

[IMAGE]

"Tech Neck": The Fix Is in the Foundation

By Brian Jensen, DC

Freeze. Don't move a muscle. As you read these words, notice the placement of your head – are you leaning into the page or the screen? What about your shoulders – are you hunched over a magazine or electronic device? Do a quick self-assessment: How does your current posture compare with ideal posture?

If you're like most people, you tilt your head when you read or use a smartphone or other electronic device, when you're at your desk at work, and pretty much any time you're examining something closely. The trouble is, smartphone use has dramatically increased the frequency and duration of this activity, particularly among young people. Some are referring to the resulting poor posture as "text neck," although I prefer the more comprehensive "tech neck."

The human head weighs about 10-12 pounds when in a neutral position: balanced between the shoulders, chin level, and eyes gazing forward, shoulders and shoulder blades retracted. In a study, Kenneth K. Hansraj, MD, found that this weight – and the resulting load on the spine – increases dramatically when the head flexes forward: "As the head tilts forward, the forces seen by the neck surge to 27 pounds at 15 degrees, 40 pounds at 30 degrees, 49 pounds at 45 degrees and 60 pounds at 60 degrees."¹

The long-term consequences of a tilted-head posture, according to Dr. Hansraj, are incrementally increased stresses about the cervical spine that could lead to early wear, tear, degeneration and possibly surgery.

tech neck - Copyright © Stock Photo / Register Mark "People spend an average of two to four hours a day with their heads tilted over, reading and texting on their smartphones and devices," Dr. Hansraj says. "Cumulatively, this is 700 to 1,400 hours a year of excess stresses seen about the cervical spine. It is possible that a high-school student may spend an extra 5,000 hours in poor posture."

The obvious answer to what some are calling an "epidemic" of poor posture isn't very practical – people aren't going to use their phones less. Strengthening exercises and mindfulness of one's posture can help alleviate some of the strain, but it's also important to look down the entire kinetic chain to ensure the neck has a stable foundation to start from.

Work From a Stable Foundation

The feet are the foundation of the body. While 99 percent of all feet are normal at birth, 8 percent develop troubles by age 1, 41 percent at age 5, and 80 percent by age 20. By age 40, nearly everyone has a foot condition of some sort.

The feet are literally inseparable from the neck – they’re connected through what’s known as the kinetic chain. Over the long term, the repetitive stresses of daily life lengthen the connective tissues in the feet, causing a slow breakdown of the normal support for the bones and joints and a decrease in elasticity, eventually leading to a sagging of the foot’s arch. When this happens, those stresses move into the legs, the pelvis and ultimately, the spine.

When posture is already poor, the spine can’t handle stress the way it could if fully supported. The force imposed from the increased weight of the head borne by the spine in a hunched or leaning posture is exacerbated by the stress imposed from below.

To stabilize the kinetic chain, I recommend the use of custom-made functional orthotics. Custom orthotics provide:

- *Static support.* During a standing posture, the alignment of the arches in each foot has a significant impact on the position of the legs and pelvis. When the arches are low and/or pronating excessively, the knee will rotate medially. A research study using radiographic measurements found that custom-made, flexible orthotics can significantly improve the alignment of the arches when standing.²
- *Dynamic support.* During gait, the foot must permit a smooth transfer of the body’s center of mass over the leg to conserve energy and keep the work expenditure to a minimum.³ This requires an orthotic to be flexible yet supportive, and orthotic designs must consider weight and intensity of forces; proper movement and function of the foot; and support of all three arches to prevent eventual arch collapse.
- *Postural benefits.* Improving foot alignment can help maintain knee, hip, pelvis and even spinal postural alignment.⁴ Preventing hip, knee or spinal joint degeneration requires the additional support and shock absorption provided by orthotics. And a pelvic or spinal tilt or recurrent subluxations will often respond rapidly to orthotic support.⁵

Ask your chiropractor to evaluate your posture and discuss whether custom-made orthotics could be added to your health and wellness program.

References

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