

'Text neck' and other mobile-device hazards

Looking down at your phone can put 60 pounds of pressure on your spine

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HEALTH ADVISOR

Mobile phone and handheld device-related injuries are on the rise as people spend more and more time with their heads buried in their personal devices texting, tweeting, e-mailing and surfing the Internet. According to the National Center for Biotechnology Information in the United States, the incidence of musculoskeletal disorders (MSD) of hand, wrist, forearm, arm and neck has been increasing all over the world because of the prolonged, forceful, low-amplitude, repetitive use of our hand-held devices. "Text neck," a MSD of the neck and upper back, was virtually unheard of a few years ago. It has now become a common presentation in chiropractic and physiotherapy clinics for people of all ages from *Pokemon Go* enthusiasts to multitasking professionals. Typically, the incidence of neck pain increases with age. We are now seeing and treating younger and younger patients who never reported neck pain before.

A 2014 study in the journal *Surgical Technology International* found that bending your head to look down at your mobile device can put up to 60 pounds of pressure on your spine. Even a 15-degree head tilt adds close to 27 pounds of pressure. This posture is not natural and tests the mechanical capacity of the spine while in a vulnerable position. With hours of the day being spent staring at a screen, the accumulation of the extra force can lead to irregular stresses on the spine and surrounding, supportive soft tissues.

Overused thumb injuries or "texting thumb" is another common, newer MSD on the rise. Our thumbs were not built for texting and repetitive swiping on such a small screen. Symptoms can include pain, burning, numbness, tingling and weakness in the affected area.

If you are an avid smartphone user, here are 10 ways you can reduce these types of injuries.

1. Alternate between using



Injuries are on the rise from our obsession with communicating. FRED LUM/THE GLOBE AND MAIL

your thumbs and other fingers to type on your device. Whenever possible, use your fingers to type instead of your thumbs.

2. Place your phone down on a hard surface if you're texting, or hold the phone in one hand and text with the other, instead of using only one hand.

3. If using your thumbs to type, use the pad of your thumb, as opposed to the tip of the thumb, as this can create an awkward bent position which can lead to potential injury.

4. Keep your wrists relaxed and as straight as possible. Minimize the strain on your wrists, fingers and thumbs by using a neutral grip when holding your device.

5. Try to maintain the phone at your chest, chin or eye level to minimize the bend in your neck and to maintain optimal spinal posture. If your phone is below eye level, look down with your eyes rather than your neck.

6. Avoid using the phone to one side of the body with the neck rotated or cradling the phone between your ear and shoulder.

7. Purchase a protective case that reduces the need for grip strength when holding your device. Try using a hands-free headset, microphone and auxiliary cord to avoid awkward postures. When possible use a portable keyboard attachment.

8. Limit your device use to 20-minute sessions. Take a short break in between these sessions.

9. Practice the 20-20-20 Rule to give your eyes a break. For every 20 minutes of screen time, take 20 seconds to look 20 feet ahead.

10. During the break, I also recommend you try these stretches to help you stay loose. Motion is lotion.

For your hand, fingers and thumb

)] Curl your fingers and thumb into a tight fist then straighten your fingers as far as you can go without pain.

)] Start with your fingers fully extended and together, now spread your fingers apart as far as you can go - again without pain.

)] Move your thumb to each fingertip beginning with your index finger and finishing with your little finger.

Wrist

)] Hold your arm in front of you with your elbow extended, flex the wrist forward. Repeat with wrist extended. (Hold for 20 seconds on each side.)

Neck

)] Use your hand to gently pull your head to the side and rotate your nose towards the same shoulder. (Hold for 20 seconds

on each side.)

Shoulders:

)] Roll the shoulders 10 times forward and 10 times backward.
)] Perform 10 big-reaching shoulder circles with arms extended.

While portable devices offer us ongoing connectivity and convenience, we need to be aware that long-duration use can cause harm to the body. Preventing MSDs really requires a proactive approach.

You may also want to visit the Ontario Chiropractic Association website for more stretching exercises.

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BEVERAGES

Does sparkling water have a downside?

SOPHIE EGAN

QUESTION

Are there any health drawbacks related to drinking a lot of sparkling water or seltzer?

ANSWER

The lack of sugar, calories, added colours and artificial flavours in plain seltzer, or sparkling water, and its relatively low acidity make it a generally healthy choice compared with most pop, juices and sports drinks. But check the label to avoid added sweeteners, sodium or other additives.

Seltzer is water that has had pressurized carbon dioxide added to give it bubbles. Sparkling water is the umbrella term for carbonated water, including naturally carbonated mineral water and artificially carbonated seltzer and



THINKSTOCK

club soda. Studies have not shown ill health effects from drinking seltzer or other plain sparkling waters.

A 2006 study found an association between drinking colas and low bone mineral density. But the link was not seen in those who drank other carbonated beverages.

Colas, with their low pH (a measure of acidity), also have the potential to erode tooth enamel. But a study published earlier this year in *The Journal of the American Dental Association* found the pH of plain sparkling water, about 5.0, is not low enough to erode enamel.

Carbonation does not, in itself, lead to dental erosion, said Dr. John Ruby, an adjunct professor of pediatric dentistry at the University of Alabama at Birmingham, who is a co-author of the paper. "It's when they add citric

acid or phosphoric acid that's in your classic soft drinks that the pH can drop below the critical pH of 4, where you then can have dental erosion as an outcome. For example, Coca-Cola has a pH of about 2.4," making it potentially over 100 times more erosive than sparkling water (because pH is on a logarithmic scale).

Bottled seltzers that have been flavoured with citric acid, which is found naturally in citrus fruits such as lemons and limes, may be acidic enough to damage enamel. But you can get flavour in a less acidic form by adding a slice of lemon or lime (or other fruits, vegetables or herbs, such as cucumber, mint or basil) to plain sparkling water.

According to a spokesman from the American Dental Association, the greatest potential drawback of consuming bottled sparkling water is missing out on the bene-

fit of fluoride when you drink it instead of fluoridated tap water. In-home sparkling water makers such as SodaStream have gained popularity in recent years because they save money and have environmental benefits, but an additional advantage of making your own sparkling water from the tap may be the fluoride, which the ADA emphasizes as essential for maintaining long-term oral health.

An additional health note: Club soda, which contains added sodium to mimic the taste of mineral water, is not the same as seltzer. The amount of sodium can be small and varies by brand, but it can add up. Too much sodium can increase blood pressure, and current sodium levels among most Americans are already considered too high.

New York Times News Service

CIRCULATION

Why fidgeting is good medicine

GRETCHEN REYNOLDS

Are you a fidgeter?

From now on, you can ignore the frequent requests you undoubtedly receive to just sit still. A new study finds that fidgeting - the toe tapping, foot wagging and other body movements that annoy your co-workers - is, in fact, good for your health.

Sitting is one of the scourges of modern life. We sit during meetings, automobile and airplane trips, while completing lengthy work assignments and while binge-watching *Stranger Things*. Studies of movement patterns indicate most of us spend between eight and 10 hours a day seated. During that time, our bodies and, in particular, our legs barely move.

The health consequences of this muscular immobility are well documented and include an increased risk for weight gain, as well as diabetes, since unused muscles in the legs do not pull sugar from the blood, leading to a dangerous rise in blood sugar.

But the most immediate impact of oversitting is on our vasculature. Studies show that uninterrupted sitting causes an abrupt and significant decline in blood flow to the legs. This is problematic since, when blood flow drops, friction along the vessel walls also declines. The cells that line these walls, which can sense changes in the friction, begin to pump out proteins that contribute over time to hardening and narrowing of the arteries. This may make biological sense, because arteries don't need to be as flexible when there isn't much blood in them, but when the blood flow increases, the blood vessel remains stiff, increasing blood pressure and raising the risk for atherosclerosis.

We can combat that situation easily by standing up and moving, causing leg muscles to contract and blood flow to remain steady.

"But there are many situations in which people cannot just stand up," such as during long meetings or car trips, said Jaume

Padilla, an assistant professor of nutrition and exercise physiology at the University of Missouri, who led the new study.

So, Padilla and his colleagues began to consider other, relatively unobtrusive and practical ways that someone might combat the decline in blood flow associated with sitting.

For the new study, which was published in July in the *American Journal of Physiology - Heart and Circulatory Physiology*, they hit upon fidgeting.

Padilla and his colleagues thought it was conceivable that lower-body fidgeting might also result in enough muscular activity to elevate blood flow to the legs.

To test that possibility, they recruited 11 healthy college students and, using ultrasound and a blood pressure cuff, first measured the level of normal blood flow through one of the main arteries in their legs and determined how well that artery responded to changes in blood pressure.

Then they asked each subject to sit for three hours in front of a desk. The volunteers could study, work on their computers, talk on the phone or otherwise amuse themselves but, for those three hours, were not allowed to rise.

Most importantly, they asked the volunteers to keep one leg perfectly still, the foot flat against the floor and unmoving. With the other leg, the volun-

teers were told to fidget - tapping their heels against the ground for one minute and then staying still for four minutes. (A clock chimed to let them know when to start or stop fidgeting.)

The blood flow in the unmoving leg declined precipitously, but it rose in the fidgeting leg, compared both with baseline levels and to the unmoving leg.

New York Times News Service

TODAY'S KENKEN SOLUTION

2-	2+	1-	6	80x	
3	5	1	2	6	4
5-	6				
1	6	2	3	4	5
6	13+	5	4	3	2+
2-	2+	5	8+		
4	3	6	5	2	1
2	12x	3	5-	5	2+
5	2-	4	6	1	3

TODAY'S SUDOKU SOLUTION

7	5	2	1	4	6	8	3	9
9	1	8	3	5	7	4	2	6
4	3	6	8	9	2	5	7	1
8	9	1	2	3	4	6	5	7
5	6	7	9	1	8	3	4	2
3	2	4	6	7	5	9	1	8
1	7	5	4	6	9	2	8	3
6	8	3	5	2	1	7	9	4
2	4	9	7	8	3	1	6	5