

TAKE A SEAT...

OFFICE CHAIRS

Traditionally there has been a distinction made between clerical chairs and Management/ Executive chairs to demonstrate a difference in power. The difference is becoming less valid as the tasks of executives increasingly involve the use of computers.

The adjustments considered essential by ergonomists on an office chair are:

- ① Height
- ② Backrest angle and seat depth
- ③ Lumbar support height
- ④ Adjustable armrests - desirable
- ⑤ Forward tilt - desirable.

ARMRESTS

Armrests on chairs are generally not recommended for people doing a large quantity of typing. The armrests generally restrict how far the chair can move in under the desk and may be too high for some users. However, armrests can help less mobile people push themselves out of the seat. Also, armrests can be used to change posture for managerial, professional and executive staff that spend less time on keying tasks but long periods sitting.

CASTORS

Castors on chairs on hard surfaces are unsafe. The chair can move too freely. Glides or rubber tyred 'brake' castors are recommended on hard surfaces. This reduces the risk of a person sitting and inadvertently falling when the chair rolled away.

THE RELATIONSHIP BETWEEN SEAT, FLOOR AND DESK

The relationship between the three surfaces: work surface, seat pan and floor, is important.

To accommodate a range of people doing a range of tasks, the seat pan (as well as one of the other two surfaces) has to be adjustable in height.

Adjustable height work surfaces are preferred. Footrests act as a false floor.

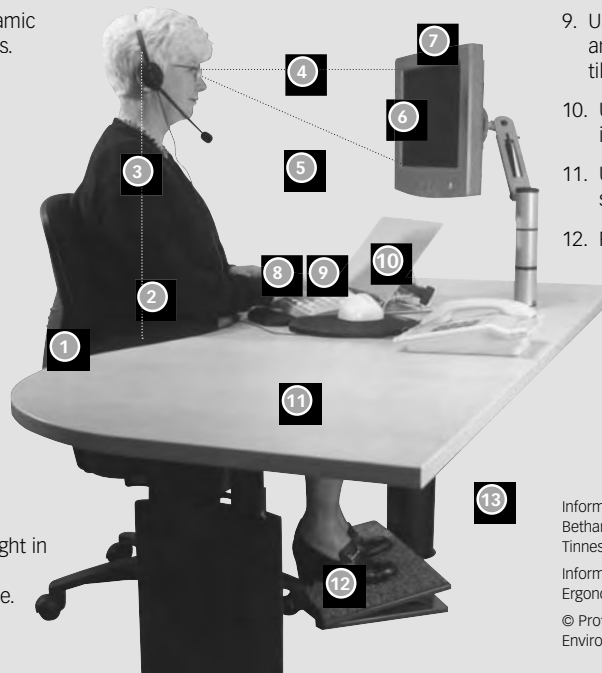
If the desk surface is fixed in height then it needs to be high enough for long lower legs.

The chair then needs to be able to be adjusted sufficiently high for a small person to sit with their arms appropriately positioned.

Footrests will need to be provided to any person who cannot place their feet on the floor when the chair is adjusted for the task - generally shorter people.

HOW TO WORK ERGONOMICALLY

1. Use a good chair with a dynamic chair back and sit back in this.
2. Keep arms and elbows relaxed close to body.
3. Sit tall with ears, shoulders and hips in a vertical line.
4. Ensure that the top of the monitor casing is 5-8 cm above eye level.
5. Sit at arms length from the monitor.
6. Make sure there is no glare on the screen, use an optical glass anti-glare filter where needed.
7. Centre the monitor and keyboard in front of you.
8. Keep the wrists flat and straight in relation to forearms to use keyboard/mouse/input device.



9. Use a negative tilt keyboard tray with an upper mouse platform or downward tiltable platform adjacent to keyboard.
10. Use a document holder, preferably in-line with the computer screen.
11. Use a stable work surface and stable (no bounce) keyboard tray.
12. Place feet on floor or a stable footrest.
13. Take frequent short breaks (microbreaks).

Information compiled by the DEA651 class of 2000 - Bethany Johnson; Emily Kuperstein; Mari Mitchell; Heidi Tinnes; with Garrick Goh (TA) and Professor Alan Hedge. Information sourced from the Cornell University Ergonomics Web - Reproduced with permission © Professor Alan Hedge, Dept of Design & Environmental Analysis, Cornell University.

POSTURE & SITTING

GENERAL INFORMATION – SITTING

Generally, people in offices perform tasks requiring fine motor skills using their arms, hands and fingers.

Sitting allows people to stabilise their trunks and heads, while having free movement of the arms and hands for fine work with less effort than standing.

However, the stability that sitting offers also encourages immobility that is not good for muscles. It is important to recognise that sitting should be a dynamic activity (not a static posture).

People sitting should try and change posture frequently — every 10 to 15 minutes. No one should sit in the exactly the same posture for long and at a minimum, should get out of their chair every hour and walk around.

By designing an appropriate work system it is possible to incorporate these changes in posture without loss of productivity.

For example, a person who is typing letters, printing, photocopying and filing can organise the tasks such that, instead of typing all the letters in one session then printing and photocopying them as one job, they can intersperse these tasks throughout the day.

Performing different tasks throughout the day will encourage different postures and can help alleviate many of the problems people experience due to sitting for extended periods.

SEATING ESSENTIALS

- ① To sit for long periods at work people need a padded, well-dimensioned chair that can be adjusted in height with appropriate seat depth. It must have lumbar support in an appropriate spot – a firmly padded part that can fit snugly in the small of the back.
- ② A seat pad that allows adjustment into a forward tilt is also highly desirable. Forward tilt increases the angle between the hip and the back and people find it easier to keep the curve in the small of their back. Many people with back pain find this increase in angle beneficial.
- ③ The upper arms should be hanging relaxed beside the body. The shoulders should not be lifted. There should be no pressure points between the person and the chair. The person should have clearance between the seat front and the calves while the lumbar spine is supported by the backrest.
- ④ Remember: changes in posture are important and muscles are designed to move; so getting up and out of the chair at regular intervals is critical.
- ⑤ Postures recommended when sitting encourage a ‘tall’ back with natural curves – an ‘S’-Shape instead of a slouching ‘C’-Shape. By aligning the ears, shoulders and hip vertically, muscles do not need to work as much to maintain a correct posture.

