

Preventing MSDs in Healthcare



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OSHAcademy Course 773 Study Guide

Preventing MSDs in Healthcare

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Contact OSHAcademy to arrange for use as a training document.

This study guide is designed to be reviewed off-line as a tool for preparation to successfully complete OSHAcademy Course 773.

Read each module, answer the quiz questions, and submit the quiz questions online through the course webpage. You can print the post-quiz response screen which will contain the correct answers to the questions.

The final exam will consist of questions developed from the course content and module quizzes.

We hope you enjoy the course and if you have any questions, feel free to email or call:

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Course Introduction

Healthcare facilities that have implemented injury prevention efforts focusing on patient lifting and repositioning methods have achieved considerable success in reducing work-related injuries and associated workers' compensation costs. Providing a safer and more comfortable work environment has also resulted in additional benefits for some facilities, including reduced staff turnover and associated training and administrative costs, reduced absenteeism, increased productivity, improved employee morale, and increased resident comfort.

This course provides recommendations for employers to help them reduce the number and severity of work-related musculoskeletal disorders in their facilities using methods that have been found to be successful in the healthcare environment.

Module 1: A Process for Protecting Workers

Introduction

The number and severity of injuries resulting from physical demands in healthcare — and associated costs — can be substantially reduced. Providing an alternative to manual patient lifting is the primary goal of the ergonomics process in the healthcare setting.

OSHA recommends that manual lifting of patients be minimized in all cases and eliminated when feasible. OSHA further recommends employers develop a process for systematically addressing ergonomics issues in their facilities, and incorporate this process into an overall program to recognize and prevent occupational safety and health hazards.

An effective process should be tailored to the characteristics of the particular facility, but OSHA generally recommends the steps below.

Provide Management Support

Strong management support creates the best opportunity for success. OSHA recommends employers do the following:

- Develop clear goals.
- Assign responsibilities to designated staff members to achieve those goals.
- Provide necessary resources.
- Ensure assigned responsibilities are fulfilled.

Providing a safe and healthful workplace requires a sustained effort, allocation of resources, and frequent follow-up that can only be achieved through the active support of management.

Involve Employees

Employees are a vital source of information about hazards in their workplace. Their involvement adds problem-solving capabilities and hazard identification assistance, enhances worker motivation and job satisfaction, and leads to greater acceptance when changes are made in the workplace. Employees can:

- Submit suggestions or concerns.
- Discuss the workplace and work methods.
- Participate in the design of work, equipment, procedures, and training.
- Evaluate equipment.
- Respond to employee surveys.
- Participate in task groups with responsibility for ergonomics.
- Participate in developing the facilities' ergonomics process.

Implement Solutions

When problems related to ergonomics are identified, suitable options can then be selected and implemented to eliminate hazards. Effective solutions usually involve workplace modifications that eliminate hazards and improve the work environment. These changes usually include the use of equipment, work practices, or both. When choosing methods for lifting and repositioning patients, individual factors should be taken into account. Such factors include:

- patient's rehabilitation plan
- need to restore the patient's functional abilities
- medical contraindications
- emergency situations
- patient dignity and rights

Address Reports of Injuries

Even in establishments with effective safety and health programs, injuries and illnesses may occur. Work-related MSDs should be managed in the same manner and under the same process

as any other occupational injury or illness. Like many injuries and illnesses, employers and employees can benefit from early reporting of MSDs.

Early diagnosis and intervention, including alternative duty programs, are particularly important in order to limit the severity of injury, improve the effectiveness of treatment, minimize the likelihood of disability or permanent damage, and reduce the amount of associated workers' compensation claims and costs. OSHA's injury and illness recording and reporting regulation (29 CFR 1904) requires employers to keep records of work-related injuries and illnesses. These reports can help the healthcare facility identify problem areas and evaluate ergonomic efforts.

Provide Training

Training is necessary to ensure employees and managers can recognize potential ergonomics issues in the workplace, and understand available measures to minimize the risk of injury. Ergonomics training can be integrated into general training on performance requirements and job practices. Effective training covers the problems found in each employee's job.

Evaluate Ergonomics Efforts

Healthcare facilities should evaluate the effectiveness of their ergonomics efforts and follow-up on unresolved problems. Evaluation helps sustain the effort to:

- reduce injuries and illnesses
- track whether or not ergonomic solutions are working
- identify new problems
- show areas where further improvement is needed

Evaluation and follow-up are central to continuous improvement and long-term success. Once solutions are introduced, OSHA recommends employers make sure they are effective. Various indicators, such as OSHA 300 and 301 information data and workers' compensation reports, can provide useful data at this stage, as can other techniques, such as employee interviews. For example, after introducing a new lift at the facility, the employer should follow-up by talking with employees to ensure the problem has been adequately addressed. In addition, interviews provide a mechanism for ensuring that the solution is not only in place, but is being used

properly. The same methods used to identify problems in many cases can also be used for evaluation.

Module 1 Quiz

Use this quiz to self-check your understanding of the module content. You can also go online and take this quiz within the module. The online quiz provides the correct answer once submitted.

1. **Providing** a safe workplace requires which of the following?
 - a. Sustained effort
 - b. Allocation of resources
 - c. Frequent follow-up
 - d. All of the above are correct

2. _____ is/are a vital source of information about workplace hazards.
 - a. Employers
 - b. Management
 - c. Supervisors
 - d. Employees

3. **When choosing methods for lifting patients, which of the following factors should be taken into account?**
 - a. Patient's rehabilitation plan
 - b. Emergency situations
 - c. First aid issues
 - d. Both A and B are correct

4. _____ and _____ are important to continuous improvement and long-term success in an ergonomics program.
 - a. Changing, follow-up
 - b. Evaluation, follow-up
 - c. Support, training
 - d. Employee involvement, preventing injuries

- 5. The same methods used to identify ergonomic problems in many cases can also be used for evaluation.**
- a. True
 - b. False

Module 2: Patient Lifting and Repositioning Techniques

Identifying Problems for Lifting and Repositioning

Assessing the potential for work to injure employees in the healthcare setting is complex because typical operations involve the repeated lifting and repositioning of patients. Lifting and repositioning tasks can be variable, dynamic, and unpredictable in nature. In addition, factors such as patient dignity and safety should be taken into account. Specific techniques should be used for assessing patient lifting and repositioning tasks.

An analysis of any patient lifting and repositioning task involves an assessment of the needs and abilities of the patient involved. This assessment allows staff members to account for specific characteristics while determining the safest methods for performing the task. Such assessments typically consider the patient's safety, dignity and other rights, as well as the need to maintain or restore a patient's functional abilities.

The assessment should include examination of factors such as:

- level of assistance the patient requires
- size and weight of the patient
- ability and willingness of the patient to understand and cooperate
- medical conditions that may influence the choice of methods for lifting or repositioning

These factors are critically important in determining appropriate methods for lifting and repositioning a patient. The size and weight of the patient could determine which equipment is needed and how many caregivers are required to provide assistance. The physical and mental abilities of the patient also play an important role in selecting appropriate solutions. For example, a patient who is able and willing to partially support their own weight may be able to move from his or her bed to a chair using a standing assist device, while a mechanical sling lift may be more appropriate for those who are unable to support their own weight.

Let's take a look at some examples of solutions for patient lifting and repositioning tasks.

Solutions for Patient Lifting and Repositioning

Transfer from Sitting to Standing Position



Description: Powered sit-to-stand or standing assist devices.

When to Use: Transferring patients who are partially

dependent, have some weight-bearing capacity, are cooperative, can sit up on the edge of the bed with or without assistance, and can bend hips, knees, and ankles. Transfers from bed to chair, or chair to bed, or for bathing and toileting. Can be used for repositioning where space or storage is limited.

Points to Remember: Look for a device that has a variety of sling sizes, lift-height range, battery portability, hand-held control, emergency shut-off, and manual overdrive. Ensure device is rated for the patient weight.

Resident Lifting



Description: Portable lift device (sling type); can be a universal/hammock sling or a band/leg sling.

When to Use: Lifting patients who are totally dependent, are partial- or non-weight bearing, are very heavy, or have other physical disabilities. Transfers from bed to chair, chair or floor to bed, for bathing and toileting, or after a resident fall.

Points to Remember: More than one caregiver may be needed. Look for a device with a variety of slings, lift-height range, battery portability, hand-held control, emergency shut-off, and manual overdrive. Having multiple slings allows one of them to stay in place while patient is in bed or chair for only a short period of time. This reduces the number of times a caregiver lifts and positions the patient.

Repositioning in Chair

Ambulation



Description:
Variable position
Cardiac chair.

When to Use:
Repositioning partial-
or non-weight-
bearing patients who

are cooperative.

Points to Remember: More than one caregiver is needed and use of a friction-reducing device is needed if a patient cannot assist to reposition self in chair. Caregivers must make sure they use good body mechanics. Wheels on chair add versatility. Ensure the chair is easy to adjust, move, and steer. Lock wheels on chair before repositioning. Remove trays, footrests, and seat belts where appropriate. Ensure device is rated for the resident weight.



Description:
Ambulation assist
device.

When to Use: For
residents who are
weight bearing and
cooperative and who
need extra security and

assistance when moving.

Points to Remember: Increases resident safety during movement and reduces the risk of falls. The device supports patients as they walk and push it along. Ensure height adjustment is correct for the patient before movement. Ensure device is in good working condition before using and it is rated for the patient weight to be lifted. Apply brakes before positioning patient in or releasing him/her from the device.

Resident Lifting



Description: Ceiling mounted lift device.

When to Use: Lifting patients who are totally dependent, are partial- or non-weight bearing, very heavy, or have other physical limitations. A

horizontal frame system attached to the ceiling-mounted device can be used when moving patients who cannot be transferred safely between two horizontal surfaces, such as a bed to stretcher or gurney while lying on their back.

Points to Remember: More than one caregiver may be needed. Some patients can use the device without any help. It may be quicker to use than a portable device. Ensure device is rated for the resident weight.

Lateral Transfer in Sitting Position



Description: Transfer boards made of wood or plastic. (some with movable seat).

When to Use:

Transferring (sliding) patients who have good sitting balance and are cooperative from one level surface to another, such as a bed or toilet. Can also be used by patients who need limited assistance, but additional safety or support.

Points to Remember: Movable seats increase the patient comfort and reduce the possibility of tissue damage during transfer. More than one caregiver is needed to perform the lateral transfer. The seat may be cushioned with a small towel for comfort. Ensure wheels on bed or chair are locked and transfer services are at the same level.

Repositioning

Description: Electric powered height adjustable bed.

When to Use: For all activities involving resident care, transfer, and repositioning in bed, to

Repositioning

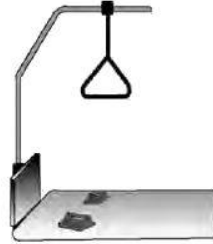
Description: Trapeze bar; hand blocks and push up bars attached to the bed frame.

When to Use: Reposition patients who can assist the caregiver during the activity. (i.e.,



reduce caregiver bending when interacting with a patient.

Points to Remember: Device should have easy-to-use controls located within easy reach of the caregiver. Some patients may be at risk of falling from the bed. Therefore, some beds may need to be lower to the floor to protect the patient. Beds raised and lowered with an electric motor are preferred over crank-adjust beds to allow a smoother movement for the patient and less physical exertion to the caregiver.



patients who have upper body strength and can use their extremities).

Points to Remember:

Patients use trapeze bar by holding the bar suspended from an overhead frame to raise themselves up and reposition themselves in bed. If a caregiver is helping, make sure the bed wheels are locked, bedrails are lowered, and bed is adjusted to the caregiver's waist height. May not be suitable for heavier patients.

Module 2 Quiz

Use this quiz to self-check your understanding of the module content. You can also go online and take this quiz within the module. The online quiz provides the correct answer once submitted.

- 1. When should you use a portable lift device?**
 - a. When you are tired
 - b. When the patient is combative
 - c. Patient has physical disabilities
 - d. Anytime you have to move a patient

- 2. The _____ and _____ of a patient could determine which equipment is needed to move or lift a patient.**
 - a. Location, ability
 - b. Size, weight
 - c. Mental state, ability
 - d. Size, location

- 3. Which technique could be used for patients who can help the caregiver in the lifting or moving process?**
 - a. Trapeze
 - b. Electric powered height adjustable bed
 - c. Ceiling mounted lift device
 - d. Cardiac chair

- 4. What is one risk when using an electric powered height adjustable bed?**
 - a. Patient may fall out of bed
 - b. Caregiver may not be able to lift them
 - c. Caregiver may not be able to use the controls
 - d. Caregiver may not be available to help

Module 3: Problems and Solutions for Other Activities

Some reports indicate a significant number of work-related MSDs in the healthcare facility occur in activities other than resident lifting. Here are some activities the caregiver may want to review:

- bending to make a bed or feed a patient
- lifting food trays above shoulder level or below knee level
- collecting waste
- pushing heavy carts
- lifting and carrying when receiving and stocking supplies
- bending and manually cranking an adjustable bed
- removing laundry from washing machines and dryers

Granted, these tasks may not present problems in all circumstances. However, employers should consider the duration, frequency, and magnitude of employee exposure to forceful exertions, repetitive activities, and awkward postures when deciding if problems exist.

Let's take a closer look at some examples of possible solutions for activities other than lifting and repositioning.

Solutions for Other Activities

Storage and Transfer of Food, Supplies, and Medications



Description: Use of carts.

When to Use: When moving food trays, cleaning supplies,

equipment, maintenance tools, and dispensing medications.

Points to Remember: Speeds process for accessing and storing items. Placement of items on the cart should keep the most frequently used and heavy items within easy reach between hip and shoulder height. Cart hands that are vertical, with some horizontal adjustability, will allow all employees to push at elbow height and shoulder widths. Heavy carts should have brakes.

Mobile Medical Equipment



Description: Work methods and tools to transport equipment.

When to Use: When transporting assistive devices and other equipment.

Points to Remember:

Oxygen tanks: Use small cylinders with handles to reduce weight and allow for easier gripping. Secure oxygen tanks to transport device.

Medication pumps: Use stands on wheels.

Transporting equipment: Push equipment, rather than pull, when possible. Keep arms close to the body and push with whole body and not just arms. Remove unnecessary objects to minimize weight. Avoid obstacles that could cause abrupt stops. Place equipment on a rolling device if possible.

Handling Bags

Reaching into Sink



Description:
Equipment and practice for handling bags.

When to Use: When handling laundry, trash, and other bags.

Points to Remember: Reduces the risk of items being dropped, and speeds process for removing and disposing of items. Receptacles that hold bags of laundry or trash should have side openings that keep the bags within easy reach and allow employees to slide the bag off the cart without lifting. Provide handles to decrease the strain of handling. Chutes and dumpsters should be positioned to minimize lifting. Provide automatic opening or hardware to keep doors open to minimize twisting and awkward handling.



Description: Tools used to modify a deep sink for cleaning small objects.

When to Use: Cleaning small objects in a deep sink.

Points to Remember: Place an object such as a plastic basin in the bottom of the sink to raise the work surface. An alternative is to use a smaller porous container to hold small objects for soaking, transfer to an adjacent countertop for aggressive cleaning, and then transfer back to the sink for final rinsing. Store inserts and containers in a convenient place to encourage consistent use.

Loading or Unloading Laundry



Description: Front-loading washers and dryers.

When to Use: When loading or unloading laundry from washers, dryers and other

laundry equipment.

Points to Remember: Speeds process for retrieving and placing items, and minimizes wear-and-tear on linen. Washers with tumbling cycles separate clothes, making removal easier. For deep tubs, a rake with long or extendable handle can be used to pull linen closer to the door opening. Raise machines so opening is between hip and elbow height of the employees. If using top loading washers, use work practices that include handling small loads of laundry and bracing your body against the front of the machine while lifting.

Cleaning Rooms (Electrical)



Description: Work methods and tools to vacuum and buff floors.

When to Use: Vacuuming and buffing floors.

Points to Remember: Both vacuum cleaners and buffers should have lightweight construction, adjustable handles, triggers (buffer) long enough to accommodate at least the index and middle fingers, and easy to reach controls. Technique is important for both devices, including use of appropriate grips, avoiding tight grips, and for vacuuming, alternating grip.

Hand Tools

Linen Carts



Description: Select and use properly designed tools.

When to Use: When selecting frequently used tools for the kitchen,

housekeeping, laundry and maintenance areas.

Points to Remember: Enhances tool safety, speeds process, and reduces waste. Handles should fit the grip size of the user. Use bent-handled tools to avoid bending wrists. Use appropriate tool weight. Select tools that have minimal vibration or vibration damping devices. Implement a regular maintenance program for tools to keep blades sharp and edges and handles intact.



Description: Spring loaded carts that automatically bring linen within easy reach.

When to Use: Moving or storing linen.

Points to Remember: Speeds process for handling linen, and reduces wear on linen due to excessive pulling. Select a spring tension that is appropriate for the weight of the load. Carts should have wheel locks and height-appropriate handles that can swing out of the way. Heavy carts should have brakes.

Module 3 Quiz

Use this quiz to self-check your understanding of the module content. You can also go online and take this quiz within the module. The online quiz provides the correct answer once submitted.

- 1. In a sink, place a plastic basin in the bottom of the sink to raise the work surface.**
 - a. True
 - b. False

- 2. Raise laundry machines so opening is between _____ and _____ of the employees.**
 - a. hip, elbow height
 - b. shoulder, hip
 - c. hip, knee
 - d. elbow height, knee

- 3. Which process speeds up the process for handling linen?**
 - a. Linen carts
 - b. Mobile medical equipment
 - c. Vacuums or buffers
 - d. Handling carts

- 4. Which process minimizes wear-and-tear on linen?**
 - a. Front-loading washers and dryers
 - b. Mobile medical equipment
 - c. Vacuums or buffers
 - d. Handling carts

Module 4: Case Study: Wyandot County Nursing Home

This case study was developed from information provided by Wyandot County Nursing Home in Ohio. OSHA visited the 100-bed nursing home to discuss the ergonomics program with the nursing home administrator, observe ergonomics corrective actions, and talk to employees, residents, and family members about their experiences. Let's take a closer look at their findings.

Identifying Problems

Before Wyandot implemented its ergonomics program, the home was experiencing problems that were a growing concern to both the county and the nursing home administrator. According to Wyandot, workers' compensation costs averaged almost \$140,000 per year from 1995-1997. The turnover rate among nursing assistants averaged more than 55 percent during that same time period.

Wyandot's administrator started looking for more effective ways to address injuries among workers and deal with the high turnover rate. Ironically, a back injury that cost the home \$240,000 in workers' compensation expenses provided significant motivation to find a strategy that would work. While administrators investigated the injury, they also looked at other sources of potential injury within the site.

Involving Employees

The Ohio Bureau of Workers Compensation (OBWC) ergonomist visited the home and told administrators they had unrealistic expectations about the nursing staff's ability to manually lift and reposition residents.

After this site visit, management involved employees at every level to try and reduce injuries and slow down the turnover rate. More than 30 workers volunteered to look at tasks of moving and repositioning residents. They concluded that better body mechanics, which involved the traditional method of lifting and transferring residents at most nursing home, was not the answer. In fact, everyone determined there was no safe way to lift a resident other than with mechanical lifts.

Implementing Solutions

Wyandot's administrator bought several portable mechanical lifts for the facility. These involved portable sit-to-stand lifts, walk/ambulating lifts, and total lifts. Nurses and assistants could move each of these from room to room as they worked with individual residents. However, many of the staff remained unconvinced of the value of using equipment. In fact, initially only the workers who had actually evaluated the lifts were using them.

About three years after Wyandot began its ergonomic effort, the nursing home received a grant from the OBWC Division of Safety and Hygiene through an ergonomic emphasis program to deal with trauma disorders. With the grant, Wyandot purchased 58 fast electric beds.

The final phase of Wyandot's program began with the introduction of ceiling lifts.

Evaluating Efforts

At the beginning of the process, Wyandot's administrator spent \$150,000 to buy equipment. He set aside another \$130,000 to continue his efforts, for a total of \$280,000. The nursing home saved \$55,000 annually in payroll costs because of reduced overtime and absenteeism. The home estimates saving more than \$125,000 in turnover costs. Also, workers' compensation costs have fallen dramatically, from an average of \$140,000 to less than \$4,000 per year.

From the time workers began to use the sit-to-stand lifts, which were among the first to be introduced at Wyandot, the incidence of back injuries stopped. Once the fast beds were introduced only six new hires were needed in the following year.

There is no quiz for this module. If you are ready to take the final exam, please go online and click on "Final Exam." Good luck!

Endnotes

1. Occupational Safety and Health Administration.(2014a). Guidelines for Nursing Homes.

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