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The Real Effects of Technology on Your Health

All you laptop-using, touchpad-checking, two-thumb-texting, smart phone-listening grown-ups and kids beware: Those devices subtly change your back, eyes, ears and brains. Lifescript's Health Detective describes the damaging effects of technology on our bodies and minds...

Technology has crept into every corner of our lives, from obsessive texting to checking emails more balls the Dow.



Sure, you're on top of Kim Kardashian's latest crisis, but smart phones, tablet computers and gadgets "have an impact on [your body], even if you're dealing with irrelevant information," says Adam Gazzaley, M.D., Ph.D., associate professor of neurology, physiology and psychiatry at the University of California, San Francisco.

Most of us absorb three times more information every day compared with 50 years ago, according to University of California researchers. We spend 12 hours in front of TV and computers – and that's just at home.

So is all this techno-toiling bad for us? That depends on the devices you use and how often, medical experts say.

Read about [teen drivers and texting](#).



No one expects you to put down your smart phone and live like our ancestors did. Researchers are



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Which in itself isn't alarming: "Throughout our lifespans, our brains always change," Gazzaley says.

Lifescrypt called, texted and emailed experts nationwide to learn about the effects of media on our health. Read on to learn how it might be changing you.



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Effects of Technology on Health #1: Failing Memory

You drive while talking on the cell phone, text while listening in on a conference call, surf your iPad while watching TV. Multitasking is the new normal, and though it feels like we're more efficient, studies show it has the opposite effect.

"Your performance level drops if you stop one activity to pick up another," says Gazzaley, who conducts ongoing studies on the effects of media on our brains.

Multitasking participants had more difficulty filtering out irrelevant information than those focusing on one task at a time. Multitaskers also took longer to switch tasks, juggle problems and wasted time searching for new information when information they had was better and more reliable.

In fact, students from Columbia and Harvard universities retained facts better when they knew they couldn't get them from a computer, according to a study published in *Science* magazine in 2011. If they knew they could get the facts later online, they just remembered how and where to get it.



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Three steps you can take to [improve your memory](#).

Tech solution: So, how should we handle the daily barrage of information and multitasking?

Gazzaley sets aside small amounts of times each day to “listen to music while I email and talk to a colleague.” Otherwise his door is closed, his phone is turned off and he works uninterrupted. That’s when “I can engage in high-quality thinking,” he says.

Effects of Technology on Health #2: Emotional Instability

Most adults don’t need 450 Facebook friends to feel validated. Teens, however, are emotionally more vulnerable to the effects of rampant texting and online sharing, psychologists and physicians say. Here’s how:

Sleep deprivation: Teens need about 9 hours sleep each day, but often text late into the night, says Sherry Turkle, director of the Initiative on Technology and Self at the Massachusetts Institute of Technology (MIT) and professor of the school’s Social Studies of Science and Technology department. That means they can’t focus at school and cope well with social pressures.

Here’s [how to tell if your teen isn’t getting enough sleep](#).

Too much codependence: Modern teens are failing to separate from their parents and become independent thinkers, a major developmental step for adolescents. Blame cell phones and texting, says Turkle.

“Fifteen years ago, if a kid called his mother 10 times a day for advice, I would be concerned,” she says. “Today it’s, ‘What else is new?’ It’s become the norm, but it’s still an issue.”

No alone time: Phones and social-media sites prevent teens from experiencing solitude, setting them up to be lonely when they don’t have a connection. As a result, they often suffer from “fear of missing out,” Turkle says.



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Time spent alone helps teens better withstand periods when they're disconnected from their digital devices and improves the sense of intimacy and bonding that face-to-face – not virtual – social interactions provide.

Kids' parents don't set a good example either.

"They can't walk around the corner to the store with their child without a phone attached to their ear," Turkle says. "It's modeling to kids that it's not OK to be unconnected."

Tech solution: Parents should insist that family members turn off their phones at dinner and spend time together, minus the media distractions, experts advise.

Find out other [benefits of family meal time](#).

Effects of Technology on Health #3: Strained Vision

About 40% of optometrists' patients experienced eye strain due to computer vision syndrome (conditions related to "near work"), while 45% complained of neck and back pain associated with computer or handheld device use, according to a 2008 survey by the American Optometric Association (AOA).

Many computer users assume awkward postures to position their eyes for better performance, according to the association.



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Handheld devices force users to position the equipment “closer than eyes want,” says Jim Sheedy, Ph.D., director of Vision Performance Institute at Pacific University in Forest Grove, Ore. “You have to exert more muscular effort to see at that distance and experience more symptoms than other technologies.”

Tech Solution: To avoid eye problems:

Limit time spent continuously in front of a computer. Look away from the screen every 20 minutes for 20 seconds, the AOA recommends. For the ideal viewing distance, set your monitor about 20-28 inches away from your body.

Adjust the top of your monitor at eye level, so you’re looking down at the screen by 10°-20° (4-5 inches). That way you’ll avoid nodding your head up and down, causing neck and back strain, Sheedy says. Laptops, especially, need to be raised to “that sweet spot” where your eyes are looking down slightly.

Lighting above your head should be dim. The areas within your line of view – the wall in front of you, for example – should be as bright as your computer screen. Avoid sitting in front of an unshaded window or with one behind you.

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You can “embrace new technologies but organize your day so you spend more time working at a desk, not on your lap,” Sheedy says.

It helps avoid eye, neck and back strain.



Also, research suggests that men who work with laptops on their knees may damage fertility. A study



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Earlier research showed that even the small rise in temperature can destroy sperm.

Effects of Technology on Health #4: Hearing Loss

Can you hear me now?

Probably not well, if you blast music through earbuds for long stretches, says Brian Fligor, D.Sc., M.S., director of diagnostic audiology at Children's Hospital in Boston and an instructor at Harvard Medical School.

Wear and tear on ears is normal, resulting in some hearing loss in seniors. But what you do early in life sets the stage for how well you'll hear as you age, Fligor says.

If you use poorly fitted earbuds, attend loud concerts frequently or shoot guns for target practice, hearing loss can arrive even in your 20s. Teens, in particular, crank up their iPhones loudly to drown out traffic noise, conversation and even other ambient music. About half of college students in urban settings risk hearing loss.

Tech solution: To avoid hearing loss:

Make sure your earbuds fit snugly.

Limit your exposure to loud music (80% of maximum volume) to 90 minutes per day, says Fligor, an unabashed loud-music guy himself. You may listen to music at half the maximum volume all day without any risk. That level is acceptable to most people, he says, if it's not competing with loud background noise. "If I listen to cranked-up music for five minutes, then I give my ears a break the rest of the day," he says.

Get more tips on [how to bring more quiet into your day](#).



Effects of Technology on Health #5: Muscle and Joint Pain



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In Britain, about 3.8 million thumb-typers complained of pain from similar activities. Nearly 38% said they suffered from sore wrists and thumbs, the result of repetitive movements, according to a 2006 survey by Virgin Mobile, a British cell-phone company.

But not all researchers believe the thumb fatigue claims.

“That’s an urban legend,” says Peter W. Johnson, Ph.D., associate professor of environmental and occupational health sciences at the University of Washington.

Typing on a computer is like “bingeing and gorging, while texting is like snacking,” he says. “It’s intermittent, so you don’t have the same cumulative effect as working at a computer for 4-6 hours.”

Tech solution: To minimize potential pain from texting, Johnson recommends:

Use both hands to avoid overburdening one appendage.

Avoid sending texts continuously because it may hurt your hand and neck tendons, muscles and nerves over time, Johnson says. “If you feel pain from texting when you go to sleep and wake up with it in the morning, it’s time to give it a rest,” he advises. “Ligaments can take 4-6 weeks to heal when damaged.”

Rest your arms on a table to relieve your neck and shoulders.

Effects of Technology on Health #6: Heart Trouble

The longer you sit either in front of a computer or TV, the greater likelihood you’ll die earlier – even if you lift weights, jog or swim for 30 minutes a day, according to an ongoing study by physiologist Marc Hamilton, Ph.D., a professor at Pennington Biomedical Research Center in Baton Rouge, La.



[A 2015 study confirms this](#)



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during the time period studied than those who sat fewer than three hours per day, according to an American Cancer Society study that followed 123,000 adults for 14 years.

It didn't matter if they were fat, thin or worked out daily, according to the study published in 2010 in *American Journal of Epidemiology*.

So what's an office worker to do?

"Every chance you get, bend over to pick something up, walk or stand. Instead of sitting when you're on the phone, walk up and down the stairs at work – just move," Hamilton says.

Do You Have an Online Addiction?

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