

Ergonomics

“The scientific study of human performance at work.”

Ergonomics allows people to act to prevent and control the onset of muscle and bone injuries that arise at work. The types of injuries that are involved usually have repetitive or forceful movements, and may involve awkward body positions.

Essentially, *ergonomics is about reducing injuries* by looking at how people work and making adjustments, covering the scope from office environments to haul truck cabins.



MUSCLES INVOLVED

Spinal alignment, core body strength and leg strength are major focus groups in ergonomics. These areas of the body are utilised to control posture and generally involve large muscles working together to stabilise an entire area. For example, lifting a box weighing 15 kilograms from the floor to a workbench involves the muscles of the back, arms and legs.

Also involved are small groups of muscles in the wrist, hand, neck and head. The muscle groups mentioned are usually called on when performing duties that involve small controlled situations. For example, when typing a letter on the computer, small muscles in the wrist, fingers and hands are needed to type the keys, and the muscles of the neck and head are required to look at the screen and keyboard.

In recent years, ergonomists have attempted to define postures, which minimize unnecessary static work and reduce the forces acting on the body. All of us could significantly reduce our risk of injury if we could adhere to the following ergonomic principles:

- All work activities should permit the worker to adopt several different, but equally healthy and safe postures.

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- Where muscular force has to be exerted, it should be done by the largest appropriate muscle groups available.
- Work activities should be performed with the joints at about mid-point of their range of movement. This applies particularly to the head, trunk, and upper limbs.



PAIN AND INJURIES ARE OFTEN CAUSED BY:

- Repeated use of a particular muscle
- Poor posture
- Inactivity for extended periods
- Straining muscles beyond their normal use
- Unaccustomed physical activity
- Insufficient warm up and/or cool down
- Poor flexibility and/or range of motion of the body's joints

Ergonomics in the workplace ultimately creates a user-friendlier workplace, helping reduce the chance of injuries resulting in overuse, musculoskeletal and strain injuries. [Some include:](#)

- Correct sitting
- Chair set-up
- Correct standing
- Computer set-up
- Computer screen set-up
- Workstation set-up
- Workstation stretches

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