



The Wellness Family

Dr. Cuperus Keeps You Informed

Tech Neck

The Industrial Revolution happened between 1760 and about 1840, moving the manufacturing process out of people's homes and into plants or factories. Now we're in the Technological Revolution, which began in the 20th century with the invention of the television and has continued into this century with computers, laptops, cellular phones, social media and a handheld society. As in every other area of life, each new development typically brings its own new set of problems.

What is Tech Neck?

The basic definition is the name given to neck soreness from endlessly sitting in front of a computer, typing on a laptop or using any handheld technology. The pain is typically in the cervical spine, which is why it's called "tech neck", but it is not limited to the neck. Overuse or improper use of technology can cause pain in the upper or mid-thoracic and lumbar spine as well.

Muscular stiffness and pain, even headache, can be caused by extended periods of time spent looking at a screen or down at devices such as tablets, hand-held gaming systems or smart phones.

While shoulder and neck pain are going to be the most common symptoms of Tech Neck, it can also result in headaches and other signs of discomfort. However, if left undetected or uncorrected, Tech Neck can even result in deviations to the thoracic and lumbar spine.

The vertebrae in the spine typically act like stacked building blocks and will compensate for misalignments. As with a stack of building blocks, if one block is slightly to the left, the tower will lean to the left unless the block above it compensates by leaning slightly to the right. Our spine works in the much the same way, and so strain on the neck could result in other areas of the spine trying to counterbalance.

What causes it?

Sitting with our shoulders hunched forward, neck straining at an uncomfortable angle and eyes squinting to read the screen in our hands is, unfortunately, becoming a common position at work or in social situations for people of all ages from 2 to 72, even older. It's a posture that is most often associated with smart phones, and since 92% of all adults own one, it's safe to say that this habit isn't going away anytime soon.

Our heads are best carried in a neutral position (the center of our ears over our shoulders), and every inch we move our heads

forward puts added strain on our neck. Too much time spent with our heads bent forward over some kind of technological device, begins to create Tech Neck.

Tech Neck vs Text Neck

A study was performed in 2014 by Kenneth Hansaraj, M.D., the chief of Spine Surgery at the New York Spine Surgery & Rehabilitation Medicine. The study determined that the weight supported by the spine dramatically increases when flexing the head forward at varying degrees. The study was focused specifically on the issue of poor posture and its effects, especially when using a cell phone or other smart device.



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"When your spine is in neutral position, the head weighs about 10-12 pounds," according to Dr. Hansaraj, "At 15 degrees, the neck sees 27 pounds. At 45 degrees, it sees 49 pounds, and at 60 degrees, it's 60 pounds." His study determined that these changes are what actually causes Forward Head Posture or what he called Text Neck.

Text Neck can pull the entire spine out of alignment causing long term muscles strain, disc herniations and pinched nerves. Text Neck has even been known to cause early arthritis and, whether it is called Tech Neck or Text Neck, it's a serious problem that needs to be addressed.

The Future of Neck Problems

In the United States alone there are over 6 billion texts sent every day and 2.27 trillion texts are sent in a year. The average person checks their phone almost 50 times a day and spends almost 5 hours on their cell phone. The typical teenager will spend an average of 5,000 hours per year texting with their neck at an uncomfortable angle. These numbers are alarming when you consider this equates to about 50 pounds of excess pressure put on the cervical spine during every minute spent looking down at a smartphone or other hand-held technology.

Dr. Todd Lanman, a spinal neurosurgeon at Cedars-Sinai Medical Centre in Los Angeles says that the neck typically curves backward but what he's seeing is that the curve is being reversed as more and more of the population spends excessive amounts of time looking down at their phones for sometimes hours a day. In a recent interview he said, due to reverse curve, "By the time patients get to me, they're already in bad pain and have disc issues."

The real concern becomes, what does this mean for the future health of kids who are using phones all day every day for hours at a time? Lanman proposes, "For today's users, will an eight-year-old need surgery at 28? In kids who have spines that are still growing and not developed, we're not sure what to expect or if this could change normal anatomies."

What can we do?

There is not going to be a one-size fits all cure for Tech Neck. Gwanseob Shin of the Ulsan National Institute of Science and Technology Ergonomics Lab in South Korea says, "It is difficult to recommend a proper posture for smartphone users. If we raise the phone at eye level to avoid the look-down posture, it will add new concerns for the shoulder due to the elevated arm posture." He claims that more frequent rest breaks from technology and some physical exercise to strengthen the neck and shoulder muscles is probably more practical. While being more practical, is it really reasonable?

Children and teens are becoming at a higher risk due to the amount of time they're spending on wireless devices. The average American teenager checks their cell phone 74 times a day. Asking them to put it away may not be feasible.

A Few Reasonable Suggestions

Dr. Stefano Sinicropi, a board-certified orthopedic surgeon, has the following suggestions:

1. Be aware – consciously consider the position of your arms, shoulders and especially your neck when using technology

2. Set Time Limits – take a 3-minute break for every 15-20 minutes you use your device
3. Set Automatic Reminders – most smart devices have timers, take a time-out regularly
4. Use a Tablet Holder – purchase any tablet or iPad holder available at Amazon or other retailers to elevate your device and significantly reduce the amount of neck flexion and forward positioning to keep the device as close to eye level as possible
5. Take Action – pain is our body's warning system that something isn't right; don't ignore it

Many other sources have the same recommendations but here are a few additional suggestions:

- Sit in a chair with a headrest and be sure to keep the back of the head in contact with the headrest as this will ensure that you're not looking down with your neck flexed forward
- Look up every five minutes or so for about 30 seconds
- Try to spend an equal amount of time with your neck back and facing up to counter-balance the amount of time spent with your neck flexed forward
- Ask a friend to take a picture of you while texting and look at your posture, then make this picture your wallpaper and use this image to consciously make wiser decisions regarding how you position your body when texting
- Increase the screen size (use a tablet as opposed to a phone), then increase the font size to be able to use the device without having to look down or strain to see it

These are just a few recommendations, but in any case, find *something* that works for you. The point is to make a conscious effort to avoid flexing your head forward for extended periods of time.

The Chiropractic Factor

Your Family Wellness Chiropractor is the healthcare professional trained to care for the spine. If you or your children are suffering from any of the common symptoms of Tech Neck, be sure to schedule an appointment today.



Dear Patient,

Dr. Cuperus is dedicated to providing you with the absolute best in family wellness care. So take a moment today to discuss with your Family Wellness Chiropractor any concerns you may have regarding your family's overall health and wellness.

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