

Loss Control Bulletin # 57

**Selecting the Correct Chair for Your
Computer Workstation**

For many persons working at computer workstations, the biggest ergonomic risk factor is duration from sitting for long periods of time. As a result, maintaining proper posture when sitting becomes very important in maintaining a person's comfort. The chair is the critical factor in maintaining proper posture and comfort when sitting for long periods of time.

With a variety of types and styles of chairs available, how does a person choose the proper chair for working at a computer workstation? It is beneficial to choose one that helps you maintain proper posture and comfort while still including the non-ergonomic functions such as -- durability, stain resistance, artistic design, strength, and weight.

The typical office chair can be purchased in three different height adjustability ranges:

- Standard - 16 to 21 inches
- High - 19 to 23 inches
- Low - 14.5 to 19 inches

In addition to chairs designed to accommodate persons of different heights, chairs can also be purchased to accommodate varying weights.

To provide proper posture and comfort for the person, a chair should have these five ergonomic adjustments:

- adjustments for seat height,
- backrest (lumbar) height,
- backrest tilt,
- seat pan tilt and depth,
- adjustable armrests.

Design considerations for chairs have been codified into standards. ISO 9241, "Ergonomic Requirements for Office Work with Visual Display Terminals (VDTs) -- Part 5: Workstation Layout and Posture Requirements" is most commonly used for modern

chair design. The Business and Institutional Furniture Manufacturer's Association (BIFMA) provides guidelines for testing of commercial-grade chairs.

Adjusting the Chair

The person sitting in the chair should be able to make all adjustments from the sitting position.

- Seat height of the chair should be adjusted so that a person's feet are flat on the floor. This adjustment may change depending on the height of the heels on the shoes being worn. If a person's feet cannot be placed flat on the floor when the chair is properly adjusted for the keyboard, a footrest is recommended.
- The backrest or lumbar support should be adjusted up or down, so that it fits the person's lower back just above the buttocks. This will help reduce the pressure on the lower back.
- The backrest can be allowed to "float" with the person's movements or be locked into position. Depending on the task being performed, it may be preferable to lock the backrest in position or allow it to float. It is important to know that if the backrest is not locked in position and the tension is too soft, the backrest may allow the person to lean back too far, causing them to reach for the keyboard. If it is locked in position, generally a slightly reclining position is preferred.
- The seat pan depth can be adjusted by sliding the seat pan forward or backward. This adjustment allows the person to move the seat pan to a position where their back is against the backrest. A person should not sit at the front of the seat on a regular basis. When properly adjusted, the front edge of the seat pan should be about 2 inches behind the person's knee.

- The seat pan tilt can be adjusted so that a person's knees are level with their hips, slightly below, or slightly above. For tasks that cause a person to lean forward, such as writing on the desk, a position with the seat pan tilted slightly downward may relieve pressure on the back.
- Armrests should adjust up-and-down, in-and-out, or be removable. Armrests should not "hit" the keyboard holder or desk. If this happens, this could cause the person to compensate by reaching for the keyboard. When typing on the keyboard, your arms should float above the armrests and not be resting on them. Elbows should be at your side when typing.

Although not an ergonomic adjustment, the chair should have a five-leg base to provide stability against tipping over.

Alternative Chair Designs

Some new non-traditional chair designs have been introduced in the workplace. These include kneeling chairs, exercise balls, saddle chairs, sit-stand stools or other unusual equipment; however, there is no preponderance of evidence that suggests these unusual "chairs" are better than a regular chair with appropriate adjustments. Most individuals can make themselves comfortable with a standard office chair with appropriate adjustments. While the standard office chair will accommodate a range of persons, manufacturers can provide smaller or bigger chairs to accommodate persons of different weights and statures.

Before making a final decision about which chair should be purchased, always ask the supplier if the chair can be tried out first. This is the best way to learn if the chair is the correct one.

The guidelines provided in this bulletin are only intended to provide an overview of some of the more important steps that can be taken by management to establish a safe workplace. The guidelines are not considered exhaustive of all measures and controls that can be implemented by management to address all potential loss or injury producing causes. Ultimately it is the responsibility of management to take the necessary steps to provide for employee and customer safety.