



Guidelines for Seated Workstations for Computer-Based Office Work

© 2009

PREPARED BY:

**Ergonomic Systems Associates Incorporated
April 2009**

Guidelines for the Design of Seated Workstations for Computer-Based Office Work

Purpose: The purpose of this guideline is to assist you with the manufacture, modification, and/or purchase of workstations used for completing computer-based tasks from a seated position.

General Rules

- Know who the workstation users are going to be. Are they men, women, or a combination of both? Ask the users what tasks they are going to be performing at this workstation or, if they are currently using a workstation, observe them performing these tasks.
- Height adjustable workstations are the ideal solution. While up-front costs of height adjustable workstations are often higher, the costs of well-designed height adjustable workstations are usually much less over the functional life of the workstation.
- If non-adjustable workstations must be used, design the workstation for the tallest users, and then provide well-designed foot rests, etc. so that smaller users can work at optimal heights.

Workstation Layouts and Required Specifications

The following diagrams illustrate the most common types of workstation layouts and the suggested design specifications they should have in order to ensure an optimal fit between the worker, their tools, and the workstation.

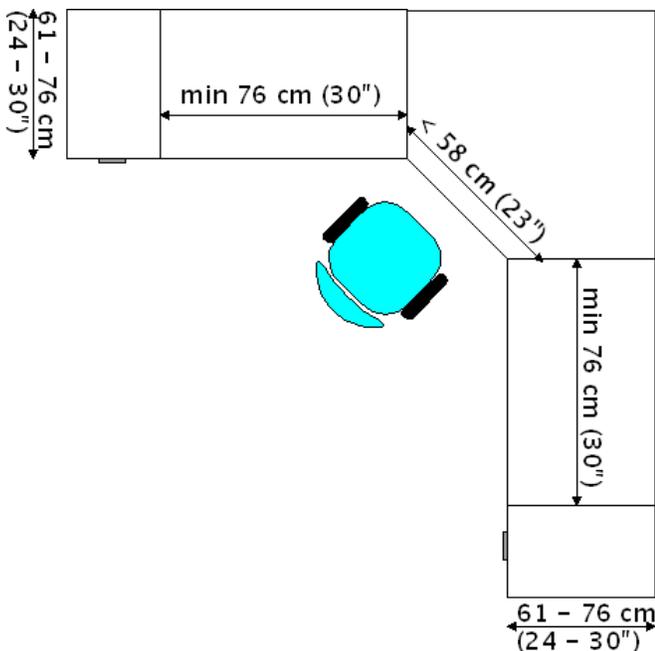


Figure 1: Straight edge, corner, computer work surface with right- and left-hand returns

- Works best when corner, computer work surface can be set at 2.5 (1") below elbow height.
 - keyboard / mouse on the same work surface
- It can be difficult to find an adjustable keyboard / mouse support that will hold both a keyboard and a mouse on the same surface when the front edge of the computer work surface is < 58 cm (23") long.
 - specialty supports are available to fit
 - these supports tend to be deeper and workers may feel like they are sitting too far away from their other work surfaces.
- ≥ 76 cm (30") of knee width should be provided under at least one work surface
- If paper-based tasks are required the work surfaces used for these tasks should be 2.5 – 5 cm (1 – 2") above seated elbow height
 - these work surfaces will be higher than recommended for the keyboarding / mousing
 - if all work surfaces are set to the correct height for paper based tasks, and if the keyboard / mouse are to be used on top of the work surface, users should be provided with a foot rest to provide support for their feet.
- 61 cm (24") min work surface depth required, 76 cm (30") preferred
- All work surfaces should be no thicker than 3.8 cm (1.5"), with no facing

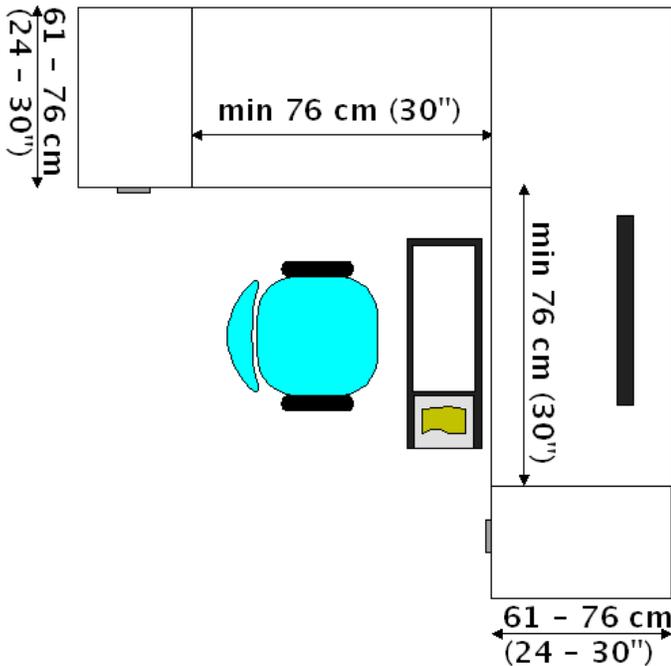


Figure 2: L-Shaped Workstation with two work surfaces

- If the keyboard and mouse are being used on top of work surface then a minimum work surface depth of 76 cm (30") should be provided.
- If at least 76 cm (30") of free space / width is not provided under the non-computing work surface, workers may express a concern that they need to always push the keyboard / mouse support under the work surface so they have space for paper-based tasks
- ≥ 76 cm (30") of knee width required under the work surface where paper-based tasks are performed
- 61 cm (24") min work surface depth required, 76 cm (30") preferred
- All work surfaces should be no thicker than 3.8 cm (1.5"), with no facing

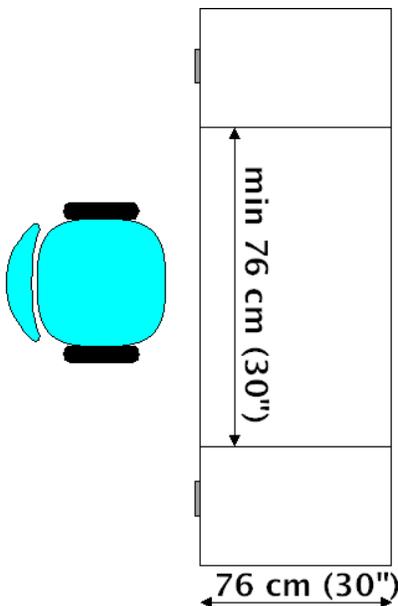


Figure 3: 'Desk' style workstation

- Not well suited for jobs that require both computer and paper based tasks
- For paper based tasks the work surface should be set 2.5 – 5 cm (1 – 2") above seated elbow height
 - consider providing inclined work surface / reading surface
- If the user only performs computer based tasks, either place keyboard / mouse on top of work surface and provide a foot rest to ensure adequate support for the user's feet or provide a well-designed, height adjustable keyboard / mouse support.
- If the user only performs either computer or paper based tasks ensure that a minimum of 76 cm (30") of knee width is provided
- If both computer and paper based tasks are performed, a minimum of 152 cm (60") of knee width is recommended.
- Standard desk depth is 76 cm (30"). This is the minimum recommended depth if using a keyboard / mouse on top of the work surface
- The work surface should be no thicker than 3.8 cm (1.5"), with no facing or centre drawers

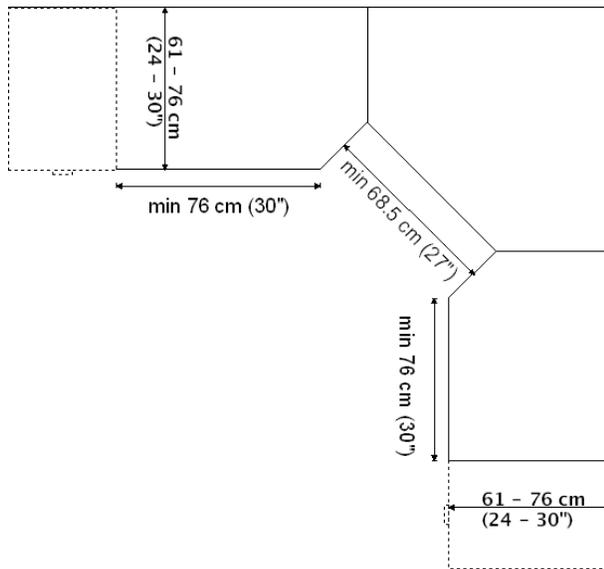


Figure 4: Corner, computer work surface with cut-out for keyboard / mouse support and right- and left-hand returns

- Cut-out allows for a full-sized, adjustable keyboard / mouse support
- For paper based tasks the work surfaces should be set 2.5 – 5 cm (1 – 2") above seated elbow height
- ≥ 76 cm (30") of knee width required under at least one work surface for paper-based tasks
- 61 cm (24") min work surface depth required, 76 cm (30") preferred
- All work surfaces should be no thicker than 3.8 cm (1.5"), with no facing
- A workstation without a cut-out, but with at least 68.5 cm (27") along the front edge of the computer work surface will allow for a well-designed keyboard / mouse support to be easily installed
 - even so, workers may feel like they are sitting too far away from their other work surfaces.

Additional Specifications

- Work surfaces for paper-based tasks should be 2.5 – 5 cm (1"-2") above the worker's seated elbow height and no more than 7.5 cm (3") above.
- A fixed work surface height of 73.5 - 76 cm (29"-30") is too high for most workers. If a non-adjustable work surface must be used it is recommended that it be no higher than 71 cm (28")
- Height adjustable, sit/stand work surfaces or keyboard / mouse supports should go from 55 – 122 cm (22" – 48"),

Optimal Keyboard and Mouse Positioning

- If the user **does not** perform reading and writing tasks on the work surface then the work surface is an excellent place for the computer keyboard and mouse. The height of the work surface should be approximately 2.5 cm (1") below the user's seated elbow height with their chair adjusted properly.
- Height adjustable, seated workstations should adjust from 55 - 89 cm (22" - 35") to allow the keyboard and mouse to be at the seated elbow height for almost all male and female users.

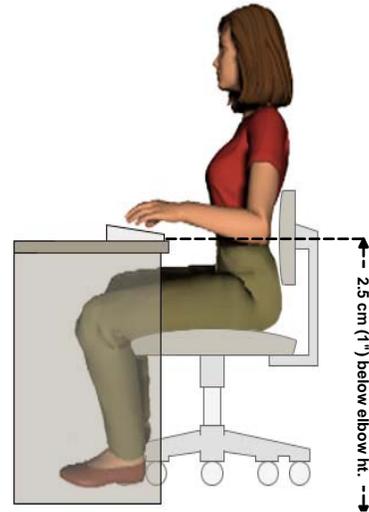


Figure 5: Keyboard on Work Surface

- If the user **does** perform reading and writing tasks on the work surface then a height adjustable keyboard / mouse support that has a single surface for both the keyboard and the mouse should be used.
- To fit almost all male and female users
 - at a 73.5 cm (29") high, non-adjustable workstation, the user should be able to adjust the keyboard / mouse support 17.5 cm (7") below and 15 cm (6") above the work surface
 - with workstation work surfaces set at optimal heights for paper based tasks, the user should be able to adjust the keyboard / mouse support as much as 7.5 – 10 cm (3" - 4") below the work surface
- Computer monitors should be equipped with well-designed height adjustable stands so that users can easily adjust the monitor to an optimal viewing height.
- LCD monitor arms are recommended as they allow for a full range of adjustments (height, distance, tilt, etc.)

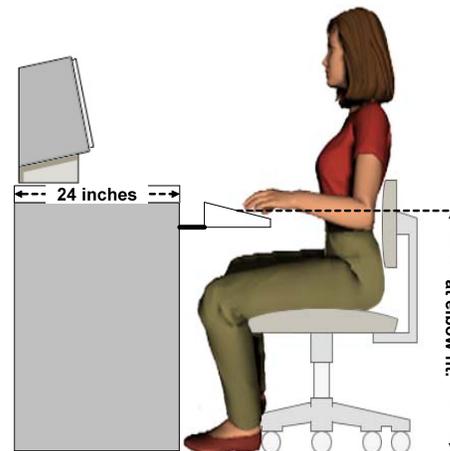


Figure 6: Keyboard on a Support

When using a height adjustable keyboard / mouse support the following guidelines should be followed:

- The keyboard and mouse should always be located beside one another, at the same height, and ideally on the same surface.
- The user should have the ability to locate the mouse on either side of the keyboard.
- A keyboard and mouse support should be at least 68.5 cm (27") wide to allow for enough space for comfortable mouse use.

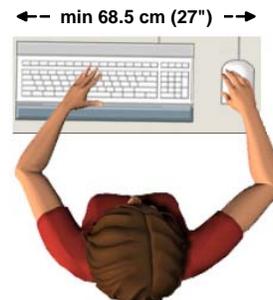


Figure 7: Functional Width Required