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# Is Technology Causing a Lifetime of Pain for Millennials?

Written by Shawn Radcliffe | Published on May 4, 2015



**People born between 1980 and 2000 have embraced technology unlike any generation before. But their constant connection to smartphones, laptops, and tablets may cause short- and long-term health problems.**

Technology has revolutionized the lives of millions of millennials. But this generation — the first to grow up intimately connected to computers, smartphones, and other electronic devices — may one day pay a heavy price for being plugged in.

“Many of the millennials who are either college age or in the workforce are looking at screens constantly,” said Dr. Mark Jacquot, clinical director of vision care at LensCrafters. “Of course, we’re all glued to our phones right now.”

The long-term effects of heavy technology use are unknown. But millennials are already showing signs of digital wear and tear. Health problems such as neck and back pain, nearsightedness, and difficulty with offline relationships are increasingly common in this generation.

These physical and emotional issues extend well beyond the realm of extreme gamers. Technology pervades the lives of all millennials, putting them at risk of techno aches and pains.



According to a study by the [Vision Council](#), a company that represents the manufacturers and suppliers of the optical industry, more than 60 percent of adults spend five or more hours on electronic devices each day. Nearly four in 10 millennials, though, log at least nine hours of screen time every day.

[Read More: Which Type of Screen Time Is Most Harmful to Kids? »](#)

## ‘Text Neck’ Epidemic Strikes Young

Neck pain is one of the most noticeable effects of using a cell phone or smartphone for long periods of time, giving rise to the term “text neck.”

While engrossed in playing Angry Birds or checking Instagram, young people may not notice any immediate pain. But as you tilt your head forward and down, the pressure on your cervical spine increases from 10 or 15 pounds to 60 pounds. That’s like dangling an [8-year-old](#) from your forehead.

Over time this poor posture can increase wear and tear on the spine. More severe cases could require corrective surgery down the road.

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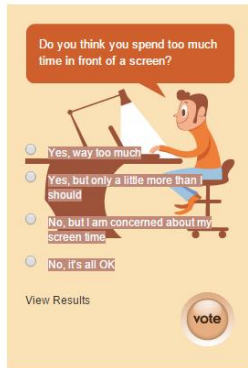


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Handhelds are not the only devices linked to physical problems. According to [research by the British Chiropractic Association](#), almost half of young people experience neck and back pain.

Health professionals blame the rise in back problems among young people on the amount of time they spend sitting at a desk — often locked in front of a computer screen — and not exercising.

This kind of sedentary lifestyle can lead to other physical problems as well.

“The obvious one is weight gain. You have a lot of increase in weight related to inactivity,” said licensed clinical psychologist Lisa Strohmman, JD, Ph.D., founder and director of the [Technology Wellness Center](#).

## Small Screens Lead to Nearsightedness

The convenience of small digital screens means millennials never need to be disconnected. According to a [study last year by Zogby Analytics](#), almost 90 percent of millennials say their phones never leave their side. [Other research](#) also found they are twice as likely to use social media in the bathroom, compared to the overall average.

That much screen time, on top of using computers for work, can stress out the eyes.

“Being locked in at a close distance for a long period of time can sometimes cause the eyes’ focusing system to spasm,” said Jacquot, “which even if you don’t know much about eye anatomy, it just doesn’t sound good ... and it isn’t.”

Difficulty focusing is just one sign of digital eye strain, which affects 68 percent of millennials, according to the Vision Council. Other symptoms include dry or irritated eyes, sensitivity to light, and headaches.

“We’ve seen a dramatic increase in nearsightedness. A lot of that can be attributed to looking at screens.”

Dr. Mark Jacquot, LensCrafters

These effects tend to be short-term, clearing up once the screen is turned off. But they hint at even larger problems down the road.

“While we don’t know exactly what kind of long-term damage so much screen time will have on kids’ and millennials’ eyes,” said Jacquot, “we do know that

we’re looking at more screens than ever.”

This jump in screen time may have had a hand in the rise of nearsightedness, or myopia, over the past few decades. [According to recent research](#), in the early 1970s, 25 percent of 12- to 54-year-old Americans were nearsighted. This jumped to 42 percent by the early 2000s.

“We’ve seen a dramatic increase in nearsightedness,” said Jacquot. “A lot of that can be attributed to looking at screens, to looking not only at the light that’s coming into the eye from the screen, but really having something that close.”

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## Electronic Blue Light Throws off Sleep

Digital eye strain can also be caused by excessive reading. But the light coming from all those glowing LED screens scattered around the house may have even larger health effects.

"LED lights ... produce something called blue light, which is kind of a dangerous cousin to ultraviolet," said Jacquot. "We know that prolonged exposure to blue light can cause things like eye strain and fatigue."

Some research has also found that blue light may damage the cells of the retina at the back of the eye. This study was done with cells growing in culture, not in a person, so more research is needed.

Smartphones are not the only "blue light" culprits. Laptops, LED monitors, tablets, and e-readers all give off blue light. One exception is the standard Kindle e-reader, which doesn't give off light.

In addition to being hard on the eyes, blue light can throw off your body's internal clock, with long-term consequences.

"Blue light can also interfere with sleep patterns," said Jacquot, "particularly when tablets are being viewed ... within two hours or so of bedtime."

Normally, the level of the hormone melatonin rises in mid- to late evening. This signals the body that it's time to sleep. Blue light interferes with the release of melatonin, causing your body to lose that sleep signal.

Stronger lights and longer exposures will have a greater effect. And you don't have to be staring directly at the screen to be affected by blue light.

Over time, these sleep disturbances can lead to other health problems, including obesity, heart disease and diabetes.

*"Blue light can also interfere with sleep patterns, particularly when tablets are being viewed ... within two hours or so of bedtime."*

Dr. Mark Jacquot, LensCrafters

## Loud Noise Rattles Hearing

Millennials are not the first generation to listen to loud music. The World Health Organization, though, estimates that 1.1 billion teenagers and young adults are at risk of hearing loss due to excessive noise from many sources.



Nearly 50 percent of 12- to 35-year-olds around the world are exposed to unsafe noise levels from personal audio devices. And around 40 percent go to entertainment venues with ear-splitting sound levels, such as nightclubs, concerts, and sporting events.

The amount of noise that is unsafe depends on both the volume and the duration. It may take several hours of exposure to a lawn mower or city traffic to damage the sensitive structures of the ears. But louder noises like a motorcycle or mp3 player cranked all the way up can cause damage in as little as 15 minutes.



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Hearing loss is irreversible and can greatly impact the personal and professional lives of millennials as they grow older.

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## How Technology Affects Our Brains

Technology may be shaping young people at an even deeper level ... all the way to the [brain](#).

Research has found that internet addiction — such as playing online games for 10 to 12 hours a day — may rewire certain brain structures, as well as cause [brain matter](#) shrinkage.

“If you pull away [an electronic device], it's like pulling away candy from a baby — your brain wants it. So you get people that are overly aggressive, or they snap easier.”

Lisa Strohmman, Technology Wellness Center

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But technology can even affect the brains of millennials who prefer Pinterest to World of Warcraft.

“There are issues around the amount and intensity of how they're reacting to things — their emotional regulation,” said Strohmman. “That's something that I see in my 20- or 30-year-old [clients] now that I had never seen before.”

Part of the problem is that over time our moods can become dependent on technology. Playing a game on your smartphone gives you a rush by stimulating the pleasure centers of your brain. But it can easily go the other way, leading to a loss of interest in your offline life or excessive aggression.

“If you pull away [an electronic device], it's like pulling away candy from a baby — your brain wants it,” said Strohmman. “So you get people that are overly aggressive, or they snap easier. These kinds of moods occur more often when they are offline.”

Strohmman has also seen a shift in how millennials interact with other people. Whereas people over 30 will usually answer their phones when she calls, younger people often let it go to voice mail. Then they follow up with a text message asking what she wanted.

“Interpersonally, I see communication skills dropping,” she said. “I think that it's easier to have emotionally intimate relationships with these people online versus in person. What you see is people withdrawing from real-life relationships.”

[Read More: What You're Doing to Sabotage Your Sleep »](#)

## Safely Co-Existing With Technology

The impact of technology on the short- and long-term health of millennials is likely to be huge. But unless they want to live off-the-grid in the middle of nowhere, giving up technology may not be the best way to avoid these ailments.

“There's absolutely no way we can get through life without technology,” said Strohmman. “You use technology at the grocery store. You use it at the bank. You use it for everything today.”

With some addictions, like gambling, you can go without and still survive. But Strohmman views technology in a different way.

“I equate [technology] with food, where we have to learn how to moderate it.”

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"I equate it more with food, where we have to learn how to moderate it," she said. "We have to learn appropriate times to use it or not use it."

*We have to learn appropriate times to use it or not use it.*

Lisa Strohman, JD, Ph.D.,  
Technology Wellness Center

Millennials will also need to strike a balance between their online and offline lives, which is not easy given that their work and school is so heavily dominated by technology.

To maintain balance, Strohman recommends that for each hour you are connected to your computer or electronic device, you spend one hour disconnected. However, sleep doesn't count for offline time.

It is also crucial to take frequent breaks when sitting at a computer or using a smartphone or tablet for a long time.

"I like to get up and walk around every hour or so, to give my eyes a chance to defocus, get the cramps out of the back and the neck and everything else," said Jacquot.

He also suggests following the 20:20:20 rule to keep your eyes healthy. For every 20 minutes of time spent on an electronic device, look away at a distance of about 20 feet for 20 seconds.

To protect your hearing, turn down the volume on personal devices, use sound-blocking earplugs, and limit time spent in noisy environments.

And with 37 percent of 20- to 39-year-olds [not getting enough sleep](#), ditching the electronics a couple of hours before bedtime may be one of the best ways to avoid the long-term health effects of glowing screens.

There are smartphone apps that claim to reduce the level of blue light emitted. But the best approach is to turn off the devices completely or keep them out of the bedroom. And old-school technology is still available that doesn't emit any light — books, print magazines, and newspapers.

Millennials have embraced technology in ways no other generation has. But because they are so comfortable with it, they may not notice when they're overdoing it ... until the pain starts.

"The biggest step is just being aware," said Strohman. "It's kind of insidious — we don't really see how much time we're staying connected."

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