FUNDAMENTAL 55: Office Ergonomics



Key Takeaways:
– Recognizing the overall principle underlying ergonomics in the workplace
– Learning underlying causes of CTDs
– Identifying common types of cumulative trauma disorders
– Pairing warning signs and symptoms with solutions and actions
– Learning ergonomic best practices
– Understanding the elements of an effective ergonomic safety and health program

Course Description
OSHA has stated that industries with the highest musculoskeletal disorders (MSDs) rates include health care, transportation, warehousing, retail, and wholesale trade and construction. Annually, musculoskeletal disorder (MSDs) cases cause around 33% of all worker injury and illness.

To compensate for these issues, tracing back millenia, ergonomics was made official in 1857. Ergonomics is defined as the study of physiological interaction between the worker and the work environment. Ergonomics is applied to reduce the risk of musculoskeletal disorders (MSDs) through adapting the work to fit the person instead of forcing the person to adapt to the work. Ergonomics principles being applied to the workplace helps workers avoid on-the-job illness and injury and improves worker satisfaction through measures that provide greater comfort, helping people to perform assigned tasks more naturally.

The Bureau of Labor Statistics released a report stating that work-related musculoskeletal disorders (MSDs) cost employers over $20 billion annually in worker’s compensation and medical expenses.

Back injuries are common globally, with the American Chiropractic Association estimating that 80% of the population experiences back pain during life, so one of the most important things you can do to prevent MSDs is to maintain a neutral posture while seated. A neutral posture being defined as a comfortable posture where your joints are naturally aligned. Working in a neutral position minimizes stress and strain on the muscles, tendons, and musculoskeletal system, and therefore reduces your risk of developing MSDs.

Ways to keep a neutral office ergonomic position:
– Practice keeping your head level or tilted slightly downward, it helps to keep your work in front of you so that you are looking straight ahead.

– Maintain relaxed shoulders, not elevated, hunched, or rotated forward.
– Place your elbows close to your sides and bent at about a 90-degree angle, instead of being extended in front of your body. Hold your wrists straight, not bent up, down, or to the side.
– Keep your entire body upright or leaning slightly back when sitting. It helps to use the chair's backrest to support your lower back, or lumbar curve.
– Keep your knees at the same level or slightly below the level of your hips when sitting. If possible, use a well-padded seat to reduce the pressure points along the backs of your thighs and knees. Ensure your feet are well supported either by the floor or by a footrest.

Despite your job tasks and work schedule possibly being largely determined by your employer, there are still actions you can take to reduce MSD risks while working.

Firstly, you can alternate between tasks. When your job largely consists of data entry, word processing, spreadsheet analysis, or another task that requires you to sit at your computer workstation for long periods of time, but you also have a few other job tasks that are mobile, try to intersperse those tasks throughout your shift. Examples of mobile tasks include photocopying, delivering files to another coworker, making coffee, or picking up sandwiches for a lunch meeting.

Also, you could turn a stationary task into a mobile task. Perhaps you need to ask a coworker a question or set up an appointment, you could walk over to the person's desk rather than calling or sending an email. In the case that you need to think about how to solve a work-related problem, pace down the hallway while you think. Studies support that the more we move, the lower our likelihood not only of developing MSDs, but also of developing debilitating conditions like circulatory problems, a reduction in muscle mass, and heart disease. Lastly, you have the power to reduce the risk of developing an MSD caused by stationary work by taking short but frequent stretch breaks throughout the day. There are innumerable stretches you can perform to prevent symptoms and reduce pain, including pulling back on fingertips, touching your toes, or various other exercises. Find something that you enjoy and do it everyday.

There are several approaches to treating musculoskeletal disorders (MSDs). One means of treating MSDs is to avoid the activities causing injury. This could lead to limiting certain types of work tasks, or even wearing a splint to support the joint or restrict movement. Using heat and ice can relieve pain and accelerate the repair process. Heat makes the body increase blood flow and provides pain relief for minor injuries, while ice reduces both pain and swelling. Another appropriate treatment for MSDs can be exercise, because it promotes circulation and increases strength and fitness. Although, it is critical for people suffering from MSDs to consult a physical therapist before exercising. If not appropriately designed, exercises can aggravate an existing condition. Lastly, over-the-counter anti-inflammatory drugs, such as ibuprofen and naproxen, can reduce pain and inflammation resulting from MSDs.

Cumulative trauma disorders (CTDs) are the products of physical demands that exceed our maximum capacity; which strain tendons, muscles, nerves, joints, ligaments, cartilage or the spine; or that disregard stress-inducing, environmental factors like heat, humidity, noise and light glare. CTDs happen because of an accumulation of stress factors involving repetitive, forceful, or prolonged exertions; frequent or heavy lifting, pushing, pulling, or carrying of

heavy objects; or prolonged awkward postures. The most commonly cited issue alleviated by some ergonomics is carpal tunnel syndrome.