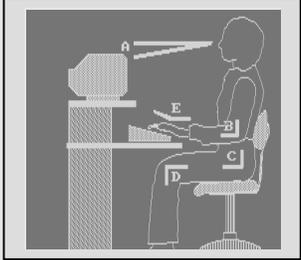
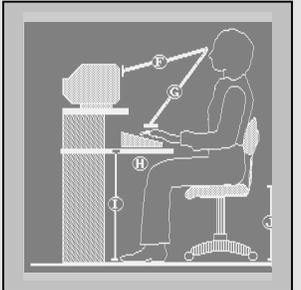


Guidelines for Office Ergonomics

Key Risk Factors/ Hazards	
<ul style="list-style-type: none"> • Heavy lifting 	<ul style="list-style-type: none"> • Contact stress
<ul style="list-style-type: none"> • Forceful exertion 	<ul style="list-style-type: none"> • Vibration
<ul style="list-style-type: none"> • Awkward postures (including twisting, reaching, and turning) 	
<ul style="list-style-type: none"> • Repetitive hand and wrist movement. 	
Computer Workstation Self-Checklist	
<p>Use the checklist below to aid in properly setting up your computer workstation. If any response is "No," adjust your work area (without major renovations, if possible) or seek professional assistance.</p>	
Yes/No	Guidance Question
	Is your chair adjusted properly? (Feet on the floor, hips and knees at 90 degree angles)
	Is there at least 1 to 2 inches above your knee under the keyboard or desk?
	Is your lower back supported properly? (Touching the back of chair while working)
	Is your chair height adjusted to support your legs properly? (Heels should reach the floor to support weight of legs while seated)
	Is your monitor directly in front of you approximately 16 to 32 inches away?
	Is the top of your screen approximately at eye level?
	Is your screen positioned to avoid reflections/glare (i.e., not tilted up)?
	Are glasses with corrective lenses (when needed) set for the distance of "eyes to monitor?" Bifocal, trifocal, and variable lens users may need a single vision lens set of glasses used for computer work. This prevents awkward head postures that can result in muscle strain.
	Is your mouse at the same level as your keyboard?
	Is your document holder placed next to the screen, if needed?
	Are your elbows at a 90-degree angle when keying?
	Are your wrists in a neutral position when keying (i.e., wrists are at a 180 degree angle and there is minimal to no extension and/or flexion (bending up or down))?
	Do you have a wrist rest for your keyboard and mouse?
	Is the lighting adequate, but not intense?
	Is your desktop free of a computer processing unit (CPU), printer, or other office equipment allowing you ample workspace in your immediate work area? Can you relocate it below the desk or outside the immediate work area?
	Do you have everything that you use within easy reach?
	Is your phone located within easy reach without overextending your arm?
	Do you rest your eyes during the day (i.e., look up and away periodically)?
	Are you remembering to change positions during the day so that a static (still) posture is not maintained?
	Do you take brief intermissions to exercise and stretch regularly throughout the day?
	Do you use proper lifting techniques when moving computer monitors, CPU, and office supplies?

Computer Workstation Set-up Guidelines

	PARAMETER	ACCEPTABLE RANGE	OPTIMUM	
A	Viewing Angle (eyes level <=> top of screen)	0 - 15°	0 - 15°	
B	Angle at ELBOW (upper arm <=> lower arm)	70 - 135°	90°	
C	Angle at HIP (upper thigh <=> body trunk)	90 - 105°	90°	
D	Angle at KNEE (upper thigh <=> lower leg)	60 - 100°	90°	
E	Angle at WRIST (lower arm <=> palm)		180°	
F	Distance from EYE to SCREEN	> 12"	> 12"	
G	Distance from EYE to KEYBOARD	17.7 - 19.7"	18"	
H	CLEARANCE between leg and underside of keypad	2 - 5"	5"	
I	Distance from FLOOR to KEYPAD HOLDER	23 - 28"	< 28"	
J	Distance from FLOOR to SEAT PAN	16 - 20.5"	Feet flat	

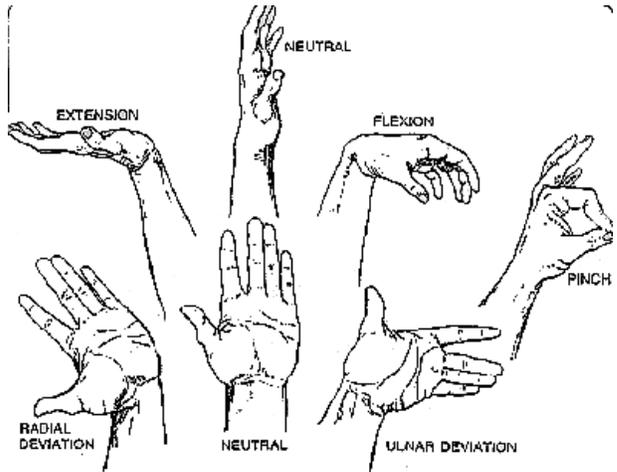
Key Preventative Measures

- Avoid extended reaches, repetitive motions, and awkward postures.
- Take posture breaks and exercise hands, arms, and shoulders (at least every two hours)
- Maintain good neutral posture
- Exercise to improve your body conditioning
- If you have trouble setting up a comfortable workstation, contact your Supervisor, ESH Coordinator, or Ergonomics Subject Matter Expert.

Preventative Measures: Do's and Don't Guidelines

Neck

Do:	Don't:
<ul style="list-style-type: none"> • Keep head in line with shoulders • Place the most used document or monitor in front of you. • Use a document holder if practical 	<ul style="list-style-type: none"> • Twist neck to either side more than 20 degrees repeatedly or for extended periods • Bend neck forward more than 20 degrees or back more than 5 degrees repeatedly or for extended periods • Hold objects between head and shoulder (e.g., phone)

Forearm	
<p style="text-align: center;">Do:</p> <ul style="list-style-type: none"> • Keep forearms at 90 degrees or greater to the upper arm • Keep the forearms perpendicular to the shoulder line 	<p style="text-align: center;">Don't:</p> <ul style="list-style-type: none"> • Work by reaching across the midline of the body or far out to the sides
Wrists	
<p style="text-align: center;">Do:</p> <ul style="list-style-type: none"> • Keep the wrist straight and move objects such as a mouse with your arm, not by moving your wrist • Move objects such as a mouse with your arm, not by moving your wrist or fingers • Consider supporting the heel of the hand with a properly adjusted, padded wrist rest to keep the wrist straight  <p style="text-align: center;">Good: Wrist rest helps keep wrist in neutral position</p>  <p style="text-align: center;">Bad: no wrist rest and sharp pressure point</p>  <p style="text-align: center;">Bad: no wrist rest and deviated wrist</p>  <p style="text-align: center;">Wrist Rest Bad: wrist rest causes wrist deviation</p>	<p style="text-align: center;">Don't:</p> <ul style="list-style-type: none"> • Bend wrist back more than 30 degrees or down more than 20 degrees repeatedly or for extended periods • Bend the wrist from side to side repeatedly or for extended periods (e.g., mouse, trackball) 
Fingers	
<p style="text-align: center;">Do:</p> <ul style="list-style-type: none"> • Use entire hand for holding objects (e.g., mouse or equipment trigger) • Use a light grip when using the mouse 	<p style="text-align: center;">Don't:</p> <ul style="list-style-type: none"> • Grasp or hold objects for extended periods • Use a pinch grip repeatedly or to hold objects for extended periods
Shoulders	
<p style="text-align: center;">Do:</p> <ul style="list-style-type: none"> • Relax your shoulders • Support the weight of your arms on padded surfaces when possible 	<p style="text-align: center;">Don't:</p> <ul style="list-style-type: none"> • Slump your shoulders for extended periods • Raise elbows above chest height repeatedly or for extended periods • Do not rest arms on sharp edges

Torso	
Do:	Don't:
<ul style="list-style-type: none"> • Keep your back straight • Provide lumbar and lateral support for your back when in a seated posture • Keep your work in front of your body • Rotate your whole body and stance rather than twisting at the waist 	<ul style="list-style-type: none"> • Bend torso (forward, backward, or sideways) repeatedly or for extended periods • Twist your torso repeatedly or for extended periods • Overextend to reach objects
Legs and Feet	
Do:	Don't:
<ul style="list-style-type: none"> • Distribute weight evenly on both legs • Vary your sitting and standing routine • Support lower leg when seated by placing heel on floor, use a foot rest if needed 	<ul style="list-style-type: none"> • Sit or stand for extended periods without changing position • Sit with legs hanging for extended periods • Sit on hard or unsuitable surfaces for extended periods
Knees	
Do:	Don't:
<ul style="list-style-type: none"> • Pad the knees when kneeling • Distribute weight evenly on both knees 	<ul style="list-style-type: none"> • Kneel or squat for extended periods • Kneel on hard or sharp surface for extended periods
Push/Pull Load	
Do:	Don't:
<ul style="list-style-type: none"> • Use rollers or casters for pushing or pulling loads • Use a hand truck or dolly with large diameter wheels for moving objects • Use larger muscle groups (e.g., back or legs rather than arms) • Use mechanical aids, when applicable 	<ul style="list-style-type: none"> • Push or pull loads by dragging directly on the floor surface • Use a jerking motion to move heavy or "stuck" objects
Gripping	
Do:	Don't:
<ul style="list-style-type: none"> • Use entire hand for holding objects • Use containers or objects with handles or hand hold cutouts when possible • Grasp large objects around their center of gravity for balance, when possible 	<ul style="list-style-type: none"> • Grasp or hold objects requiring significant strength for long periods • Hold large objects without handles for extended periods • Maintain awkward grip
Pinching	
Do:	Don't:
<ul style="list-style-type: none"> • Find ways to eliminate pinch grips by using hand instead of fingers • Use light force when gripping writing instruments 	<ul style="list-style-type: none"> • Use a pinch grip repeatedly or to hold objects for extended periods
Hard/Sharp Objects	
Do:	Don't:
<ul style="list-style-type: none"> • Use rounded corners and/or padded supports on contact surfaces • Use rounded handles for lifting and carrying objects 	<ul style="list-style-type: none"> • Push, sit, or lean on hard or sharp-edged objects, (table edges, railings, etc.) repeatedly or for extended periods • Allow hard or sharp objects to press against the

	skin (arms, palms, legs)	
Striking Objects		
Do:	Don't:	
<ul style="list-style-type: none"> Use the proper tools for the task 	<ul style="list-style-type: none"> Use the body to hit objects (e.g., hand, foot, knee, hip) Use the body to bump objects into position 	
Repetitive Motions or Patterns		
Do:	Don't:	
<ul style="list-style-type: none"> Try to find alternatives to repeated motions, e.g. using macros when typing Take frequent short breaks to stretch and relax Rotate between different jobs that use different muscle groups Try to reduce the number of motions 	<ul style="list-style-type: none"> Perform identical or similar motions repeatedly or for extended periods Use awkward postures 	
Behavior/Lifestyle Changes		
<p>Ergonomic problems also occur outside working hours. Everything you do, hobbies, sports, leisure activities, and housework, has some sort of effect. Many times symptoms that occur during off-work hours are ignored and the association is not made with events at work. To prevent further injuries during off-work hours, the same precautions should be taken at home as at work. The following are some changes that can help prevent injuries at home as well as at work.</p> <ul style="list-style-type: none"> Vary your work activities. Improve physical conditioning. Be aware of symptoms and get early treatment from your healthcare provider. 		
Potential Quick Fixes		
Problem	Probable Cause	Corrective Measure
Neck pain	Monitor or documents too high/too low	Angle monitor downward; Lower or raise monitor, or lower or raise seated height; Use document holder.
	Arms extend for long periods	Move chair and body closer to mouse and keyboard
	Head held awkwardly to see through near vision part of prescription glasses	Purchase a set of glasses with focal distance set for the computer monitor
	Holding telephone between head and shoulder	Purchase a cradle for the handset or use hands-free head set
Shoulder pain	Arms extend forward for long periods	Move chair and body closer to mouse and keyboard so elbow is kept at a 90 degree angle
	Arm use for mouse is extended out to side	Place keyboard and mouse side-by-side in front of body
	Mouse or keyboard is too high	Raise chair for lower keyboard/mouse surface so elbow is a right angle.

Arm pain	Arm and elbow held too far to side causing front shoulder muscles to support arms	Move mouse and keyboard inward so that elbows lightly touch ribcage area.
Wrist pain	Wrist is extended up or down when typing on the keyboard	Significant Risk of permanent injury: Adjust keyboard or raise chair to allow straight wrists when typing. Seek <u>IH Representative</u> assistance if needed in designing workstation.
Finger pain	Compression of nerves in upper arm/shoulder joint from extending arm	Move mouse lower and in front of arm. Place keyboard and mouse side-by-side in front of body
	Compression of lower arm at elbow on hard armrest or surfaces	Significant Risk of permanent injury: Add padding to armrest surfaces or remove armrests.
	Compression of nerve in wrist from bending wrist during typing	Significant Risk of permanent injury: Adjust keyboard or raise chair to allow straight wrists when typing. Seek <u>IH Representative</u> assistance if needed in designing workstation.
Stiffness in appendages	Too hot or too cold air blowing directly on body part	Diffuse or block air flow
Eyestrain	Monitor or documents too far or too close	Relocate monitor or document so that all objects routinely used are at the same approximate distance. This eliminates repetitive eye refocusing.
	Air in area is too dry.	Use eyedrops as needed. Consider air humidification.
	Lighting is too bright or too dark	When work involves reading printed material, use bright overhead or task lighting on printed material Darken room lighting when only the monitor is needed for work Prevent glare on screen and work surfaces with proper angling of work surfaces