

ISLAND HEALTH

Computer Workstation Furniture Design and Setup For Staff Safety, Ergonomics and Functionality

Version 2.0



Prepared by: Health, Wellness, Safety & Ability Management

1. Introduction

Outlined in this document, are specific designs and setup options for the general office and clinical/collaborative/charting computer workstations. The purpose of creating this document is to:

- minimize staff safety risks and injuries,
- reduce costs,
- create workspaces that provides the most functional benefit, and
- meet the British Columbia Occupational Health and Safety Regulation (OHSR) 4.50 (1) *The employer must eliminate or, if that is not practicable, minimize the risk of MSI to workers.*

Use this [link](#) for technology standards supported by Island Health IM/IT.

Further guidance will be created for specialized workspaces, such as reception areas, that involve multiple technologies, patient care/customer service, confidentiality/privacy, shared workspaces and a large variety of work tasks. For work areas not identified in this document or an individual staff member needing workstation setup assistance, contact Occupational Health and Safety (OHS) for support.

Integrating OHS early in the design process will provide the greatest functional benefit and cost effectiveness. This guidance document is REQUIRED for the construction of all new buildings/areas and renovated spaces.

Key Workstation Design Principles (based on CSA Z412-17)

- a) Flexibility** – the workstation shall accommodate a wide variety of staff that utilize the workstation throughout its lifecycle as well, should accommodate the option of multiple staff using a single workstation (i.e. swing desk).
- b) Versatility** - the workstation design shall allow for safe use in a full variety of work tasks and for the majority of staff (i.e. height adjustable).

Computer Workstation Furniture Design and Setup

c) **Fit (see Figure 1)** – the workstation shall fit staff, their needs, and tasks; this may include a customized design for a staff member with specific requirements. General ergonomics principles of fit, begin with the following setup (see Figure 1):

- Feet flat on the ground or fully supported on a foot-rest,
- Keyboard and mouse at elbow height to allow a neutral wrist posture without leaning forward (work surface too low) or shrugging the shoulders (work surface too high),
- Mouse immediately to the right or left of the keyboard at the same height and directly in line with the shoulder,
- Top of screen at or slightly below eye level or lower for those with multifocal lenses to maintain a neutral neck posture,
- Monitor(s) centered in front of the head, without twisting and at a horizontal distance to allow the user to easily read the screen, and
- Space for movement of the lower limbs under the work surface while directly facing the monitor(s) and input devices.

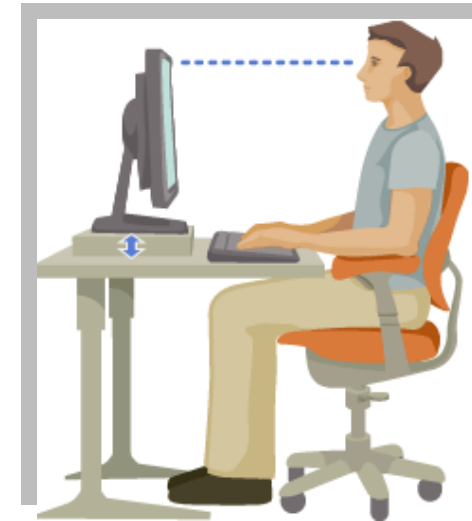


Figure 1. Good ergonomic position when sitting. Sourced from Fraser Health. (2016). *WHERGO – Office Ergonomics*. eLearning Course: Health, Safety & Wellness

- d) **Postural variety** (see Figure 2) - the workstation design shall allow for staff to adjust through multiple postures while:
- sitting (upright, reclined, forward tilt),
 - standing (upright, side-to-side, forward/back) and
 - alternating between sitting and standing (and possibly semi-standing).

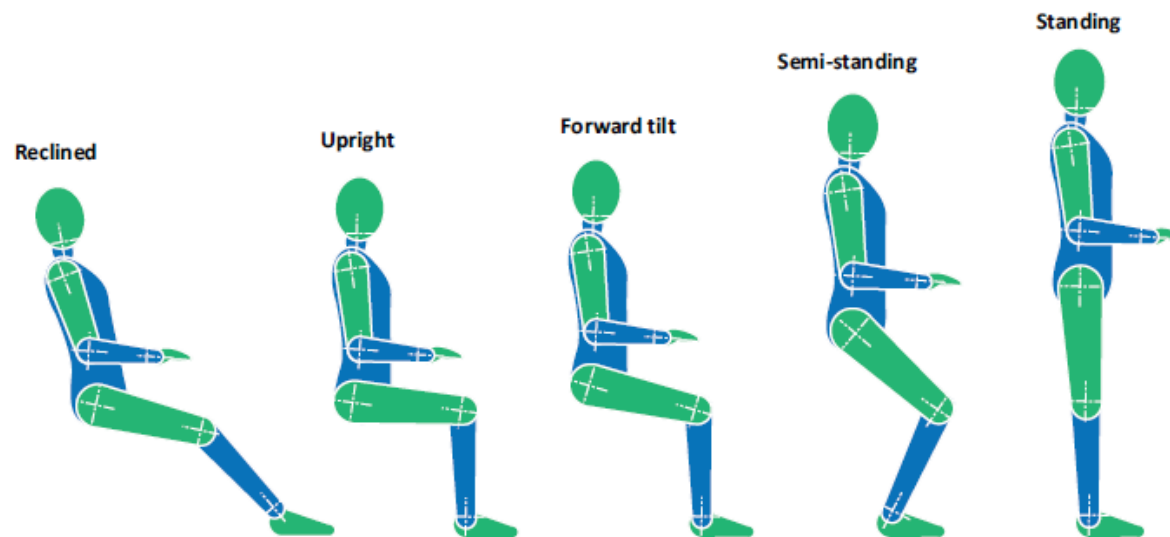
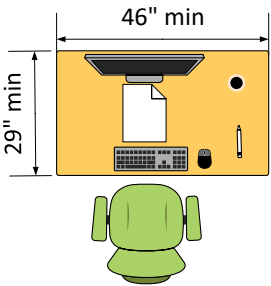
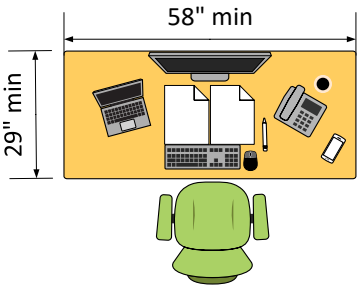
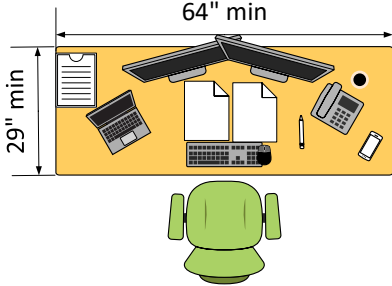
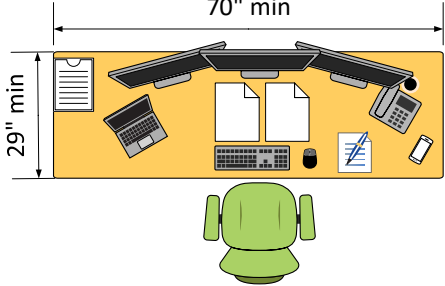


Figure 2. Examples of a variety of working postures. Sourced from CSA. (2017).
Office Ergonomics – An application standard for workplace ergonomics.

2. Design and space requirements (based on CSA Z412-17 and adapted to meet Island Health functional requirements)

To meet the key workstation design principles, modular adjustable furniture must be prioritized over millwork.

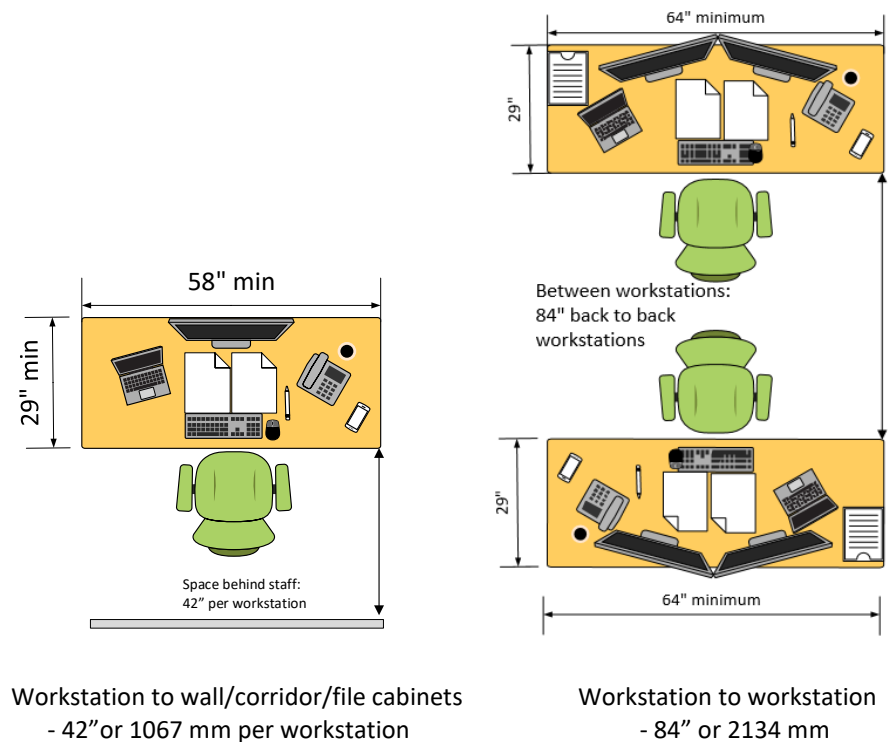
MEASUREMENTS				
Size based on function and number of monitors - top down view				
 <p>46" min 29" min</p> <p>Collaboration/charting workstation with one monitor</p>	 <p>58" min 29" min</p> <p>Workstation with one monitor</p>	 <p>64" min 29" min</p> <p>Workstation with two monitors</p>	 <p>70" min 29" min</p> <p>Workstation with three monitors</p>	
* Collaboration/charting workstation = briefly and/or frequently used for electronic charting, Other workstations = used for longer periods of time, with a large variety of tasks and reference materials				
Workstation Width (see diagram above) Minimum width required for monitor(s), positioning of input devices (keyboard, mouse) and reference materials directly in front of seating position, room for telephone and other equipment (scanners, printers, label maker) and leg/feet clearance under the work surface to turn chair.	One monitor (collaboration/charting only) 46" or 1168 mm minimum	One monitor 58" or 1473 mm minimum	Two monitors 64" or 1626 mm minimum	Three monitors 70" or 1778 mm minimum
Workstation Depth (see diagram above) Minimum depth required for comfortable viewing of monitor(s), access to input devices, positioning reference materials between keyboard and monitors, and clearance under the work surface for movement of legs and feet.	29" or 737 mm minimum			
Workstation Height range Adjustable range from floor to top of work surface.	22.6 to 48.7" or 575 to 1237 mm minimum			

MEASUREMENTS

Clearance behind*

Minimum clearance from the front edge of the workstation to the wall, corridor/file cabinets behind the staff member.

***Note: During a pandemic (e.g. Covid-19 or when droplet precautions are in place), no workstation to be within 79" or 2 meters of each other or install barriers/high-walled cubicles between workstations.**



Clearance around workstation*

Gap around the workstation to allow vertically movement (i.e.: sit/stand surface moving up/down) of surface against the cubicle walls or partitions

***Note: During a pandemic (e.g. Covid-19 or when droplet precautions are in place), no workstation to be within 79" or 2 meters of each other or install barriers/high-walled cubicles between workstations.**

1" or 30 mm
between workstation and cubicle walls

FURTHER DESIGN NOTES	
<ul style="list-style-type: none"> • Keyboard and mouse to be fully supported by the work surface. A separate keyboard/mouse platform is NOT required, unless recommended by OHS. 	<ul style="list-style-type: none"> • Monitor(s) to be height and angle adjustable, the installation of an additional adjustable monitor arm is NOT recommended as the mechanism compromises horizontal and vertical positioning (monitor(s) are too close and too high for comfortable viewing).
<ul style="list-style-type: none"> • Document holder, if required should be angle adjustable and positioned between the monitor and keyboard. 	<ul style="list-style-type: none"> • Telephone headsets should be provided if on the phone for extended periods, or speakerphone is disruptive for others in the vicinity or computer use/writing required while on the phone.
<ul style="list-style-type: none"> • Cable management: bundled (not loose), at or below work surface away from feet of user or others passing by, positioned to eliminate interference with height adjustment mechanism and not restrict the allow full height adjustment range. Ensure appropriate number of electrical outlets to reduce overloading of power bars. 	<ul style="list-style-type: none"> • Under the work surface should be clear of obstructions and allow for comfortable leg movement. File drawers under the work surface are NOT recommended. If mobile file drawer units are required, consider limiting the units to prevent clutter.
<ul style="list-style-type: none"> • Overhead storage or shelving is NOT recommended as this limits workstation height adjustment and contributes to over-reaching. 	<ul style="list-style-type: none"> • Work surface load capacity 150 to 220 lbs or 68 to 100 kg.
<ul style="list-style-type: none"> • Work surfaces should be no more than one inch or 30 mm thick, with a beveled edge, no sharp corners and no gaps between surfaces. 	<ul style="list-style-type: none"> • All workstations must be quickly and easily adjustable by the user (i.e. within 10 seconds).
<ul style="list-style-type: none"> • Workstation located to avoid users back to a room entrance to be aware when someone is entering the workspace and perpendicular to windows to reduce direct glare. 	

Computer Workstation Furniture Design and Setup



3. Task chair (based on CSA Z412-17)

Island Health has pre-approved task chairs from ergoCentric that meet office equipment standards for ergonomics. Individual sizing is available to customize fit, as well as other design choices to fit functional requirements.

Use this link to make a selection: <http://portal.ergocentric.com/register> (registration code: viha2016)

4. References

Canadian Standards Association. (2017). *Office Ergonomics – An application standard for workplace ergonomics*. (CSA Z412-17). Toronto: CSA International.

Canadian Standards Association. (2018). *Canadian Health Care Facilities* (CSA Z8000-18). Toronto: Canadian Standards Association.

Fraser Health. (2018). *Fraser Health Ergonomic Standard for Workstations Version 5.0*.

Fraser Health. (2016). *WHERGO – Office Ergonomics. eLearning Course: Health, Safety & Wellness* (16634). <https://learninghub.phsa.ca/Courses/16634/whergo-office-ergonomics>

Pheasant, S. (2003). *Bodyspace - Anthropometry, ergonomics and the design of work (2nd edition)*. Bristol, PA: Taylor & Francis

Vancouver Coastal Health. (2009). *Vancouver Coastal Health SPACE GUIDELINES Administrative Workspace*