

### What are Musculoskeletal Disorders (MSDs)?

Musculoskeletal Disorders (MSDs) are injuries or disorders of the muscles, tendons, joints, nerves, ligaments, and vertebral discs. When these tissues are stressed on a regular basis without adequate time for recovery, they can eventually become damaged and lead to the development of MSDs. Other terms are often used interchangeably with MSDs including repetitive strain injury (RSI), musculoskeletal injury (MSK/MSI), cumulative trauma disorder (CTD), occupational overuse syndrome (OOS), and overuse injury.

### Ergonomic Risk Factors

Individuals may respond differently to the following risk factors due to strength, size, experience, etc. Excess of any of the risk factors below may contribute to the development of MSDs. Many of these risk factors are related, and any combination of these risk factors may compound the level of risk.



#### FORCE

- Exertion required to create, resist, or maintain movement



#### AWKWARD POSTURES

- Postures that deviate from neutral (e.g. reaching, twisting, bending, etc.)



#### STATIC POSTURES

- Any posture that is held for an extended time



#### INADEQUATE RECOVERY TIME (REPETITIVE MOVEMENTS)

- Use of the same body part(s) to perform a task(s) without allowing the body tissues sufficient time to recover



#### VIBRATION

- Mechanical oscillations of any frequency that are transferred to the body – may affect the entire body or individual body segments



#### CONTACT STRESS

- External pressure that is applied to a part of the body for a sustained period



#### TEMPERATURE

- Working in hot or cold conditions



#### PSYCHOSOCIAL

- The combination and effect of nonphysical aspects (social, cultural, and environmental influences) on the mind and behavior

## Recommendations for Prevention

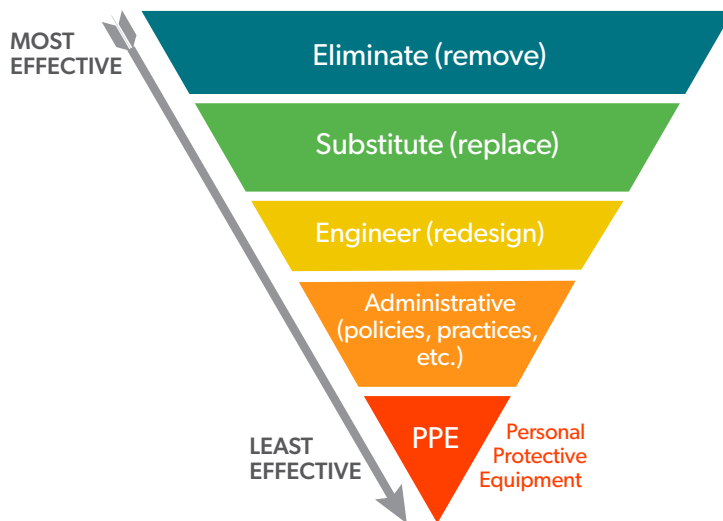
### 1. Hazard Identification

- Identify the potential hazard that exists

### 2. Risk Assessment

- Assess the level of risk that the potential hazard creates

### 3. Implement Hazard Controls



### 4. Re-evaluate steps 1-3

For industry/workplace specific recommendations contact an OHCOW Ergonomist.

## Additional Resources and Tools

[MSD Prevention Guideline for Ontario](#)

[World Health Organization - Musculoskeletal Health](#)