

SAFE ACTIONS TO GUARD AGAINST ELECTROSMOG

The permissible level of Electromagnetic Radiation (EMR) varies between countries, but residents in urban areas everywhere are subjected to EMR. Most radiation is from personal devices. The symptoms of EMR are increasingly common as the effects are cumulative, and exposure can be reduced by changing habits.

Beverly A Jensen, President/CEO Women's Medicine Bowl, LLC

In the last three years, 726 million people have joined the online world, mainly subscribers in India and Africa. With a surge in cell phone subscribers expected globally in 2019 and the near future, it's important for the health of all that healthcare providers become aware of the health risks of cell phone usage.

The news media is rife with errors in reporting health risks of electromagnetic radiation or fields (EMR or EMF). Sometimes the 'errors' are blatant lies planted by the telecom industry.

An article in *The Guardian* earlier this year reported the harm done to male sperm by men carrying their cell phones in their pants pocket. In the technologically advanced countries (and cities), some 200 studies show that sperm viability has declined by 50 per cent. The M.D. quoted in the article advised men to put their cell phone in

the breast pocket of their jacket. No! Two major studies by the U.S. National Toxicology Program and the Ramazzini Institute in Italy reported in 2018 clear evidence for heart tumours and heart schwannomas (and tumours in the brain and adrenal glands).

Men shouldn't put cell phones in their breast pocket nor women stash it in their bra. It shouldn't be carried anywhere on the body. Or put against the head to talk.

With two independent studies finding similar tumours, the Ramazzini Institute advised the IARC to reclassify radio frequency electromagnetic fields from a potential carcinogen (Group 2B) to a 'probable carcinogen.'

In August 2015, an article in India's *Business Standard* claimed that cell towers 'emit low frequency non-ionising radiation, which isn't harmful.' This has been the industry's

story line since the invention of the cell phone. Telecom has claimed that harm could be caused only by heating parts of the human body—the thermal effect. And regulatory standards were based upon the industry's claims, at least in North America.

In fact, while the EMF of cell phones—and all our electronics—does cause thermal effects and cancer, far more damage is done by the non-ionising radiation.

Professor Martin Pall has been tracking the peer-reviewed, science research done globally on EMF for 19 years. More than 10,000 studies have been done around the world investigating the effects on humans and all living things in our ecosystem. Countries where the most extensive research has been done—Iran and Russia—have among the lowest levels of permissible radiation.

In the United States, a study at the Cornell University in the 1960s showed that EMF crossed the blood brain barrier, and the telecom industry quickly shut down that line of research (and the lab). By the mid-80s, all industry-sponsored research and government-funded research on telecom devices in the US ended.

US standards for EMFs were set in 1996 with the Telecommunications Act—after telecom spent US\$50 million lobbying the Congress—and the standards (SAR) for thermal effects only were based upon a 6'2"-220-pound male (SAM) who would be larger than 97 per cent of Americans. The 'brain matter' tested in SAM consisted of saline water and sugar. And SAM was only on the cell phone for six minutes! In India, two hours/daily on the cell is common, and the average in the US is five hours daily.

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When engineers and scientists in the US have made discoveries in their research that didn't support the telecom industry's sales position to the regulatory agencies, they were attacked personally and professionally by the

industry. Professor Om Ghandi, at the University of Utah, who is developing the SAR ratings for the industry, reported that a child's head would absorb far more radiation than an adult's. He was viciously attacked by the industry. And did the public learn about this danger? One half of children under 10 years have cell phones in the US.

Today in the US, mass media is largely owned by conglomerates, and the profit-making interests of corporations in the conglomerate can conflict with the accurate and honest reporting of journalists' role in surveillance of the public's environment. This spring, for example, when Brussels and cantons in Switzerland, including Geneva, said NO to 5G, saying they would not be raising radiation limits to allow this, it was not reported in *The New York Times*. Nor could it be found in ▶

other US mass media. The NY Times company has a large investment in rolling out 5G, so the public's health isn't on the agenda.

As a result in the US, research on health consequences of electromagnetic radiation hasn't been supported, and research from other nations hasn't been reported in US media. With the outdated 1996 Communications Act still in effect, telecom veterans rotate through management of the federal regulatory agencies supposed to be regulating the industry.

Permissible limits on EMFs in the US and Canada are more than 100x those in Russia and China, for examples. And the consequences are unfolding in the population's health.

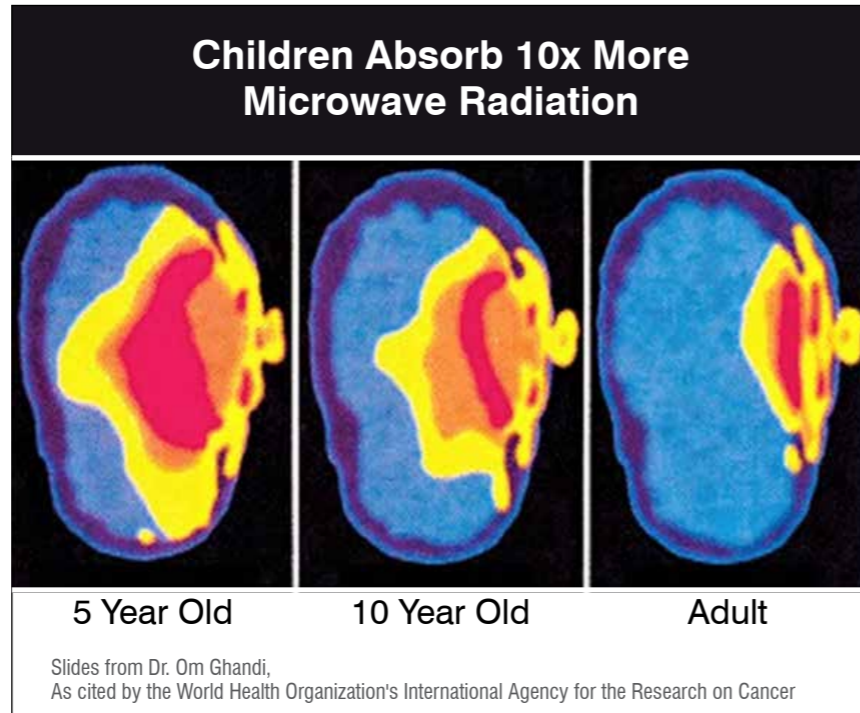
Health Effects of Non-ionising Radiation

It has only recently been understood how non-ionising radiation causes physiological damage, although studies as early as the '50s and '60s found non-thermal cellular effects. This cellular effect is non-thermal, and it's affecting everyone, continuously and cumulatively, whether or not we feel it—yet.

If you're humanoid and you're living in a technologically advanced country or city, you're impacted. And the effects are cumulative—you're not immune at any stage from the use of the electronics.

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“(There's been many studies) on various kinds of EMF exposures, each of them showing neuropsychiatric effects. What you find is that these effects have been repeated many times in these epidemiological studies.



It's the same thing that everybody's complaining about, 'I'm tired all the time,' 'I can't sleep,' 'I can't concentrate,' 'I'm depressed,' 'I'm anxious all the time,' 'My memory doesn't work well anymore.'" Martin Pall, Ph.D., professor emeritus at Washington State University, has been compiling scientific studies from around the world on EMF since 2001. He has degrees in physics, biochemistry, and genetics.¹

VGCCs—What are they & how EMF affects them

This is our basic cell structure: aqueous cells impacted by electrical currents.

Research studies show that EMFs work by activating Voltage-Gated Calcium Channels (VGCCs), the outer plasma membrane that surrounds all our cells. When they're activated, they open up and allow calcium to flow into the cell. It's the excess calcium in the cell, which causes most of the

¹ *The Harmful Effects of Electromagnetic Fields on Health: A Special Interview with Dr. Martin Pall* by Dr. Joseph Mercola, 08/03/2017 on www.mercola.com

biological effects. We feel it as chronic disease.²

Normally (with no EMF), the calcium channels admit only very low concentrations of calcium. But when hit by the EMF, they open up and put a million ions per second into the cell causing the molecular trauma.

The structure within the cell that senses the electrical current and manages the gate is the Voltage Sensor. It is extraordinarily sensitive to electrical forces, and scientists have found the forces from EMF on the Voltage Sensor are approximately 7.2 million times stronger than they are on singly charged electrical groups in the watery parts of the cell.³

This means if we are to have no or minimal biological effects due to EMF, the safety standards are off by a factor of 7 million, by orders of magnitude.

What are the consequences of excess calcium in the cells? One critical conse-

² Mercola interview with Dr. M Pall, 8/03/17

³ Mercola interview with Dr. M Pall, 8/03/17

quence is increased nitric oxide. There can be therapeutic effects to particular parts of the body from nitric oxide but excessive nitric oxide is destructive.

The nitric oxide can react with superoxide; superoxide levels also go up in response to increase calcium in the cells, forming peroxynitrite, which is a potent oxidant that breaks down to form reactive free radicals. Most of the damage is caused by the free radicals. It's the excessive oxidative stress and nitrosative stress that are causes of almost every chronic disease—disease labeled by the AMA or not!⁴

Location of the VGCCs

Nervous system: The highest density of VGCCs is in the nervous system. The organs most affected through the nervous system are the brain and the heart, particularly the heart's pacemaker.

⁴ For the full discussion of this process see "The Harmful Effects of Electromagnetic Fields on Health: A Special Interview with Dr. Martin Pall" by Dr. Joseph Mercola, 08/03/2017

Cardiac arrhythmias, fast heartbeats (tachycardia) and slow heartbeats (bradycardia), and heart palpitations. Young, apparently healthy athletes who have collapsed during sporting events and who survived have been found to have arrhythmias and bradycardia. The increased number of these deaths may be due to EMF.

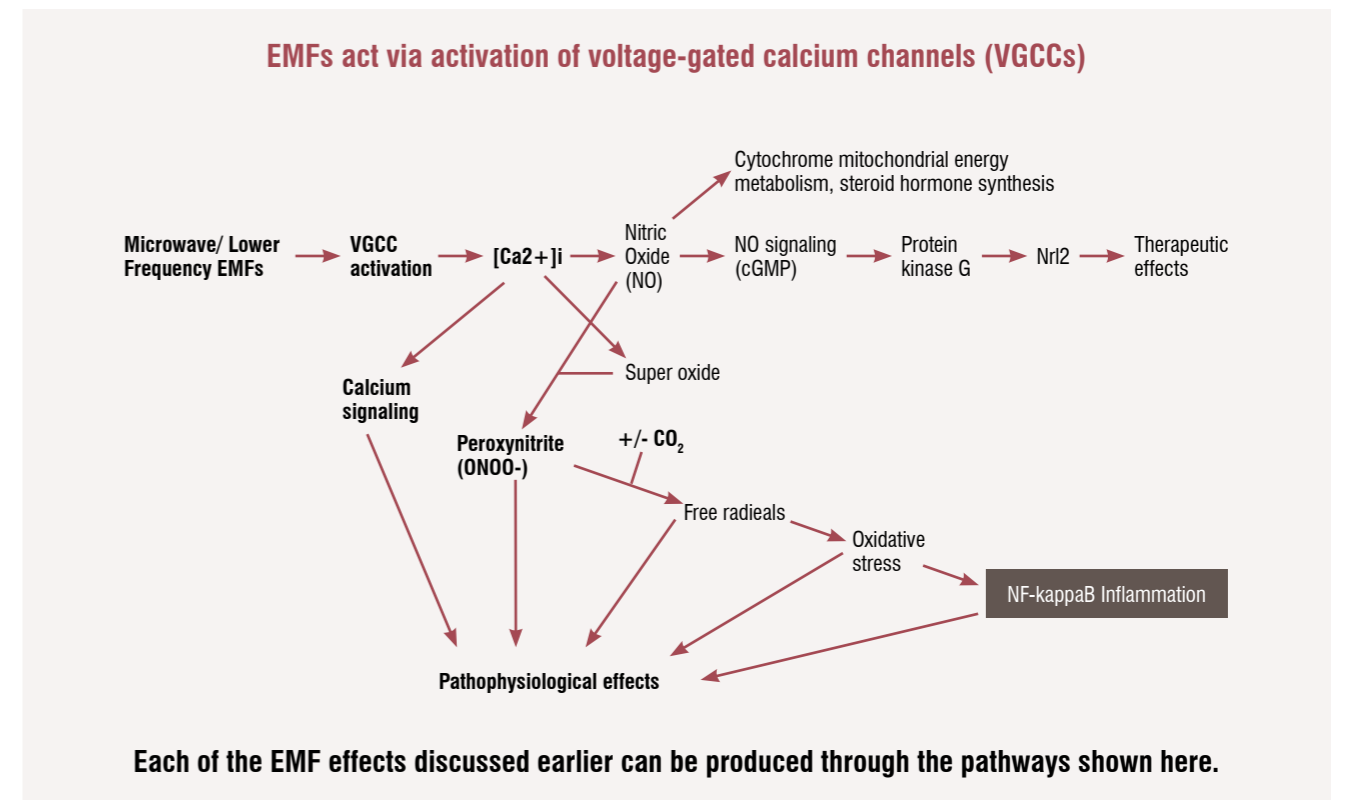
Brain impacts—neuropsychiatric effects: The voltage-gated calcium channels are responsible for the neuroendocrine hormone release and neurotransmitters, and the consequences of EMF exposure to the brain are Anxiety and depression, Autism, and Alzheimer's. U.S. health statistics show this—incidents of Autism have exploded from 1 in 10,000 children thirty years ago to, nationally, 1 in 59. The toxic body load of chemicals, including vaccines, are surely contributing factors but recovery doesn't happen from autism until the EMR is cleared, according to Dr. Dietrich Klinghardt who has

been treating children with autism since 1990. According to a report from the Blue Cross Blue Shield insurance company, on the state of millennials' health, between 2013 and 2016 depression diagnoses increased by 47 per cent and a whopping 63 per cent increase in adolescents.

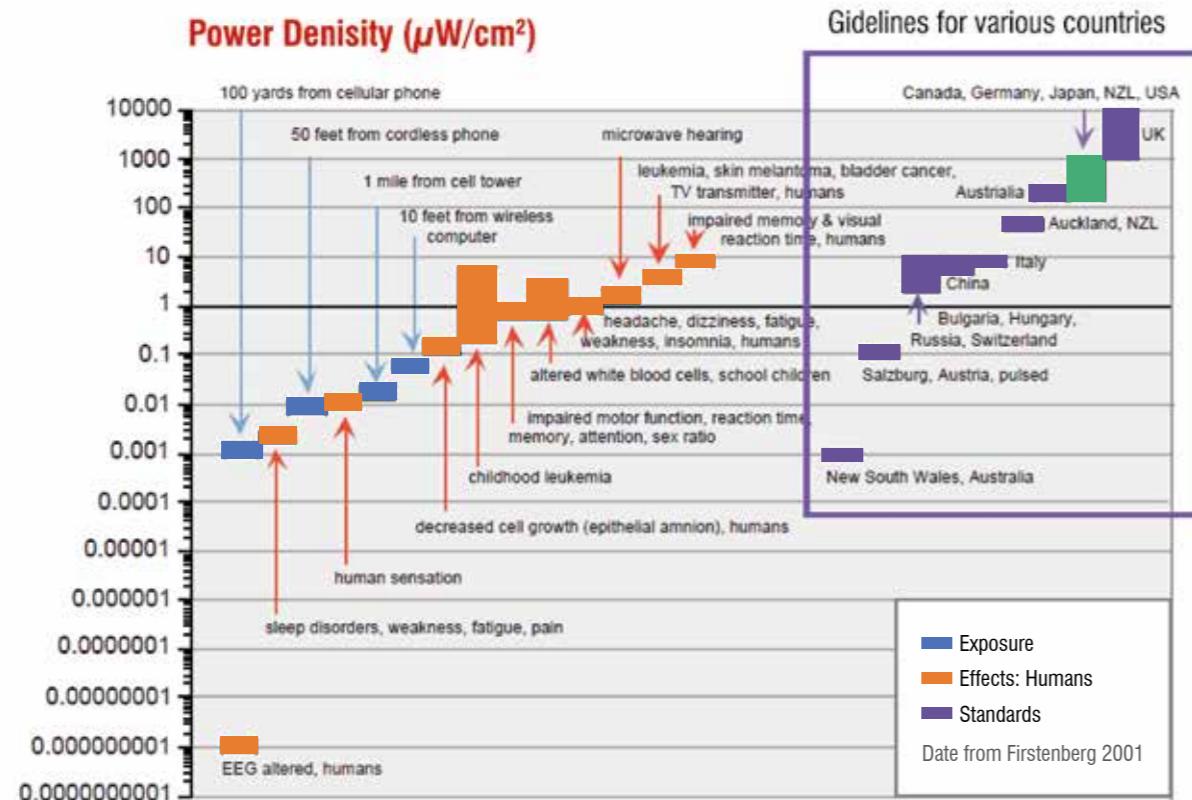
Professor Olle Johansson of the Karolinska Institute in Sweden and editor of the Journal of Pathophysiology did a study of villages in Sweden. Looking at levels of cell phone radiation, and comparing those levels to where the highest density of Alzheimer's disease was found. There was a direct correlation between the highest EMF exposure and highest incidence of Alzheimer's disease.

Steps to Reduce Health Hazards of EMF

Excellent resources for background information on EMF are the Environmental Health Trust,



{This diagram is from a presentation to the NIH by Dr. Pall, August 2018, <https://www.youtube.com/watch?v=kBsUWbUB6PE>}



www.ehtrust.org. A series of blogs on Women's Medicine Bowl in April are a quick, easy introduction to the subject of Electromog and practical steps of what to do about it.⁵

Unless you're living close to a cell phone tower, most of the EMF you're exposed to is within your own home and in your control. Here's some practical steps to immediately reduce exposure to EMF, for yourself, your family, and your patients:

Cell phone use: Never, ever put it against your head to talk—use an Air Tube or Speaker mode.

Don't carry a cell phone in your pants pocket, breast pocket or your bra. Carry it and use it AWAY from your body. It does cause cancer. Use texting and keep conversations short.

Put the cell phone in Airplane mode at night, and remove it from the bedroom preferably.

Use a land-line phone instead. And get rid of cordless phones (base is continuously searching for signal).

Avoid all wireless devices: Baby monitors, Bluetooth speakers, head phones, and wireless keyboard or mouse.

Move your WiFi Router to the least-used room in your home: This usually means getting it out of the living room! Put a timer on it so it shuts off at night or during the day if no one's using it. If you can't hardwire WiFi into the home, put the WiFi router in a Faraday bag to block all transmissions (or cover it with a kitchen pot!) when not in use.

These are the first steps to protecting ourselves from the Electromog of modern life. Learning where the exposure is in workplaces and in the schools is just as important; these areas are addressed at the Environmental Health Trust website.

This article is adapted from Dr. Jensen's forthcoming book, 21st Century Wellness Rx: Health Hacks to Prevent, Treat, and Cure Chronic Disease. Her website is www.WomensMedicineBowl.com.

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Beverly A Jensen works globally to promote individuals' education and participation in their health. She is an international speaker, corporate wellness consultant, health coach, and author of 21st Century Wellness Rx (2020). Her website to promote natural health, www.WomensMedicineBowl.com, opened in 2003.

⁵ <http://womensmedicinebowl.com/learn-the-impact-of-electro-smog-on-our-children-and-what-to-do-about-it/>



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