

Helping Patients Sleep Well

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Mattresses used to be made primarily of cotton padding and springs. But after 1950 and the invention of plastics and foams, the modern mattress has gone through many evolutions. From water beds to recent memory foam offerings, this evolution has been quite spectacular. But during this time, sleep issues have risen to almost epidemic proportion making us question "is the modern mattress a wellness product or not?"

Sleep and Wellness

Doctors tell us the ideal mattress should: support the spine properly; reduce pressure and encourage deep, healing sleep; be made of safe, non-toxic materials and wear properly. When we evaluate the modern mattress on these guidelines we find the following problems. Alignment support: the hip and lower torso weigh more than the shoulder area. To provide proper support the mattress must push the hips up into alignment (or level) with the shoulders. The use of new foamed materials like memory foam and latex to replace steel springs do not do this. Neither does air or water. The fastest growing segment of the modern mattress market is memory foam beds which will soften with use further diminishing alignment support as they become worn. Hence, the movement in the modern mattress away from steel springs presents a threat to proper back support.

The modern mattress is composed of two basic parts:

- The foundation which is usually a box spring, but can also be a platform or adjustable base.
- The top mattress which has a support layer and a comfort layer.

The support layers' job is to provide support for the skeletal system. It can be an innerspring unit, air or a foam core. The comfort layers' role is to provide pressure relief. Synthetic foams like viscoelastic (memory), latex (rubber derivative), soy and polyurethane foams (and combinations thereof) are used to provide these comfort layers. Additionally the Federal Government passed a law requiring all mattresses to also contain a fire blocker that self extinguishes open flames should a mattress be set on fire. Over the years these modern materials, primarily synthetic foams, have replaced cotton and steel springs as the primary materials used in a mattress. This is due to cost and the availability of cotton. New learning shows that in the case of a mattress, this broad scale move to newer materials might be causing unintended consequences when it comes to health, wellness and sleep.

Pressure Relief

Synthetic foams wear with use at a much faster rate than cotton. This has given rise to the phenomenon "body impressions" which occur with use reflecting a foams inability to rebound over time. Independent testing of mattress foams show they can be expected to wear out in 3-8 years depending on the amount and type of foam used. Buyers, however, expect the modern mattress to last for the warranty period of 20 plus years like their old cotton mattress did. The fine print limits the warranty coverage to the normal wear pattern of the foam however. This results in many people continuing to sleep on a mattress that is "worn out", but not replaced because of budgetary

considerations. The period of time spent trying to sleep on a "worn out too soon" mattress will certainly contribute to poor sleep and mis-alignment.

Off-Gassing

Synthetic foams emit noxious fumes as they wear which is called off-gassing. The fastest growing segment of the modern mattress market, memory foam, is made from polyurethane foam and an additive to make it rebound slowly. Almost every modern mattress uses polyurethane foam which is proven to contain carcinogens. New research is linking PCB's like polyurethane to the rise in childhood cancer, ADD, asthma and autism. Many adults report severe allergic or immune related reactions after sleeping on new mattresses made with synthetic foams. See chem-tox.com for more information on this topic.

Fire Blockers

Many of the materials used to retard fire also contain known carcinogens. By federal law, mattress manufacturers are required to prove to the government that their products will extinguish an open flame, but don't have to reveal to the consumer what materials they are using to do it. The least expensive way is to use a chemical spray containing PCB's like asbestos and boric acid. Since most mattresses are sold on price/value this results in even more toxic materials being added to the polyurethane foam used in almost every modern mattress.

This is not to say that your mattress will kill you tonight. The synthetic materials it is made from and the fire blockers used are present in many other areas of everyday life including the home. It is to say, however, that for some people the affects are quite serious and it is also clear that the mattress in its modern evolution as compared to its previous form has moved further away from being a safe, reliable product upon which to sleep.

What Can You Do?

Sleep is important. It is the third leg of the wellness stool along with exercise and nutrition. Recent studies linking the absence of deep, healing sleep to increased risk of stroke, diabetes and obesity (not to mention overall performance levels) are increasing your patients interest level in this mostly misunderstood topic. A new category of wellness quality mattress and sleep products is beginning to emerge as a result. As patients become more aware of the issues surrounding sleep and wellness, the doctor of chiropractic is in a perfect position to advise patients in this area. If you take the time to become familiar with the research regarding the materials used in today's retail mattresses and some of the new products that are available it's possible to add the properties of deep, healing sleep to each patient's treatment plan.