AMG Transfer Training and Ergonomics
Musculoskeletal Disorders

Healthcare workers often experience musculoskeletal disorders at a rate exceeding that of workers in construction, mining, and manufacturing.

These injuries are due in large part to repeated manual patient handling activities often involving heavy manual lifting associated with transferring, and repositioning patients and working in extremely awkward postures.
Direct and indirect costs associated with back injuries in the healthcare industry are estimated to be $20 billion annually.

The most common musculoskeletal disorders that healthcare workers experience are related to the back.
Common Back Disorders

- General joint stiffness
- Acute strains and sprains
- Muscle guarding or spasm
- Disc bulge or herniation
- Degenerative disk disease
- Osteoarthritis
How do we take care of our back?

- Body Mechanics
- Proper Lifting Techniques
- Maintain safe postures
- Keep physically fit
- Stretch and exercise
- Stress management
- Good nutrition
Body Mechanics

• “It’s not how much you lift or move, but the way you do it!”

• Correct body alignment reduces strain on musculoskeletal structures, maintains muscle tone, and contributes to balance.

• Body balance is achieved when a wide base of support exists, the center of gravity falls within the base of support and a vertical line can be drawn from the center of gravity through the base of support.
Body Mechanics-General Rules

• Push vs. Pull
• Keep work within “Strike Zone”
• Keep load close to your body
• Use abdominal bracing
• Pivot with feet-avoid twisting
• Team work vs. mule work
# Proper Lifting Techniques

<table>
<thead>
<tr>
<th>Action</th>
<th>Rationale</th>
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<tbody>
<tr>
<td>When planning to move a patient, arrange for adequate help. Use</td>
<td>Two workers lifting together divide the workload by 50%</td>
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<td>mechanical aids if help is unavailable.</td>
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<tr>
<td>Encourage patient to assist as much as possible</td>
<td>This promotes the client’s abilities and strength while minimizing workload</td>
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<tr>
<td>Keep back, neck, pelvis and feet aligned. Avoid twisting</td>
<td>Reduces risk of injury to lumbar vertebrae and muscle groups. Twisting increases risk of injury.</td>
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<tr>
<td>Flex knees; keep feet wide apart. Position self close to client (or</td>
<td>A broad base of support increases stability. The force is minimized. 10 lbs at waist height close to the body is equal to 100 lbs at arms length.</td>
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<td>object being lifted).</td>
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<td>Use arms and legs (not back)</td>
<td>The leg muscles are stronger, larger muscles capable of greater work without injury.</td>
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<tr>
<td>Slide client toward yourself using a pull sheet.</td>
<td>Sliding requires less effort than lifting. Pull sheet minimizes shearing forces, which can damage client’s skin.</td>
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<tr>
<td>Set (tighten) abdominal and gluteal muscles in preparation for move.</td>
<td>Preparing muscles for the load minimizes strain.</td>
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<tr>
<td>Person with the heaviest load coordinates efforts of team involved by counting to three.</td>
<td>Simultaneous lifting minimizes the load by any one lifter.</td>
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The healthcare worker has a responsibility to perform the transfer procedure correctly and to provide the patient with optimum comfort and care.

Correct body mechanics are essential for any transfer procedures.
• If you are unable to move or turn a patient by yourself, ALWAYS GET HELP!!!!!
Moving the patient: up in bed

Move close to the side of the bed

Keep your back straight, knees bent, one foot forward (broad base of support)
Moving the patient: up in bed

- Up in bed (1 nurse) (patient alert and cooperative): Encourage independence and foster self-esteem. Patient bends knees, feet firmly on the bed and grasps side rail at shoulder level. Nurse positions hand and arms under patients hips, back straight, bend knees, feet apart, count to 3. Nurse pulls patient up in bed and patient pulls arms and pushes feet up into bed.
Moving the patient: up in bed

- Up in bed (2 nurses) (heavy patient or one who cannot help): Patient bends knees, feet firmly on bed, 1st nurse at head of bed under head and shoulders, face foot of bed, 2nd nurse under hips facing foot of bed, on same side-count to 3.
Moving the patient: up in bed

- Up in bed using the pull sheet/lifter (2 nurses): Do not lift, always slide. One nurse on each side of bed, firmly grasp the lifter in both hands, ask the patient to lift their head. Slide the patient up in bed on the count of 3.
Moving the patient: lateral

- Moving the patient from the back to the side (lateral) position: Move the patient to the side of the bed, so the patient will be in the center when complete. Raise rail, move to the other side of bed, roll patient toward you far ankle over near ankle, far knee over near knee. Place one hand on patient’s hip and one hand on his/her shoulder and roll patient onto side toward you. Place pillow under head and neck, bring shoulder blade forward, position both arms in slightly flexed positions (protects joints).
  - Upper arms supported by pillow
  - Place pillow behind patient’s back and pillow under semi-flexed upper leg
  - Assess need to support feet (footboard, high top sneakers)
Moving the patient: prone

• Moving the patient from the back to the abdomen (prone): Move to the extreme edge of the bed, raise rail on that side, move to other side. Place a pillow for support under the abdomen, near arm over head, turn face away, roll as above, check arm and face, continue rolling.

• It is important to turn head to the side, no pillow because it hyper-extends the neck. You can use a small folded towel under each shoulder to prevent slumping, flat pillow at abdomen.
Rules for Transferring a Patient

1. Tell the patient what you are going to do.
2. Lock the wheelchair or other chair in the appropriate position for the transfer.
3. Remove the footrest and armrest as indicated.
4. Scoot the patient’s hips to the front edge of the chair or bed.
5. Place the patient’s feet flat on the floor when possible with knees bent at 90 degrees.
Rules for Transferring a Patient

6. The patient should never perform transfers in stocking or sock feet unless being lifted.

7. Lean the patient’s shoulders toward you.

8. Squeeze the patient’s knees between your knees.

9. Hold on to the patient’s gait belt if available.
10. Tighten your stomach muscles

11. Hold the patient close to your body

12. Never hold the patient at arms length to transfer

13. Never let a patient hold you around your neck during the transfer
Standing-Pivot Transfer

- The standing-pivot transfer requires the patient to be able to come to a standing or modified standing position. It is most commonly used with patients with hemiplegia, hemiparesis, or generalized loss of balance or strength.
Technique for Standing-Pivot (Transfer Bed to Wheelchair)

1. Position the wheelchair at about a 60 degree angle from the top of the bed, which should be on the patient’s stronger side. Lock the brakes on the wheelchair and remove the footrests.

2. Position the patient sitting on the edge of the bed with feet securely on the floor.
3. Explain to the patient what you are about to do and what they are expected to do.
4. Position yourself in front of the patient or slightly to the weaker side, stabilizing the patient’s foot and knee with your own.
5. Ask the patient to lean forward so their shoulders are above their knees.
Technique for Standing-Pivot (Bed to Wheelchair)

6. Grasp the gait belt, count to three and lift by extending your knees and hips, NOT your back.

7. At the same time, the patient assists and comes to a full standing position.

8. The patient pivots on the unaffected foot, as you pivot and reach back for the arm of the chair and patient sits as you bend your hips and knees to lower the patient.
Technique for Standing-Pivot

9. Make sure the patient is sitting in the center of the wheelchair with their hips as far back in the chair as possible.

*The wheelchair-to-bed transfer is essentially the same.
Two Person Lift

- The two person lift is used when the patient is unable to help in transferring or lacks sufficient trunk control for a sliding board transfer. It is often used with high level quadriplegics, and those who are totally dependent.
Technique for Two Person Lift

1. Position and lock the wheelchair as close to the bed as possible.
2. It may be best if the tallest and strongest person helping is positioned at the patient’s back.
3. This person will be in charge of coordinating the transfer. The person at the head will reach around the patient from either side, underneath the arms of the patient, and grasp the patient’s crossed forearms.

Note: Do not grasp the patient underneath the armpits. When lifting from this position, keep the patient close to your body and lift by holding the entire upper torso.
Technique for Two Person Lift

4. The second person positions him/her self facing the patient (standing at the patient’s knees). Bend at the hips and knees and position hands midway under each thigh.

5. On the count of three, lift the patient up and over to the bed.
Technique for Stretcher Transfer (3-person)

1. If draw sheet is not present, place one underneath patient from head to well below buttocks.
2. Line the stretcher up parallel to the bed. Lock brakes on stretcher and the bed.
3. Position persons one on either side and one at the patient’s feet. (The tallest may want to position themselves on the opposite side of the bed from the stretcher).
4. Roll the draw sheet up so that you can grasp the sheet as close to the patient as possible.
5. The persons on either side will grasp the draw sheet with one hand at about the patient’s shoulder level and the other at buttocks level.

6. The person at the feet grasps both legs above the ankles.

7. This transfer is made in two stages. The first lift will move the patient to the side of the bed. Those performing the transfer may need to reposition themselves. Those on the side away from the stretcher may want to kneel in the bed to complete the transfer and to keep their body in proper alignment (so you don’t hurt your back by bending and lifting!!)
Technique for Stretcher Transfer

8. Once repositioned, lift the patient up and to the stretcher.
9. To transfer from stretcher to bed, use the same procedure.
Tips for Transfers

- Make sure bed is in lowest position
- Raise head of bed
- If using a mechanical lift, read the instructions provided.
- If no instructions are available, ask immediate supervisor to demonstrate correct operation
- Move unnecessary furniture out of the way during transfers
Tips for Lifting

• Use discretion when determining if the object to be lifted is within your capability. If you feel the load is too large, get help!
• Clear the area of unnecessary debris to avoid an accidental fall and clear pathway.
• When lifting objects from the floor, keep your back straight with the small curve in the lumbar area, keep your feet apart, and lift with your legs, not your back.
• When lifting, keep feet apart and next to the object to be lifted, one foot ahead of the other. Feet should be spread comfortably for good stability.
• Lift by pushing upward with the legs. Remember to keep your back straight.
Tips for Carrying

- If you cannot carry the load by yourself, get help or utilize carts, etc.
- Keep your back straight, maintaining small curve in lower back.
- Keep load close to your body.
- Avoid twisting your body. Change direction by moving your feet and body in unison.
- Avoid changing hand grip while carrying the load.
- Face the area you wish to deposit load on.
- Bend your knees and keep back straight when depositing load.
Tips for Pushing

Stand close to the object that you wish to push.

Keep your back straight, maintaining small curve in lower back.

Crouch with feet apart and push with your legs.

Lean forward with chest and shoulder against the object.
Tips for Pulling

• Position feet apart with one in back of the other.
• Stand close to object keeping back straight, maintaining small curve in lower back.
• Crouch and pull object towards you, using your own body weight.
Tips for Reaching

- Stand as close to object as possible.
- Feet should be apart for additional stability.
- Avoid straining to reach object; use a ladder or step stool if needed.
- If object is above your head, raise or lower it slowly. Overhead lifting is dangerous and should be avoided whenever possible.
Reporting Employee Injuries

• Report work related injuries immediately. Make sure your immediate supervisor is aware
• Be sure that an Event Report is completed
• Assist as requested in all accident investigations
• Do not pay for an emergency room visit or prescriptions, these will be paid by workers comp.
• You will be asked to provide a urine specimen for drug screening
• You may not come back to work until you have been released by a physician.
• Report all hazardous conditions and near-misses to supervisors
Ergonomics Definition

**ERGONOMICS** is a way to work smarter--not harder by designing tools, equipment, work stations and tasks to **fit the job to the worker**--NOT the worker to the job:

- Layout / type of controls & displays
- **Lighting & Temperature**
- Process (Heights, reaches, weights)
Why worry?

- Work Related Musculoskeletal Disorders (WMSDs) are fastest-growing injury/illness category (accounting for over 1.8 million annual lost workday cases in 1997 BLS stats).
- Up 600% over last 11 years
- $13 to 20 billion total injury cost / year & average $29 K / case compensation claim cost
- More lost workdays for RSIs (avg. = 30 days for a Carpal Tunnel injury)
Ergonomic Alignment

Workstation ergonomics: ideal set-up

- Top of monitor at eye level or just below
- Monitor roughly arm's length away
- Minimal bend at wrists
- Document holder

- Back straight
- Elbows close to body
- Backrest supporting lower back
- Adjustable swivel chair

- Front of seat not pressing on back of knees
- Feet flat on ground or resting on footrest
CARPAL TUNNEL SYNDROME

- Occurs with repetitive motion of hands & wrists—especially with high force levels.
- Incidence up to 15% in certain industries.
- A “natural” keyboard and good wrist support can help most PC users avoid problems
  - Eliminate unnecessary tasks / movements by redesigning maintenance procedures and workstations
  - Take short, frequent breaks
  - Alternate tasks and processes to use different muscle groups
MODEL COMPUTER WORKSTATION

- Keyboard trays WITH wrist support.
- Split "Natural" keyboards to facilitate neutral wrist angle
- Fully adjustable ergonomic chair
- Document holder to minimize head / eye & neck movements
- Corner desk units to position monitor directly in front of employee
- Foot rest where requested.
- Re-organization of working materials within employee arm reach.
- Alternative pointing devices (e.g., scrolling mouse or trackball devices)
**COMPUTER & DESK ERGONOMICS**

**Important Computer & Desk Guidelines**

- Adjust the height of your work surface and the height of your chair so that your keyboard is at elbow height.
- Adjust the back rest of your chair so that it provides support to your lower back. Do not sit on the edge of the chair.
- Position the screen directly in front of you. The distance between your eyes and the screen should be approximately an arm's length.
- Adjust the height of the monitor so that your eyes are level with the top of the screen. If you wear bifocal or trifocal lenses, your eyes should be 3-4 inches above the top of the screen.
- Tilt the screen to minimize glare.
- Use a document holder.
- Keep the area under your desk clear for adequate leg and knee room.
- When keying and mousing, keep the upper arms nearly vertical at your side to prevent fatigue. Elbows should be bent to approximately 90 degrees.
- Take frequent micro-breaks and stretch periodically to reduce the soreness and stiffness related to fixed, static work postures.
COMPUTER & DESK ERGONOMICS

- Please let Human Resources know should you ever have a concern with regards to good ergonomics with your desk or computer workstation.