



# Huron-Superior Catholic

## DISTRICT SCHOOL BOARD

### PROCEDURAL GUIDELINES WORKPLACE ERGONOMICS

The board develops and maintains policies, practices and programs that contribute to a safe and healthy workplace, including physical environment, occupational health and safety, workplace culture, and supportive environment.

#### **Definition**

Ergonomics is the science of fitting the work environment to the people who do the work. It looks at the interaction between humans and other aspects of the work environment, and strives to match the abilities and characteristics of people with the tasks they perform.

#### **Introduction**

Musculoskeletal disorders (MSDs) are injuries and disorders of the musculoskeletal system. They may be caused or aggravated by various hazards or risk factors in the workplace.

MSDs can occur in:

- Muscles
- Tendons and tendon sheathes
- Nerves
- Bursa
- Blood vessels
- Joints/spinal discs
- Ligaments

MSDs do not include musculoskeletal injuries or disorders that are the direct result of a fall, struck by or against, caught in or on, vehicle collision, and/or violence. They are caused by overuse of the musculoskeletal system, whether it be during a single forceful exertion, or through repeated use of the same joint over time. They are often known as “sprains and strains”.

MSDs can affect many body parts. The back is the most common, but the shoulders, neck, elbows, hands and wrists are also frequently involved. MSD-related pain and discomfort can also occur in the hips, knees, legs and feet. The incidence of tendonitis increases with age as muscles and tendons lose some of their elasticity.

A number of medical diagnoses are covered by the term MSD, including:

- Carpal tunnel syndrome (wrist/hand)
- Epicondylitis (tennis or golfer’s elbow)
- Muscle strain
- Rotator cuff disorder or syndrome (shoulder)
- Tension neck syndrome
- Tendonitis or tenosynovitis (anywhere in the body)
- Back pain

While different body parts can be affected by these disorders, the symptoms of MSDs are similar no matter where they occur.

The symptoms generally include:

- Pain with or without movement
- Swelling and tenderness
- Reduced range of motion and/or stiffness, and
- Tingling and/or numbness in nerve-related injuries or disorders

## **Hazard Overview**

There are three main risk factors that can contribute to MSDs in material handling tasks. They are:

### ***Force***

- Refers to the amount of effort made by the muscles and the amount of pressure on a body part.
- All work tasks require some level of force; however, if the required force is higher than the capability of the muscle, it can damage muscles or associated tendons, ligaments, and joints.
- Injury can occur from a single action that requires a very high level of force, or more commonly, can occur because of moderate to high forces generated over long duration, and is more likely when the body is in an awkward posture.

### ***Fixed or Awkward Postures***

- Is the position of the joints of the body during an activity.
- In "neutral posture", the joints work near the middle of their normal range of motion.
- MSD injuries can occur when the joint is not in "neutral posture", when the joint moves toward the end of the normal range of motion.
- The more awkward the posture, the more strain on the joints, ligaments, discs (in the spine) and muscles, and the higher the risk of injury.
- A "fixed posture" refers to staying in the same position for a long period of time, and injuries occur as the tissue fatigues while exerting effort to maintain the posture.

### ***Repetition***

- High repetition of the same task or movement can lead to fatigue and microscopic tissue damage.
- If no recuperation of the tissues is allowed through rest or task rotation, injury can occur.
- Rest allows specific body parts to recuperate.
- If the posture is awkward, fatigue occurs much more quickly.
- Combining the risk factors of force, awkward posture and repetition increases the risk of injury.

## **Responsibilities**

A healthy and safe workplace is a shared responsibility.

Employees are responsible for:

- Working safely and being mindful of potential ergonomic hazards.
- Removing or adjusting ergonomic hazards, where appropriate.
- Making their supervisors aware of any existing or potential ergonomic hazards they are unable to address.
- Cooperating by safely using any specialized equipment, materials, or furniture that has been purchased for and/or issued to them.
- Contributing their ideas, opinions, and skills to better their work environment.

- Creating and contributing to the environment in which they work.
- Taking ergonomic breaks, as appropriate. This may amount to pausing one activity to focus on a different task, rest one's eyes, change positions, and/or take a two-minute walk in the workplace setting.
- Being aware of the potential negative effect that factors outside of the workplace might have on employment and/or how they might aggravate ergonomic hazards (e.g., employees who work in sedentary jobs during the work week might wish to avoid or limit sedentary activities on weekends).

Administrators and supervisors will:

- Model the responsibilities for employees, as outlined above.
- Factor the workplace ergonomics of all employees when making decisions.
- Communicate their support of the health and wellness of employees.
- Provide resources, including information and feedback, to continuously improve and sustain a healthy workplace environment.
- Receive relevant training and development on workplace ergonomics.
- Follow through appropriately on employees' ergonomic concerns.

### **General Ergonomic Tips**

Repetitive or awkward movements are a common cause of MSDs. Below are some basic tips for identifying ergonomic risks. Employees are encouraged to look for these characteristics of work that may be causing concerns in the workplace:

- Frequent bending or twisting of the back or neck.
- Heavy, awkward or repetitive lifting, pushing or pulling.
- Tasks requiring lifting either below the knees or above the shoulder.
- Static postures - spending long periods without movement of a particular body part. This could include, but is not limited to, sitting, standing, bending, and crouching.
- Working with arms above shoulder height, elbows away from the body, or reaching behind the body.
- Repetitive or prolonged grasping and holding of objects, gripping with the wrist or elbow in an awkward position, or repetitive bending or twisting of the wrists or elbows.
- Frequent exposure to whole-body or hand-arm vibration that has not been controlled.
- Work surfaces that require elevation of the shoulders or stooping of the back for long periods.
- Contact stress, where force is concentrated on a small area of the body.
- Using any part of the body, especially your hand, as a hammer or mallet.
- Inadequate or excessive light or glare.

Often, low-cost, simple solutions can be used to correct these risk factors, like re-arranging storage shelves, changing the height of work surfaces, re-organizing tasks to reduce unnecessary manual material handling, opening or closing blinds, and taking appropriate ergonomic breaks to work different muscle groups. The most effective ergonomic solutions involve both the workers and supervisors.

### **Sources**

Algoma University. (2016). *Ergonomics Program*. Retrieved from <https://employees.algomau.ca/services/wsDocuments/3112>

Public Services Health and Safety Association. (2021). *Ergonomics*. Retrieved from <https://www.pshsa.ca/search?qSearchText=ergonomics>