

# Workplace Ergonomics

## Introduction

Ergonomics is the study of the interaction between a person and their work environment, and the process of designing or arranging workspaces, products and systems to fit the people who use them. Ergonomic factors in the workplace aim to improve efficiency, comfort and safety, while reducing operator fatigue, pain, injury, and musculoskeletal disorders. Consideration should be given to the design of the workspace, as well as the operational habits of the user.

## General Guidelines

### Workspace Setup

#### Chair

- Backrest
  - Provide lumbar support in the natural curve of the lower back.
  - Angle should be between 90-110 degrees.
- Seat
  - At least two to three finger widths should fit between the back of the knee and the chair seat.
  - Allow a straight line from hip to knee, roughly parallel to the floor.
  - Knees should be bent at 90-120 degrees.
  - Feet should lay flat on the floor or on a footrest (if the chair needs to be set higher to suit the desk height).\*
- Armrests
  - Adjust to elbow height (elbows bent 90-110 degrees).
  - Elbows and upper arms should remain close to the torso.

#### Worksurface

- Height
  - The most ideal height is 27.5-30" (70-76 cm) for a sitting position.
  - If a sit-stand desk is provided, adjust the height throughout the day.

#### Keyboard

- Height
  - Forearms should be parallel to the floor (the chair may need to be raised to accomplish this).
- Angle
  - Wrists should be straight (without hypertension), and hands in line with the forearms (avoid use of retractable keyboard legs).
- Placement
  - The keyboard and mouse should be at the same height and beside each other, in front of the torso.

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### Monitor

- Height
  - The top of the screen should be at eye level so that the neck is in a neutral position when looking at the top row of text.
- Position
  - Position the monitor 18-24" (457– 610mm), or at arm's length from the eyes.
  - Tilt the monitor at a 10-20 degree angle.
  - If dual monitors are used, they should be at the same tilt, height, and distance, slightly angled towards each other to prevent neck strain), and slightly farther away than single monitors.\*

*\*Note: Many components of the workspace are interrelated, and the adjustment of one may impact another.*

### Workspace Arrangement

- Position frequently used items within an arm's reach of seated position.
- Locate the phone on the non-dominant hand side to allow it to be held while writing or mousing with the dominant hand (alternatively, consider a hands-free headset).
- If possible, position the monitor perpendicular to natural light, to prevent glare.

### Operational Habits

- Shoulders should be low and rolled back.
- Modify the sitting position periodically to encourage blood flow throughout the body.
- Alternate between sitting and standing throughout the day, if possible.
- Take a micro break every 30 minutes.
- Take a postural break involving a short walk every hour.
- When sitting, swivel or move the chair, rather than twisting the body, when performing tasks that do not involve the computer (reading, writing, etc.).

\*\*Ergonomic Assessments are available through individual Ministries.