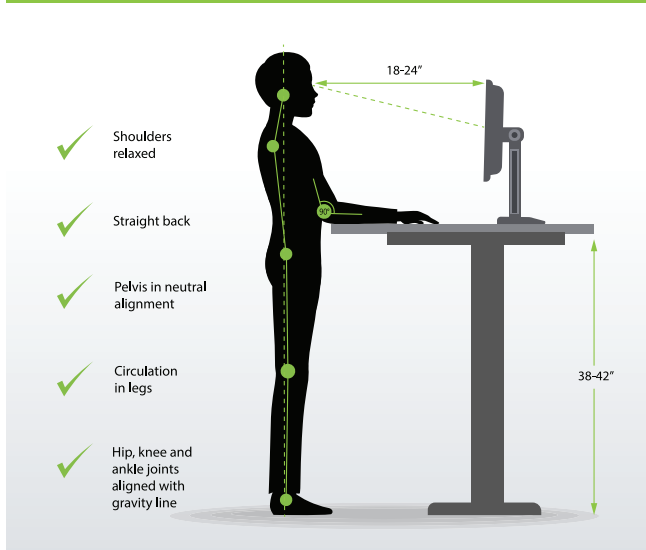


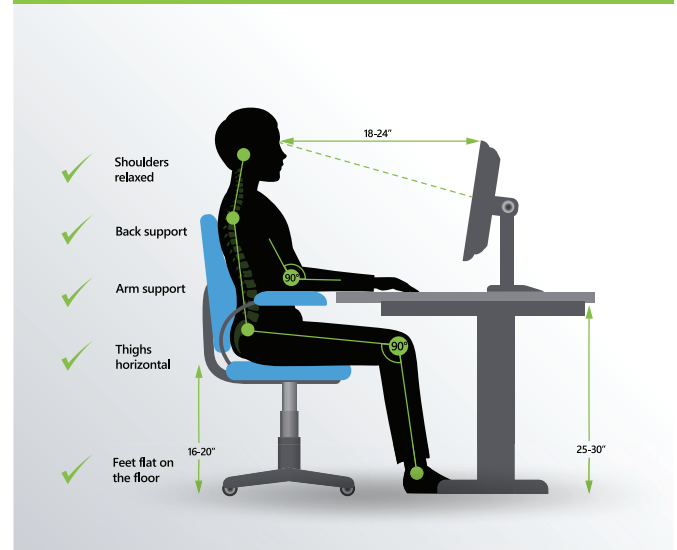


Office Ergonomics Workstation Guide

CORRECT STANDING POSTURE



CORRECT SITTING POSTURE



Introduction

Ergonomic / ɜrɡəˈnämik/

Adjective: relating to or designed for efficiency and comfort in the working environment.

What is the goal of an ergonomic workstation?

An ideal ergonomic workstation provides an efficient and comfortable working environment for the employee. This is true for office staff as well as field staff. This guide is focused on office staff who spend most of their time working at a computer workstation.

While seated in a supportive task chair, the goal is to have the employees' feet flat on the floor (or on a footrest). The thighs should be parallel to the floor, and the chair back supporting the employees' back in an upright position.

Shoulders should be relaxed, with the elbows resting near the body. The employee should be able to reach the keyboard without extending their arms forward. If the keyboard is placed on the desktop, the desk height should be at, or slightly below, the elbow height to provide the most comfort.

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The mouse should be placed at the same level as the keyboard.

A free-standing external monitor is ideal as it can be properly adjusted to the correct height and position.

The monitor should be in-line with the chair and keyboard, at 18-24 inches from the eyes, or approximately arms' reach away. The top edge of the monitor should be at eye level.

For a standing workstation, many of the same goals are the same.

Shoulders should be relaxed, with the elbows resting near the body. The employee should be able to reach the keyboard without extending their arms forward. If the keyboard is placed on the desktop, the desk height should be at, or slightly below, the elbow height to provide the most comfort.

The mouse should be placed at the same level as the keyboard.

To help increase comfort while standing, an anti-fatigue mat can be used.

Your Environment

While most people think of ergonomics as purely the configuration of the workstation, environmental factors also play a key role in overall health and comfort.

Each person has their own personal comfort zone for temperature and humidity in the office. The generally recommended range is between 68 °F and 76 °F, and humidity between 20%-60% for optimal comfort. Environments outside of this range can cause discomfort and fatigue. If employees are permitted to use personal space heaters, they should be plugged directly into wall outlets and designed with tip-over protection. They should be turned off and unplugged when not in use.

Lighting

Glair and bright direct lighting can cause increased eye strain. The main light source for the workstation should be perpendicular to the computer monitor to minimize glair. The overall work area lighting should be adjustable, indirect, and diffuse to create a comfortable environment. If natural lighting is available through a window or skylight, blinds or curtains should be available to block direct sunlight. Adjust blinds so they direct sunlight upwards towards the ceiling instead of down towards the work surface.

One way to help minimize harsh lighting is by using medium to dark colored paint on the walls of the work area, using a flat paint. Avoid bright white and high gloss surfaces as these reflect more light.

Sound

Occupational noise hazards are typically associated with manufacturing or industrial settings where noise levels can exceed 85 decibels. But a noisy environment can cause stress and discomfort even in office settings at lower levels. Noise sources such as printers and copiers can be placed in separate rooms from workstations to minimize the noise they create.

Talking and phones ringing are some of the greatest distractions to focused working. When employees are required to spend extended amounts of time on telephone calls, consider placing fabric covered barriers (i.e. cubicle walls) between workstations to deaden the sound. Other noise sources include the buzzing of fluorescent lights and vibrating HVAC equipment. Work with facility maintenance to address these types of issues.

Your Habits

- **Breaks** - It is important to take regular breaks from repetitive tasks on a to minimize repetitive motion injuries. For most work, a 5-minute break once per hour is adequate. For tasks that require fine motor skills, 15-minute break every two hours is recommended.

When you spend extended periods of time looking at a computer monitor or other screen, this can result in eye strain and dryness. Once every 20-minutes you should be encouraged to look away from the screen for at least 20-seconds, focusing on something in the distance.

- **Sitting and standing** - For employees who spend extended periods sitting at a workstation, it is important to stand up and walk frequently throughout the day. A sit-to-stand workstation may be considered to allow the employee the flexibility of standing for portions of the day.

Your Equipment

- **Chairs** - The correct chair is a key component of setting up an ergonomically correct workstation. If the chair does not fit the person, it can be difficult to correctly adjust the remaining components.

Choose a chair that fits you, adjusts to give you lumbar and arm support, and changes in height. Make sure the seat pan supports your weight over the largest portion of your seat and thighs and does not push into the back of your knees. With the back supported, there should be 1" to 3" of space from the chair seat's front edge to the back of the knees.

The height, seat and back of the chair can be adjusted so your feet are resting on the floor or supported by a stable footrest. The front edge of the seat pan is rounded in a waterfall fashion. Your hips are at or slightly above knee level, and your back is fully supported by the lumbar support. The widest part of the lumbar support should be located at the height (and center) of the inward lumbar curve.

Move the arm rests so your forearms rest easily with your shoulders in a relaxed position. The armrests should be positioned to allow the chair to get close to the workstation. This can be difficult where a workstation is set up in a corner of an L-shaped desk.

The backrest tilt should be set so the trunk is slightly reclined at approximately 5°–15° from perpendicular.

The chair should have a sturdy five-legged base with proper chair casters that roll easily over the floor or carpet. For high piled carpets, a chair mat is encouraged to allow the chair to move freely.

Employees modifying the chair to increase comfort or support is a sign of an incorrectly adjusted chair, or one that needs repair or replacement.

- **Workstation** - There are a wide variety of workstations available for use in an office. The most basic configuration is a simple fixed-height table or desk. While this may be the most economical, it provides the least amount of adjustability for the user. A floating desk affixed to a partition (cubicle), or wall is a step up from a fixed desk. These workstations typically allow for the desktop height to be adjusted up or down depending on the need of the employee. A variable height desk that can be raised/lowered as needed will provide the most customization. These can be adjusted to the correct seated height for many different employees. Additionally, these desks can allow the employee to stand while working for portions of the day. This is especially helpful for employees who are at their workstation for most of the day.

An additional option is a sit-to-stand workstation which sits on top of a fixed desk. These allow employees to stand during the day when they want, when replacing the desk is not an option. One downside to these tabletop units is that they can make it more difficult for shorter employees to properly configure their workstation and may require a footrest.

- **Working Surface** - The height of the work surface where the keyboard and mouse are placed should be even with the elbow height of the employee when they are seated properly. (See Fig 1 above). There should be adequate space for the employee to move their mouse and
- **Keyboards** - Place the keyboard and mouse side by side. They should be positioned at a height that allows your arms to be relaxed at your side, your forearms to be near-parallel to the floor, and your hands, wrists, and forearms in a straight line.

A basic computer keyboard may be adequate for employees who do not perform a substantial amount of typing. If the employee spends a substantial amount of time typing, an ergonomic keyboard can help reduce hand and wrist strain.

- **Keyboard Trays** - If a keyboard tray is used, ensure it is wide enough and deep enough to accommodate the keyboard and any peripheral devices, such as a mouse. Keyboard trays should allow for easy height and tilt adjustments and lock securely into position.
- **Monitors** - Position the monitor about 18-20 inches from the eyes. The top of the screen should be at or slightly below eye level. The monitor should be directly in front of the chair, to minimize twisting of the body or neck to look at the screen. The monitor should be of adequate size for the work detail being performed.

If multiple monitors are used, the position of the primary monitor is directly in front of the user and the other monitors are directly beside it. If time is split evenly between monitors, they should be positioned next to each other within a comfortable viewing angle with minimal head movement.

- **Mouse and other input devices** - The mouse should be positioned as close to the keyboard as possible, on the same level and with adequate space to move it freely without striking obstacles. The mouse sensitivity should be adjusted to match the work being performed. It should be easy to use, and the shape/size fits the hand.

There are a variety of mouse styles and sized available on the market, from a compact travel mouse to a large ergonomic mouse. There are also trackballs, touchpads and stylus pads available.

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- **Telephone** - The telephone should be positioned close to the work to avoid excessive reaches. Generally, within 18 to 20 inches. Telephone can be used with head upright (not bent) and shoulders relaxed. If phone and computer are used at the same time, this may require the use of a headset.
- **Footrests** - A Footrest can be provided if your feet are not flat on the floor. This is often the case with fixed height desks when the seat is adjusted to bring the elbows to the keyboard level. If used, the footrest should be angled and support both feet.