

Address Sleep Posture to Optimize Cervical Spine and Health

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✓ Fact Checked

STORY AT-A-GLANCE

- › When your head is in a forward position, your body compensates. Your psoas major muscle goes into spasm, which rotates your pelvis. Your psoas major also connects to your lumbar intervertebral discs, which can contribute to herniation
- › Forward head posture also leads to loss of proprioception – balance and awareness in space – which causes your spine to curve and atrophies your vermis, a brain area involved in focus and executive functioning. To improve mental focus, work on your balance and restoring your cervical spine curve
- › If you have damage in your neck, cervical spine or any part of the atlas, scar tissue may be holding your head to one side, causing you to lean and have uneven weight distribution. This too will cause your spine to curve in order to keep your head straight
- › Part of the solution to forward head posture is to properly support your cervical spine while sleeping on your back. Chiropractic adjustments are also important, as this will encourage your body to replenish the water in the degenerated disc, thereby increasing the space between the vertebra
- › Cervical traction units that can be hung on your door and weighted headbands that help strengthen your neck muscles are also helpful if you need to regenerate the discs in your cervical spine

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In this interview, Dr. Peter Martone, a Boston-based chiropractor and physiologist, shares some incredibly important techniques that can help you achieve proper cervical posture while sleeping, as well as other strategies to help prevent degenerative disc disease.

About 10 years ago, when we first met at an event, Martone pointed out I had problems in my cervical spine. I ended up going to see him for a proper diagnosis. Digital X-rays revealed degeneration in the fifth and sixth vertebrae. Martone prescribed a set of home treatments that I've been doing ever since. He describes what motivated him to, in part, reinvent how he looks at chiropractic:

"I was ... invited to Harvard Medical School to give continuing education credits for their M.D.s. I was young in practice ... I knew a lot about chiropractic at that time. I knew about the structure. I just didn't know how to communicate it well. So ... I got tore apart. It was a great learning experience for me.

From that point on, I said, 'You know what? I need to dive in ... I need to find anchors where you can't argue. It's almost like gravity. If you drop something, it's going to fall, that's a law. So, I started thinking about laws. How does the body work?

The righting reflex: Your body follows where your eyes go. Wolff's law: If you don't use it, you lose it. Davis's law: If you don't stress the tissue, you lose the tissue. Thinking in these ways, I started seeing contradiction in all my studies.

So, exercise physiology would contradict the law of saying that muscles are the problem. Then it would contradict a chiropractic [law] saying you just need to mobilize. I started to put this philosophy, this understanding, together ... and I started seeing patterns.

The more I started opening up my eyes to new patterns, the more I started understanding them, and I've been in practice now for 20 years and done over 750,000 adjustments, and I really believe in the [strategies] I share."

What Causes Degeneration?

"Use it or lose it" is one of the adages that apply to your physical body, both muscles and bones. If you don't use a joint for a long time, degeneration sets in. As noted by Martone, "your body adapts to the consistent stresses placed on it over a long period of time."

How then do you regenerate that degeneration? It stands to reason that if lack of motion has caused degeneration of a joint, restoring motion causes regeneration. By looking at a person's X-rays, Martone is able to pinpoint how long the damage has been accruing, which will then give him an idea of how to "backtrack" and undo the damage based on the various laws governing physiology.

"The way I explain it is, the more scar tissue you have in your spine, your spine becomes like hardened clay. What chiropractic adjustment does, it basically takes your clay and it dumps it in water.

Now that clay can become more moldable, but if you expose your clay to the same molds or the same lifestyle patterns, you're just going to reinforce the same old patterns.

That is why you need to couple chiropractic care with some [other] therapy ... and then you need to change the pattern that caused the problem to begin with. I believe most patterns can be changed at night while you sleep. You can actually improve your posture while you sleep," Martone says.

How Cervical Curvature Is Damaged

Martone has developed a hybrid approach involving exercise and chiropractic adjustments to regain ideal cervical curvature, improve disc height and help resolve degeneration over time. Martone struggled with chronic back pain for about 15 years, then herniated L5 about five years ago in a mountain biking injury. His own recovery led him to understand how your sleeping position can influence your recovery and regeneration.

After reviewing 2,000 X-rays, he discovered a pattern previously unmentioned in the literature. He concluded that his own longstanding back problems were not due to extreme sports; rather, the problem originated in his neck.

"My back problem didn't come from my lower back. My back problem came from my neck, and then because of forward head posture, I picked up a curve in my lower back due to ... the psoas major muscle.

It basically happens like this: If you lose the curve in your cervical spine ... [you get] scoliosis in the lower back. [It's] compensatory, with the psoas major muscle [going into] spasm ... The only muscle in the human body that attaches directly to a disc is the psoas major muscle.

So, the body innervates that psoas major muscle, curving that spine to take pressure off the atlas because of forward head posture. The atlas is the first cervical vertebra.

I was sleeping on my back, but I wasn't using the pillow in the right way. I had forward head posture, and I had that lower back rotation due to that psoas compensation, that psoas major muscle spasm."

In summary, when your head comes forward, your body compensates. Your psoas major muscle goes into spasm, which rotates your pelvis. The psoas major is made up of a series of overlapping fascicles or bundles of fibers that connect bilaterally to your lumbar intervertebral discs.

The spasms weaken the particular disc the psoas major is attached to, thereby allowing it to herniate. Also, because your head is in a forward position, your body loses proprioception – balance and awareness in space – which causes your spine to curve.

Your head weighs about 15 pounds, and when your head is forward, with your chin jutting out, it places enormous stress on your neck, which then contributes to arthritic changes. It also decreases cerebrospinal fluid flow.

What's the Solution?

Part of Martone's solution was to figure out how to properly support his cervical spine while sleeping. Initially, he came up with a novel way to do that using a down pillow to support his neck, not his head. Chiropractic adjustments are also important, as this will encourage your body to replenish the water in the degenerated disc, thereby increasing the space between the vertebra. Martone explains:

"When you start adjusting, the body says, 'Holy mackerel. You're going to start using this joint again?' So, it pulls water back into the joint. What ends up happening is like taking a raisin and dropping it in water. The raisin is going to swell. It's not going to come back to a grape, but you still can get space back.

So, through regular chiropractic adjustments you ... create an unstable environment and then the body responds by creating stability. It will rebuild the joint space over a period of time. In about six months you can see a visible change on the X-ray."

A third strategy that is really important is working on restoring your balance. As mentioned, when your head is in forward position, you lose proprioception, which in turn ends up atrophying a portion of your brain called the vermis.

"One of the functions of your vermis is to build the prefrontal cortex, which is all your thoughts, your focus, your executive functioning," Martone explains. "I've worked with many kids with ADD and ADHD. I have it myself. One of the things I worked on to be able to focus was to improve my balance.

By improving balance, you are actually able to focus, you will forget less, and your brain will have more acuity. You'll have a sharper brain. When your head starts to come forward and you restrict that proprioceptive sense into the brain, you start to degenerate your vermis and you start to lose focus.

So, we find with our patients, when we start to restore that curve and put them on what's called a wobble board, we can improve their balance. It's critically important to being able to restore cognitive functioning and restore functionality in the spine by improving your balance. One of the single most important exercises I believe somebody can do is work on their balance."

Weight Distribution

Your bilateral weight distribution also plays a role in your spinal curvature and health. Martone uses two scales during his initial evaluation to ascertain whether the patient is distributing their weight more onto the right or left foot.

Your body follows where your eyes go. So, if you lean your head to one side, you're going to put more weight on that side. If you have damage in your neck, cervical spine or any part of the atlas, scar tissue may be holding your head to one side or the other, causing you to lean and have uneven weight distribution. This too will cause your spine to curve in order to keep your head straight.

"Let's say you weigh 100 pounds. When you put one foot on one scale and one foot on the other, you should have 50 pounds of weight on one side, 50 pounds of weight on the other side.

I see people 20 pounds off, 30 pounds off, 40 pounds off to one side. It makes a huge difference in knee pain, in ankle pain, in plantar fasciitis. It's mind-blowing when I see that imbalance. I can just look at people now and see that imbalance."

The Rationale for Sleeping on Your Back

Martone believes it is critically important to sleep on your back in a neutral sleeping position. However, there are a large number of people whose airway will close during the night. This can easily be prevented by applying paper tape over your lips before you go to sleep. I have been doing this for a few years now and is part of my night time ritual. He explains:

"If you have pain, you're going to toss and turn all night long ... because your body weight needs to be distributed over the greatest surface area. So, what I tell my patients is 'You have to fall asleep with the end in mind.' If you want better sleep, more restful sleep, wake up well rested and in no pain, you have to begin with the end in mind.

You give me a side sleep, I'm going to give you a shoulder problem ... a hip problem, because you're starting twisted, and I don't care how much support you have, I don't care how much your hips fall into the bed. We are creating these beds to put us in these horrible positions and it's making our spines so much worse.

We want to be able to reverse the damaging effect of our modern-day lifestyle. If we're going to be on a computer all day with forward head posture, and then we're going to be texting all day, we have to do that at some point in time. So, to compensate for that, I suggest falling asleep ... on your back.

When you fall asleep on your back, you're naturally going to have an arch in your lower back, so you do not have to support that. But your neck – you want to put a support under your neck so you can arch your neck back ...

The only way to bring the head back is to stretch it back, and you do that at night using ... a soft support ... not hard, not firm, because you're only supporting 3 inches from your bed to the base of your neck. So, you put something under your neck, you arch your neck back, you keep your arms down by your side, and then you lie in that flat position."

The Neck Nest

You know you're in the correct position when your eyes are looking straight up toward the ceiling and your chin is pointed up to the ceiling as well. Martone eventually developed Neck Nest¹ – a special pillow designed to provide ideal support for the cervical spine. When used in conjunction with other treatment strategies, it's been shown to restore the natural 45-degree angle in the neck.

"The lifestyle habit is this: You put a pillow underneath your neck, and you fall asleep like that, whether it's 45 minutes, an hour, two hours, just start with whatever you can do.

Do that every single night because one night it might be an hour, the second night might be an hour and 10 minutes, but eventually you get to three hours, and that's three hours of your neck in traction. You're going to get a little stiff, but your neck is stretching back. You have to understand that when the structure of your spine is changing, it's not always comfortable.

So, when you start to adopt the back-sleeping position, don't get frustrated saying, 'I only did it for 15 minutes last night. I couldn't fall asleep like that.' We have so many different techniques to be able to help you fall asleep on your back and stay on your back for at least an hour or two a night at the beginning ...

Many [support pillows] are hard substances and they support your head too much. Your head is 15 pounds. You want to use that as a weight and use the pillow as a fulcrum to be able to get that neck support and that actual change in the cervical curve ... The spinal biomechanics in maintaining a healthy spine is critically important in maintaining overall health and well-being ...

The Neck Nest has been out for over a year. I took a bunch of X-rays on patients when they first started [using the pillow] and then I have six-month follow-up X-rays, a year follow-up X-rays. We're getting so much improvement in the cervical spine by using a Neck Nest. They're sleeping better, they're sleeping deeper.

I have people that are monitoring their sleep. Their sleep scores are getting better, and their sleep scores are getting better because they're getting more restful sleep. The reason we toss and turn in the middle of the night is because our body typically is uncomfortable, or in a way shut down.

To get a more restful sleep, you start with the end in mind and you put your body in a neutral sleeping position. You support the cervical curve in the neck, you lie flat."

Cervical Traction Units and Weighted Headbands

Martone also likes to integrate the use of cervical traction units that you can put over your door. I've been using such a device for a few years now, and it seems to have a powerful synergy with the nighttime passive traction. Martone explains the purpose for active cervical traction:

"It's like a jelly doughnut analogy. If you take a doughnut and squeeze it, the jelly comes out. If you pull it apart, it will pull the jelly back inside by creating a negative pressure in the disc ...

If you have degeneration and your major focus is to rehydrate the disc, your body will only rehydrate the disc based on a certain tension threshold, and when you pull the cervical spine apart ... you can cross that barrier and get more hydration to the disc."

Another device that is widely recommended is the use of a weighted headband that you wear. As you lean your head to one side, you stimulate and strengthen the muscles on the opposite side. I've been doing this for a few years as well, and my X-rays show a fairly significant improvement.

It's important to note that I was never symptomatic. I had no neuropathies, no nerve tingling or pain, but it's key to address any abnormality as early as possible. The earlier you address it, ideally before you have symptoms, the more likely you are to resolve it at a deep fundamental level.

Again, ideally, you'd want to hit it from several angles, getting regular chiropractic adjustments, sleeping on your back with proper cervical support, and using a cervical traction device. As explained by Martone:

"All of it together is good. What the adjustment can do, and what's critical, is it can take your spine, your hardened clay, and it can dump it in water. Now it becomes more moldable. You're going to get the most amount of distraction and you're going to get the most amount of improvement when you get the adjustment."

You can do it without the adjustment. You just won't get as much improvement and you won't get improvement in the disc space. You'll get improvement in the curve, but you won't open up the space. You need to restore the motion intrasegmentally."

More Information

In our interview, we also review a number of ways you can improve your sleep more generally, aside from sleeping on your back, so for more details, be sure to listen to it in its entirety.

If you're committed to improving your sleep and cervical spine, consider getting Martone's Neck Nest pillow. On his site, you'll also find X-ray images of patients before and after using the Neck Nest pillow, showing visible improvement in their cervical spine curvature.

Again, early diagnosis is important, since it gives you much more time to counteract the damage taking place. Had Martone not diagnosed my problem, which I had no idea I had, it would have continued to degenerate, causing problems in my later years.

As noted by Martone, you cannot degenerate and regenerate at the same time. You're going one way or the other. Had I not taken action to regenerate my cervical spine, it eventually would have fused, Martone says. Fusion, in turn, results in lack of motion, nerve compression and atrophy of the central nervous system.

And, since each nerve goes somewhere, a range of effects can take place. Perhaps it affects your thyroid gland or throat. Tingling in the fingers can occur, or weakness in your arm. Once you have bone-on-bone fusion, there's very little you can do to restore your function. So, truly, prevention is the name of the game here. It's so key, which is why I'm excited to share Martone's knowledge with you.

Sources and References

- ¹ [Necknest.com](https://www.necknest.com)