

APPENDIX A

Ergonomics

Just as developing an exercise program is an individual process, so is making ergonomic recommendations. This appendix discusses general ergonomic concepts for the neck and lowback in terms of sleeping, sitting, and standing. The basic concept is to remember to support the natural curves of the body during all activities and throughout all positions.

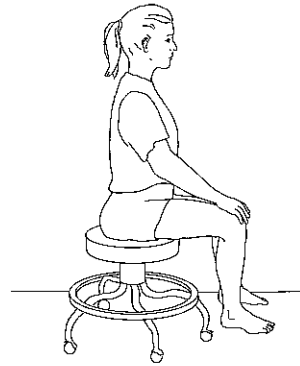


Figure 1

NEUTRAL SPINE POSITION

First, you must find the correct supporting position for your back by determining the neutral spine position. To do this, sit on a chair or stool and arch your back as much as possible. Next, completely flatten your back (Figures 1 and 2).

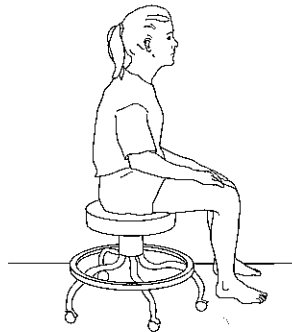


Figure 2

During this process determine the position that is the most comfortable for you. This mid-range position is called the neutral spine position. (Figure 3) The neutral spine position should be maintained while sleeping, standing, and sitting to provide the best support and the most comfort for your spine. The neck curves need support only in the sleeping and reclining positions and will be properly positioned if the back and workstation are adjusted appropriately in sitting.

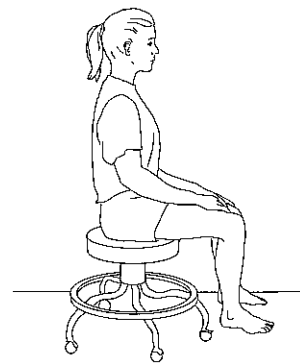


Figure 3

SLEEPING

If you are feeling good upon waking up, you probably have an appropriate mattress and pillow combination. If, however, you wake up feeling uncomfortable, you may need to make some adjustments.

A mattress should be firm enough to resist sagging and soft enough to support the natural curves of the body. When you lie down on a mattress there should be no space between the mattress and your back (Figure 4).

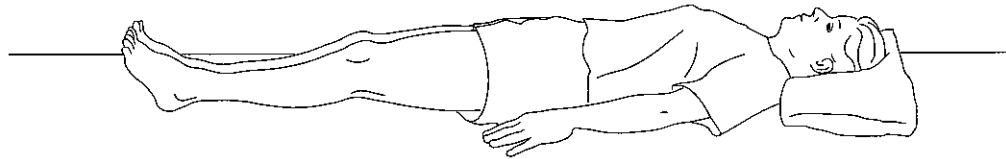


Figure 4

Mattress firmness will many times dictate what type of pillow should be used. A very firm mattress may require a thicker pillow, whereas a softer mattress may require a thinner pillow. The ideal pillow should support the natural curves of the neck without causing excessive flexion, extension, or sidebending. A rolled towel filling in the space may be all the support you need (Figure 5).

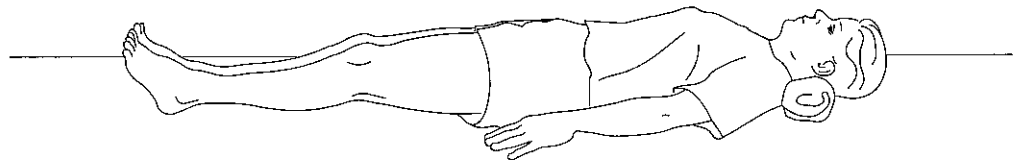


Figure 5

SITTING

Maintaining a supported posture while sitting is a challenge faced every day. Just as a sagging mattress is inappropriate for someone with lowback pain, so is a chair that does not provide proper support. Whether or not a chair is appropriate depends on a person's height, weight, shape, and the types of activities that will be performed throughout the day. Different types of activities may require different types of lumbar support. There are three positions for a chair: reclining, upright, and forward. All three correspond to different types of activities. Reclining activities include sitting back to read or use the phone. Upright activities are typing or using a computer. Forward activities include writing or bending forward over desk work. Determining how long you spend in a reclined position as opposed to an upright position may dictate the type of chair you need.

A thorough ergonomic evaluation should include an evaluation of the entire workspace. Here, a physical therapist can look at chair height in relationship to desk height. Location of the computer screen can also be evaluated. A computer screen that is too far away will cause you to pull away from lumbar support and, in many instances, increase pressure on your neck. An appropriate desk height should allow the elbows to be bent between 90 and 110 degrees. The proper computer screen position is between 18 and 28 inches from your eyes. The upper border of your computer screen should be level with your eyes (Figure 6).



Figure 6

STANDING

Maintaining support to the natural curves of the body while standing requires good body awareness. Gravity stresses the musculoskeletal system by pulling it down and forward. You need to be instructed in exercises as well as activities that will reduce the stress placed on your neck and back. Movement is recommended to assist in proper support to the neck and back. Changing positions will shift pressure from one muscle group to another. Many exercises prescribed by your physical therapist can be performed in the workplace with minimal distraction.

(

(

(