



## Negative Health Effects of EMFs Proven

In 2009 and early 2010, RETA conducted a significant survey of the peer-reviewed medical and scientific studies on the effects of overhead high voltage power line electromagnetic fields (EMFs) on human health. Hundreds of studies were researched from dozens of respected medical and scientific journals. Results of some of these studies are summarized in our Fact Sheet series.



The majority of studies researched report anywhere from minor to major increased risks of health problems associated with prolonged exposure to EMFs. Health problems include increased risks of childhood and adult leukemia, many other forms of cancer, Alzheimer's disease, Lou Gehrig's disease, suicide, depression, stress, several types of heart disease, tumor growths, skin growths, impairment of perception and memory, genetic defects, gland production deficiencies, mental and behavioural problems, immune system deficiencies, nervous system disorders, miscarriages, birth defects, stunting of growth, blood and circulatory problems, fatigue, headache, nausea, male sexual dysfunction, sleep deprivation, electromagnetic hypersensitivity, and aggravation of asthma, tinnitus, multiple sclerosis, diabetes and Attention Deficit Disorder.



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While well-known and respected scientists have referred to the "conclusive links" and "causal



correlations" between EMFs and the above-mentioned diseases, electricity transmission facility owners refuse to recognize these results, and continue to cite Health Canada and the World Health Organization (WHO). Both of these institutions have seriously downplayed the negative health effects of overhead high voltage power lines, and have been heavily criticized by EMF health experts as being out-of-touch and unduly influenced by the power industry.

Those who deny the health effects of EMFs have argued there is no biological mechanism to explain the negative health risks. RETA has reported on what has been described by scientists as the core biological mechanism or explanation for so many documented negative health impacts of EMFs. Melatonin, which is a hormone produced in the pineal gland of the brain, is one of the body's most powerful natural defenses against many diseases and other health problems. EMF exposure can reduce melatonin production to the point where this hormone is no longer able to defend the body against disease.

Until recently, most medical and scientific studies have referred to the "strong correlations" between EMFs and reduced melatonin production, but most scientists have been reluctant to label the relationship as "cause and effect" without definitive proof. Several very recent studies provide proof. A 2010 study which appeared in *Bioelectromagnetics*, *Signal Transduction of the Melatonin Receptor MT1 is Disrupted in Breast Cancer Cells by Electromagnetic Fields*, includes the following quote:

*"These results convincingly prove the negative effect of EMF on the antiestrogenic effect of melatonin in breast cancer cells."*

In lay terms, it means this study **convincingly proves** that EMFs negatively affect one of the body's most