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OPINION ARTICLE



# Ergonomic Risk Assessment of Tasks by Workers

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## Description

Physical factors known as ergonomic hazards might put workers at risk of musculoskeletal injuries. Awkward postures, immobile postures, high forces, repetitive motion, or brief breaks between activities are examples of ergonomic risks. When several conditions are present, the chance of harm is frequently increased. Negative interactions with the worker or user can be caused by a variety of factors, including whole-body or hand/arm vibration, bad lighting, and poorly constructed tools, equipment, or workstations. Among the typical bodily parts that may sustain injuries are, but are not limited to lower back ligaments or muscles, neck ligaments or muscles, Hand/wrist muscles, tendons, or nerves, the knees and the muscles and bones that surround them.

Musculoskeletal Disorders, also known as Cumulative Trauma Disorders (CTDs) or Repetitive Strain Injuries (RSIs), are thought to be responsible for around one-third of all non-fatal injuries, diseases, and expenses due to injuries to these and other regions of the body. Both occupational and non-occupational contexts, such as workshops, construction sites, offices, homes, schools, or public spaces and facilities, might have ergonomic risks. The risk of harm can be decreased by finding solutions to minimize or lessen ergonomic hazards in any environment.

Ergonomic risks at work can result from a variety of circumstances. Some of these elements include;

### Awkward posture

When performing work-related activities, the body strays greatly from the neutral position. Due to the needless reach or stretch of the body's neutral position, awkward postures decrease labour productivity. Muscle and nerve squeeze may happen as a result of prolonged uncomfortable posture. Examples include twisting, reaching, tugging, lifting, bending, or any other posture that, when maintained for an extended length of time, might create pain.

### Static posture

When a person maintains a fixed position for the duration of an activity, preventing the body from relaxing, this is known as static loading or static posture. It is a problem since it raises the possibility of musculoskeletal injuries and can cause joint problems, fatigue, and muscular soreness. The kind of labour is done and the sort of posture being held will determine how harmful it is. By taking frequent breaks and stretching often, workers can avoid the problems caused by their sedentary posture.

### Contact stress

Another aspect that contributes to ergonomic risk is contact stress, which happens when a worker's fingers, wrists, knees, or other body part repeatedly or continuously rubs up against a hard, sharp, or immobile surface without moving. The surface can be a desk, a ladder, the ground, a bucket handle, or a piece of equipment. Pushing, grabbing, pinching, pulling, and lifting objects can result in increased contact stress that can put pressure on the joints of the body. When there is little time for rest and recuperation, increasing these pressures necessitates more muscle effort and places heavier stresses on joints and connective tissues, which can lead to tiredness and perhaps contribute to musculoskeletal problems.

### Repetitive motion

Repetitive motion is the act of doing a specific movement repeatedly over an extended period of time. This will wear out your muscles and eventually cause nerve damage. The soft tissues, including the nerves, muscles, and tendons, may be hurt as a result of this action. Tennis elbow, carpal tunnel syndrome, tendonitis, bursitis, and other names are given to some of these wounds. To ensure productivity, these actions require intervals between tasks to allow the nerve or muscles to recuperate.

### High forces

High forces are required to complete a task and may

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harm joints and muscles. If the amount of force employed has caused the entire body or a section of it to become exerted, the excessive force load could become a problem. The application of force may involve gripping, pinching, pushing, pulling, and lifting items.