

# Safety Circular

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## What is Workplace Ergonomics?

Why do ergonomics in the workplace matter? Ergonomic injuries not only lead to personal distress but also incur significant expenses for employers. A study from 2001 highlighted that musculoskeletal disorders (MSDs) resulted in more days away from work than any other type of nonfatal injury or illness. Annually, MSDs are responsible for approximately 130 million healthcare visits, including outpatient services, hospital admissions, and emergency room consultations.

Moreover, the Institute of Medicine has estimated the annual costs associated with work-related MSDs, including compensation, lost wages, and decreased productivity, to be between \$ 45 and \$ 54 billion.

What is the cost of ignoring ergonomics? The 2021 Workplace Safety Index by Liberty Mutual disclosed that the ten most disabling injuries related to work cost US businesses more than \$ 1 billion each week. Among these are the top three injuries stem from manual material handling tasks.

- Moving heavy objects, which incurs costs of \$ 13.3 billion annually.
- Engaging in activities requiring poor postures, like reaching or stretching, leading to \$ 4.71 billion annually.
- Performing repetitive tasks, particularly those involving intensive use of hands and shoulders, costing \$ 1.66 billion annually.

These figures do not account for indirect costs, which include:

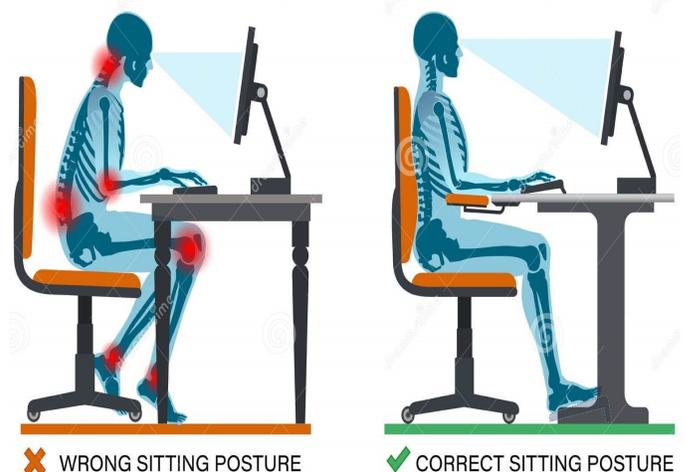
- Training replacement workers
- Lost productivity
- Additional overtime wages
- Work stoppages
- Administrative efforts to address these problems

Indirect expenses resulting from a workplace injury can exceed the direct costs by up to five (5) times.

## What Is An Ergonomics Hazard?

- An ergonomics hazard refers to any workplace condition that poses a risk of causing Musculoskeletal injury or disorder due to the nature of the physical work involved. Ergonomics hazards can arise from various factors, including but not limited to:
- Repetitive motions that cause strain overtime.
- Inadequate workstation design that forces awkward postures or excessive reaching.
- Prolonged sitting or standing without the opportunity for movement or posture change.
- Heavy lifting or the mutual handling of materials that can stress the musculoskeletal system.
- Excessive force requirements to perform tasks, such as pushing or pulling heavy loads.
- Vibration exposure from hand-held tools, which can lead to nerve damage or circulatory disorders.
- Poor lighting that leads to eye strain or awkward postures as workers try to see their work better.

## Ergonomics Solutions



## Body Areas Impacted by MSDs

- Muscles
- Ligaments
- Tendons
- Cartilage
- Spinal Discs
- Arms
- Back
- Hands
- Wrists
- Elbows
- Neck
- Shoulders
- Nerves
- Blood vessels

## Types of Musculoskeletal Injuries

- Pinched nerve
- Sprains/strains/tears
- Herniated discs
- Meniscus tears
- Hernias
- Carpal/tarsal tunnel syndrome

## Preventing Musculoskeletal Disorders

- Warm up and stretch before starting activities that are repetitive, static or prolonged.
- Take frequent breaks from any sustained posture every 20-30 minutes and stretch stiff muscles.
- Respect pain. Change positions or stop whenever activities cause pain.
- Recognize early signs of the inflammatory process and treat early.
- Only use splints and wrist supports after instruction by your physician or therapist.

## Consider the Body Mechanics

- Use the largest joints and muscles to do the job.
- Use two hands to lift rather than one, even with light objects. Avoid lifting with the forearm in full position pronation (palms down) or supination (palms up).
- Slide or push and pull objects instead of lifting.
- Keep reaching to a minimum. Position objects close to the body within easy reach. Carry objects close to the body at waist level.

## Common Symptoms of MSDs

- Persistent pain
- Stiffness in joints
- Sharp pains
- Inflammation
- Chronic aches
- Reduced strength
- Soreness
- Swelling
- Loss of coordination
- Numbness
- Tingling( as if asleep)
- Unexplained weakness



## Think About Your Posture

- Maintain erect position of back and neck with shoulders relaxed. Minimize twisting and bending motions. Position equipment and work tasks so that your body is directly in front of and close to your major work tasks.
- Use proper positioning during all activities. Keep upper arms close to the body, elbows at 100 degrees, forearms neutral (thumb toward ceiling), and wrist straight.
- Keep wrists as neutral as possible. Avoid extreme motions. The safe zone of movement for your wrist is 15 degrees in all directions.



## If You Believe You Have an MSD

- Seek early treatment. The longer you have symptoms without getting help, the harder they can be to treat successfully.
- Find a doctor who understands work-related health problems. Don't be afraid to educate your doctor about the possible causes of your MSD.
- If your problem is work-related, report it to your supervisor. You may be eligible to file a workers' compensation claim to cover lost work time and/or medical costs.
- It is best not to return to the same working conditions that caused your problem. Work with others at your workplace to ensure that the equipment or activities that contributed to your injury are changed.
- Finding the right doctor, getting effective treatment, and improving your work environment take persistence and energy. Don't hesitate to ask for help and don't give up until the problem is solved.

## Ergonomics Hazards



## Ergonomics Says!

- Ergonomics comes in a can, I can, you can, we all can.
- Ergonomics and safety goes hand in hand.
- Last longer with better ergonomics.
- No ergonomics, know the discomfort.
- Ergonomics is no accident.



### Safety Circular TDCJ Risk Management Department

**Marvin Dunbar , Director**  
Administrative Review and Risk Management Division

**Leonard Echessa, Deputy Director**  
Administrative Review and Risk Management Division

The Safety Circular, a publication of the Texas Department of Criminal Justice Risk Management Department, is published monthly in an effort to promote and enhance risk management awareness on issues relating to TDCJ employees. Comments, suggestions and safety related items are welcome.

Send suggestions to:

**Jeania Pegoda, Manager IV**  
Risk Management  
P.O. Box 99, Huntsville, Texas 77340  
or, Jeania.Pegoda@tdcj.texas.gov

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References: ♦ OSHA.com ♦ CDC ♦ www.ucla.edu ♦ www.dir.ca.gov/chswc/WOSHTEP/iipp/ ♦