Lifting and Moving Patients — Body Mechanics for Emergency Medical Personnel

**Before Patient Transfer**
- Plan the lift before carrying out the lift
  - Know your limitations and the resources that are available
  - How will the stretchers, blankets, straps, and splints be used?
- Identify safety and health threats (potential and actual) that exist for the patient
- Identify environmental threats (potential and actual) that exist for the emergency medical personnel and the patient
- Identify the type of transfer equipment and personnel available at the scene

**Patient Transfer**
- Lift the patient only when he or she cannot be rolled, pushed, or pulled
- Use restraining straps
- When more than one individual is involved with the transfer, review specific duties prior to the lift and identify the leader
- Keep your limbs close to your body
- Use the biceps, quadriceps, and gluteal muscles to perform the lift
- When lifting below knuckle height, keep your back straight and flex at the knees and hips
  - Position feet flat on the ground with one foot ahead of the other
  - The patient’s weight should be distributed evenly over both feet of the carrier
  - Straighten the knees as the lift is carried out — major lifting forces will be provided by the thigh and the buttocks muscles
  - Hold the abdomen firm, tuck in buttocks, and keep shoulders aligned over the spine and pelvis
- Change direction by pivoting; keep the shoulders square over the pelvis
- Lift only what you can handle comfortably
- Keep your strides approximately shoulder width apart when carrying a stretcher

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**Bed-to-Stretcher Transfer Using a Drawsheel**
- Plan the lift and identify the leader
- Log-roll the patient onto a fan-fold drawsheet
- Position the stretcher parallel to the bed and secure it
- Pull the patient gently to the edge of the bed
- Use your shoulders, upper body weight, and back muscles for pulling; transfer the patient to the stretcher

**Three-Person Stretcher-to-Bed Transfer**
- Plan the lift and identify the leader
- Position the stretcher parallel to the bed with the patient’s feet facing toward the head of the bed
- Secure the stretcher
- The leader signals the group to lift the patient
- Slowly walk the patient around into the correct position above the bed
- Lower the patient slowly onto the bed

**Floor-to-Stretcher Transfer**
- Plan the lift and identify the leader
- Log-roll the patient onto a long spine board or a scoop stretcher
- Transfer the patient to the stretcher by bending at the hips and knees, using your legs to lift
- The scoop stretcher may be removed

**Floor-to-Stretcher Transfer with Blanket**
- Plan the lift and identify the leader
- Log-roll the patient onto a blanket
- Using the blanket, lift the patient from the floor
- Secure the stretcher

**Ascending or Descending Stairs with a Loaded Stretcher**
- Plan the ascent or descent and identify the leader
- Secure the patient with straps and other immobilizing devices
- Keep the stretcher as level as possible
- The rescuer on the lower end may require backup assistance
One-Person Rescue

- Use the one-person rescue only in a life-threatening situation
- Never attempt a hazardous environment rescue alone

Firefighter’s Drag

- With the patient lying on his or her back, tie the patient’s wrists together (use a cravat, gauze, belt, or necktie)
- Get down on your hands and knees and straddle the patient
- Position the patient’s tied hands around your neck
- Straighten your arms, then crawl forward using your hands and knees while dragging the patient

Clothing Drag

- While on the floor, position yourself behind the patient’s head
- Grab the patient’s clothing at the neck and shoulder region
- Use your leg and back muscles to pull the patient’s body along its axis

Blanket Drag

- Position the patient on the floor on top of a blanket that encompasses his or her body
- Use the blanket to support and protect the patient’s head, neck, and extremities
- Position yourself on the floor at the patient’s head, keeping your arms straight; use your legs and back muscles to pull the patient

Firefighter’s Carry

- Position the patient facing you
- Grasping the patient’s hand, draw the patient’s upper torso across the rescuer’s shoulders
- Bend at the knees and position your hips under the patient’s hips
- With your feet far enough apart to provide stability, use your leg muscles to lift the patient

Front Cradle

- In this lift the patient’s weight is distributed to the rescuer’s arms, shoulders, and back
- The best transfer of the patient’s weight occurs when the rescuer bends at the hips and knees, using the legs for lifting
- Position the patient’s upper torso towards your arm

Pack Strap

- Position the patient behind you
- Grasp both of the patient’s arms, draw them up and over your shoulders, at the same time bending at the knees
- The patient’s weight is transferred to your spine and legs
- Remain in this hunched-over position

Walk Assist

- The patient is able to bear most of his or her own weight
- The rescuer provides support only on demand, on the side opposite of the injury

Two-Person Rescue

Extremity Lift

- Both rescuers should coordinate movements
- Position the patient’s hands across his or her chest
- The rescuer that is positioned by the patient’s head will grasp the patient’s hands through the axillae
- The second rescuer (positioned between the legs of the patient and facing away from the patient) will lift the lower portion of the patient’s body at the knees
- Together, both rescuers lift by bending at their hips and knees, using leg muscles
- The patient may experience discomfort in this position because of the pressure against the thoracic cavity

Chair Lift and Carry

- Two rescuers facing each other grasp each other’s arms
- The back of the chair is formed when the rescuers grasp one arm above the elbow
- The front of the chair is formed when the rescuers grasp the other arm above the wrist
- Both rescuers must bend at the hips and knees and use their legs to perform the lift

Two-Person Walking Assist

- Position the patient between the rescuers
- Each rescuer grasps the patient’s arm that is closest and draws it over the neck and shoulder
- The patient will bear some of his or her own weight
- The rescuers support the patient’s weight when needed