

## **Ergonomics Equipment Selection Guidelines:**

### ***Workstations – Chairs:***

The selection of a suitable chair is a critical step in preventing health problems in people who work in a sitting position. The ergonomic approach views sitting a specific, specialized activity which is influenced by the way that a person interacts with the working environment. Additionally, some chairs must be selected for employees with special requirements, such as those with doctor recommendations or referrals.

When purchasing chairs (for computer workstations), ergonomic design qualities should include:

- Pneumatic adjustable seat height
- Seat depth adjustability
- Seatback includes lumbar support, with a seated posture between 100-110°
- Five-star caster base (not four) – for use on carpet or linoleum
- Seat and back tilt adjustment and/or rocking lock mechanism
- Easily adjusted while seated
- Minimal ridges or contouring on backrest
- Adjustable height armrests, wider than forearms of average employee
- Mesh or breathable foam density back and seating

Risk Management Services recommends several ergonomic chairs for offices and labs, such as the *Very Chair* and *Zody Chair* by Haworth, and *Aeron Chairs* by Aeron. Risk Management Services can assist if additional customization is needed.

### ***Workstations –Keyboard Trays:***

When designing an employee's work environment, desks and keyboard trays are the next consideration following chair selection. When purchasing computer workstation equipment, ergonomic design qualities should include:

- Fully adjustable keyboard trays with attached mouse platforms mounted on the left or right side of the tray.
- Avoid positioning an employee at corner or L-shaped desk without a keyboard tray. This increases the reaching distance to most objects, and without a keyboard tray, can lead to unnecessary reaching and stretching.
- Keyboard trays have wrist supports to help keep your wrists in a neutral position and reduce the risk of wrist related injuries such as carpal tunnel.
- Allow for sufficient leg room under an employee's desk, other than small items such as computer towers, garbage cans, and cables.

Risk Management Services recommends 3M and Fellowes Adjustable Keyboard trays and the *Microsoft® Natural® Ergonomic Keyboard 4000*.

### ***Workstations – Monitors:***

The height, location, and number of monitors should be selected after selecting a workstation chair. Consider the following design qualities when purchasing workstation monitors:

- Monitors should be located directly in front of the user, to avoid excess neck twisting.
- When seated comfortably, the user's eyes are in line with a point on the screen about 2-3" below the top of the monitor casing (not the screen).
- Choose monitors that have adjustable height, and when height is maximized or does not meet the needs of the user, monitor stands may be necessary.
- Avoid positioning desk so that monitors receive glare from windows or lights. If unable to shift the workstation arrangement, use anti-glare screening or drapes to control light levels from windows.

Dell offers numerous monitors that offer adjustable height as a standard option. Risk Management Services recommends:

Dell 24" Monitor, model#P2417H

Dell 23" Monitor, model#P2317H

### ***Workstations – Sit/Stand Workstations:***

Sit/Stand Workstations offer benefits for employees operating in high mobility environments where standing is common; such as hospitals, laboratories, etc. Sit/Stand workstations are also available when recommended by a doctor, based upon medical evaluations and referrals.

When working in an office environment however, there is little evidence that sit-stand furniture has long term cost effective benefits. Standing is considered a static posture and could be more tiring than sitting in a static posture, and movement is important.

The best way to obtain the benefits from sitting and standing is for people to sit in a neutral work posture and then intermittently move around doing other things, like filing papers, going to the printer, making phone calls, getting coffee, making photocopies etc.). Micro breaks (<2 minutes) every 30 to 60 minutes will help relieve muscle fatigue.

When considering ergonomic design qualities of sit/stand workstations, including the following:

- Independently adjusted keyboard tray and monitor rails, allowing each aspect to be lifted to a height appropriate for the user.

- Monitors should be located directly in front of the user, to avoid excess neck twisting.
- Keyboard trays have wrist supports to help keep your wrists in a neutral position and reduce the risk of wrist related injuries such as carpal tunnel.
- Allows for sufficient leg room under the employee's desk, similar to a standard adjustable keyboard tray.

Risk Management Services recommends The *Ergotron Workfit Sit/Stand* products:

Ergotron Workfit-S Sit/Stand Workstation, catalog#33-350-211, item#692212 & 302938

Ergotron StyleView, Electronic Medical Records Cart, item#164692

Ergotron Workfit-LX, Desk Mount, item#228381

### ***Lab Chairs, Stools and Lab Benches:***

Allowing free movement in medical and research environments, while promoting safe ergonomic postures is a key component to laboratory workspaces. Consider these best practices when selecting lab chairs, stools, and designing high counter areas

- Benches used for light work, such as pipetting and dissection, should range in heights to accommodate for the type work being conducted:
  - Precision Work: 31-37" in height.
  - Reading/Writing: 28-31" in height.
  - Light Work, Assembly: 21-28" in height.
- Workbench cut outs for seated work should include appropriate legroom beneath the bench to prevent awkward postures and reaching
  - >18" Depth
  - >30" Width
  - >8" of Thigh Clearance
- Chairs for workbenches should include an adjustable seatback and height option, and a footrest ring. Chair armrests should be adjustable to that the technician or employee can move the chair close to the edge of the work bench.
- If appropriate leg room can't be included, label the work area for standing work only, and utilize anti-fatigue floor mats.
- If selecting pipetting equipment, replace manual, plunger operated pipettes with electronic versions to eliminate contact pressure on an employee's thumb.

Risk Management Services recommends several ergonomic stools for labs and research environments, such as the *Very Stool* by Haworth and the *Mid-Mesh* by Aeron. Risk Management Services can assist if additional customization is needed.

***Storage Areas and Shelving:***

Storage and shelving within office, research, and laboratory environments can offer unique ergonomic challenges related to lifting, bending, and reaching. When selecting storage units or shelving for your employees or office areas, consider the following prior to purchasing units:

- Assure that storage areas and shelving offer enough space for larger, heavier objects to be stored below waist height and not overhead.
- Signs and communication can be used to label shelving to remind employees not to place items over a certain height, to avoid excess reaching, stretching, or falls.
- Clear spaces to improve access to materials or products being handled. Easy access allows workers to get closer and reduces reaching, bending, and twisting.