

The Back Pain Epidemic: How and Why the MECA Back Wedge Came to Be

Part I – Have a Seat

There is one fundamental reason the industrialized world is suffering from back problems, and it may come as a bit of a shock. That reason is sitting. The simple act of sitting can be linked to structural changes in the low back that, left uncorrected, eventually lead to dysfunction and pain. As much as 99% of the back conditions we diagnose today can be traced to structural changes and dysfunction associated with sitting. Whether you suffer from degenerative disc disease, disc protrusion, sciatica, or low back pain, chances are the structural changes that lead to the development of your condition came from sitting. It may be hard to believe, but biomechanical research has repeatedly shown the act of sitting drives the development of many detrimental changes we see in the human spine.

The irony of it all is we sit during the most developmental years of our lives. Think about how many hours you spent sitting at a desk as a student. How often do you sit at work or home? We now sit more than we ever have before and it is taking a toll on our back. For further information on the negative impacts of sitting, see our article entitled, “Why Everyone Needs a Wedge”.

The solution IS NOT to never sit. Sitting is a necessity of life just as eating is. Rather the solution is to educate ourselves on the negative consequences sitting can have on our spine. We then need to use that knowledge and take action to offset those consequences. How can this be done? Let me introduce you to the MECA Back Wedge.

The MECA Back Wedge is a special foam wedge uniquely designed to unload and relax the supportive soft tissues of the spine that are stressed from sitting. The wedge places the spine in a natural extended position, which is the opposite of its position when seated. This reverses the stress soft tissues of the low back experience when they are stretched and fatigued from sitting. It also allows them to return to their natural state. The end result is a spine that is more flexible and less painful and symptomatic.

Obviously this method works best as a form of preventative care to avoid back problems. Ideally it should be implemented before substantial problems develop. However, even people who have been living with back pain for years or those suffering with advanced conditions can benefit from use of the wedge.

Why use a wedge? Can't exercise and stretches do the same thing? Although exercises like yoga or stretching may place the spine in an extended position, they do not unload soft tissues in the same way the wedge does. Most of the involved soft tissues are passive, meaning they will only

move as they are forced to move by external means. The counter pressure of the MECA wedge causes these passive soft tissues to remold back to a more natural state. Even more exciting is the fact that the wedge can be used as an exercise tool to protect the back from the negative stress created by performing abdominal exercises on the back or a ball. That's right; many traditional abdominal exercises thought to prevent and help treat back pain and disorders may actually be contributing to their development!

- Part II -

Is Exercise More Harmful than Sitting on the Couch?

A fitness enthusiast himself, Dr. Jeffrey Anderson (the creator of the MECA Back Wedge) observed problems with his own lower back that he could directly attribute to common abdominal exercises. Exercises like crunches or a hanging leg raise would aggravate his lower back within hours or days. Dr. Anderson had a revelation and after some investigation concluded these exercises are inherently harmful to the lower back. Although they may strengthen abdominal muscles, it comes at a price.

Many of these exercises place the pelvis in an unnatural posterior, or backward, tilted position. Our spines are being conditioned to flatten and we are losing the natural and essential curve of the lumbar spine. This eventually leads to dysfunction and pain. Athletes actually have a higher percentage of disc herniations and degenerative disc disease at a younger age than the rest of the population. Now that we understand how traditional abdominal exercises decrease our lumbar spine curve, the reason for this increased rate becomes obvious.

Working with many athletes over the years, Dr. Anderson understood they frequently perform abdominal exercises as part of their routines. He knew in order to protect their backs the traditional abdominal exercises had to be fundamentally changed. It was then that Dr. Anderson had his athlete patients place a piece of supportive foam under their lower back. This served to align their spine in an ideal extended position and maintain their lumbar curve. The results were amazing. Not only did their lower back pain improve, but the effects of the exercises were actually enhanced by the use of the foam. These benefits encouraged the athletes to become diligent with their use of the wedge in their exercise regimen and their back problems soon became a distant memory.

The MECA wedge was invented through years of observation of patients in clinical practice. Early on in his career Dr. Anderson had a fundamental understanding of how the lower back changes throughout life. The lumbar curve of the spine seems to decrease over time. After looking at thousands of human spines via both gross observation and x-ray, it became apparent to Dr. Anderson why this change occurs. The fact that we sit very often and the very abdominal exercises prescribed to treat and prevent low back pain are main contributing factors.

The idea of reshaping the lower back by using plastic domes, air-filled bladders, or foam rolls made sense to Dr. Anderson. However, there are many complications and drawbacks to using these methods and they were ultimately proven to be ineffective. Either the patient's low back complaint never significantly improved, or there was no real increase in the curve of the lumbar spine.

A tool designed to both support the natural curve of the low back and enhance the effectiveness of abdominal exercises became the objective. After much trial and error this goal was ultimately achieved with what is now known as the MECA Back Wedge. The wedge is composed of a soft textured foam material specifically designed to have a high density and elasticity. This serves to redirect the damaging force of abdominal exercises from the lower back to the abdominal wall. The effort exerted by the exercises directly correlates to the counter pressure from the Back Wedge. Thus, the abdominal wall is more effectively and efficiently conditioned and the natural curve of the lumbar spine is enhanced. The bonus is the fact that this tool can also be used as a form of passive therapy to help negate the negative effects associated with sitting as we've previously discussed.

Obviously the solution to the low back pain epidemic is not to avoid the sitting or abdominal exercises that contribute to the problem. Instead we need to understand how to perform these activities correctly to prevent problems from occurring. Consider the relationship between dental hygiene and dental health. Dental health has improved, not by avoiding food and dental hygiene, but instead by educating ourselves how to properly care for our teeth. We now know that done improperly, many beneficial dental hygiene tasks can be harmful to our teeth. Take for example, brushing your teeth with a hard bristle tooth brush. Although it may clean the teeth it also injures the gums. The same concept holds true with our back.

Let's take our dental health analogy one step further and compare it to our spine. Sitting for long periods of time on a daily basis without taking corrective action is similar to never brushing your teeth. Performing abdominal exercises on our back or a ball is similar to brushing your teeth with a hard bristle tooth brush since it can injure the back while strengthening the abdomen. It becomes very clear that to prevent back problems we need to take action against the effects of sitting, and we need to use proper exercise techniques.

When used diligently, the MECA Back Wedge can help "undo" the insult of sitting, assist the effect of abdominal exercises, and enhance the natural lumbar spine curve. When performed correctly and consistently dental hygiene has significantly reduced the likelihood of developing dental problems. The same concept can be applied to our backs. A new understanding of how to properly care for our spine can go a long way to reducing the incidence of back problems that plague the industrialized world.



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