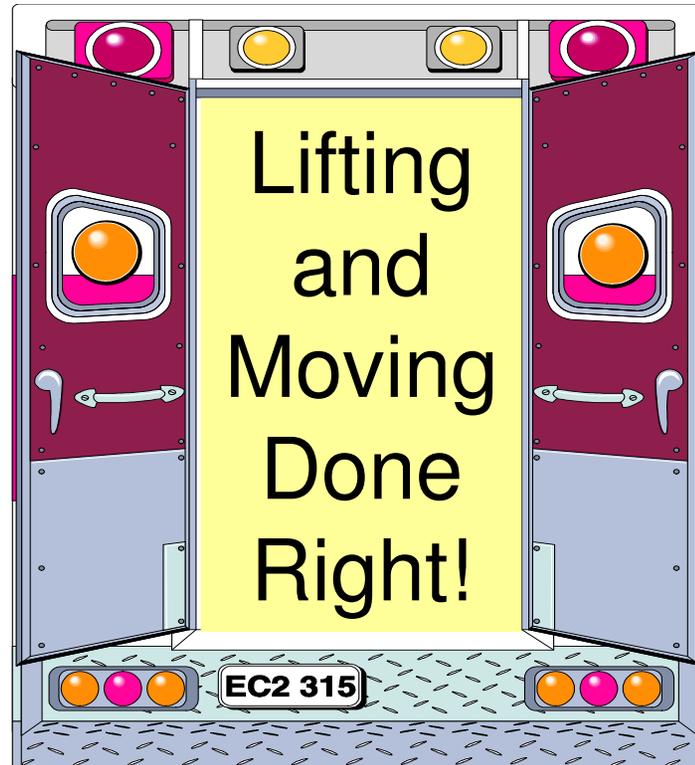


Patient Handling

Lifting and Moving Done Right!



Patient Handling



Patient Handling

Lifting and Moving Done Right!



Outline

- Patient Drop Information
- Injury Prevention
- Lifting and Moving
- Patient Transfer/Movement Devices
- SOPs and SOGs
- Hands on Exercises



Course Objectives

- Understand the goal of the Patient Handling program.
- Recognize the importance of the Patient Handling program.
- Identify the elements of a comprehensive Patient Handling program.

Chapter 1 Objectives

- Understand the history of patient's being dropped by EMS providers.
- Identify the improper use of equipment.
- Understand the mechanics of balance and strength.
- Identify issues associated with the maintenance of equipment.
- Identify equipment failure and malfunctions and how to handle them.
- Understand the risks associated with provider haste.

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VFIS Statistics/Risk Control of Patient Drops

3 YEAR Average	FREQUENCY	SEVERITY
Total	7.80%	13.00%

Identifying the Problem

- Improper use of equipment
- Improper balance/strength
- Improper maintenance of equipment
- Equipment failure/malfunctions
- Provider haste

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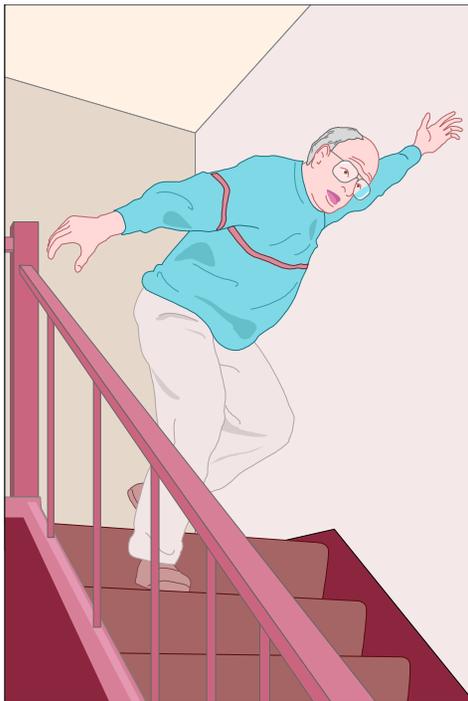


Equipment Available

Device

Uses

Improper Balance/Strength



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- Difference in crew members - strength, height, and weight
- Patient's height and weight
- Scene conditions

Examples

- Overweight patients
- Icy or slick surfaces
- Extrication on incline or decline terrain
- Inability of crew members to safely move the patient

Improper Maintenance of Equipment



- Lack of proper and scheduled maintenance
- Improper maintenance
- Lack of documentation
- Alteration of equipment

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- The lack of equipment maintenance and inspection may lead to equipment failure/malfunction.
- In turn this almost always leads to litigation. It will be the organization's burden of proof to demonstrate that the failure or malfunction was not a result of their negligence.
- The service will need to show proof of competency and training in the device.
- The device will need to be immediately removed from service for proper inspection and to identify any malfunctions or defects.

Proper Maintenance of Equipment

Preventive Maintenance

- Cleaning
- Inspection
- Lubrication

Proper Maintenance of Equipment

Equipment Tune-up



- Hardware tightening
- Alignment adjustments
- Wheeled stretchers should be inspected at least once a month or more frequently by a certified mechanic or certified crewmember.
- Equipment that is maintained will help reduce the potential for equipment failure.

Proper Maintenance of Equipment



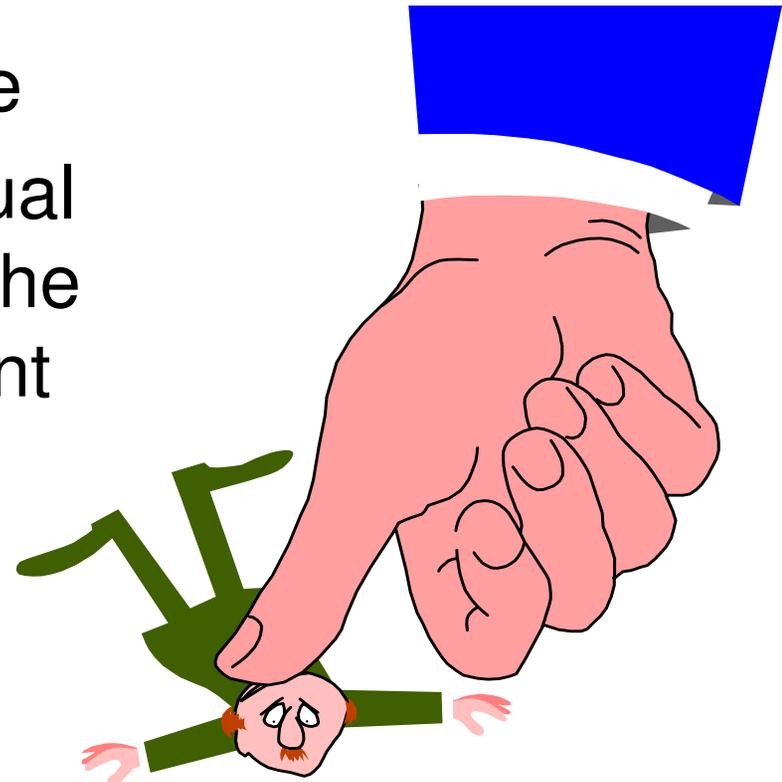
Equipment Evaluation

- Detects potential problems
- Reveals needed repairs
- We need to assure our patient moving devices receive the appropriate maintenance.

Proper Maintenance of Equipment

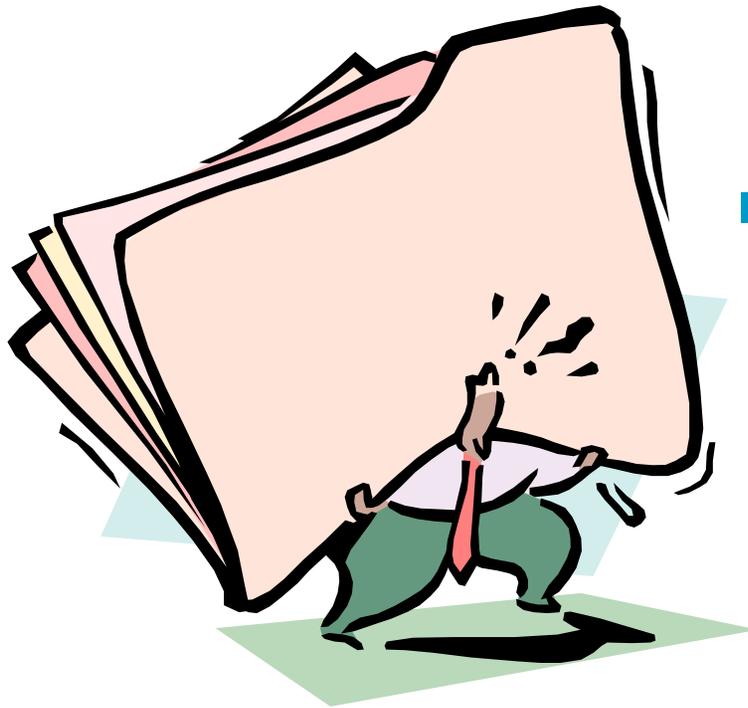
Usage Evaluation and Training

- Reveals improper usage
- VFIS recommends annual training in each device the service utilizes for patient movement and transfer.



Proper Maintenance of Equipment

Report



- Documentation of preventive maintenance

Equipment Failure/Malfunctions



- Equipment inspection and documentation
- Lack of training

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Provider Haste

- Improper lifting
- Utilizing the wrong device- we need to use the proper patient moving device for the specific situation.
- Provider's excitement level
- We need to take into account the strength of the care providers and concentrate on maintaining our balance.
- As patient care providers we need to slow down and take planned actions when moving a patient.



Patient Handling

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Scenarios



Chapter 2 Objectives

- Understand the engineering controls to reduce injuries.
- Identify the administrative controls.
- Understand the workplace controls.

Injury Prevention

Three work hazards:

1. Moving victims from:

- multistory buildings or homes using stairways
- up and over embankments or inclines
- down sloping terrain

Injury Prevention

Three work hazards cont'd

2. Moving patients:

- onto and off stretchers/gurneys
- loading stretchers/gurneys into ambulances

3. Moving victims in any other situation we may encounter

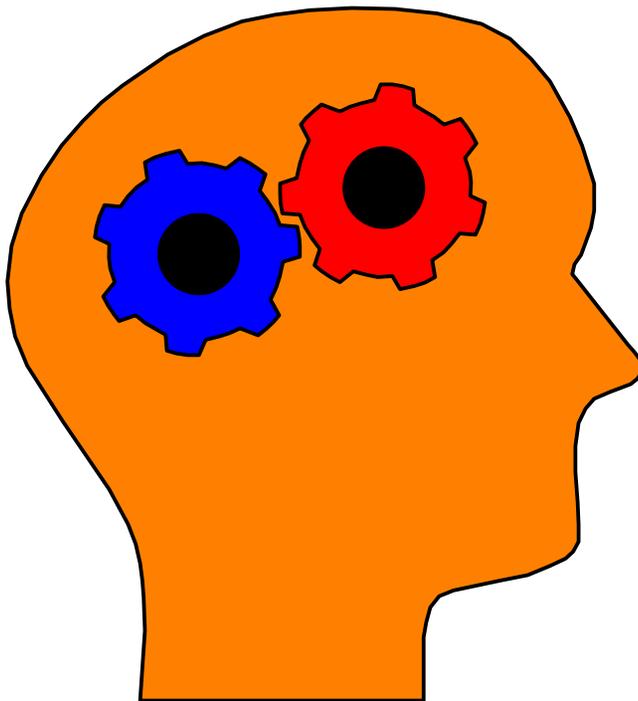
Injury Prevention

Three basic types of ergonomic controls:

1. Engineering controls
2. Administrative controls
3. Work practice controls



Engineering Controls

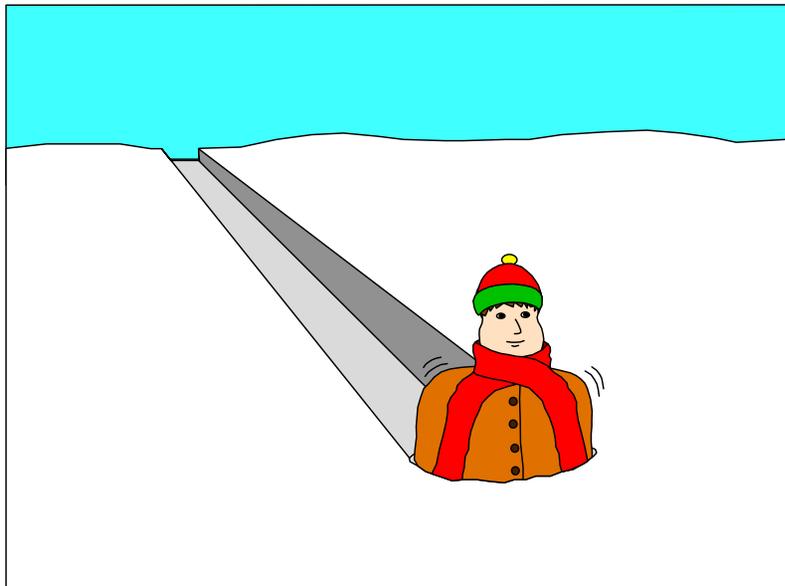


Three Classifications

1. Workplace environment
2. Work method design
3. Tool design

Workplace Environment

Examples



- Patient down over embankment
- Patient on third floor
- Patient in bathtub
- Iced cover surfaces

Work Method

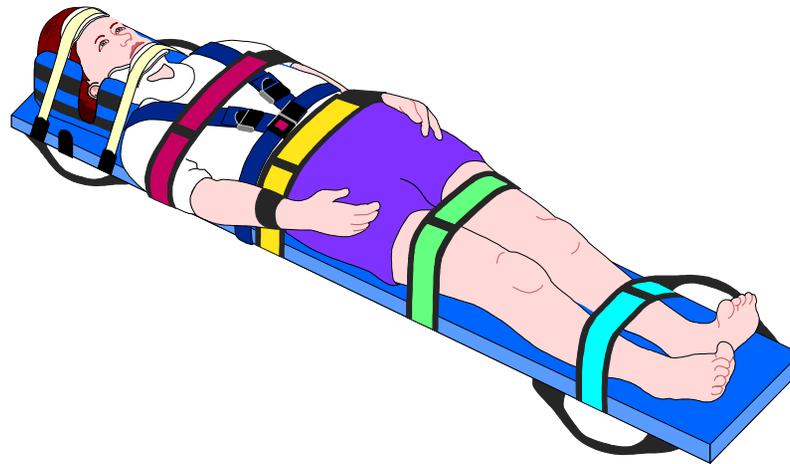
Examples

- Equipment has proper handles
- Backboards have proper strapping

Tool Design

Examples

- Backboards with adequate amount of grip holes



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Administrative Controls

Examples

- Increase the number of personnel assigned to the task.
- Use personnel rotation of assigned tasks when functioning at the scene of an incident.

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EMS Crew's Responsibility



1. Size-up the scene
2. Identify the needs by matching crew members capability with the need
3. And, call for more help if needed

Work Practice Controls

- Size-up of scene
- Regular monitoring
- Annual Training
- Personnel body conditioning
- Feedback
- Adjustments
- Modification, and
- Maintenance/repair
- Proper work techniques



Examples

- Proper scene size-up and evaluation
- Appropriate partner pairing and utilization of abilities
- Task approach to improve posture and reduce stress on extremities and spine
- Proper lifting techniques
- Proper use and maintenance of patient lifting devices
- Use of ergonomically designed equipment

Ask the following questions:

- Are specified procedures being used?
- Are the procedures an improvement over the previous method?
- Is re-training necessary?
- Are the maintenance programs satisfactory?
- Were SOGs followed?

Chapter 3 Objectives

- Understand the dynamics associated with lifting and moving patients.
- Understand the importance communication plays in safely lifting and moving patients.
- Explain the importance of adequate footing.
- Understand the role of balance and weight position in relation to lifting and moving patients.
- Identify how the “Lift” is done properly utilizing proper body mechanics.

Chapter 3 Objectives Cont'd

- Understand the role of proper breathing techniques.
- Identify personal limitations associated with lifting and moving.
- Be able to perform the strength and flexibility exercises.

Lifting and Moving

Dynamics

- Lifting
- Moving
- Anatomy of spine
- Back belts



Lifting and Moving

Communications

- Communicate with your partner
- Clear commands
- Everyone knows the plan



Lifting and Moving

Adequate Footing

- The environment
- Foot and ankle support
- Slip resistant soles



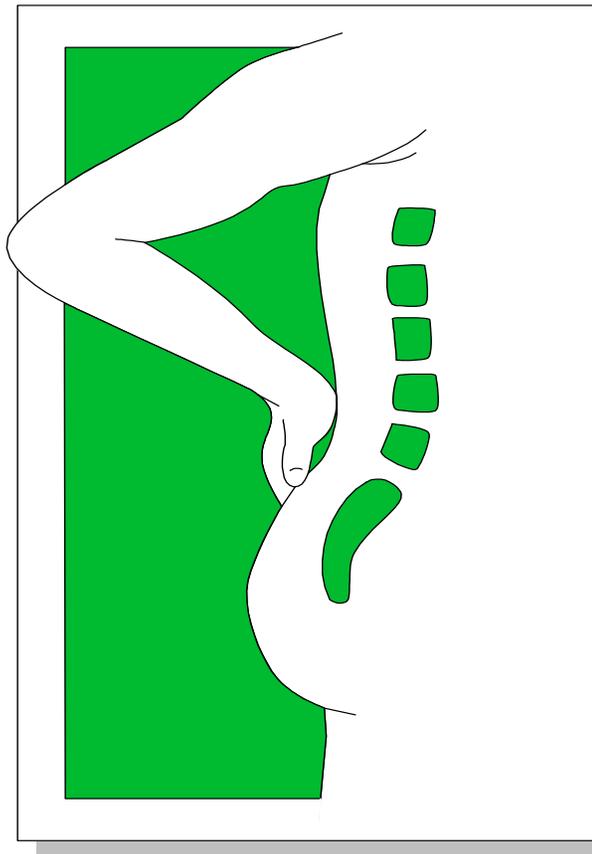
Lifting and Moving

Balance and Weight Positioning



- Proper positioning
- Optimize personnel placement

Lifting and Moving



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“The Lift”

Legs

vs.

Back

vs.

Arms

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The Rules of Lifting

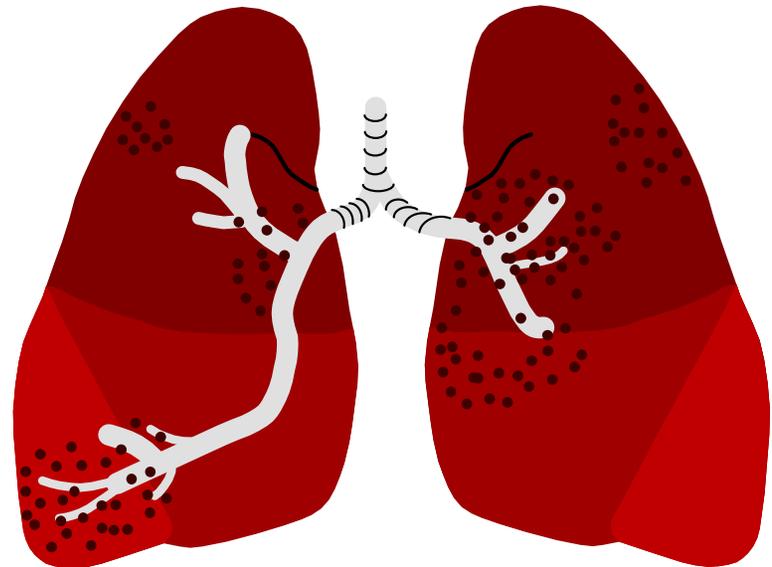


1. Know your weight.
2. Know your physical ability and limitations and also your partners.
3. Keep your back locked in a normal lordosis.
4. Use your leg, abdominal, and back muscles.
5. Keep the weight close to your body.
6. Communicate clearly and frequently with your partner.

Lifting and Moving

Breathing

- Never hold breath
- Proper breathing technique



Lifting and Moving



Personal Limits

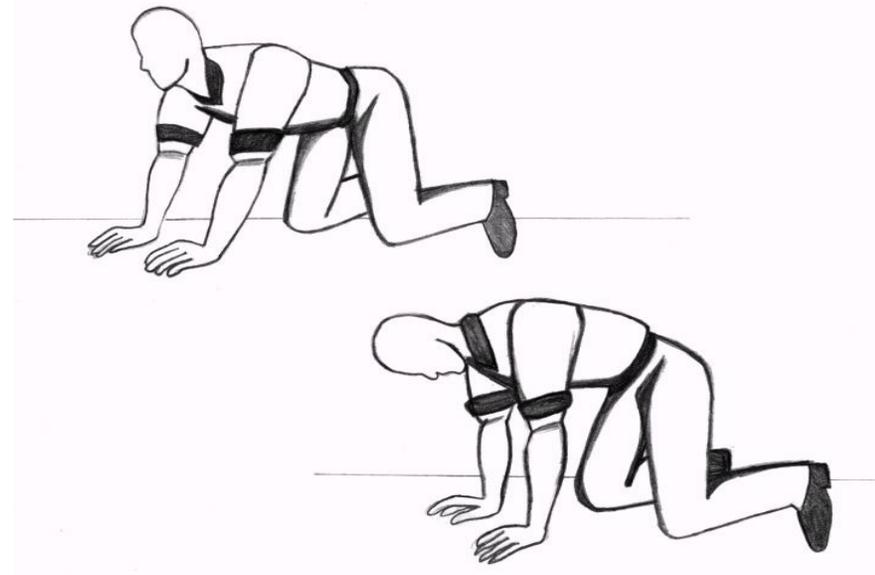
- Position of load
- Distance and terrain
- Repetition factor

Lifting and Moving



**Strength & Flexibility
Exercises**

Cat Back Stretch

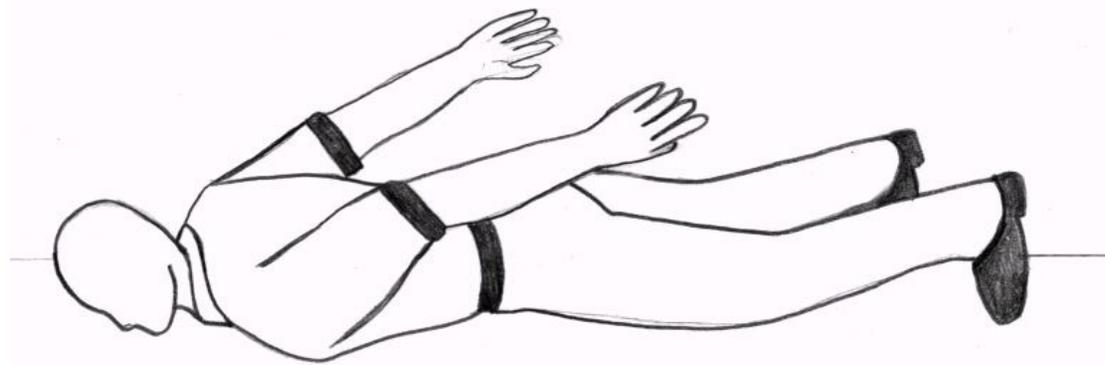


Patient Handling

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Backward Fly

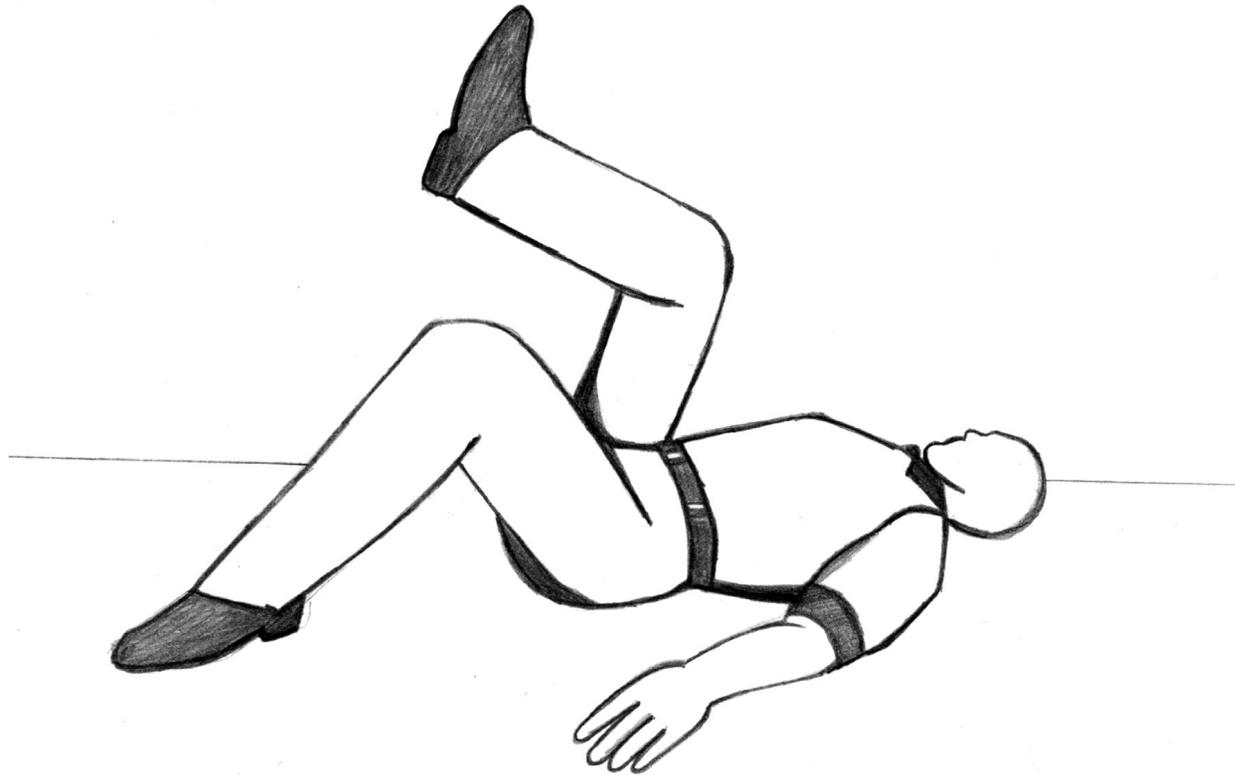


Patient Handling

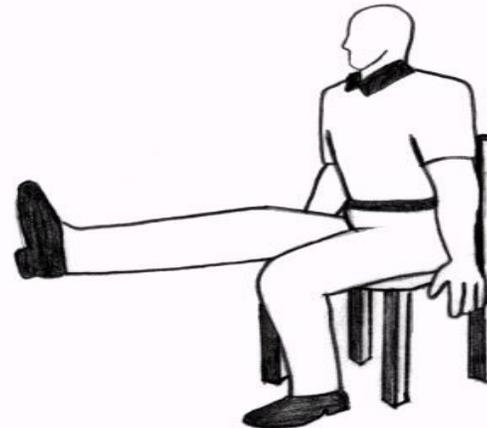
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Knee-To-Chest



Quadriceps Femoris Stretch

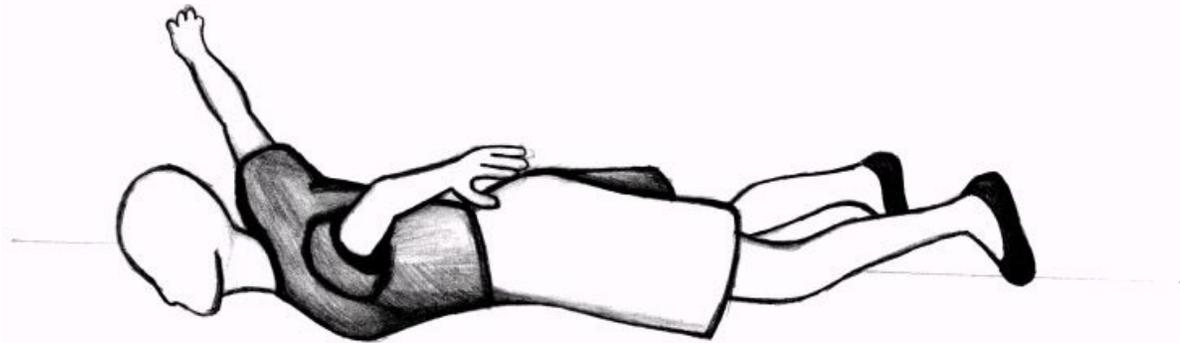


Patient Handling

Lifting and Moving Done Right!



Reverse Fly



Chapter 4 Objectives

- Understand the difference between an SOP and SOG.
- Understand how to develop an SOP and SOG for patient handling.

SOPs and SOGs

Key Words

SOPs

WILL

SHALL

SHOULD

MUST

SOGs

MAY

CAN

SOPs and SOGs

Guidelines:

- Subject
- Guideline number
- Adopted
- Effective date
- Revised
- Due for Revision
- Page ___ of ___

SOPs and SOGs

The body of the SOG
needs to include:

- Policy
- Requirements
- Procedures



Chapter 5 Objectives

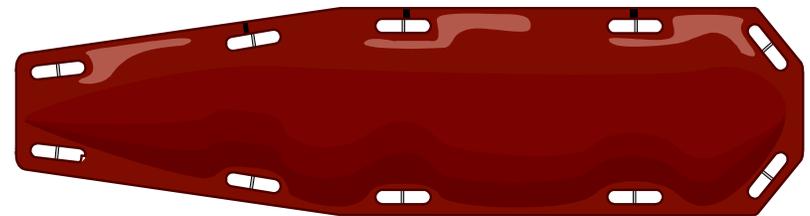
Understand the advantages, disadvantages, features, inspection and cleaning, and uses for:

- **Backboards**
- **Stairchairs**
- **Stretchers**
- **Scoop Stretchers**
- **Short Boards**
- **Flexible Stretcher**

Patient Transfer/Moving Devices

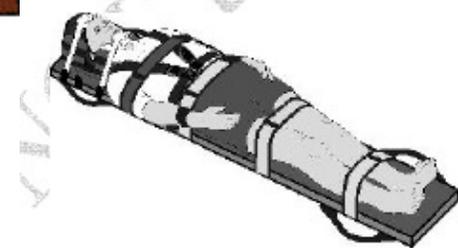
Backboards

- Advantages
- Disadvantages
- Features
- Inspection, cleaning, repair, and maintenance



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Backboards



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- **Advantages:** good spinal immobilizer; good lifting device; can float; light; compact; can serve as a CPR surface; mechanically simple; x-ray translucent; can be carried and loaded from ends or sides; integrates well with various other equipment.
- **Disadvantages:** must be carried; usually must be left with patient; unstable for moves up or down inclines; uncomfortable; may weaken with time.
- **Features:** available in a variety of styles from different manufacturers. Usually have holes spaced along the ends and sides of the board for handholds and insertion of straps. Usually six to seven feet in length.
- **Inspection, cleaning, repair, and maintenance:** follow manufacturer directions as listed in the owner manual.

Patient Transfer/Moving Devices



Stairchairs

- Advantages
- Disadvantages
- Inspection, cleaning, repair, and maintenance

Stairchairs

- **Advantages:** good for use on stairways, narrow corridors and doorways, small elevators; can be used in narrow aisles in aircraft or buses. Some models can be converted into portable stretchers.
- **Disadvantages:** must be carried; does not accommodate trauma patients; should not be used for patients with altered mental status; fairly complex; consumes considerable space; should not be used when lower extremity injury, or neck or spinal injury patient must be transferred from stairchair to stretcher prior to loading patient into ambulance.
- **Features:** ability to move patients up and down staircases, through narrow halls, and in small passages where stretchers may not fit. There are a variety of stairchairs on the market including some which convert to a portable stretcher and a new model, which allows the patient to be wheeled up and down the stairs.
- **Inspection, cleaning, repair, and maintenance:** follow the manufacturer directions as listed in the owner manual.

Patient Transfer/Moving Devices

Stretchers

- Advantages
- Disadvantages
- Inspection, cleaning, repair, and maintenance



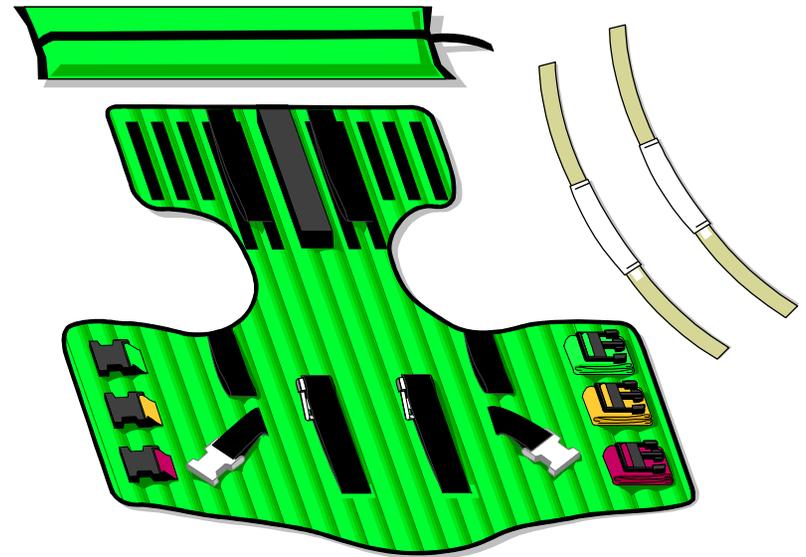
Stretchers

- **Advantages:** enables movement without carrying; accommodates positions, heights, and lengths; safe traversal of curbs; can be lifted or lowered from end or sides; durable; mechanically simple; comfortable.
- **Disadvantages:** difficult to load and unload by two rescuers, x-ray opacity, the center of gravity becomes an issue when the stretcher is in the up position.
- **Inspection, cleaning, repair, and maintenance:** follow the manufacturer directions as listed in the owner manual.

Patient Transfer/Moving Devices

Short Boards

- Advantages
- Disadvantages
- Inspection, cleaning, repair, and maintenance



Short Boards

- **Advantages** include: able to immobilize someone in a sitting position; useful for patients in cars and confined spaces.
- **Disadvantages** include: time to put the device on the patient.
- **Features** include: available in wood, aluminum, or plastic.
- **Inspection, cleaning, repair, and maintenance:** follow the manufacturer directions as listed in the owner manual.

Patient Transfer/Moving Devices



Flexible Stretcher

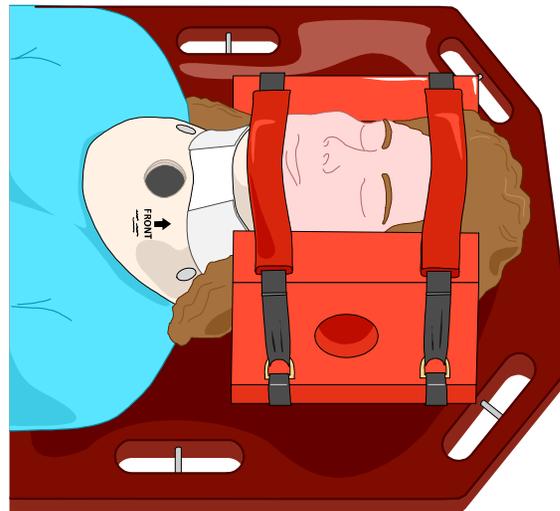
- Advantages
- Disadvantages
- Inspection, cleaning, repair, and maintenance

Flexible Stretcher

- **Advantages:** especially useful for narrow and restricted hallways; can be carried from sides or ends.
- **Disadvantages:** must be carried
- **Inspection, cleaning, repair, and maintenance:** follow the manufacturer directions as listed in the owner manual.

Chapter 6 Objectives

- Demonstrate the purpose and use of each of the patient moving devices.



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Exercises

Exercise 1

Proper immobilization with a backboard

Setting: Patient needs to be immobilized on backboard with proper sized cervical collar in place. Patient needs to be secured to board with appropriate amount of straps.

Movement: have providers pick board with patient from the ground and carry them a few feet. Next, have members place board onto wheeled ambulance stretcher.

Exercises

Exercise 2

Proper use of a Stairchair

Setting: Have patient securely fastened to stairchair. Assure hands and legs are secured.

Movement: Have crewmembers move patient down one flight of stairs and then up one flight of stairs. Assure proper safety measures when working on stairway. A minimum of three crewmembers is essential for safe movement.

Exercises

Exercise 3

Utilizing wheeled Stretchers

Setting: Begin by not having any one on stretcher and proceed through exercise. After a complete evolution through the exercise, then repeat with an individual properly secured on the stretcher.

Movement: Move stretcher out of ambulance. Raise stretcher to the highest point. Move stretcher a few feet. Lower stretcher to lowest point and move stretcher a few feet. Perform a four-person carry with an individual at each corner of stretcher. Load stretcher back into unit.

Exercises

Exercise 4

Proper immobilization with a short board

Setting: Person is in a sitting position. Begin by immobilizing person sitting on a chair, continue by placing person in a vehicle and immobilizing person sitting in a vehicle, first as the passenger then as the driver.

Movement: Immobilize person on a short board then place person on a backboard and properly secure from the above settings.

Exercises

Exercise 5

Carries/Lifts

Setting 1: Patient is sitting in a chair and needs to be transferred to the stretcher.

Movement: Extremity lifts - Do a cross arm on the patient's upper torso, second rescuer reaches under the both knees and lifts patient to the stretcher.

Exercises

Exercise 7

Carries/Lifts

Setting 2: Patient is lying on stretcher and needs transferred to the bed.

Movement: Loosen bottom sheet and grasp the sheet at the top. The second rescuer grasps sheet at bottom. Lift the patient to the bed. Then reverse the process. The surface you are lifting from should be ideally higher than the surface you are lifting to.

Exercises

Exercise 8

Use of any other devices

If there are any other devices your agency uses, now is the time to get them out and practice. Use the manufacturer recommendations for proper use during your training evolution.

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Lifting and Moving Done Right!



Conclusion

Questions

