

ERGONOMIC PRINCIPLES

1. Work in neutral postures

Neutral positions help to minimize injuries to muscle, tendons, nerves, and bones.

Neutral positions help to keep the body aligned which increases balance in different body positions.

2. Reduce excessive force

This is a primary ergonomic principle. Tasks with high force loads requires increase pressure on muscles and joints resulting in fatigue and can cause injury.

Eliminating excessive force can prevent injury and decrease fatigue.

3. Keep everything in reach

Keep regularly used objects or tool in reach to avoid unnecessary stretching, strains or sprains.

This also allows for maintaining good postural alignment

4. Reduce excessive motions

Is another primary ergonomic principle. Excessive and unnecessary motion should be avoided as much as possible.

A job is considered as repetitive if it cycles the motion in 30 seconds or less. These motions can result in disorders and numbness after extended period.

Using tools, adjustments and modifications can help to eliminate excessive motions.

5. Minimize pressure points

It is important to be aware of pressure points.

Extended sitting, standing, kneeling, or dangling of limbs, may affect pressure points.

Changing positions regularly, using anti-fatigue mats, shoe insoles, support cushions can prevent pressure sores or pressure injuries.

6. Provide clearance

Work areas should have enough clearance

7. Move, exercise and stretch

When working in static positions for extended periods of time, the body may experience fatigue.

Stretching the muscles before work can help to decrease fatigue. Stretching warms up the body and muscles.

Take breaks to stretch during the work day, it keeps the body moving and restores energy.

8. Maintain a comfortable environment

It is important to maintain a comfortable environment. This includes lighting space, temperature, etc.

This principle also states it is important to work from positions that allows for working from proper heights and reach.

Common injuries:

Muscle strains and sprains

Nerves Damage

Tendons, Ligaments, Joints, Cartilage and Spinal Discs.

Important Energy conservation techniques, task simplification, position time, and joint protection (fine motor or gross motor)