e-Compliance Training

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Ergonomics - February 2018

OSHA defines ergonomics as "*fitting a job to a person.*" When ergonomic principles are applied, they help to reduce muscle fatigue, along with the number and severity of work-related musculoskeletal disorders (MSDs).

Work-related MSDs are among the most frequently reported causes of lost or restricted work time. MSDs affect the muscles, nerves, blood vessels, ligaments and tendons, and can be caused by risk factors such as heavy lifting, working in awkward body postures, and performing the same tasks repetitively. Examples of common MSDs include: carpal tunnel syndrome; tendinitis; rotator cuff injuries (affects the shoulder); epicondylitis (affects the elbow); trigger finger; muscle strains and low back injuries.

Ergonomic Process

Several elements are involved in an ergonomics program that will protect employees:

- proper use of workstations,
- keeping accessories and equipment within reach,
- working with equipment/seating at proper heights,
- posture,
- micro-breaks/movement, and
- safe lifting.

Although not all of these principles apply to every job or work situation, awareness is important, since job duties and risks often change over time. There is no one solution to ergonomic risk factors, but when taken together, they work to protect and prevent MSDs.

Engineering Controls

Engineering controls remove or isolate a hazard to reduce injury. OSHA indicates that engineering controls are the most desired, because they are most effective, when they are possible. Examples of engineering controls that can reduce/remove ergonomic hazards include:

- Using a device to lift and reposition heavy objects to limit force exertion
- Reducing the weight of a load to limit force exertion
- Purchasing tools/hand pieces that enable neutral postures
- Using mechanical devices that allow for adjustments in workstations
- Installing glare screens to reduce glare on computer workstations
- Using headsets for jobs that involve a lot of phone work

THIS TRAINING SESSION IS RECOMMENDED FOR:

All healthcare workers (clinical and administrative).

Training Objectives

Ergonomic safety is this month's training topic. The learning objectives are to ensure that employees understand:

- the concept of ergonomics, and how it affects healthcare workers;
- principles of ergonomic safety
- how neutral body positioning can help to reduce injuries
- ergonomic engineering, work practices and personal protective equipment.

Interactive Training Reminder

Compliance Training is an interactive training program in which you can address questions with other staff members or supervisors to obtain clarification for situations in your work setting.

Write down any questions that you have about the training topic and address them with your Training Coordinator or supervisor.

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Administrative and Work Practice Controls

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A common example of an administrative control is scheduling the work shift to rotate workers away from tasks that involve continual exertion, repetitive motion, or awkward postures. In addition, proper use of equipment that assists in ergonomic safety is an administrative control.

Workstations are constructed from multiple elements, including a desk, chair, monitor, keyboard, mouse, phone, calculator, and other accessories you might use. Workstations might also consist of a piece of diagnostic equipment and its accessories, such as an ultrasound machine with a handheld wand, or a dental hand piece. Workstation set up and adjustment are critical.

Working Radius - Using your core as the center of a circle, a working radius would be the area that is within comfortable reach when sitting or standing at your workstation.

Desk Setup– Frequently used devices, such as the keyboard, mouse, and phone should remain within easy reach of the radius created by your forearms. Accessories used less frequently should be within the radius created by a full arm reach. Avoid hard, leading edges that can come into contact with your arm or wrist, and can cause contact stress affecting nerves and blood vessels.

Monitors – The proper viewing distance for computer monitors is between 20 to 40 inches (from eye to monitor surface). The top of the monitor should be at or slightly below eye level, with the center of the monitor between 15 to 20 degrees below horizontal eye level. When possible, use eye movement, instead of head movement, to view up and down on the monitor. Monitors that have a bright white or harsh background color can cause eyestrain. Studies have shown that eyestrain can be reduced by changing the background from a bright white color to a soft powder blue.

Keyboard and Mouse – The placement of your keyboard and mouse are critical to limiting awkward wrist, arm, and shoulder postures. When keyboards are too low, they may cause you to type with your wrists bent, and when they are too high, they may cause you to raise your shoulders to elevate your arms, both of which can cause strain. The mouse should be located close to the keyboard, or it may cause you to overreach and place stress on the shoulder and arm. Keyboard shortcuts can help to reduce stress from too much mouse usage.

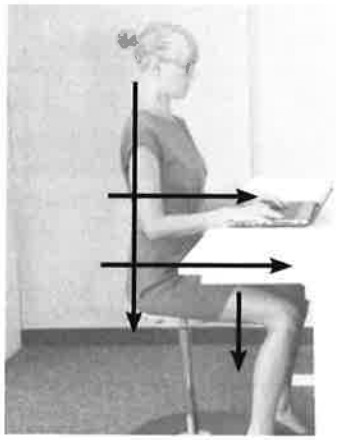
Telephones should be placed within your forearm radius of your workstation (i.e., you can reach it without leaning forward and stretching your arm). For prolonged phone work, a hands-free headset will limit head and neck stress.

Neutral Body Positioning

Good posture will help to limit injuries caused by stress (on muscles and joints) and fatigue. However, no matter how good your posture, if you hold the same posture for long lengths of time (known as static posture), your risk of injury increases.

Maintaining good posture involves keeping each part of the body in alignment with the neighboring parts, because proper posture keeps all parts balanced and supported.

Neutral body positioning is having a comfortable working posture in which your joints are aligned so they reduce stress and strain on your muscles, tendons, and skeletal system. See the graphic below:



Here are important things to remember while working at a computer workstation:

- **Head** is level, or bent slightly forward, forward facing, and balanced. Generally it is in line with the torso.
- **Shoulders** are relaxed and **upper arms** hang normally at the side of the body.

- **Elbows** stay in close to the body and are bent between 90 and 120 degrees.
- **Feet** are fully supported by floor or footrest (not tucked up under your chair).
- **Back** is fully supported with appropriate lumbar support when sitting vertical or leaning back slightly. It is important to sit against the backrest on your chair.
- **Thighs** and **hips** are supported by a well-padded seat and generally parallel to the floor.
- **Knees** are about the same height as the hips with the feet slightly forward.

Postures that place you at risk - Office work often results in poor posture and strain to the lower back, because it involves sitting in a chair. The following bad habits are especially common when sitting in an office chair for long periods of time.

- Slumping forward while sitting in an office chair.
- Not making use of the office chair's back support.
- Sliding forward on the seat of the office chair.

Practicing good posture will lead to reduced stress on your body. At regular intervals during the day, take a moment to correct posture and back support, then try to maintain the corrected posture.

Avoiding stiff, awkward, and static postures - Remember that it is important to maintain an overall relaxed posture. Avoid clenching muscles and/or adopting an unnatural, stiff posture. Muscles are designed for movement, so it is recommended that you get up and move at least once every hour. Such movement can be as simple as standing at your workstation and stretching to take a momentary break.

Standing and Lifting

Workers that are on their feet all day also need to be aware of neutral body positioning. Your ears, shoulders, hips, and knees should be in a vertical alignment so they provide better balance and support for your muscles and skeletal structure. If you stand for most of the day, make sure that you take short breaks sitting down periodically.

Standing Posture – Here are some posture tips for standing:

- Stand with weight mostly on the balls of the feet, not with weight on the heels;
- Keep feet slightly apart, about shoulder-width and let arms hang naturally;
- Avoid locking the knees;
- Stand straight and tall, with shoulders upright; and
- If standing for long periods, shift weight from one foot to the other, or rock from heels to toes.

Lifting Safety

Lifting is one of the most dangerous activities when it comes to musculoskeletal disorders. Lower back injuries happen when assisting patients, moving supplies, and, in some cases, using equipment in the facility. Here are some tips for proper posture and ergonomic safety while lifting:

- Always bend at the knees, not the waist;
- Use the large leg and stomach muscles for lifting, not the lower back;
- When carrying a heavy or large object, keep it close to the body;
- If carrying something with one arm, switch arms frequently;
- Obtain assistance from another person instead of trying to lift or move extremely heavy items;
- Do not attempt to lift an item that is too heavy, or on which you are unable to get an appropriate grip.

Personal Protective Equipment

According to OSHA, personal protective equipment is the last line of controls, because it has only limited effectiveness when dealing with ergonomic hazards. Padding can be used to reduce direct contact with hard, sharp or vibrating surfaces. Wrist rests can be used with computer workstations.

Reporting

Promptly report any musculoskeletal symptoms to your supervisor or Safety Officer, so that work practices and your workstation can be adjusted/evaluated to prevent further injury. A medical evaluation will also be provided, if it is determined that you have already sustained an ergonomic injury or are developing a musculoskeletal disorder.