

It's a fact...

Your computer workstation should include a chair that's right for you.

Most chairs are designed for people weighing no more than 275 pounds. If you weigh more than 275 pounds, you will need a chair designed to support your additional weight.

Controls

- ◆ Your chair should be easily adjustable and require the use of only one hand to operate the controls.
- ◆ The controls should be easily reached and adjusted from the standard seated work position.
- ◆ The controls should provide immediate feedback.
- ◆ The operation of the controls should be logical and consistent.



Seat Height

- ◆ Adjust the seat height of your chair so your feet are flat on the floor and your lower back is supported, then adjust your desk.
- ◆ If your desk is not adjustable, adjust your chair to allow you to reach your work comfortably. Since you are adjusting to your desk, your feet may not touch the floor. You can support your feet by adding a footrest.
- ◆ Ideally, you should adjust your seat height until the crease behind your knees is slightly above the seat. Raise your desk if it is too low. The minimum adjustment range for seat height should be 16" to 20½" (41 to 52 cm).

Seat Pan Depth

- ◆ The seat pan depth should be 15” to 17” (38 to 43 cm). With your back against the backrest, the front edge of the seat pan should not touch the crease of your knee.
- ◆ A seat pan that is too short may not give adequate support under your thighs. This may force you to shift your weight to other body tissues, which leads to whole body discomfort during long periods of sitting.
- ◆ If the seat pan depth is greater than your buttock-knee length, the front edge of the seat contacting the back of your legs can cause discomfort, and force you to sit forward in the seat, completely out of contact with the backrest. On some chairs, the backrest moves forward over the seat pan, allowing you to adjust the seat pan depth.

Seat Pan Width

The seat pan should be wide enough to allow you to shift in your seat (at least as wide as your thighs), a minimum of 18¼” (46.5 cm) wide at its back edge, and padded and contoured for support. A wider chair seat, or one with armrests that can be removed or moved further apart, should be used for larger workers.

Seat Pan Slope

The seat pan should have an adjustable range that allows 5° of tilt both forward and backward. If you lean forward for a significant part of the day, a forward tilting seat pan is important. The seat pan should lock in each position.

Seat Pan Padding

- ◆ The seat pan cushion should be firm, and the contour should allow your lower back to come in contact with the backrest. Avoid severely contoured seats.
- ◆ The front edge of the seat pan should be softly padded, with the front edge rounded in a waterfall fashion.
- ◆ The entire seat covering should be made of a porous, breathable, and resilient material.
- ◆ Hard, unpadded, and flat seat pans are uncomfortable for periods over 1 hour.
- ◆ Soft, deeply padded seat pans cause you to sink too far into the seat. Over long periods of time, this causes tension in the hip muscles.
- ◆ Slippery material on the seat may cause you to slide away from the backrest, thus providing little back support.

Backrest

The support surface of your backrest should be a minimum of 15" (38 cm) high and 12" (30.5 cm) wide, and should contour to the curve of your lower back. The backrest should also:

- ◆ Be large enough to support your entire back, but should not interfere with the use of your arms.
- ◆ Widen from top to bottom, and be concave from side to side to conform to your body and support you in the chair.
- ◆ Have a forward and backward tilt, reclining a minimum of 15° and locking into place to provide support if you choose to sit back in a relaxed position.
- ◆ Extend high enough to provide support to your upper trunk, head, and neck when you lean back.
- ◆ Contain a spring-loaded pivoting mechanism, which allows it to follow your natural body movements while maintaining constant body support.

The chair back should have a lumbar (low back) support that conforms to your lumbar curve. If the lumbar support is permanently attached to the seat back, there should be a vertical seat back adjustment to allow you to position the middle of the lumbar support a minimum of 6" to 10" (15 to 25.5 cm) above the seat pan. You can create a lumbar support by shaping a towel or pillow to conform to your lumbar curve or you can purchase a lumbar support. The lumbar support should be at least 12" (30.5 cm) wide.

Armrests

- ◆ Armrests should be removable and the distance between the armrests should be adjustable.
- ◆ The armrests should be a minimum of 16" (41 cm) apart. Adjust the armrests so that they are close enough to your sides that you can lean on them without straining, but far enough apart to allow room for your thighs.
- ◆ Armrests should also adjust vertically so you can match their height to the height of your elbow at rest. Adjust the vertical height of the armrests to allow you to easily keep your shoulders relaxed, and your upper arms close to your abdomen (the armrests should be about elbow height). Fixed armrest heights should be between 7" to 10½" (18 to 27 cm) above the compressed seat height. Adjustable armrest heights should include at least a portion of the 7" to 10½" (18 to 27 cm) range.

- ◆ Rearrange the workstation components so the armrest height (after following the guidelines above) and the desk or keyboard tray height are the same. The armrests should also be:
 - Long enough to support your forearm (e.g., from the elbow to the base of the hand).
 - Wide enough to support your forearm. Avoid narrow armrests (they may dig into your arm).
 - Padded and soft. Avoid hard, stiff armrests.
 - Low and short enough to fit under the work surface or removable. You must be able to reach the work surface and still be able to use the chair's backrest for support.
- ◆ If you have large thighs, you may be more comfortable without armrests.

Base

- ◆ The chair should have a solid base supported by five legs to prevent tipping.
- ◆ The legs should have casters that roll easily over the floor or carpet—different types of casters are available to fit each type of floor covering.
- ◆ Locking casters can add stability and prevent unintentional movement of the chair.
- ◆ The chair should swivel 360° so it is easier to sit down, stand up, and move within your workstation.



This fact sheet is a product of the DoD Ergonomics Working Group, was adapted from their June 2000 publication, *Creating the Ideal Computer Workstation: A Step-by-Step Guide*, and supersedes USACHPPM Fact Sheet 88-004-0599.

Written for both supervisors and workers, the fact sheet provides basic information on ergonomics. For more information, visit the working group's Web site at <http://chppm-www.apgea.army.mil/ergowg/product.htm>.

Chair Evaluation Checklist

If you answer **NO** to any of the following questions, you have a potential problem.

Yes No

Chair Controls

- | | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | 1. Is your chair easily adjustable, requiring the use of just one hand? |
| <input type="checkbox"/> | <input type="checkbox"/> | 2. Are your chair's controls easy to reach and adjustable from the standard seated work position? |
| <input type="checkbox"/> | <input type="checkbox"/> | 3. Do your chair controls provide immediate feedback? |
| <input type="checkbox"/> | <input type="checkbox"/> | 4. Is the operation of your chair's controls logical and consistent? |

Seat Height

- | | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | 5. Is your seat height adjusted so your feet are flat on the floor (or on a footrest) and your lower back is supported? |
| <input type="checkbox"/> | <input type="checkbox"/> | 6. Is your seat height adjustable in a range from 16" to 20½" (41 to 52 cm)? |

Seat Pan Length

- | | | |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | 7. Is the seat pan length between 15" to 17" (38 to 43 cm)? |
| <input type="checkbox"/> | <input type="checkbox"/> | 8. With your back against the backrest, does the crease of your knee extend past the front edge of the seat pan? |

Seat Pan Width

- | | | |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | 9. Is the seat pan at least 18¼" (46.5 cm) wide? |
|--------------------------|--------------------------|--|

Seat Pan Slope

- | | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | 10. Does your seat pan have an adjustable range that allows 5° of tilt both forward and backward? |
| <input type="checkbox"/> | <input type="checkbox"/> | 11. Does your seat pan lock in each position? |

Yes **No****Seat Pan Padding**

- 12. Is your seat pan cushion firm, with the contour allowing your lower back to come in contact with the backrest?
- 13. Is the seat pan softly padded, with the front edge rounded in a waterfall fashion?
- 14. Is your seat covering made of a porous, breathable, and resilient material?

Backrest

- 15. Is the support surface of your backrest a minimum of 15” (38 cm) high and 12” (30.5 cm) wide?
- 16. Does your backrest contour to the curve of your lower back?
- 17. Is your backrest large enough to support your entire back, but not interfere with the use of your arms?
- 18. Does your backrest widen from top to bottom and is it concave from side to side, conforming to your body?
- 19. Does your backrest have a forward and backward tilt, reclining a minimum of 15° and locking into place?
- 20. Does your backrest extend high enough to support your upper trunk, head, and neck when you lean back?
- 21. Does your backrest contain a spring-loaded pivoting mechanism?
- 22. Does your chair back have a lumbar (low back) support?
- 23. Do you have a vertical seat back adjustment so you can position the middle of the lumbar support a minimum of 6” to 10” (15 to 25.5 cm) above the seat pan?
- 24. Is your lumbar support a minimum of 12” (30.5 cm) wide?

Yes **No****Armrests**

- | | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | 25. Does your chair have removable armrests? |
| <input type="checkbox"/> | <input type="checkbox"/> | 26. Is the distance between your armrests adjustable? |
| <input type="checkbox"/> | <input type="checkbox"/> | 27. Do your armrests adjust vertically between 7" to 10½" (18 to 27 cm) above your compressed seat height, or are they fixed in that range? |
| <input type="checkbox"/> | <input type="checkbox"/> | 28. Is your armrest height the same as your desk or keyboard height? |
| <input type="checkbox"/> | <input type="checkbox"/> | 29. Are your armrests long and wide enough to support your forearm? |
| <input type="checkbox"/> | <input type="checkbox"/> | 30. Are your armrests low and short enough to fit under your work surface, or are they removable? |
| <input type="checkbox"/> | <input type="checkbox"/> | 31. Are your armrests padded and soft? |

Base

- | | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | 32. Does your chair have a stable base supported by five legs with casters? |
| <input type="checkbox"/> | <input type="checkbox"/> | 33. Does your chair swivel 360°? |
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