



ERGONOMICS

#TechPain: Causes, Solutions

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For the past several decades, the science of ergonomics has blossomed. The workplace is much safer and life is generally more pleasant thanks to the application of ergonomic principles. However, ergonomists haven't really taken into account the reliance on technology in our modern lives. The youngest generation will undoubtedly face serious health problems that arise from the postures that many devices create. Let's discuss some of these problems and how we can help our patients avoid them.

Texter's Neck

Let's start with "texters' neck." The condition was first named by a Florida chiropractor, [Dr. Dean Fishman](#). He was treating a teenage girl for headaches. During one of her visits, he noticed her posture while she was using her phone to send a text message. He recognized that forward head posture was part of her problem. Since that time, the connection between head posture and health problems has been confirmed.

Now, it seems *everyone* is constantly looking down at their phone. It is particularly prevalent in the younger population. Everywhere you look, people are staring at their phones. Even taking a walk doesn't provide any relief. For example, I live close to a high school. Every day, I see teens walking home from high school while looking down at their phones.



In reaction to the buried head posture of pedestrians using their phones, several cities in Europe have put traffic lights [in the ground](#). The ground-based lights alert pedestrians who aren't paying attention to their surroundings and prevent them from walking into traffic. That's more than a bit scary, but I suppose it's a sign of the times. It also represents ergonomics in action. In other words, it makes life easier and safer.

Prior to the advent of smartphones, Professor Janda described one of the results of forward head carriage. He described "[upper crossed syndrome](#)," which includes a combination of tight and weak muscles. The upper cervical muscles, the cervical extensors, the upper trapezius and the levator scapulae become tight, while the neck flexors, the middle and lower traps become weak. Prior to the use of modern technology, Dr. Janda argued that this syndrome was the culprit in a variety of disorders. The habit of constantly staring down at a smartphone undoubtedly makes this worse.

I wonder if there will be an increase in the "dowager's hump" in the years ahead. The forward-head posture not only creates neck problems; it also places an increased burden on the upper back. A New Zealand physiotherapist, Steve August, refers to "texter's neck" as the "iHunch." Mr. August states that he used to see the hump in older patients (e.g., grandmothers and great-grandmothers). Now, he sees it in teenagers. Just another unfortunate sign of the times.

Blackberry Thumb

We also must consider "Blackberry thumb." (While the Blackberry isn't a very popular device today, the condition is related to sending a text message. It has also been called "Nintendo thumb.")

Blackberry thumb is actually a form of De Quervain's disease, a tenosynovitis of the extensor tendons of the thumb. It is quite painful and is treated by anti-inflammatory medication. While the medication may improve the symptoms, they don't solve the problem. In order to heal, the

individual must stop texting.

By the way, some useful stretches can be found on YouTube. Just put "De Quervain's stretching exercises" in the search box.

Like it or not, texting is becoming a universal way of communicating. I recently saw two teenage girls, heads down, sending text messages. They were sitting on the same couch, only a few feet apart. As it turns out, they were texting each other.

Other Tech-Related Health Problems

- *Stress* - Being tied to a smartphone 24/7 may produce stress. I've heard that some airlines are considering allowing the use of smartphones during flights. The mere thought of that stresses me.
- *Acne and infections* - Cellphones are often loaded with bacteria and keeping them close to the face is a convenient way of transferring pathogens.
- *Radiation sickness* - Many of the new technologies emit a low-frequency electromagnetic energy that may produce symptoms in some people.
- *Allergies* - In the same manner that cell phones may pass infections, they may also carry allergens such as pollen and dust.
- *Musculoskeletal pain* - The use of modern technology (e.g., laptop computers, tablets) has been associated with an increase in wrist pain (carpal tunnel syndrome), as well as neck, shoulder and back pain.
- *Decreased sperm count* - When a laptop computer is placed on the lap, the temperature increases, which can potentially reduce sperm count.
- *Burns* - The use of a laptop computer placed on the lap has been associated with significant burns.
- *Headaches* - The neck posture assumed while using laptop computers and tablets contributes to an increase in some types of headaches.
- *Eye strain* - Increases in squinting and decreased blinking have both been associated with staring at small screens.
- *Sleep problems* - This is especially problematic when technologic devices are located in the bedroom.
- *Ear infections* - This is associated with the use of earbuds (microphones placed directly in the ears).
- *Weight gain* - It has been said the use of a remote control on the TV set will add 10 pounds over a lifetime of use.

Practical Solutions to Discuss With Your Patients

- *Use a stand-up desk.* This not only has a positive impact on our posture, but it is also beneficial for overall health.
- *Take regular and frequent breaks.* Frequent, short breaks (as long as 10 seconds) have been shown to decrease musculoskeletal stress. One suggestion I have used to promote this is to get up and drink a glass of water every hour.
- *Stretch.* The [Brugger position](#) (head up, extend the spine, roll the shoulders back, and face the palms forward) is especially helpful.
- *Apply ergonomic principles.* I like to think of ergonomics as the everyday application of common sense, whether sitting, standing, lying down; pretty much doing anything.

While the advances in technology have improved many aspects of our lives, they come with a price tag. They often have a negative effect on our health. That's where you come in...

