

## *Spine University's Guide to Mattresses and Back Pain*



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## Introduction

Buying a mattress is a big commitment. Not only are good mattresses expensive, but according to the mattress manufacturers, the average life span for a mattress is eight to 15 years. However, people often keep their mattresses for much longer than that. This could mean that even if you do buy a mattress that was good for your back when it was new – it may not be any longer.

### Could your mattress help relieve your back pain?

Good mattresses are vital for a good night's sleep. The importance of this sleep is even more of an issue for people who live with chronic pain, particularly chronic lower back pain. People who report restful nights usually also report less pain overall. People who can't sleep well at night not only have their pain to deal with, but the fatigue that comes from lack of sleep.

Over the years, people with lower back pain have been offered many differing opinions and advice regarding the type of sleeping surface they should be using. Some people say that those with "bad backs" should sleep on the floor, while others say that water beds are the only way to go. With such differing opinions, what is the right answer? Unfortunately, studies about mattress types and back pain are few and far between, so it has been a trial-and-error approach for many.

### What types of mattresses are there?

It's important to understand the many differences between the bed types that are available. It used to be that if you walked into the store to buy a mattress, you found that you could choose from soft, medium, firm or extra firm. However, the choice is much broader now.

Traditional mattresses are made of foam or coils (springs). Foam mattresses can be latex or "memory" foam and the coil mattresses vary

depending on the type of coil, how many coils, how the coils are connected, and so on. There are also waterbeds, which range from regular to super waveless, or you can look into buying a futon mattress or a specialty mattress like an air mattress, which is often used in hospital-type beds.

### Studies

A study done in Spain and published in 2003 looked at over 300 patients with chronic lower back pain who were randomly assigned to sleep for three months on either a firm mattress or a medium firm mattress. After three months, the researchers assessed how the patients felt about their pain while resting in bed, how they felt upon rising out of bed (something that can be difficult for someone with back pain), and overall disability.

The patients who slept on the medium-firm mattresses found that they had less pain lying in bed and on rising, as well as less disability overall than the patients who slept on the firm mattresses. The medium-firm group's patients also reported that they had less back pain throughout the day than did the firm mattress group.

Unfortunately, despite the importance of choosing the right mattress, until this year, there have not been any more good quality, published studies looking into the issue. In the study published this year in the journal *Spine*, researchers looked at 168 patients who had chronic lower back pain and their ability to sleep on one of three different mattress types. The patients were assigned to sleep for one month on either a waterbed, a body-conforming foam mattress, or a hard mattress.

After accounting for patients who dropped out of the study either for logistical reasons (no place to store their regular bed for the duration of the study), reluctance to sleep on a waterbed, or for comfort (too much pain with their assigned bed), the researchers found that

the waterbeds and memory foam mattresses were preferred over the hard mattresses. The patients who used the waterbeds and foam mattresses reported that their sleep had improved, as did their back pain, while patients with the firm mattress complained of worsening pain and poorer quality of sleep.

The problem with studies like this, though, is that mattress preference and selection is very personal. And, as the researchers in the 2008 study pointed out, people often expect a certain amount of comfort – or discomfort – from a particular type of mattress. For example, some people may be very reluctant to try sleeping on a waterbed, fearing that they will not sleep well or that they will experience more pain. These preconceived ideas could affect the end result and perception of sleep and comfort.

### **Guidelines**

In November 2004, European guidelines were published for the prevention of low back pain. In putting together those guidelines, the researchers investigated studies that evaluated the use and effectiveness of mattresses on chronic lower back pain.

The researchers were not able to find many independent, reliable, and high quality studies for this purpose, other than the 2003 study mentioned earlier. Despite finding 12 different studies, that 2003 study was the only one that provided a reliable conclusion: the suggestion that a medium-firm mattress is better for chronic back pain than a hard mattress.

The researchers contacted mattress manufacturers to see what they had to offer in terms of research. One study they found was done in 1999 and the results found that people who slept on new mattresses compared with older ones, using hotel mattresses, had no effect on back pain. However, the study only took place over one to two nights and there was a very small subject group (nine subjects).

Another survey, this one of foam mattresses used by residents (physicians in a hospital) was compared with cotton mattresses the residents used at home. While the residents did complain of back pain after sleeping on the foam mattresses, this survey can't be considered an accurate study because there was no randomization of who slept on which mattress and the sleeping conditions varied considerably between home and the hospital.

As a result of the lack of good quality, randomized and controlled studies, the researchers who wrote up the guidelines wrote that there were no clear-cut recommendations for a particular mattress regarding the prevention of lower back pain. However, based on the study of 300 people over a three-month period, there was some evidence that a medium-firm mattress may be better than a firm mattress for people who already have chronic lower back pain.

### **What should you look for when buying a mattress?**

First, don't go by the type of mattress you have now. If you have had your mattress for 10 to 20 years, not only has your mattress changed with use, so has your body. So, a mattress that was fine for you several years ago, may not be fine for you now.

Don't pay too much attention to the companies' labels of *firm* or *medium firm*, for example. There is no set rating for the companies to use. One company's firm may be another company's medium firm.

"Test drive" before you buy. There are two ways to try your mattress before you commit to it for the next several years. The first is to try it in the store, along with your partner if you will be sharing your bed. Lie down on the bed in your most natural sleeping positions. Try to relax as much as possible. Turn while lying down, as you might at night as you're repositioning yourself. See how the

two of you feel on the mattress in terms of one disturbing the other when they turn.

The second way to "test drive" the mattress is to shop at a store that allows you to try the mattress for a set period, allowing you to return it or exchange it for another if it turns out you aren't happy with it. You can find stores that offer anywhere from a 30-day period to up to a 90-day period for this trial.

## Notes