

WORKSTATION SET-UP / ERGONOMICS STANDARD OPERATING PROCEDURE (SOP)

REVIEW

- **Purpose:**
 - This document is designed to give the user the necessary information to ergonomically set up and / or use a workstation so that computer work can be done safely and effectively based on the hazards identified.
 - The employee who is ergonomically setting up and / or using a workstation is responsible to use this standard operating procedure to complete the task.
 - This document also contains several ergonomic tips and solutions to common workplace complaints (i.e. eye / neck / back strain, etc.).

- **Work flow:**
 - Not applicable.

- **Skills / knowledge required:**
 - Not applicable.

- **Materials required (refer to the diagram on page 4):**
 - Desk
 - Chair
 - Computer monitor
 - Keyboard
 - Keyboard tray (optional, but recommended)
 - Document stand
 - Foot rest (optional)

WORKSTATION SET-UP / ERGONOMICS SOP, CONTINUED**PROCEDURE**

By adjusting your screen and work area, these minimal steps will create a more natural and trouble-free work atmosphere. Here are several steps you can take to adjust your environment to improve working potential.

1. Back and legs:

- Sit up straight and use the back of the chair to support the lower back.
- Adjust your chair to keep the knees at a 90 - 130 degree angle and have your feet flat on the floor or foot rest.
- Thighs should be parallel to the floor and allow 2 - 3 centimetres of space between the back of the knee to the chair.
- Calves should be 2 - 3 inches away from the chair to push the lower back into the back of the chair.
- Learn to make these adjustments to your chair and make sure that the positions allow for free mobility.

2. Head and eyes:

- At your workstation try to position your head directly over the hips, keeping your back and neck in a natural and straight position.
- The monitor should be directly in front of the body, an arms length away.
- The top of your monitor should be directly in line with your eyes or lower.
- Adjust the screen to ensure that the centre of the screen is your main focal point on the monitor.
- To avoid eyestrain avoid glare and dust on the monitor and take regular vision breaks.
- Try using a glare guard on your monitor or a document holder to ease the glare and strain off the eyes and neck.

3. Shoulders and arms:

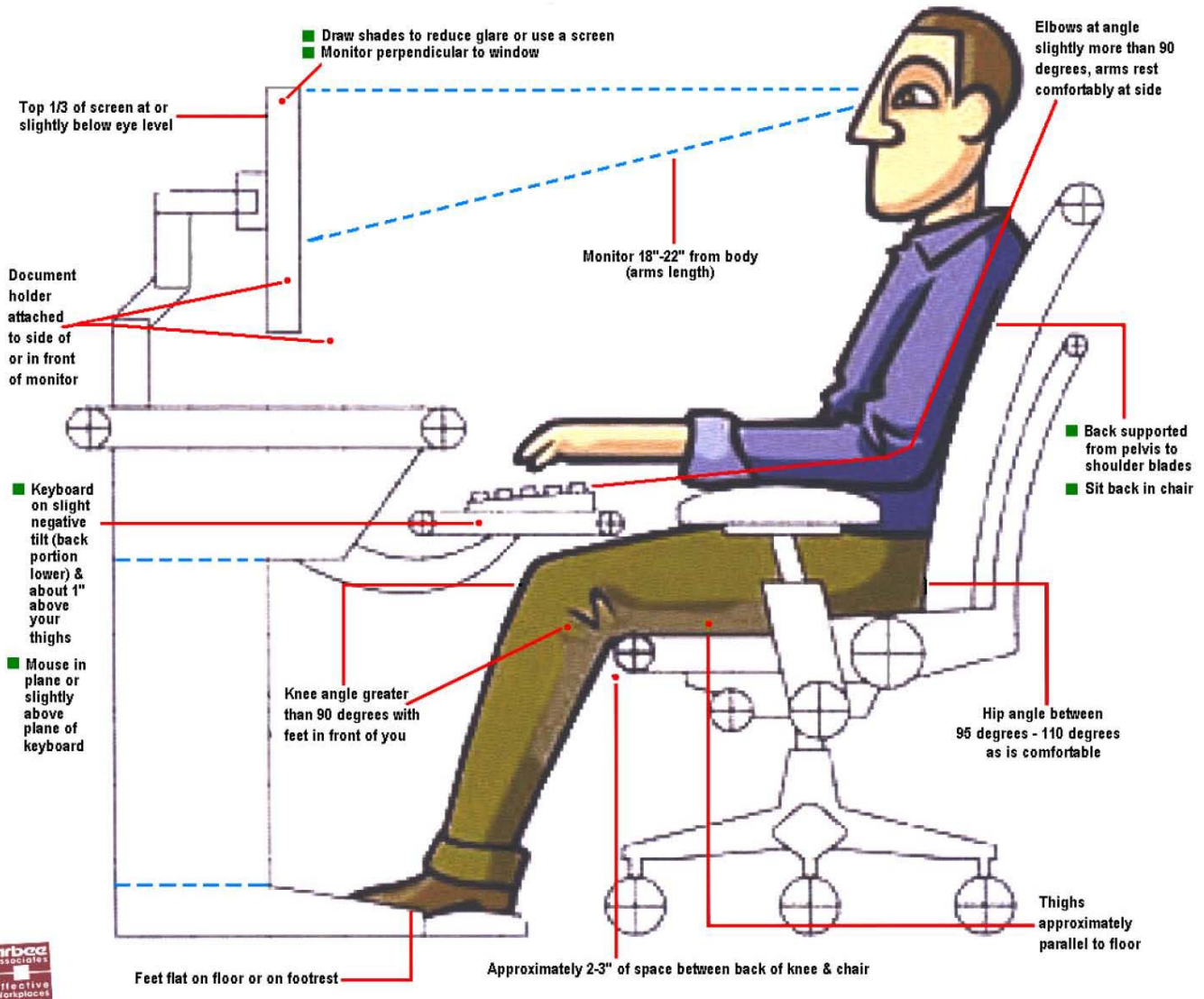
- Shoulders should be relaxed and arms should be close to the body.
- Forearms should be parallel to the ground and the elbows should be bent, slightly bigger than a 90-degree angle.
- Try not to hunch the shoulders and try not to lean on your arms for support.
- Arm rests on your chair can help with slouching and arching of the back, just make certain that the arms are at a 90-degree angle and not too high or low (these angles can create strains).
- Avoid repetitive and excessive reaching and strains.
- Remember to take frequent stretch breaks to release tension in the shoulders and arms.

WORKSTATION SET-UP / ERGONOMICS SOP, CONTINUED**PROCEDURE, CONTINUED**

4. Wrists and hands:
 - Keep wrists straight and relaxed while typing and using the mouse.
 - Use light pressure while keyboarding.
 - Place the mouse right next to the keyboard on the right (or left, depending on which hand you use) to reduce any extra efforts to reach for the mouse.
 - Remember to include wrist stretches with mini-breaks.
5. Organize your workstation:
 - Clear desktop of any unnecessary items.
 - Keep items frequently used close.
 - Remove clutter or storage from under the desk to allow for free range movement for your chair, legs, and feet.
 - If possible, use a document holder and align it with your monitor to reduce eye and neck strain.
6. Home and hobbies:
 - Try to relax and stretch away from work to ease pressure or stress off your daily routine.
 - Routine stretching is a good habit to include in your daily routine.
 - Be aware of physical limitations while performing hobbies.
 - Avoid static postures while sitting at home, the office or when you go out.

WORKSTATION SET-UP / ERGONOMICS SOP, CONTINUED

Ergonomics for the Computer Workstation



WORKSTATION SET-UP / ERGONOMICS SOP, CONTINUED**SUMMARY / TIPS:**

- There are several ways to protect your body from strains around the workplace. To start, there are many exercises that can be done to relieve stress, strain, and repetitious tension in the body. Ergonomic products are also a great investment, they are often advertised to reduce fatigue, repetitive strain, and boost productivity in workers. Here are a few suggestions on how to reduce body strain in the workplace:
 - Take mini-breaks and stretch throughout the day.
 - Alternate job tasks to avoid repetitive motions.
 - Break up tasks into smaller parts.
 - Avoid using excessive force.
 - Get help to lift heavy objects.
 - Maintain natural postures.
- Prolonged computer usage in the workplace has brought attention to potential eyestrain issues with computer screens. Some of the symptoms that are most common with eye strains are:
 - Sore, tired, burning, itchy eyes.
 - Watery eyes.
 - Dry eyes.
 - Blurred or double vision.
 - Headaches or sore / stiff neck.
 - Difficulty shifting focus between the monitor and paper documents in the work area.
 - Colour fringes or after images when you look away from the monitor.
 - Increased sensitivity to light.
- Adjustments to your work station to ease eye strain:
 - Top of screen should be at eye level or slightly lower:
 - Adjusting monitor position alleviates dry eye and neck pain by holding a more natural relaxed position gazing downward towards the screen.
 - Keep monitor at an arm's length away.
 - Adjust print size on your monitor. Enlarging the font on your screen reduces strain on the eyes.
 - Adjust lighting and reduce glare on monitor.
 - Do not face a window, or have your monitor facing a window.
 - Check glare by sitting at monitor with lights off. Check what is reflecting light and adjust those items so you are not getting reflections off your screen or off other things in your work area.
 - Adjust monitor brightness to be similar to room surroundings.

WORKSTATION SET-UP / ERGONOMICS SOP, CONTINUED

SUMMARY / TIPS, CONTINUED:

- Clean monitor - wipe / dust off the monitor daily as dust refracts light.
- Line keyboard up directly with monitor so you are not looking sideways - this could result in a sore neck.
- Keep documents you are working with at the same distance from you as your monitor. This prevents a constant need for refocusing as you work.
- Exercises that can reduce eye strains throughout the day:
 - Changing focus points:
 - 20/20 rule: look 20 feet away, every 20 minutes, for 20 seconds.
 - Palming your eyes:
 - Close your eyes and place your palms on the eye socket. Your palms will block out the light and hold for thirty seconds. Repeat throughout the day when necessary.
 - Yoga for eyes:
 - Hold a finger a few inches away from your face.
 - Shift focus to finger - as you slowly move it away, focus on something far away in the distance and then back to your finger.
 - Slowly bring your finger back towards your face.
 - Next shift your focus to something farther away (greater than 8 feet away) and hold your eyes there – do this several times a day.

ADDITIONAL ERGONOMIC TIPS FOR THE WORKPLACE

THINGS TO LOOK FOR	POSSIBLE SOLUTIONS
Prolonged hunched or elevated shoulder while holding the phone.	<ul style="list-style-type: none"> ● Telephone headset or speakerphone.
Elbows splayed out (shoulder abduction).	<ul style="list-style-type: none"> ● Lower work surface. ● Lower chair armrests. ● Bring chair armrests in closer. ● Awareness and habit training.
Raised or tensed shoulders.	<ul style="list-style-type: none"> ● Habit or tension training. ● Lower work surface or keyboard. ● Lower chair armrests. ● Raise chair, if foot contact with the floor can be maintained.

WORKSTATION SET-UP / ERGONOMICS SOP, CONTINUED

ADDITIONAL ERGONOMIC TIPS FOR THE WORKPLACE, CONTINUED

THINGS TO LOOK FOR	POSSIBLE SOLUTIONS
Twisting the head to the side.	<ul style="list-style-type: none"> • Bring viewed item closer to centerline of view.
Elbow flexed for long periods using the telephone.	<ul style="list-style-type: none"> • Telephone headset or speakerphone.
Elbow or forearm resting for long periods on hard or sharp work surface / chair armrests.	<ul style="list-style-type: none"> • Pad or round surfaces, corners, and armrests. • Replace armrests. • Telephone headset. • Habit training.
Wrists bent to the sides when using side keys.	<ul style="list-style-type: none"> • Habit training. • Keyboard with keys that are more accessible or split keyboard design.
Wrists bent back (extended) or forward (flexed) for prolonged periods.	<ul style="list-style-type: none"> • Habit training. • Palm rest. • Lower, raise, or change slope of the keyboard.
Wrists or palms resting for long periods on hard or sharp keyboard or work surfaces.	<ul style="list-style-type: none"> • Habit training. • Palm rest. • Padded or rounded surfaces / corners.
Hands held actively over the keyboard during keying pauses.	<ul style="list-style-type: none"> • Habit training. • Palm or forearm rest.
Rapid, sustained, or prolonged keying.	<ul style="list-style-type: none"> • Greater work variety. • Aggressive break schedule. • Reduce overtime.
Forceful keying or key pounding.	<ul style="list-style-type: none"> • Habit training. • Light-touch keyboard.

WORKSTATION SET-UP / ERGONOMICS SOP, CONTINUED

ADDITIONAL ERGONOMIC TIPS FOR THE WORKPLACE, CONTINUED

THINGS TO LOOK FOR	POSSIBLE SOLUTIONS
<p>Significant amounts of hand stapling, punching, lifting, opening mail, or other forceful exertions, especially combined with awkward postures.</p>	<ul style="list-style-type: none"> • Mechanical aids, such as electric stapler or punch. • Reduce size of lifted loads. • Bring heavy loads close to the body, at a medium height. • Substitute sliding (on work surface) or wheeling (on floor). • Sharpen letter openers.
<p>Prolonged mouse use.</p>	<ul style="list-style-type: none"> • Greater work variety. • Aggressive break schedule. • Alternate hands. • Alternative pointing devices. • Arm support, including small table. • Mouse close to body (extended keyboard tray). • Learn keystroke substitutes for menus / commands.
<p>Prolonged sitting, especially in only one posture.</p>	<ul style="list-style-type: none"> • Greater work variety. • Aggressive break schedule. • Chair that supports posture change, through movement, size, or easy adjustability. • Habit training. • Move phone and printer to the other side of the office to force standing, or suggest standing when on phone. • Check chair fit. • Sit-stand work surface.
<p>Lumbar back area not supported.</p>	<ul style="list-style-type: none"> • Lumbar cushion. • Backrest height and tilt. • Check chair fit, especially backrest / lumbar height.

WORKSTATION SET-UP / ERGONOMICS SOP, CONTINUED

ADDITIONAL ERGONOMIC TIPS FOR THE WORKPLACE, CONTINUED

THINGS TO LOOK FOR	POSSIBLE SOLUTIONS
Feet dangling, not well supported, or a posture which seems to put pressure on the backs of the thighs.	<ul style="list-style-type: none"> • Lower chair. • Lower work surface. • Habit training. • Foot rest (last resort).
Chair backrest not used for long periods.	<ul style="list-style-type: none"> • Check chair fit, especially seat pan depth and height. • Check legroom. • Check monitor distance and character height. • Habit training.
Twisted torso.	<ul style="list-style-type: none"> • Rearrange work area. • Provide more knee space. • U-shaped work surface layout. • Swivel chair.
Frequent or prolonged leaning or reaching.	<ul style="list-style-type: none"> • Rearrange work area. • Mouse pad, palm or forearm rest. • Bring mouse and keyboard closer to body.
Working with one or both arms “reaching” toward a mouse or keyboard.	<ul style="list-style-type: none"> • Bring keyboard closer to body. • Mouse pad, palm or forearm rest. • Bring mouse closer to keyboard.
Light sources that can be seen by the worker.	<ul style="list-style-type: none"> • Cover or shield light sources. • Rearrange work area. • Lower other viewed objects to lower field of view.

WORKSTATION SET-UP / ERGONOMICS SOP, CONTINUED

ADDITIONAL ERGONOMIC TIPS FOR THE WORKPLACE, CONTINUED

THINGS TO LOOK FOR	POSSIBLE SOLUTIONS
Reflected glare on the screen.	<ul style="list-style-type: none"> • Shield light sources. • Shade screen. • Glare screen. • Move monitor so light enters from side angle, not back. DO NOT tip monitor down. • Lower light levels. • Move light sources.
Too much contrast between screen and surroundings or document; worker feels relief when bright areas are shielded.	<ul style="list-style-type: none"> • Lower ambient light levels. • Turn off, reposition, or dim task lights. • Block offending light sources. • Change screen polarity to black on white.
Very bright ambient lighting (above 500 lux or 50 fc) or shadowed areas caused by over-illumination.	<ul style="list-style-type: none"> • Lower ambient light levels to 200-500 lux (20-50 fc) and use task lights.
Monitor closer than approximately 65 cm (25").	<ul style="list-style-type: none"> • Push monitor back (enlarge font size). • Habit training for reclining. • Computer glasses. • Bring keyboard forward, possibly with a keyboard tray.
Different viewed objects (screen, documents) at different distances from the eyes.	<ul style="list-style-type: none"> • Use document stand or otherwise equalize distances to within about 10 cm (4") if rapid viewing changes are required.
Screen or documents not oriented perpendicular to the line of sight (tipped back slightly is even better).	<ul style="list-style-type: none"> • Change monitor and / or document stand angle.
Prolonged near-focusing throughout the day with few far-focusing opportunities.	<ul style="list-style-type: none"> • Move monitor back as far as possible. • Habit training. • Rearrange space to provide view.

WORKSTATION SET-UP / ERGONOMICS SOP, CONTINUED

ADDITIONAL ERGONOMIC TIPS FOR THE WORKPLACE, CONTINUED

THINGS TO LOOK FOR	POSSIBLE SOLUTIONS
Monitor image dim, fuzzy, flickers, small, or otherwise difficult to read.	<ul style="list-style-type: none"> • Upgrade monitor. • Use software to enlarge image.
Shiny, low-contrast, or small-print documents.	<ul style="list-style-type: none"> • Improve lighting on documents if documents cannot be changed.
Forward head posture (peering) or squinting.	<ul style="list-style-type: none"> • Lower monitor. • Tilt monitor back. • Check for monitor image quality problems, character height or monitor distance. • Suggest consultation with vision specialist.
Eyestrain complaints.	<ul style="list-style-type: none"> • Check all aspects of visual environment. • Suggest consultation with vision specialist.
Neck extended backwards, head tilted back, even slightly.	<ul style="list-style-type: none"> • Remove CPU from under monitor. • Remove tilt-swivel base from monitor (leave ventilation space). • Check for bifocals and suggest full-frame "computer glasses" prescription.
Neck severely flexed (downward).	<ul style="list-style-type: none"> • Tilt face of monitor back. • Tilt document - do not lay flat on work surface. • Raise document or monitor to a comfortable height. • Adjust posture. • Habit retraining. • Check glasses for proper prescription.

WORKSTATION SET-UP / ERGONOMICS SOP, CONTINUED**REMINDERS**

Once the ergonomics have been addressed, strains may still occur, especially when you work on computers every day for long periods of time. Therefore, a daily regime of the following will help keep strain to a minimum:

- Take mini-breaks and stretch throughout the day.
- Alternate jobs to prevent repetitive motion and to allow the mind to refocus.
- 20/20 rule: look 20 feet away, every 20 minutes, for 20 seconds.
- Do something other than computer work, get up and move around.
- Try to maintain your body's natural postures.
- Keep your body relaxed and remember not to over exert yourself.