Perform a patient carry to move a patient down the stairs. (pp 1292ï 1294, Skill Drill 35-4)
6. Perform a patient carry using a stair chair to move a patient down the stairs. (pp 1296ï 1297, Skill Drill 35-5)
7. Demonstrate the body mechanics and principles required for safe reaching and pulling, including the safe reaching technique used for performing log rolls. (pp 1296ï 1299)
8. Demonstrate how to perform an emergency or urgent move. (pp 1300ï 1306)
9. Perform the rapid extrication technique to move a patient from a vehicle. (pp 1301ï 1306, Skill Drill 35-6)
10. Perform the direct ground lift to lift a patient. (pp 1306ï 1307, Skill Drill 35-7)
11. Perform the extremity lift to move a patient. (pp 1306ï 1308, Skill Drill 35-8)
12. Perform the direct carry to move a patient. (pp 1308ï 1309, Skill Drill 35-9)
13. Demonstrate how to use the draw sheet method to transfer a patient onto a stretcher. (pp 1309ï 1310)
14. Use a scoop stretcher to move a patient. (pp 1310ï 1311, Skill Drill 35-10)
15. Demonstrate how to load a stretcher into an ambulance. (pp 1315ï 1317, Skill Drill 35-11)
16. Demonstrate the correct use of medical restraints on a patient. (pp 1321ï 1322)

Lecture

I. Introduction

A. In the course of a call, EMTs move patients several times to provide medical care in the field and transport the patients to the emergency department.

B. Often, you will have to move the patient into a different position or location.

C. Once you have assessed the patient and provided emergency care, you and your team may have to move the patient onto a long backboard or stretcher.

D. Then you must move the patient to the waiting ambulance and load the patient into the patient compartment.

E. After you arrive at the hospital, you must unload the patient, move him or her to the correct examining room, and transfer the patient from the stretcher to the emergency department bed.

F. To move patients without injury to the patient, yourself, or your partners, you need to learn proper techniques.

G. Knowledge of correct body mechanics, grips, and devices is important.

II. Moving and Positioning the Patient

A. When you move a patient, take care that injury does not occur:

1. To you
2. To your team
3. To the patient

B. Many EMTs are injured lifting and moving patients.

C. Training and practice are required.

D. Special lifting and moving techniques are necessary for:

1. Patients with head injury, shock, spinal injury
2. Pregnant patients
3. Obese patients

III. Body Mechanics

A. In lifting:

1. The shoulder girdle should be aligned over the pelvis.
2. Hands should be held close to the legs.
3. Force then goes essentially straight down the spinal column.
4. Very little strain occurs.

B. You may injure your back:

1. If you lift with your back curved
2. If you lift with your back straight but bent significantly forward at the hips

C. Power lift

1. Legs should be spread about 15 in apart (shoulder width).
2. Place feet so that your center of gravity is properly balanced.
3. With your back held upright, bring your upper body down by bending the legs.
4. Grasp the patient or stretcher.
5. Keep your arms the same distance apart as when hanging your arms at each side of your body.
6. Lift the patient by raising your upper body and arms and straightening your legs until you are standing.
7. Keep the weight you are lifting as close to your body as possible.
8. Lifting by extending the properly placed flexed legs is the most powerful way to lift.
   a. This is called the power lift (see ***Skill Drill 35-1***).

D. Power grip gets maximum force from hands.

1. Palms up
2. Hands about 10 in apart
3. All fingers at same angle

4. Fully support the handle on your curved palm.

E. To lift a patient by a sheet or blanket:

1. Center the patient.
2. Tightly roll up excess fabric on the sides.
3. Use that cylindrical handle to grasp the fabric and lift the patient.

IV. Weight and Distribution

A. Whenever possible, use a device that can be rolled to move a patient.

B. When a wheeled device is not available, a backboard must be used.

C. More of the patient's weight rests on the head half of the device than on the foot half.

D. The diamond carry uses one EMT at the head and one at the foot of the backboard, and one on each side of the torso (see Skill Drill 35-2).

E. The one-handed carry includes four or more rescuers each using one hand to support the backboard so that they are able to face forward as they are walking (see Skill Drill 35-3).

F. Always secure the patient to the backboard or stretcher.

1. So that the patient cannot slide significantly when the backboard or stretcher is at an angle

G. A wheeled ambulance stretcher weighs 40–145 lb. This is in addition to the weight of the patient.

1. Generally too heavy for use on stairs
2. If you must use a backboard or wheeled stretcher on stairs, follow the steps in Skill Drill 35-4.

H. A wheeled stair chair can be used to bring a conscious patient down to a stretcher (see Skill Drill 35-5).

I. A backboard should be used instead for a patient:

1. In cardiac arrest
2. Who must be moved in supine position
3. Who must be immobilized

J. A backboard is a device that provides support to patients whom you suspect have hip, pelvic, spinal, or lower extremity injuries.

1. A backboard is also called a spine board, trauma board, or longboard.
2. A backboard can be placed directly on a stretcher and secured.

V. Directions and Commands

A. Team actions must be coordinated.

B. Team leader

1. Indicates where each team member should be
2. Rapidly describes sequence of steps to perform before lifting

C. Preparatory commands are used.

D. Example:

1. Team leader says, ñAll ready to stop,ò to get teamôs attention.
2. Then the team leader says, ñStop!ò in a louder voice.
3. Countdowns are often used to lift a patient.
   a. Example: ñOne, two, three.ò
   b. Always clarify if ñthreeò is part of the preparatory command or whether it is to serve as the order to execute.

E. Estimate the patient's weight before lifting

1. Adults often weigh 120ï 220 lb.
2. Two EMTs should be able to safely lift this weight.
3. It is always a good idea to use four rescuers if available.

F. If the patient weighs over 250 lb, use four rescuers.

1. Place the strongest EMTs at head and foot ends of the board.
2. The taller person should be at the foot end.
3. Know the weight limitations of equipment you are using.
4. Special techniques and equipment are available for those weighing more than 350 pounds.

VI. Principles of Safe Reaching and Pulling

A. When you use a body drag, the same principles apply as when lifting and carrying.

1. Keep back locked and straight.
2. Kneel.
3. Extend arms no more than 15nj to 20nj in front of you.

B. If you must drag a patient on the ground or across a bed, you will have to kneel on the ground or on the bed to minimize the distance that you will have to lean over.

1. Elbows should extend just beyond the anterior torso.

C. When you are pulling a patient who is at a different height than you, bend your knees until your hips are just below the height of plane across which you will be pulling the patient.

1. Extend your arms 15nj to 20nj inches in front of your torso.

D. In the hospital, transfer the patient from the stretcher to a bed with a body drag.

1. Stretcher should be same height as bed or slightly higher than bed.
2. You and a partner should kneel on the bed and drag in increments.
3. Another method involves an EMT on each side of the patient, just beyond the patientôs shoulder and facing the patientôs groin.
   a. Extend one arm across and in front of your chest, and grasp the patientôs armpit.
   b. Extend your other arm in front and to the side of the patientôs torso, and grasp the patientôs belt.
   c. Raise your elbows and flex your arms to pull the patient.

E. Log rolling a patient onto his or her side

1. Kneel as close to a patientôs side as possible.
2. When you lean forward, keep your back straight.
3. Roll the patient without stopping until the patient is resting on his or her side.
4. Some experts believe you should push rather than pull during a log roll.

5. Local protocols will guide your training.

F. When you are rolling the wheeled ambulance stretcher, make sure it is in the fully elevated position.

1. Push the stretcher from the head end.
2. If you are guiding the stretcher from the foot end, make sure your arms are held close to your body.
3. As you walk and guide the stretcher, bend slightly forward at the hips.
4. Never push with your arms fully extended.
5. If the weight you are pushing is below your waist, push from a kneeling position.

VII. General Considerations

A. Move a patient in an orderly, planned, unhurried manner.

1. Will protect you from further injury
2. Will reduce risk of worsening the patientôs condition

B. At a minimum, you will have to lift and carry the patient to the stretcher, move the patient and the stretcher to the ambulance, and load the stretcher with the patient into the patient compartment.

1. There may be additional steps to place the patient onto a backboard or carry him or her down a flight of stairs.
2. Repositioning will require lowering the backboard to the ground and lifting it again once all EMTs are positioned appropriately.

C. Carefully plan ahead.

D. Select the methods that will involve the least amount of lifting and carrying.

1. Always consider whether there is an option that will cause less strain to you and the other EMTs.

VIII. Emergency Moves

A. Emergency moves are used when there is a potential for danger before assessment and management are provided.

1. Examples: fire, explosives, hazardous materials

B. Use when you cannot properly assess the patient or provide immediate care because of the patient's location or position.

C. If you are alone, use a drag to pull the patient along the long axis of body.

D. Use techniques to help prevent aggravation of patient's spinal injury.

1. Clothes drag: Pull on the patientôs clothing in the neck and shoulder area.
2. Blanket drag: Place the patient on a blanket, coat, or other item that can be pulled.
3. Arm drag: Rotate the patientôs arms so they are extended straight on the ground beyond his or her head, grasp the wrists, and drag the patient.

E. To remove an unconscious patient from a vehicle alone:

1. First move the legs clear of the pedals.
2. Rotate the patient so that his or her back is toward the open car door.

3. Place your arms under the patientôs shoulders and through the patientôs armpits, and support the patientôs head against your body.
4. If the legs and feet clear the car, rapidly drag the patient from the seat to a safe location.
    a. If the legs and feet do not clear the car, lower the patient to the ground until the patient is on his or her back, clear the legs from the vehicle, and drag the patient to a safe location.

IX. Urgent Moves

A. An urgent move may be necessary to move patient with:

1. Altered level of consciousness
2. Inadequate ventilation
3. Shock

B. Rapid extrication technique should be used when a patient is sitting in a vehicle and must be urgently moved (see Skill Drill 35-6).

1. This technique should only be used if urgency exists.
    a. The vehicle or scene is unsafe.
    b. Explosives or other hazards are on scene.
    c. There is fire or a danger of fire.
    d. The patient cannot be properly assessed prior to removal from the vehicle.
    e. The patient needs immediate intervention that requires a supine position.
    f. The patient has a life-threatening condition requiring immediate transport.
    g. The patient blocks your access to another seriously injured patient.
2. Proper placement of immobilization devices usually requires 6ï 8 minutes.
3. Using the rapid extrication technique, a patient can be moved from sitting in a vehicle to supine on a backboard in 1 minute or less.
4. Because of its rapid nature, this technique increases the damage if the patient has a spinal injury.
5. Look at all available options before using this technique.
6. You should not use this technique if no urgency exists.
7. Once the patient has been moved onto the backboard, move the patient away from the hazard to begin lifesaving treatment.

X. Nonurgent Moves

A. Used when both the scene and the patient are stable

B. Carefully plan how to move the patient.

C. The team leader must be sure there are enough personnel, obstacles are identified and removed, the proper equipment is available, and the path to be followed is identified.

D. Methods for lifting and carrying

1. Direct ground lift (see ***Skill Drill 35-7***)
    a. Used for patients with no suspected spinal injury who are found supine on the ground
    b. Use the direct ground lift when the patient will need to be carried a distance to the stretcher.
    c. EMTs stand side by side to lift and carry the patient.
    d. Ideally it should be performed by three EMTs, but it can be done with two.

2. Extremity lift (see ***Skill Drill 35-8***)
    a. Also used for patients with no suspected extremity or spinal injury who are supine or in a sitting position
    b. May be helpful when patient is in a small space because it does not require EMTs to stand side by side
    c. One EMT is positioned at the patientôs head and the other EMT is positioned at the patientôs feet.
    d. Coordinate your movements using direct verbal commands.

E. To transfer a patient from a bed to a stretcher, use:

1. Direct carry
    a. With two or more rescuers, move supine patient from the bed to stretcher using a direct carry method.
    b. See ***Skill Drill 35-9***.
2. Draw sheet method
    a. With two or more rescuers, move patient from bed to stretcher using a sheet or blanket.
3. Scoop stretcher
    a. Insert the halves of the scoop stretcher under each side of a patient.
    b. Fasten the sides together.
    c. With two or more rescuers, move a patient to a nearby stretcher.
    d. See ***Skill Drill 35-10***.

F. If the patient is in a chair and cannot assist you, transfer the patient from the chair to a wheelchair.

XI. Geriatrics

A. Most patients transported by EMS are geriatric patients.

B. Skeletal changes

1. Skeletal changes in older people cause brittle bones and spinal curvatures.
2. These changes present special challenges for the EMT.
3. Many patients cannot lie supine on a backboard without causing further injury.
4. Care and creativity must be used in packaging and transporting.
5. Consult local protocols.

C. Fear

1. Allay the patientôs fears with a sympathetic and compassionate approach.
2. Speak slowly, explain, and anticipate.
3. These actions will help you gain cooperation.

XII. Bariatrics

A. “Bariatrics” refers to the management (prevention or control) of obesity and allied diseases.

B. Approximately 100 million adults in the United States are overweight or obese.

1. 35% of women older than 19 years are obese or overweight.
2. 31% of men older than 19 years are obese or overweight.

C. Approximately 20% to 25% of children are overweight or obese.

1. Prevalence is greater in some minority groups.

D. The management of obesity consumes approximately $100 billion per year.

E. The larger the patient, the more likely he or she will need emergency treatment and transportation.

F. This takes a toll on health care workers because back injuries account for the largest number of missed days of work.

G. Stretchers and equipment are being produced with ever-higher capacities.

1. Increased capacity does not address the danger posed to EMTs by carrying ever-heavier weights.
2. Mechanical ambulance lifts are used in Europe but are uncommon in the United States.

XIII. Patient-Moving Equipment

A. Stretcher is available in a number of different models with various features.

B. You must be familiar with all of the features before you go on a call.

C. General features

1. Stretchers have a specific head end and specific foot end.
2. Stretchers have a strong, horizontal, rectangular, metal main frame to which all other parts are attached.
3. The stretcher is pulled, pushed, or lifted by this main frame or its handles.
4. Most models have a second tubular frame made up of three sections that is attached within or above the main frame.
   a. A metal plate is fastened to each of the three sections between its sides.
   b. This plate serves as the platform on which the stretcher mattress and patient are supported.
5. The head section of the stretcher runs from the head end to near the center, where the patientôs hips will be.
6. Hinges at the center allow the head end to be elevated and the patientôs back to be positioned at any desired angle.
7. In some models, additional hinges allow the foot end of the stretcher to be elevated as well.
8. A retractable guardrail is attached along the central portion of the main frame.
   a. The guardrail can be lowered when a patient is being loaded onto or out of a stretcher.
   b. The guardrail prevents the patient from rolling off of the stretcher.
9. The undercarriage frame allows the litter to be adjusted to any height and locked into place.
   a. From 12nj above the ground for the when the stretcher is secured within the ambulance
   b. To 32nj to 36nj above the ground for when the stretcher is being rolled
10. The stretcher remains locked at its present height when the controls are not being activated.
11. Controls are located at the foot end and at one or both sides of most stretchers.

D. Types of stretchers

1. Wheeled ambulance stretcher
   a. Also called a stretcher or gurney
   b. The most commonly used device to move and transport patients
   c. Most patients are secured directly to a stretcher.
   d. Some patients will need to be secured to a backboard first.
      i. A patient with suspected spinal injury
      ii. A patient with multisystem trauma

iii. A patient who needs CPR

iv. A patient who needs to be carried up or down stairs while supine

e. In most cases, it is best to push the head of the stretcher while your partner guides the foot end.

f. If the stretcher must be carried, four rescuers should be involved, one at each corner of the stretcher.

g. If there are two rescuers, the two EMTs should face each other with one at the head end and one at the foot end.

2. Bariatric stretcher

a. A specialized wheeled stretcher for overweight or obese patients

b. These stretchers have a wider patient surface area.

c. These stretchers have a wider wheel base allowing for increased stability.

d. Some are equipped with optional features such as a tow package, which allows for an ambulance-mounted winch to assist in loading the patient into the ambulance.

e. The most important feature is the increased weight-lifting capacity.

i. Typical stretchers are rated to a maximum weight of 650 lb. ii. The bariatric stretcher is rated to hold 850 to 900 lb.

3. Pneumatic and electronic-powered wheeled stretcher

a. Battery operated with electronic controls to raise and lower the undercarriage

b. One drawback is that the added controls and equipment increase the weight of the stretcher.

i. This creates a hazard when transporting on uneven terrain or down one to two steps.

4. Loading a wheeled stretcher into an ambulance

a. Ensure the frame is held firmly between two hands so the frame does not tip.

b. Newer models are self-loading.

i. Extra wheels at the head end of the stretcher allow you to push the stretcher into the back of the ambulance.

c. Models that are not self-loading need to be lowered and then lifted to the height of the floor of the ambulance.

d. Clamps inside the ambulance will hold the stretcher in place during transport.

e. Follow the steps in ***Skill Drill 35-11*** to load a stretcher onto an ambulance.

5. Portable/folding stretcher

a. A stretcher with a strong rectangular tubular metal frame with rigid fabric stretched across it

b. These do not have a second frame or an adjustable undercarriage.

c. Some models have two wheels that make it easier to move the loaded stretcher.

d. Some models can be folded in half for storage.

e. Portable stretchers are used in areas that are difficult to reach or when a second patient must be transported on the squad bench.

f. Portable stretchers weigh much less than wheeled stretchers.

g. However, since most models do not have wheels, your team must support all of the patientôs weight, equipment, and the stretcher itself.

6. Flexible stretcher

a. These can be rolled up across the stretchers width or length so the stretcher becomes a smaller tubular package.

b. Excellent for storage and carrying.

c. These stretchers conform around a patientôs sides and does not extend beyond them.

d. When extended, useful when removing a patient from or through a confined space.

e. The Sked® stretcher can be belayed or rappelled by ropes.

f. The flexible stretcher is the most uncomfortable stretcher but provides excellent support and immobilization.

7. Backboard
   a. Long, flat boards made of rigid, rectangular material.
   b. Most are made of plastic that will not absorb blood or body fluids.
      i. Older models are made of wood.
   c. Used to carry and immobilize patients with suspected spinal injury or other multiple trauma
   d. Commonly used for patients who are found lying down
   e. Backboards are 6Nj p 7Nj png.
   f. Parallel to the sides and ends of the board are long holes that serve as handles and that allow straps to be used to secure and immobilize the patient.
   g. Short backboards or half-boards are used to immobilize the head, torso, and neck of a seated patient with a suspected spinal injury until the patient can be moved to a long backboard.
      i. Short backboards are 3Nj p 4Nj png.
      ii. Short wooden backboards have mostly been replaced with a vest-type device such as the KED.
8. Basket stretcher
   a. A rigid stretcher also called a Stokes litter
   b. Used to carry patient across uneven terrain from a remote location that is inaccessible by ambulance or other vehicle
   c. If the patient has suspected spinal injury, secure the patient to a backboard and place the backboard inside the basket stretcher to carry the patient out of the remote location.
   d. When you return the ambulance, lift the backboard out of the basket stretcher and place it on the wheeled ambulance stretcher.
   e. Basket stretchers are made of plastic with an aluminum frame or have a full steel frame that is connected by woven wire mesh.
   f. Design allows water to drain through the stretcher.
   g. Used for technical rope rescues and some water rescues.
9. Scoop stretcher
   a. Also called an orthopaedic stretcher
   b. Designed to be split into two or four pieces
   c. The pieces are fitted around the patient who is lying on the ground or on a flat surface.
   d. The parts are then reconnected and the patient is lifted and put onto a backboard.
   e. Both sides of the patient must be accessible to use a scoop stretcher.
   f. You must fully stabilize and secure the patient on the scoop stretcher.
10. Stair chair
    a. Stair chairs are folding aluminum frame chairs with fabric stretched across to form a seat and seat back.
    b. Fold-out handles allow you to carry their head and foot ends up or down stairs.
    c. Most have rubber wheels in the back so they can be rolled along the floor and make turns.
11. Neonatal isolette
    a. A neonatal isolette is also referred to as an incubator.
    b. A neonatal patient cannot be transported on a wheeled ambulance stretcher.
    c. A neonatal isolette keeps the neonatal patient warm, with moistened air in a clean environment.
    d. Protects from noise, drafts, infection, and excess handling
    e. The isolette can be:
       i. Placed directly on a wheeled ambulance stretcher and secured with seatbelts

ii. Freestanding and secured into the back of an ambulance in place of where the standard stretcher would be

12. Decontamination
    a. It is essential that you decontaminate equipment after use.
        i. For your own safety
        ii. For the safety of crew using the equipment after you
        iii. For the safety of your patients
        iv. To prevent the spread of disease
    b. Know and follow your local standard operating procedures for disinfecting equipment.

XIV. Medical Restraints

A. First evaluate the patient for correctible causes of combativeness.

1. These include head injury, hypoxia, and hypoglycemia.

B. Follow local protocols. Obtain medical control authorization if necessary.

1. There may be consequences for either applying the restraints, or failing to restrain a patient who should have been restrained.

C. Restraint requires a minimum of five personnel.

1. One for each extremity of the patient, and one for his or her head
2. One EMT should be the established team leader.
3. Develop a plan to restrain the patient together.
4. A patient who is caught off guard is less likely to cause injury to responders.

D. The patient should be in the supine position.

1. A patient in the prone position can develop positional asphyxia.

E. Each extremity should have a restraint applied to it.

F. Preferably the patient should be restrained on a backboard with one arm above his or her head and the other arm by his or her side.

G. Assess the patient's circulation after restraints are applied.

H. Document all information.

XV. Personnel Considerations

A. Ask yourself these questions before moving a patient:

1. Am I physically strong enough to lift/move this patient?
2. Is there adequate room to get the proper stance to lift the patient?
3. Do I need additional personnel for lifting assistance?

B. Remember, an injured rescuer cannot help anyone.

XVI. Summary

A. The first key rule of lifting is to always keep your back in an upright position and lift without twisting. You can lift and carry significant weight without injury as long as your back is in the proper upright position.

B. The power lift is the safest and most powerful way to lift.

C. The safety of you, your team, and the patient depends on the use of proper lifting techniques and maintaining a proper hold when lifting or carrying a patient.

D. Pushing is better than pulling.

E. If you do not have a proper hold, you will not be able to bear your share of the weight, or you may lose your grasp and possible cause a lower back injury to one or more EMTs.

F. It is always best to move a patient on a device that can be rolled. However, if a wheeled device is not available, you must understand and follow certain guidelines for carrying a patient on a stretcher.

G. You must constantly coordinate your movements with those of the other team members and make sure that you communicate with them.

H. When lifting a stretcher, you must make sure that you and your team use correct lifting techniques. Ideally, members of the lifting team should also be of similar height and strength.

I. If you must carry a loaded backboard or stretcher up or down stairs or other inclines, be sure that the patient is tightly secured to the device to prevent sliding. Be sure to carry the backboard or stretcher foot end first, so that the patient's head is elevated higher than the feet.

J. Directions and commands are an important part of safe lifting and carrying.

K. You and your team must anticipate and understand every move and execute it in a coordinated manner. The team leader is responsible for coordinating the moves.

L. You should try to use four rescuers whenever resources allow.

M. You should know how much you can comfortably and safely lift and not attempt to lift more than this amount. Rapidly summon additional help to lift and carry a weight that is greater than you are able to lift.

N. The same basic body mechanics apply for safe reaching and pulling as for lifting and carrying. Keep your back locked and straight, and avoid twisting. Do not hyperextend your back when reaching overhead.

O. You should normally move a patient with nonurgent moves in an orderly, planned, and unhurried manner, selecting methods that involve the least amount of lifting and carrying.

P. At times, you may have to use an emergency move to maneuver a patient before providing assessment and care.

Q. You should perform an urgent move if a patient has an altered level of consciousness, inadequate ventilation, or shock, or in extreme weather conditions.

R. The wheeled ambulance stretcher is the most commonly used device to move and transport patients. Other devices include portable stretchers, flexible stretchers, backboards, basket stretchers, scoop stretchers, and stair chairs.

S. Whenever you are moving a patient, you must take special care so injury does not occur to you, your team, or the patient.

T. You will learn the technical skills of patient packaging and handling through practice and training. Training and practice are required to use all the equipment that is available to you. You must

practice each technique with your team often so that you are able to perform the move quickly, safely, and efficiently.

Post-Lecture

Unit Assessment

1. The first key rule of lifting is to _____.

2. What are the six steps of a power lift as described in Skill Drill 35-1?

3. Which direction should the palms be facing when lifting?

4. Describe the diamond carry.

5. Which end of the backboard should go down a flight of stairs first when carrying a patient on a backboard?

6. Where is most of the weight when carrying a patient in a supine position?

7. How far is safe to extend your arms when pulling a patient?

8. List the four emergency drags that can be used to move patients from life-threatening scenes.

9. In what situations may you use the rapid extrication technique?

10. What lift should be used for patients without spinal trauma who are lying supine on the ground?

Knowledge Objectives

Knowledge Objectives