



He's absorbing content.  
But is that all?

## wireless worries

You've heard the buzz: Radiation from cell phones, laptops, and tablets could be harmful. Before you panic, follow this realistic advice for making the digital world less risky—especially for our kids. by **SANDRA GORDON**

**HANDING** your smartphone to your child can be a sanity saver on a long car ride or when you're in line at the supermarket. But is letting him play Monkey Preschool Lunchbox or Temple Run, or even Skyping with Grandma, putting him in danger?

Wireless devices use radio waves, a form of electromagnetic radiation, to communicate with cell towers through their antenna. Although the radio-frequency (RF) energy they give off is relatively weak and has long been presumed to be safe, increasing evidence suggests that it may pose health hazards. In 2011 the International Agency for Research on Cancer, an arm of the World Health Organization (WHO), classified RF energy as "possibly carcinogenic to humans." And a recent Swedish study published in

*Pathophysiology* found that using a cell phone, especially before age 20, raised the risk of a certain type of brain tumor over time.

While experts are concerned about all wireless devices, cell phones carry the biggest potential danger because people tend to hold them up to their ear—close to the brain. And kids are the most vulnerable to RF energy's effects because their body is still developing. "Children have a thinner skull, so the radiation penetrates much deeper," says Devra Davis, Ph.D., founder and president of the nonprofit Environmental Health Trust. When a kid holds a cell phone against her ear, she can absorb up to ten times more RF energy than an adult can, according to a study review in the *Journal of Microscopy and Ultrastructure*.



Forget what they're called.  
Put laptops on a table.



## The #1 pregnancy phone tip

If you're expecting a child, you already know to avoid unnecessary X-rays. So it only makes sense to minimize your exposure to RF energy too. While you should take all the same precautions experts recommend for a child, there's one step you absolutely must take: Keep your smartphone away from your body when it's not in use. Instead of slipping it into your pants pocket, put it in your purse or a bag. Hold that by the strap (rather than carrying it over your shoulder) to keep radiation from the phone farther away from your belly—and your baby.

At this point there's no putting the genie back in the bottle: We live in a digital world that, with every Fitbit and Apple Watch introduction, is only becoming more so. We're all exposed to radiation every day from a variety of devices (cell phones, tablets, laptops, e-readers), and its net effect is cumulative, according to David O. Carpenter, M.D., director of the Institute for Health and the Environment at the University of Albany, in New York. Even if you try to limit your use of wireless devices, you and your kids are unguarded against RF waves from Wi-Fi connections in your home (which conserve data-plan usage and make wireless audio systems, like Sonos,

possible), at your local coffee bar or library, and, increasingly, in schools. You can't possibly shield your kids completely.

We're still learning about radiation and its effects on our health. So far, scientific evidence has not been conclusive. The WHO does plan to conduct a risk assessment of all the studied health effects from RF exposure by 2016. For every known environmental health hazard—think cigarette smoking and lung cancer or sun exposure and melanoma—it has taken many years for researchers to prove cause and effect.

For now, many experts advise that parents take precautions. "Until and unless we learn that radiation from portable electronic devices is safe, we should assume that it's harmful," says Hugh S. Taylor, M.D., chair of obstetrics and gynecology at Yale School of Medicine. While there is no cause for alarm, these steps will help shield your kids without sacrificing the digital conveniences you take for granted.

➔ **Switch to airplane mode.**

Before giving your toddler your iPhone to play Subway Surfers, activate this setting so your device isn't connected to the Internet. Otherwise, the antenna will communicate with the nearest cell tower or Wi-Fi hot spot and receive pulses of RF energy every 0.9 seconds. If your kid wants to watch a video, download it to your device first and then select this mode.

➔ **Practice safe phoning.**

When Grandma calls to chat with your child, plug in the earphones that came with your phone first. This puts critical distance between the cell and your child's head. Even a few inches of separation greatly reduces a child's exposure to RF energy, says Dr. Davis. Avoid letting her speak where the signal is weak, such as in a car or an elevator. The

fewer bars you see, the harder your device is working to receive a signal and the more radiation it gives off. Keep in mind that cordless landlines emit RF energy too (the amount varies depending on the frequency). So for lengthy calls at home, have your kid use either the speaker feature or a corded phone.

➔ **Discourage your kid from using his lap.**

Sure, it's called a laptop—but placing your portable computer on a desk or a table is safer, especially if it's connected to Wi-Fi. At the very least, insist your child place a cooling pad (which is designed to prevent laptop burns) or a pillow underneath to help shield his body from the device. Using a laptop this way for more than a few minutes still isn't advisable, since some radiation might seep through (plus it isn't good for his posture).

➔ **Don't buy him a cell (yet).**

A child's skull isn't as thick as an adult's until around age 15. Limiting his access until age 12 will reduce his radiation risk in the critical early years. By then he should be mature enough to understand how important it is to use headphones when he calls friends—and he'll probably mostly text anyway, which is safer (since the phone isn't near his head). Avoid letting him keep the device in his pocket; this can increase his exposure to radiation. A backpack is a better spot—it puts a layer between your kid and his cell.

➔ **Relocate your router.**

Place your Wi-Fi router at least 8 inches from where you and your family spend time. If it's connected to a desktop computer where your children do their homework, move it to the floor or, better yet, a remote area of the house (you may need to call your cable company for help). Ideally, unplug your router when you're not using it. ✘

LESS TIME MUDDLING  
THROUGH ALLERGIES  
MORE TIME NOT CARING  
IF YOUR FACE GETS STUCK



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