

Healthy Living

Patient Information from the American Chiropractic Association

Proper Sleep Ergonomics

“Sleep ergonomics” refers to our postures and positions during sleep. They either help us rest in safe mechanical positions for joints or they stress joints to the point that we wake up with more aches and pains than we fell asleep with. Sleeping position matters. Poor-quality sleep is proven to negatively affect overall health.

Sleeping Positions to Reduce Back Pain

It is possible and desirable to take strain off your back by making simple changes in sleeping posture. The healthiest sleeping position is on your side. If that's how you sleep, draw your legs up slightly toward your chest and put a pillow between your legs. Some people even use a full-length body pillow to help maintain balance. Try not to put weight on your arms. This causes circulatory problems and a related pins-and-needles sensation. Instead, try crossing them in a braced position.

If you sleep on your back, it is best to place a pillow under your knees to help maintain the normal lower-back curvature. You might try placing a small rolled towel under the small of the back for more support. Be aware that sleeping on your stomach is generally bad for your back. In this position, the cervical spine undergoes considerable strain, which can cause nerve compression, muscular imbalance and muscle pain. If you can't sleep any other way, reduce the strain on your back by placing a pillow under your pelvis and lower abdomen. Also place a pillow under your head if it doesn't cause back strain. Otherwise, try sleeping without a head pillow.

Sleeping Babies

Parents sleep better when babies sleep well. The experts recommend against bed-sharing as it can increase the infant's risk of Sudden Infant Death Syndrome (SIDS). The most important measure you can take to help protect your infant from SIDS is this: Place your baby on his or her back to sleep in the crib. The prevalence of SIDS has decreased, due in part to educational campaigns. However, SIDS



remains the leading cause of death for infants in the first year of life in developed countries.¹ At highest risk are babies who are suddenly switched to stomach sleeping after getting used to sleeping on their backs.

Mattresses and Pillows

Your mattress and pillow should support your body in its natural position, allowing it to rest and recover from the day's activities. The best mattresses are designed to conform to the spine's natural curves and keep the spine in alignment. Some sleep experts recommend supportive memory-foam mattresses for this purpose.

A recent study investigated how spine support affects sleep in healthy subjects. It found that the relationship between bedding and sleep quality is affected by individual physical features, dimensions, and sleep posture.² In particular, results indicated that a sagging sleep system negatively affects sleep quality.

Maintain your mattress. Remember to turn your mattress over every few months. If possible, replace

the mattress after five to seven years of regular use. If you feel springs or bumps beneath the surface when you're lying on the bed, or you and your partner unintentionally roll toward the middle of the bed, it's time to go shopping for a new mattress. A worn-out mattress can reduce the quality of sleep and make back problems worse. You may also find that the mattress is to blame for insomnia if you notice yourself sleeping better in another bed—in a hotel, for example.

Pillows matter. An ergonomic pillow is designed to accommodate the user's sleeping position and to minimize any associated tension that may result from prolonged time spent in one position. Ergonomic pillows are shaped differently from regular pillows. They are often made of foam or similar form-retaining material that offers greater support. Most ergonomic pillows are used for sleep, although some are used for lower back support while sitting. They vary in size from small neck pillows used for long car trips or flights to very large full-body pillows meant to cradle the entire body during sleep.

A healthful pillow is designed to keep the spine in natural alignment, which minimizes stress on the body. Most people do not maintain neutral positions while they sleep. This creates tension at problem spots like the neck and the lower back, resulting in pain in either or both of these areas. An ergonomic pillow can often correct such problems.

A pillow of the wrong size can cause or aggravate neck and shoulder problems. When you sleep on your side, the pillow should fill the space between the head and mattress so that the cervical spine is in line with, and an extension of, the spine. The pillow should support the head, neck and shoulders and adapt to the contours of these areas. This will optimize your sleeping position throughout the night. A pillow also should be hypo-allergenic. ■

Sleeping Positions When Pregnant

Pregnant women should avoid sleeping on their backs as this can lead to backaches, as well as problems with breathing, the digestive system, hemorrhoids, low blood pressure, and a decrease in circulation to the heart and baby.³ This is a result of the abdomen resting on the intestines and major blood vessels (e.g., the aorta and vena cava). Pregnant women also should avoid sleeping on the stomach, especially when further along in pregnancy, because of physical changes to the abdomen.

Several ergonomic products are designed to help pregnant women sleep more comfortably. For example, a cradle sleeping pillow is engineered to help pregnant women relax and get comfortable enough to fall asleep. These pillows are made of various densities and heights and provide extra support to the shoulders, neck, and arms. A sleeping bean is a full-length pillow designed to help a pregnant woman sleep on her side with adequate support.

References:

1. Mayo Foundation for Medical Education and Research.
2. Verhaert et al. Ergonomics in bed design: the effect of spinal alignment on sleep parameters. *Ergonomics*. 2011 54(2):169-78.
3. www.pregnancy.org/article/sleeping-positions-during-pregnancy.

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