

# Is Your Electric Car Zapping You With EMF Radiation?



Electric cars are becoming more popular, but do they come with new risks?

Electric cars are on the rise. Their share of new vehicle sales **almost doubled** in the first nine months of 2022. The number of Tesla vehicles on the road **rose 33 percent** in 2022. Many automakers are **planning** to switch to electric in the coming years. This may have **benefits for the environment**, but what, if any, are the human health implications? Concerns about cars as a source of exposure to electromagnetic field (EMF) radiation are well-founded, but these concerns are not exclusive to electric cars.

There are, of course, many different types of cars on the road—different manufacturers, different models, years, gas-powered, diesel, hybrids, and electric. Due to the variety of different cars that are available, the EMF dangers also vary.

With that said, electric cars can have elevated EMF levels for a number of reasons. They operate on large AC batteries that are generally placed much closer to where people sit; in Teslas, they are placed directly underneath

the floor of the car cabin. These batteries emit extremely low frequency (ELF) EMF radiation, and the closer you are to them, the more radiation you are exposed to. Additionally, charging electric cars creates substantial amounts of dirty electricity. **Dirty electricity**, or electrical pollution, is a form of EMF that is generated by electronic devices that, when they operate, convert AC power to DC, creating high-frequency voltage spikes that flow back into the power grid, piggy-back on existing electrical wiring, and radiate into the environment. It is yet another route of exposure to harmful EMF that **has been linked** to a variety of negative health outcomes. Studies have shown that taking steps to reduce dirty electricity (by **installing filters** that short out high frequencies and reduce transients on electrical wiring) reduced headaches, general weakness, asthma, depression, anxiety, and skin irritation.

But almost all cars, including gas powered vehicles, contain EMF-emitting components. Many cars are now equipped with Bluetooth connections for phones, radars for crash prevention, back up cameras, and provide WiFi hot spots, to name just a few examples. All of these components emit EMF. In fact, **some informal testing of EMF levels** from cars found that gas-powered cars registered EMF readings just as high as electric cars. Consumer Reports also **did some testing** back in 2010 and found that the Chevy Cobalt, a gas-powered car, emitted far more EMF radiation than the Toyota Prius, a hybrid. Given that nearly all cars are sources of EMF radiation, it is important to look at cars individually, rather than by category, in weighing the risks.

Should we be concerned about the level of EMF emitted by cars? Digging into the details is not reassuring. The FCC set limits for maximum permissible exposure to EMF radiation in 1996. These levels were designed to protect against thermal effects as a result of short-term exposure to EMF radiation—that is, the potential of EMF radiation to heat body tissue like a microwave.

As we all know, a lot has changed since 1996, and our daily exposure to EMF radiation has increased dramatically. The changing technological landscape spurred scientists to **issue an appeal** to the World Health Organization, warning of “serious concerns regarding the ubiquitous and increasing exposure to EMF generated by electric and wireless devices.” They go on to explain that “numerous recent scientific publications have shown that EMF affects living organisms at levels well below most international and national guidelines.” These health effects include increased cancer risk, cellular stress, increase in free radicals,

genetic damage, changes in the reproductive system, neurological disorders, and more. These concerns were echoed in an **October 2022 paper** published in *Environmental Health*, which flatly stated: “Exposure limits for RF radiation are based on numerous assumptions; however, research studies published over the past 25 years show that most of those assumptions are not supported by scientific evidence.” **This all means that our current safety standards are woefully inadequate to protect us from the dangers of constant EMF exposure.**

As we **noted** with our coverage of **cell phone dangers**, the problem is that many health and safety studies on EMF, particularly with regard to cell phones, are bought and paid for by the telecoms industry. For example, an **analysis** of safety studies on cell phone use concluded industry-funded studies were two and a half times less likely than independent studies to find a biological effect from cell phone radiation.

So, should we be concerned? Experts in the field seem to think so, but their voices are likely to be drowned out by industry-funded studies that conveniently and predictably find no evidence of harm, providing the government cover to keep EMF safety standards rooted in a time when flip phones were revolutionary technology. With the **rapid rollout of 5G technology**, with its dense network of EMF-emitting “small cells,” this problem is poised to get even worse.

There are ways to lower your EMF exposure in your car. Choose standard options that limit the wireless bells and whistles. You could also opt for used older cars that do not have many of these components. If possible, turn off Bluetooth, though in newer car models this may not be an option. Remember, too, that we need to think about EMF exposure as a whole, so we need to look at our homes (hard wiring computers instead of using WiFi, **avoiding smart meters** if possible), our cell phone use (using speaker phone whenever possible, avoiding Bluetooth headphones), and our work environment, in addition to our cars, to try to limit our exposure to EMF.