Loss Control Insights
Workstation Ergonomics

Ergonomics is concerned with the design of the work environment in such a way as to prevent work-related health problems. Such problems may arise when there is a disruption in the interaction between the worker, the physical arrangement of the workplace, and/or the job design. As a result, the municipal entity and the employee may experience losses and dissatisfaction.

The office environment poses potential health risks associated with work-related injuries. This is particularly true for those offices with computers where workers perform repetitive tasks at computer workstations while maintaining static constrained postures for long periods of time. Due to these conditions works may experience muscle soreness in the neck, shoulders, and upper back.

Ask yourselves these questions?

1) Is the work surface/keyboard at elbow height when the arms are straight by the sides?

2) Are the thighs parallel to the floor when seated?

3) Are the feet flat on the floor/footrest when seated?

4) Is the top of the monitor (VDT) screen about eyelevel?

5) Is the VDT screen located directly in front of you?

6) Is the document holder directly in front of you?

7) Are the VDT screen and the source documents the same height?

8) Is the VDT screen located 12"-24" away from your eyes?

9) Are your eyes comfortable when performing visually intensive tasks?

10) Does glare reduce your ability to see the VDT screen?

11) Are images on the screen clear, sharp and easy to read?

By answering these questions they can help you evaluate your current work station and will provide you guidance in making changes that will help prevent discomfort when working.

Optimus Risk Services / 3862 Grove Road / Gibsonia, PA / 15044 / Phone: 724.444.4580/ Fax: 724.444.4581

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Keyboard Trays

Conventional keyboard trays can increase injury risks.

29"-30"

The keyboard tray should be placed at a height such that your forearms are parallel with the floor. The tray should be in a negative tilt, that is with the back of the tray being lower than the front. You wrists should be nearly flat so that the back of your hand is in a level line with your forearm.

Note: In the drawing above the wrists are bent up too far.

Desktop Typing

Typical desk top typing posture that increases muscle fatigue and injury risks.

29"-30"

Most desk tops are too high for keyboard placement. Desk top placement of keyboard is acceptable only if you can maintain correct positioning or only use your keyboard occasionally.

Note: In the sketch above that the person's position is not correct, because the elbows are bent further than a 90-degree angle, and the wrists are hyper-extended (bent up too far) as well. These are the areas highlighted in red.

Ideal Typing Position
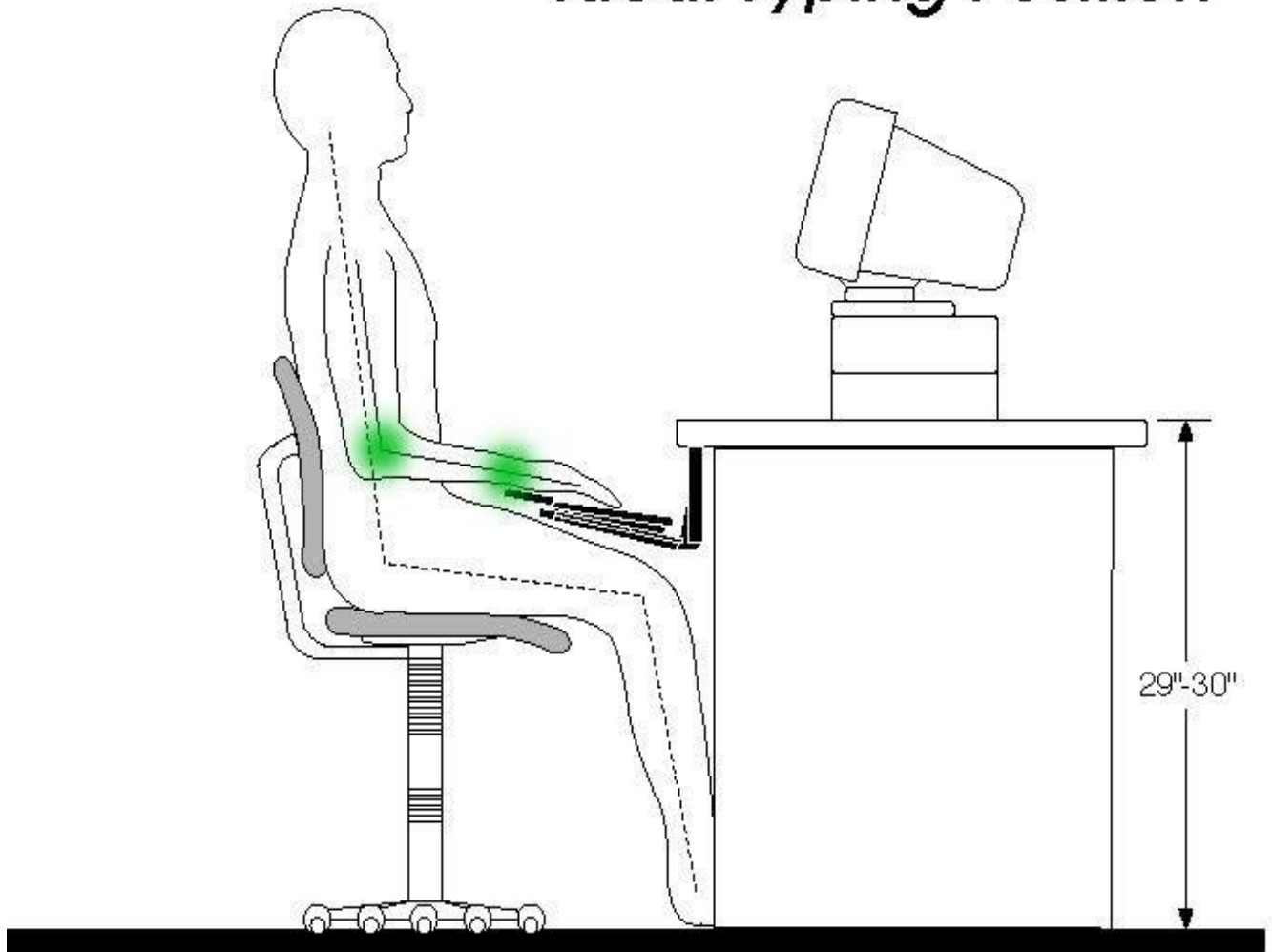
1. Near 90^0 at hips[*]
2. Near 90^0 at elbow, forearm nearly parallel, to floor wrist in neutral (not bent up) position[*]
3. Near 90^0 at knees with feet flat on the floor or a foot rest[*]

The chair is an important base of workstation operations. You need a chair that provides good lumbar (lower back) support, is adjustable in height of seat pan from floor and has at least a 5 wheel base. Chairs with less than 5 wheels are prone to tipping over and injuring the occupant.

*Note these positions are slightly variable. The human body is not designed to be tightly locked into any one position for a long period of time. You should vary the positions occasionally.

Here are some simple exercises you can do at your workstation to relieve stress and stimulate circulation.

- ♦ Sitting for extended periods of time can cause muscle tension and stiffness to build up in your neck, back, shoulders, hands, wrists, and fingers. Short and simple exercises at your work station can increase flexibility and prevent these discomforts.
- ♦ Shoulder Roll. With your back straight and arms relaxed at your sides, or with the arms extended and locked, roll your shoulders back towards your ears, making a complete circle. Repeat this lifting and dropping the shoulders five times.
- ♦ Arm Circles. Raise your arms to the sides, elbows straight. Slowly rotate your arms in small circles forwards, then backwards. Lower your arms, then repeat three times.
- ♦ Arm Stretch. While sitting or standing, raise your arms over your head, stretching as high as you can. Then bring your arms back down. Rest a moment. Repeat two times.
- ♦ Arm Pulls. Gently pull elbow across chest toward opposite shoulder and hold for five seconds. Repeat five times, and then repeat entire exercise, pulling other arm.
- ♦ Neck Flex. After hanging your head to your chin hold this stretch for five to ten seconds, then slowly raise your head to a neutral position. Repeat this exercise three times.
- ♦ Neck Glide. Glide your head back, as far as it will go, keeping your head and ears level. (Doing it correctly creates a double chin.) Now glide your head forward. Repeat three times.
- ♦ Wrist Flex. Put your right elbow on a table, hand raised, palm out. With your left hand, gently bend your right hand back toward the forearm. Hold five seconds. Repeat on the other side. Place hands at sides and shake them for 5-10 seconds.
- ♦ Finger Stretch. Spread the fingers of both hands, palms down, far apart and hold for a period of five to ten seconds, then make a tight fist. Repeat this flexibility exercise three to five times.
- ♦ Finger Squeeze. With a small foam ball in the palm of the hand, press the ball in the palm of the hand using your fingers to make a fist. Repeat 20 times on each hand.
- ♦ Thumb Squeeze. With a small foam ball in the palm of the hand, press the ball in the palm of the hand towards the fingers. Do not use the fingers. Repeat 20 times, remembering to repeat with both hands.