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## Technology

# Cell Phone Use Linked to Brain Changes

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**By Lamont Wood, Special to TopTenREVIEWS**  
**posted: 12 November 2009 12:20 pm ET**

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Peasants waving pitchforks and torches are not exactly storming the castle, but the scientists are sure restless. Yet another scientific study has come out questioning whether cell phone use is good for your brain — and there's more on the way.

The Swedish Research Council announced yesterday that researchers at Sweden's Örebro University can point to a specific biological effect that cell phone use has on the brain. However, they can't decide if the effect is good, bad, or indifferent.

Basically, they found an association between [cell phone](#) use and an increased amount of a protein called transthyretin in the blood. Transthyretin is associated with the fluid that cushions the brain.



Many studies have tried to connect cell phone use to brain tumors and other health problems. Most have been inconclusive, but recently studies have begun to hint at possible connections. More scientists and governments are now advising people — especially adolescents — limit cell phone use.

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An increase in transthyretin may not be any cause for concern, but it does indicate that cell phone use does have some biological effect on the brain, said researcher Fredrik Söderqvist.

Image credit: stockxpert

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The same study found that children and teenagers who were heavy cell phone users were more likely to report health problems, including headaches and impaired concentration.

Söderqvist declined to draw a cause-and-effect relationship, however.

"The connection was strongest regarding headaches, asthmatic complaints, and impaired concentration," he said. "But more research is needed to exclude the effects of other factors and sources of error, even though it is difficult to see how this connection could be fully explained by such factors."

### Spreading unrest

Cell phone makers can point to about 30 studies indicating that the devices are not a health risk, but that had not stopped research like Söderqvist's. Meanwhile there are reports of an upcoming World Health Organization (WHO) study linking [cell phones to brain tumors](#), and the Congress recently held a hearing on the dangers.

The WHO effort reportedly involved studies in 13 countries looking at the difference in cell phone use between tumor sufferers and those in good health. Six of the eight studies that looked at a dangerous brain tumor called glioma showed some increased risk. Two of seven examining benign tumors of the nerve between the ear and the brain showed some increase. One study showed an increased risk of tumors of the parotid salivary gland.

The WHO study is expected to be published by the end of the year in a scientific journal.

Meanwhile, a Congressional hearing on cell phone health issues was held in September, sponsored by Sen. Arlen Specter, D-PA. The official purpose of the hearing of the Senate Appropriations Subcommittee on Labor, Health and Human Services, Education, and Related Agencies was to see if the National Institutes of Health (NIH) should get additional research funding for whole [cell-phone-danger](#) thing, but was really just to call attention to the issue.

The lawmakers heard that the NIH is current testing the effects of cell phone on mice and won't have results until 2014. In the meantime, they heard from experts who suggested:

- Keep the phone at least an inch away from the body at all times.
- Don't use the phone when signal strength is low, since the unit emits more power while trying to boost the signal.

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- Use wired ear buds — not Bluetooth wireless headsets, which also involve emissions.

**Other warnings**

Many countries have already issued standing guidelines for cell phone use, typically saying that use should be minimized for children.

In France, for instance, [cell phones](#) can't be advertised to children under 12, they must be sold with hands-free extensions, and there are limits on radiation emissions.

In Germany, low-emission phones carry a special seal of approval.

Finland advises that children should stick to texting, rather than talk on the things.

Sadly, no nation has yet taken a position that people would be better of not dividing their attention between those around them and some distant person whispering in one ear. Maybe next year?

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**Penman** wrote:

posted 12 November 2009, 2:22 pm ET

I wonder what the effects of all these energy waves has on us. When you think about all the different types of invisible energy waves we create it's a bit scary. Phones, micro, satellites, radio, television, computers, even our remote controls all send waves of some type to be picked up by machines. But if an electronic devise can pick them up, why can't our brains receive them as well?

A man murdered a child recently and said he was told to do so by radio waves. I've heard this more than once, so much in fact that it has become a joke of sorts when people put aluminum foil on their windows. Are they blocking the sun or transmissions? They can go through walls and miles of space, our skulls too.

We keep inventing new devices to receive all types of transmissions and little is known how this bombardment effects us and other animals. We do know that it can cause confusion in whales and dolphins, it can effect birds too. But what about us? And why is there so little independent study on this subject. Years from now, we might end up regretting what the effects are. Yet we continue to build more and different types of transmissions with little research as to the effects they have on life, it's like trusting enterprise with our health when their only goal is profit. Not real smart and a good reason why we have government agencies and the need for them to control the greed business has for making a buck over the health and well being of people.

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**jen1971** wrote:

posted 12 November 2009, 3:25 pm ET

I ask myself that question ALL the time, as I stare at my kids. Just how much is passing through them at this moment?  
I actually would rather not know!

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**JoelDooris** wrote:

posted 12 November 2009, 3:39 pm ET

You all will become PHONETARDS!  
The zombie hordes are all going to have cell phones sticking out of their heads!

I just don't get the draw to cell phones. I'm a technical person but I can't for the life of me figure out why I would want to be connected to everyone all the time. I enjoy getting away from everyone and not being able to gotten in touch with!

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**TXTaxAtty** wrote:

posted 12 November 2009, 3:47 pm ET

So, I have to keep my cell phone at least an inch away from me at all times?! Guess that means I can't actually use it since I can't touch it. Another paperweight I guess, right next to my BetaMax and left over Fen-Phen.

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**Partinobodycular** wrote:

posted 12 November 2009, 4:21 pm ET

The government is never going to be able to control our healthcare costs, unless we first learn to control our health.

It's a never ending tug-of-war between modern society trying to make us healthier, while at the same time being the main cause of making us sicker. As unpopular as it may be, we need to focus on cause, more than cost. If you can control the cause, you automatically control the cost.

If you want to make cell phones, then require that they're made safe to use. It may make them more costly, or even impractical, but in the long run, we'll all be better off.

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**Kagehi** wrote:

posted 12 November 2009, 4:59 pm ET

Sigh.. The problem here is that we get hit with radio waves all the damn time, even if its \*\*not\*\* man made. The difference is generally a) concentration, and b) frequency. There was at least one study done suggesting that the effects of a specific "set" of frequencies where undetectable, or even indicated possible "beneficial results", but that those where \*not\* the most common frequencies used in new cell phones. No one gave a shit, in no small part because people worried about radio and cell phones, etc. lump everything into one mass and call it all bad. They don't care about and are not interested in knowing "which" frequencies are the problem. In that respect they are much like anti-vaccination people, and so many others. X is bad, X is always bad. We don't believe we are already naturally exposed to X at all, and even if we are, X is still always bad!! If there is a problem you need to know what it really is, as well as what it isn't, not just slap a giant, "Its bad!!!", label on it, then demand someone fix it. Guess what? You can't fix a problem that is so indistinct that no one can bloody define it, and where everything from solar radiation, to living on top of iron deposits, qualifies are "part of the problem, maybe".

And of course, once you start into that sort of vague idiocy, you get people claiming that crazy people that imagine they are receiving signals = too many radio waves, never mind that the connection is even more absurd than the real, possible, problems.

For the most part, we \*\*do\*\* know that "most" forms of radio don't have an effect, in some cases even at \*extreme\* intensities. Why? Because we already get hit with the stuff all the time, from every source ranging from space to the planets own magnetosphere. What we are less clear about is "large" spikes of very localized forms, in specific frequencies, over very long periods of time. Such cases may be more like poisoning than, "natural environment", or, "incidental exposure". Nearly anything can be a poison, in large enough amounts, even air and water. As long as you don't exceed that amount, only those things we class as "high level" poisons (i.e. requiring very low exposure), are considered \*dangerous\*.

My guess is that radio waves are likely to show up the same way, in "specific" frequencies, and that its the idiots who can't get off the cell phone long enough to spend 2 hours in a grocery store, or when they get to the check stand, and are \*\*still\*\* on the damn thing, during the same call, when they drive away in their car, that are going to be "over exposed" to it. The people that use one 2-3 times a day, a few minutes at a time, are not. Mere exposure isn't the issue, its a) levels, b) time, c) distance. Same is with "any" substance, including the ones we don't normally consider poisonous at all, like water, or carrot juice, both of which can kill you via water intoxication, in the first case, or

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**Physics\_r\_us** wrote:

posted 14 November 2009, 12:46 pm ET

I had an interesting conversation with one of my former physics professors about this a while back. He was the principal author of a paper that determined that there were specific frequencies of radio waves that interacted with cellular tissue, and referred to it as a "windowing" effect. His thoughts years after that was published was that the RF energy caused temporary dis-associations of the water molecules in the cell walls. Most of the time, these water molecules would re-associate back and pose no threat, but the probability of creating radicals (OH ) was a concern that should be studied more.

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