

**Calming Behavior in Children with Autism and ADHD
The Electromagnetic Radiation (EMR)-Lowering Protocol
(That Has No Cost Or Side Effects)**

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[Abstract](#)

In 2012, the Centers for Disease Control and Prevention (CDC) found that one in 88 children had autism. Two years later, in March, 2014, the CDC's *Morbidity and Mortality Weekly Report* presented a nearly 30% increase in this number. Now, one in 68 U.S. children has autism. The diagnosis is much more common in boys (one in 42—up from one in 54 in 2012) than girls (one in 189). If this trend continues, then eventually, most boys will have autism.

Here, a pediatrician, two scientists and a father explore the environmental factors that may worsen illness in children with autism--and what can reduce the disorder's severity.

Toril Jelter, MD, general practitioner since 1985, pediatrician since 1990

My first approach for children with autism is to offer families a two-week electromagnetic radiation (EMR) reduction trial:

1. Turn off Wi-Fi at night for at least 12 hours. For Internet access, use a CAT 5 or 6 Ethernet cable.
2. Unplug all cordless (DECT) phones. Keep all mobile devices at least six feet from children and off in the car. (*If both parents agree, do not use any wireless technologies 24/7 for two weeks.*)
3. From the breaker box, turn off the electricity to your child's bedroom at night if you can do so safely. Keep a flashlight beside your child's bed. (Note: if you have a "smart" digital, wireless, transmitting utility meter on your home, avoid being near the meter for prolonged periods. Learn about your state's regulations; and get an analog meter restored to your home. You can learn more about how to identify the kinds of meters your home has and how to remove transmitting meters at www.electronicssilentspring.com's [Intro Packet on "smart" meters.](#))

Before beginning the trial, parents need to fill out an autism treatment evaluation checklist to rate their child's sleep quality, behavior, mood and speech. You can find a checklist at the Autism Research Institute's website, http://autismeval.com/ari-atec/atec_form.pdf.

After the two-week trial, fill out the list again, then compare the two.

For an even simpler evaluation, parents can name three of their child's biggest problems and quantify each of them from zero to ten before the experiment--and then again two weeks later. (Zero means no problem; ten means the worst imaginable.)

One of the first families who tried the EMR-Lowering Protocol had a four-year-old boy with an autism-spectrum disorder who had slept poorly for two years. At night, he climbed into his parents' bed. So his parents had not slept well for two years, either. They were desperate. Within the first week of their EMR remediation trial, the boy slept through the night, in his own bed.

After two weeks, I prescribed a multi-vitamin and pharmaceutical-grade, molecularly distilled fish oil. His appetite improved, and his bowel movements became regular.

Later, the boy's poor sleep returned, and he climbed into his parents' bed again. His mother thought he'd eaten too much sugar for Halloween. Then she learned that her older child had re-activated their Wi-Fi. Once she turned the Wi-Fi off again, the four-year-old started sleeping again, and his behavior calmed down. Within two months of reduced EMR exposure and taking the multi-vitamin and fish oil, his cognitive level improved two grade levels. His school principal and teachers were shocked.

Another family had an aggressive, non-verbal ten-year-old child with autism. Every night, the boy ran around the house, screaming from 10pm until 3am. This family lived on a military base with high levels of background EMR, and so I doubted that the Protocol would have any effect. But the parents wanted to try it. They kept the electricity on in their son's room, but they eliminated their Wi-Fi at night and unplugged all of their cordless phones. Within three days, the boy's aggressive behaviors decreased, *and he spoke a complete sentence for the first time.*

Motivated, the family eliminated all of their wireless technologies 24/7. I also prescribed pharmaceutical-grade, molecularly-distilled fish oil for this boy. After three weeks with the Wi-Fi router turned off and daily fish oil, his nightly screaming stopped. His speech, digestion and sleep continued to improve. His anxiety--and his mother's seizure disorder--both decreased.

Another child, a five-year-old boy, flapped his arms daily. His parents disagreed with a doctor's diagnosis of autism, because when the boy spent a month with his grandmother in a rural area (without cell phone reception), the arm-flapping completely stopped. Back in the city, his arm-flapping resumed. This family was lost to follow-up. I do not know if they tried the EMR-Lowering Protocol; but I found it interesting that their child's behavior changed dramatically in an area without cell phone reception.

The EMR-Lowering Protocol is free and has no side effects. It does require parents who 1) recognize that their child's digestion, behavior, sleep and/or speech are problematic; 2) actively search for solutions; and 3) will experiment with non-pharmaceutical solutions to calming behavior.

If an effect is not apparent within two weeks, I suggest that parents return to their original electronics usage, and again rate the child's three main problems from zero to ten. If no effect is observed, EMR may not be contributing to the child's illness, or the home's baseline EMR exposure may be so high that moving to an area with less EMR exposure may be the only way to calm behavior.

Of course, diet also plays a key part in children's health. The January 2010 supplement to the *Journal of Pediatrics* reports that 40-80% of children with autism have gastro-intestinal (GI) problems that can be difficult to diagnose. A diet that is not right for a child can increase her vulnerability to environmental exposures. Likewise, optimal nutrition can increase a child's resistance to such exposures. For good information about optimal nutrition for special needs children, I recommend Julie Matthews' *Nourishing Hope for Autism* and Judy Converse's *Special Needs Kids Eat Right*.

If parents observe that EMR exposure affects their child, they are often motivated to turn off more wireless devices. They may notice improvements in the sleep and overall health of other family members. I often recommend Dr. Stephen Genuis' article, "EMF Sensitivity: Fact or Fiction," which lists healthier tech alternatives.

What led me to offer the EMR-Lowering Protocol? In 2006, a two-year-old boy who'd been in my practice since birth was diagnosed with autism. The boy had delayed speech, high-pitched screaming and anxious behavior. During office visits with me, he crawled under my exam table to hide. An indirect test suggested that mercury was an issue--perhaps because the mother had eaten lots of mercury-laden fish during her pregnancy, hoping that the fish oil would make him smarter. A biochemist proposed chelating (eliminating) the mercury as a treatment for the child's autistic behavior. The parents asked me to monitor their son during this treatment. I declined, because I'd never heard of such a treatment. I knew about speech therapy and reinforcing good behaviors.

The family left my practice and found a pediatrician who monitored their child while the biochemist chelated him with DMSA.

Three years later, the family visited my office again. To my complete astonishment, the boy--now five years old--made fantastic eye contact with me and spoke normally. He had friends and performed above average without

an aid in the classroom. I was shocked. I thought, *if one child can recover from autism, so can many more.*

Starting with a call to the biochemist, I began researching environmental and integrative medicine. I learned that in environments with less electromagnetic radiation (EMR), children with autism excrete greater amounts of heavy metals (a good thing). I learned that exposure to EMR from wireless technologies can impair a person's ability to detox.

I reviewed volumes of scientific studies and found that symptoms of heavy metal toxicity are similar to symptoms of exposure to EMR. I also saw overlap between autism and exposure to EMR. Scientists get curious with an overlap of one. I saw an overlap of fifty biological dysfunctions, including genetic alterations, retina optic damage, increased inflammatory reactions, immune shifts, geno toxicity, increased oxidative stress, altered fetal development and increased auto-immune risks. The list goes on--which tells us that more research is warranted. Until then, there's no harm in trying the two-week trial.

I've also learned to consider my office a lab: if a child becomes hyperactive in my waiting room and calms down outdoors, that gives me a clue that his home environment or my waiting room may need EMR reduction.

To filter magnetic fields and shield radiofrequency fields, I recommend that you first take measurements with gauss and RF meters--or hire someone who's qualified to do so. You'll need to repeat measurements annually, since new transmitters frequently go up without notice. Also, since some filtering and shielding equipment can actually worsen EMR exposure, it's important to know the return policy of whatever you purchase.

As researchers explore possible environmental contributors to autism, they'd be remiss not to include EMR. Indeed, we're all researchers now, in our high-tech world. Our children are like canaries in the coal mine. We might welcome our children's agitated behaviors as indications that we need to use technology more safely. By making technology safer, we are also likely to improve health for ourselves, wildlife and the planet.

Andrew Goldsworthy, PhD, retired lecturer in biology, Imperial College, UK

Some genetic forms of Autism Spectrum Disorders (ASD) can be accounted for by known mutations in genetic coding for ion channels that result in an increased concentration of calcium in neurons. This can lead to neuronal hyperactivity and the formation of sometimes inappropriate synapses, which in turn may lead to autistic behaviors.¹

Just after birth, a child's brain goes through an intense period of becoming aware of new sensory input, e.g. recognizing his or her mother's face, her expressions, and eventually other people and their relationship to him or her.² During this process, the neurons in the brain make countless new connections, and the brain stores what the child learns. Connections that are rarely used are pruned. The patterns that remain could become fixed into the child's brain. This pruning process is completed by the time of sexual maturation.³

If the child is exposed to RF fields during this pruning process, the production of too many and often spurious signals will generate frequent random connections. These will not be pruned, even though they may not make sense. Because the pruning process in children exposed to RF fields may be more random, these children--who may have more brain cells than the rest of us, and some may actually be savants--may lack the mindset for normal patterns of social interaction. This may then contribute to the various autistic behaviors.

Like mobile phone signals, Wi-Fi signals can also cause cell membranes to leak and calcium ions to flow through them in a relatively uncontrolled manner.⁴ In the classroom, this may result in children's brains losing the ability to concentrate.

Further, electromagnetic radiation (EMR) such as that from Wi-Fi, cell phones and their base stations may affect the body like light does at night--and inhibit melatonin production. Melatonin is a sleep hormone and a powerful antioxidant. It can reverse oxidative stress that results from radiation.⁵

While scientists explore further how EMR exposure reduces melatonin production and study whether EMR-induced oxidative stress contributes to autism--along with many other questions--we ought to abide by the Precautionary Principle and *first, do no harm* to our children.

Wi-Fi should therefore be considered an impediment to learning, rather than an aid. Wi-Fi may be particularly hazardous to pregnant teachers, since exposing the brain of a fetus or a very young child to EMR may prevent normal brain development.⁶

It's also important for teachers to document observed changes in behavior and learning with and without Wi-Fi so that a child's future teachers understand his or her optimal learning environment.

Because of genetic and environmental variability, not everyone will suffer the same symptoms. Some may not suffer at all. For the sake of those who do suffer, Wi-Fi is not a good idea in schools--or anywhere else for that matter. Cabled Internet access is a healthier choice.

Peter Sullivan, software designer From birth, our elder son (born in '96) got triggered easily, especially by noises and touch. At three, he was kicked out of preschool and diagnosed with sensory integration disorder (a symptom of autism). Our younger son (born in '99) seemed to develop normally. Then, at four, he regressed and stopped playing with other children. His teachers voiced concern that he was also showing symptoms of autism.

I'd thought that autism was entirely genetic and that there was nothing we could do about it. Then I started reading about healthy children regressing into autism and others who'd been diagnosed with the disorder and *recovered* from it.

Meanwhile, I struggled with multiple food allergies. I heard constant buzzing. Tests showed that everyone in our family had high levels of toxic metals. Over several years, my wife and I detoxed ourselves and our sons. Our elder son calmed down, and our younger son started to make friends again. Everyone felt better.

Still, something was off for me. Sleep had become an issue.

For nearly two decades, I worked in the computer industry. Four years after detoxing from heavy metals, I started to realize that my nervous system got overloaded around flickering fluorescent lights and wireless devices.

We turned off our Wi-Fi and used Ethernet cables for Internet access. We quit cordless DECT phones and went back to corded landlines. We stopped putting cell phones near our heads. We put the phones in airplane mode at night, and never use them with a bluetooth. We got demand switches to turn off the electricity to our bedrooms at night. I'm still exploring how to operate a solar power system without degrading power quality, creating electrical noise and causing biological harm.

Both of our teenagers understand the dangers of cell phone use; and, they both have them. At school, they're bombarded with Wi-Fi. I'm still very concerned about their exposure to EMR, but at least it's very low at night.

Neither of our sons displays autism symptoms now. Both have become high performance kids. Our elder son will start college this Fall.

In Silicon Valley, if one in 100 iPhones don't work properly, the assembly line would be studied systematically, and the problem's source would be eliminated in a month. We need to respond to autism in the same way. We need to find the source of autism's dramatic increase and eliminate it--and give our children a healthy chance. As Frank Clegg, former President of Microsoft Canada, says, "We're not citizens for no technology. We're citizens for *safe* technology."

**Advice to Fathers-To-Be, Pregnant Women and Parents of Young Children
On Reducing EMR Exposure**

By Cindy Sage, MA

Sage Associates www.BioInitiative.org

DO NOT DO THIS

No cell phones in pants
pocket or on the belt (men)

Moms, no cell phone use

No wireless laptops

At school, no iPads

In the house, no wireless routers

No cell phones, particularly
iPhones

No cordless (i.e. DECT)
landline phones

No baby monitors or
wireless surveillance devices

No compact fluorescents (CFLs) Use incandescent bulbs.

DO THIS INSTEAD

Keep phone on the desk away from
body (protect sperm quality and motility)

Moms, use corded landlines during pregnancy

Wired computers and laptops*

Wired classrooms, wired Internet no wireless
computers

Cabled (wired) modems**

Corded landline phones

Corded landline phones

Use your eyes and your ears

* At least unplug the Wi-Fi when not in use during the day and overnight while sleeping.

** Be sure to get a non-wireless router as your firewall. Most routers operate wirelessly by default whether or not you use them wirelessly. Also, you will not be able to tell if it is transmitting wirelessly unless you measure with an RF meter.

Endnotes

1. Hawley, T. and M. Gunner, "How early experiences affect brain development," (2000),
2. Huttenlocher, P.R. and A. S. Dabholkar, "Regional differences in synaprogenesis in human cerebral cortex," *J. of Comparative Neurology*, vol. 387, no. 2 (1997): 167-178.
3. Egglis, J. et al, "Dynamics of Pruning in Simulated Large-Scale Spiking Neural Networks, *BioSystems*, Vol. 79 (9); 2005.
4. Pall, Martin, "Electromagnetic fields act via activation of voltage-gated calcium channels to produce beneficial or adverse effects," *Journal of Cellular and Molecular Medicine*, 6-26-2013.
5. Lerchi, A. et. al (1991), "Pineal gland 'magneto-sensitivity' to static magnetic fields is a consequence of induced electric currents (eddy currents)," *J. of Pineal Research*, 10: 1009-116. doi: 10.1111/j.1600-079X.1991.tb008261.x.
6. Krey, J. F., "Molecular mechanisms of autism: A possible role for Ca²⁺ signaling," *Current Opinion in Neurobiology*, vol. 17, no. 1 (2007); 112-119.

Resources

Singer, Katie, *An Electronic Silent Spring*, Steiner Books, 2014;
www.electronicssilentsspring.com. The book and the website include info about wireless technologies in schools, what scientists and MDs say about EMR exposure, how to refuse "smart" meters and a letter from the Amer. Academy of Pediatrics that warns parents about the dangers of EMR exposure.

www.youtube.com/watch?v=O3iRrVQPDBk; Dr. Toril Jelter speaks about EMFs, Autism and Child Behavior.

BioInitiative Reports 2007 and 2012; www.bioinitiative.org/; 1800 peer-reviewed studies about the bio effects of exposure to EMR. Co-edited by Cindy Sage, MA and David Carpenter, MD.

"Autism and EMF? Plausibility of a pathophysiological link--Parts 1 and 2" by Dr. Martha Herbert (pediatric neurologist at Harvard Medical School) and Cindy Sage (co-editor of the BioInitiative Reports) in *Pathophysiology* 2013.

Buie, T., "Evaluation, diagnosis and treatment of GI disorders in individuals with ASDs: A Consensus Report," *Pediatrics*, 2009-1878c.
Doi:10.1542/peds.

www.BabySafeProject.org posts an excellent, brief video about the effects of in utero cell phone exposure on children's behavior.

www.centerforsaferwireless.us has info about cell phone towers and antennas on school property.

Citizens for Safe Technology offers concerned parents a Wi-Fi non-consent form that educates adults in a school community about Wi-Fi and children's health. www.c4st.ca.

www.emfsafetynetwork.org posts info for parents and other concerned citizens.

National Association for Children and Safe Technology; nacst.org.

Take Back Your Power, Josh del Sol's film about "smart" meters and health. www.TakeBackYourPower.net.

www.WiFilnSchools.com

