

# Beware!!

The Dangers Of Invisible EMF And EMR  
Pollution to Our Health.

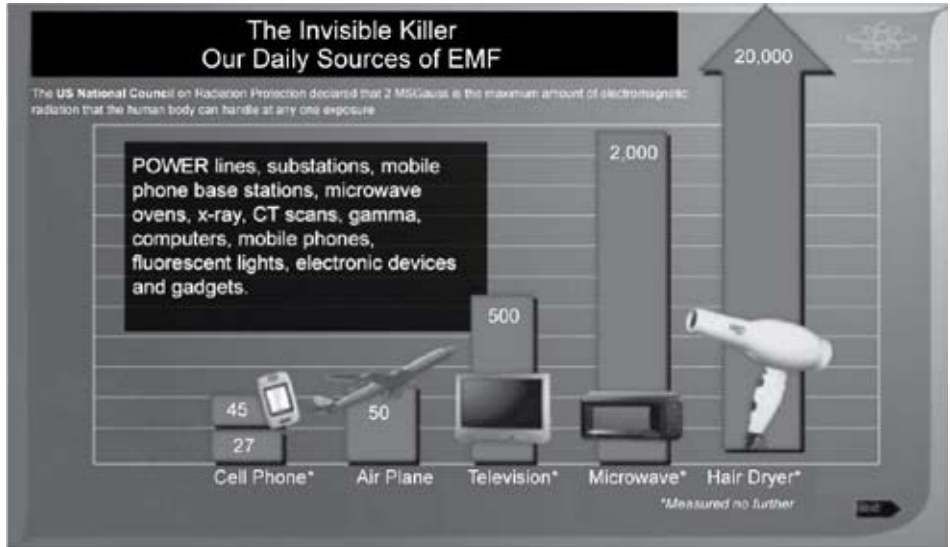


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## Article 1

### **“The Invisible Killer and Our Daily Sources of EMF”**

*Introductory Article 1 was written by Dr. Amir Farid Isahak (MBBS, MMED, MRCOG)*



### **What is EMF/EMR?**

Life is an energy phenomenon. Everything in the universe, and everything about our life involves energy, energy exchange and energy transformation (to other forms). Einstein showed us that matter is extremely condensed energy ( $E=mc^2$ ). All the forces and energies surrounding us can be scientifically categorized into four forms : strong nuclear force (fusion and fission), weak nuclear force (nuclear decay), gravity, and the electromagnetic spectrum (EMS).

EMS represents the widest spectrum of energies and forces affecting our daily lives – including light, sound, radio signals, electricity, and of course our hand-phone signals. Almost every gadget at home, at work and everywhere emit some form of electromagnetic waves or radiation (EMW/EMR).

The different energy forms vary in their frequencies (which determine their nature). To emphasize on their wide range of nature, behaviour and biological effects, they are more commonly referred to as electromagnetic frequencies or electromagnetic fields (EMF), as it is the potential harmful effects of the electromagnetic fields they generate that concern us most.

## **Sources of EMF/EMR**

While there are natural sources of EMR, these are usually harmless, or even good for the body. For example, light from the sun gives life to this planet, programs our biological clock, and help us make vitamin D. There is “background” radioactivity from the sun, and in the atmosphere and the earth that is potentially harmful, but is not, due to the very low intensity. However, we all know that ultraviolet rays from the sun cause damage to our cells resulting in ageing and cancer.

However, the amount of man-made EMF/EMR far outnumber the natural sources, as more and more modern electrical gadgets enter our lives. Everything that runs on batteries or electrical currents produces EMF and EMR. The combined effect of EMF/EMR from these gadgets on our body may be the most dangerous form of pollution on mankind since everyone of us is increasingly being affected by these invisible threat (and even more so as life gets more sophisticated and everything at home, work or play depends on electronic or computerised gadgets and machines).

The different energy forms vary in their frequencies (which determine their nature) and amplitudes (strength). To emphasize on their wide range of nature, behaviour and biological effects, they are more commonly referred to as electromagnetic frequencies or electromagnetic fields (EMF), as it is the potential harmful effects of the electromagnetic fields they generate that concern us most now.

At home, these are some gadgets that emit EMR: television sets, stereo systems, air conditioners, fluorescent lights, telephone answering machines, cell and cordless phones, refrigerators, blenders, portable heaters, clothes washers and dryers, coffee makers, vacuum cleaners, toasters, microwave ovens and others.

At the workplace - computers, cell phones, fax machines, copy machines, fluorescent lights, printers, scanners, telephone switching systems, electrical instruments, motors and other electrical devices.

Outdoors – electrical power stations, cables and lines; telephone base stations, transmitters, antennas and cables; military and commercial radars, etc.

## **Can EMF harm us?**

For decades there has been suspicion that EMF from power lines, home wiring, airport and military radar, substations, transformers, computers, cell phones and appliances cause everything from brain tumors, leukemia, and other cancers to birth defects, miscarriages, chronic fatigue, headaches, cataracts, heart problems, stress, nausea, chest pain, forgetfulness, depression, aggressive behavior, sleep disturbance and other health problems? Numerous studies have produced contradictory results, but most experts are convinced that the threat is real.

The body is electrochemical in nature, and any force that disrupts or changes the electrochemical cellular activities will affect the physiology of the body. Thus any form of electromagnetic field has the potential of positively or negatively affecting the body.

Unfortunately, most of the EMF/EMR affect us negatively, disrupting the normal functioning of our brain, nerve impulses, signals within and between cells, impairing the work of our immune cells, interfering with the cellular energy systems, and a host of other unwanted effects that, over the long term, give rise to the symptoms and diseases described above.

As you learn more about it, you will be convinced that EMF/EMR is really a silent killer, and since it is ubiquitous – around you everywhere and all the time – you should also realize that you have to protect yourself against its harmful effects all the time if you do not want to end up as another silent victim!

## Article 2

### **Cell Phone Radiation May Cause Visual Damage**

*IsraCast Technology News, July 29, 2005*

*by Iddo Genuth*

In a recent scientific study conducted by a team of researchers from the Technion, **a possible link between microwave radiation, similar to the type found in cellular phones, and different kinds of damage to the visual system was found.** At least one kind of damage seems to accumulate over time and not heal, challenging the common view and leading the researchers to the assertion that the duration of exposure is not less important than the intensity of the irradiation. **The researchers also emphasized that existing exposure guidelines for microwave radiation might have to change.**

The effects of exposure to electromagnetic radiation have long been a subject for debate among scientists. The technological developments of the last twenty years such as cell and cordless phones, wireless communications, monitors and even high voltage lines have all been studied as potential risk factors for cancer and other diseases. Less known to the public, but still a matter of some extensive research, is the study of the effect of microwave radiation on the visual system and especially on the lens of the eye. The basic motivation for this research came after World War II when it was suspected that radar operators suffered a greater risk of developing cataracts (a condition characterized by clouding in the natural lens of the eye). Although these particular suspicions were eventually shown to be debatable, they were the trigger for the first guidelines for exposure to electromagnetic radiation. Moreover, the eye as our natural radiation detector is the obvious choice for investigating the effects of electromagnetic radiation upon the human body.

In more recent studies on animals the effects of microwave radiation as a risk factor for cataracts have been established and have helped determine the guidelines put forth by the International Commission on Non-Ionizing Radiation Protection (ICNIRP) in 1998. A common measure for microwave radiation is the **Specific Absorption Rate (SAR)** which is the average power density absorbed in a given volume per average weight density (Watt/Kg). This is the standard used by cell phone companies, among others, to measure levels of radiation. When microwave energy impinges upon body tissue, part of it is absorbed and converted to heat due to ionic conduction. This heat

manifests itself as a temperature increase inside the tissue. Past studies in animals have shown that even a slight increase in temperature close to the lens (as low as 3 degrees Celsius) can increase the risk of developing a cataract. With a low enough SAR the local temperature in the lens might never increase to that level. A less common measure is called **Specific Energy Absorption (SA)**, and is defined as the energy density absorbed in the tissue divided by its weight density. While SAR is the measure of the rate microwave radiation is absorbed by a tissue, SA is the measure of the total energy absorbed. This difference played a significant role in a recently published study on the effects of microwave radiation on the visual system.

In the study conducted by researchers in the Rappaport Faculty of Medicine at the Technion, and published in the journal Bio electromagnetic, **a new link has been found between microwave radiation and the development of cataracts.** Eye lenses of one-year-old male calves obtained from a slaughterhouse were exposed to microwave radiation - one eye from each pair used for control. Each exposure session lasted about two weeks. Both control and exposed lens were kept in an incubator at a constant temperature. During this period each exposed lens had experienced up to 2mW of 1.1GHz radiation virtually around the clock, and each hour it was exposed for a 50 minute session followed by a 10 minute break. During one of these breaks, every 24 hours, it was tested optically and compared to the control lens. During the short (5 minutes) optical test, the lens was not exposed to radiation, but when exposed, its average temperature was maintained constant in an incubator.

The experiment yielded a number of interesting results:

**1. Exposing the lens for a prolonged time to microwave radiation** (in the frequency and intensity described above) caused macroscopic damage affecting the optical quality of the lens. This damage increased as the experiment and irradiation continued and reached a maximum level after a number of days. When the exposure stopped the optical damage began to heal gradually. Interestingly enough, a similar maximum level was observed when the irradiation intensity was reduced to one-half the original, except that it took twice the time.

**2. On the microscopic level a different kind of damage occurred. Tiny “bubbles” were created on the surface of the lens.** The bubbles were formed by irradiation with microwave and were not the result of a heat

created throughout the lens. The researchers have speculated that the mechanism responsible for the creation of the bubbles is microscopic friction between particular cells exposed to electromagnetic radiation. Contrary to the macroscopic damage, **the microscopic damage did not show any signs of healing** and continued to accumulate during the course of the experiment.

Although the researchers are cautious about interpreting the results of the experiment and its possible implications to public health, it seems that prolonged exposure to microwave radiation similar to that used by cellular phones can lead to both macroscopic and microscopic damage to the lens and that at least part of this damage seems to accumulate over time and does not seem to heal. Professor Levi Schächter, who worked on the research, told IsraCast that attention should be paid not only to the Specific Absorption Rate (SAR) but also to the total energy absorbed by the tissue (SA), which is not currently under supervision by the appropriate regulative authorities. Implying that the duration of exposure is not less important than the intensity of the irradiation.

## Article 3

### **Court Victory is a First for Cell-phone Programmers**

*Sun Sentinel, October 2, 2005*

*by Nancy McVicar, Health Writer*

Sharesa Price thought it was just another in a series of sinus infections. Her head and eyes hurt, and she was vomiting. But then Price had a seizure, and a brain scan found something far more troubling.

“When I got home, the phone was ringing. It was the doctor’s office, and they told me, ‘Brace yourself. Honey, you have a brain tumor.’ I was standing by the refrigerator, and I just collapsed, saying, ‘no, no, no, it can’t be a brain tumor,’” she recalled.

After her diagnosis in 1999 and surgery to remove most of the tumor, Price started looking for answers. She became convinced that exposure to radio-frequency radiation on the job, where she programmed cell phones for new customers, had caused the tumor.

In May, an administrative law judge who handles worker’s compensation claims awarded her \$30,000 to pay her medical bills and other expenses. Price may be the first person to convince a judge that her illness was caused by radio-frequency radiation. The decision is unlikely to have widespread repercussions for the cell phone industry, however, because the settlement was small.

Price’s customers at Advanced Communications Systems in northern California were doctors, firefighters, police departments and security departments for casinos, and she loved her work. She used a cell phone several hours each day, and the room in which she worked contained transmitters that emitted radio-frequency radiation, she said.

Price said when she filed a workers’ compensation claim, her boss fired her, eliminating her health insurance. Then she lost the case. The Native American single mother of two daughters was devastated. She turned to Tribal



Health, a government health agency for Native Americans, to get anti-seizure medication.

“If I hadn’t been Indian, I would have died,” she said.

Her former boss, Dave Bohlen, said that he did not fire Price, that she quit based on her doctor’s advice that she not return to work there. Bohlen said he dropped the insurance because she was no longer an employee. He called her worker’s comp case “frivolous” and said there was no proof her tumor was caused by working in his small shop.

“There’s nothing harmful going on here,” he said.

After Price recovered from brain surgery, she went to the Internet and found researchers studying the biological effects of radio-frequency radiation, and got to know them.

“I would call them up and say, ‘You are absolutely dead on. If a rat could talk, this is what it would say. I’m the human rat.’”

Price couldn’t find an attorney to take her case until she contacted Carl Hilliard, a semi-retired lawyer and president of the Wireless Consumers Alliance, a California-based consumer-advocacy group.

Hilliard volunteered to represent her pro bono and re-filed her workers comp case. Hilliard said his group has represented cell phone users in issues involving poor service, billing problems and misrepresentations by cell phone service providers.

“We’re the ones who filed a case saying federal law does not pre-empt state law [on consumer issues] and won that case four years ago,” Hilliard said.

Hilliard brought in Dr. Nachman Brautbar, an occupational toxicologist and clinical professor of medicine at the University of Southern California School of Medicine, to review Price’s medical records.

Brautbar has been an expert witness in a number of high-profile cases, including the chromium poisonings from polluted drinking water portrayed in the movie Erin Brockovich.

Brautbar reviewed Price's case and wrote a report supporting her claim that the tumor was caused by exposure to radio-frequency radiation.

"It's not a money issue, suing the company, it's a health and safety issue," said Price, who speaks to school assemblies and classes about the need to use a headset when talking on a cell phone. "We need to explain to people that just like putting on condoms, you have to take this precautionary measure to make the product be as safe as it can be."

## Article 4

### **How Cell Phones Cause Cancer**

*ZDNet UK , June 25, 2001*

*by Rupert Goodwins*

Researchers in Australia have reported one of the first scientific hypotheses that normal mobile phone use can lead to cancer. The research group, lead by radiation expert Dr Peter French, principal scientific officer at the Centre for Immunology Research at St Vincent's Hospital in Sydney, said that mobile phone frequencies well below current safety levels could stress cells in a way that has been shown to increased susceptibility to cancer.

The paper, published in the June issue of the science journal *Differentiation*, says that repeated exposure to mobile phone radiation acts as a repetitive stress, leading to continuous manufacture of heat shock proteins within cells.

Heat shock proteins are always present in cells at a low level, but are manufactured in larger amounts when the cell is stressed by heat or other environmental factors. They repair other proteins that are adversely affected by the conditions, and are part of the cell's normal reaction to stress. However, if they are produced too often or for too long, they are known to initiate cancer and increase resistance to anti-cancer drugs.

Dr. French emphasised that no link has yet been shown between the specific biological effects of mobile phone radiation and cancer, but that there was now a theoretical framework for such an effect that could be investigated. His previous work has included showing that the production of histamine, a chemical involved in asthma, can be nearly doubled after exposure to cellular frequencies.

To date, most safety levels have been set on the assumption that damage is caused by heating effects of radio waves in human tissue, much higher than the levels at which Dr French claims heat shock proteins are triggered.

His co-authors include Professor Ron Penny, the director of the Centre and one of Australia's leading experts in the cellular effects of HIV, and Professor David McKenzie, head of applied physics at Sydney University.

## Article 5

### **Kids at Risk?**

*Toronto Star, July 9, 2005*

*by Tyler Hamilton and Robert Cribb*

A young girl with a cellphone pressed to her ear can't feel the plume of radio frequencies penetrating her brain.

But it's there. And like any child, her thinner skull, growing brain and developing nervous system make her more vulnerable than adults to the interaction of wireless signals with the body.

The potential long-term impact of that interaction remains a scientific mystery that may not be answered for decades.

It's an uncertainty that isn't stopping some wireless companies in North America from aggressively targeting children with an array of cartoonish phones featuring the images of Barbie and Mickey Mouse or video clips of Bugs Bunny.

Walt Disney Co., which backed off plans to sell cartoon character-branded cellphones in 2000 amid public concerns about potential risks for young bodies, snagged headlines across North America this week after announcing a new line of cellphones aimed at children as young as 8. Parents like the idea of being able to stay in touch with their children at all times. Pre-teens see the phones as status symbols. And the wireless industry, facing slowing sales to adults, sees children as a lucrative, untapped market.

Some scientists say those pressures are triggering a leap into the unknown. Children are using cellphones at a younger age than any previous generation. They'll be exposed for more years — and spend more time each day with the phones pressed to their heads — than anyone before.

And some scientists are raising serious questions about biological changes caused by cellphone frequencies. The worry is that these changes could lead to physiological problems ranging from headaches to cancer to degenerative brain diseases — problems that could take many years to prove or disprove. Other scientists dismiss such concerns, pointing to research that shows no

reason for worry.

Health Canada acknowledges unease about potential cellphone effects in internal documents obtained by the Toronto Star. But publicly, it has remained silent.

In contrast, health officials and experts in several European countries have issued public warnings to parents urging caution about kids and cellphones, backed by a growing body of scientists who fear that if health effects are eventually shown, the results could be disastrous.

“There are rational reasons to implicate a potential risk,” says Dr. Ab Guha, a prominent Toronto neurosurgeon and co-director of brain tumour research at the Hospital for Sick Children.

“If we can avoid finding out 15 or 20 years later that we have a whole bunch of adults that have developed a variety of tumours, it makes good sense (to urge caution).”

Many scientists point to public health tragedies such as tobacco and asbestos, deadly threats that were only proven after generations of research.

“It disturbs me that kids are the marketing target for devices that are dressed up to look as innocuous and friendly as possible, and yet may have longer-term health implications attached to them that we’re not fully aware of,” says Dr. Sheela Basrur, Ontario’s chief medical officer of health and mother of a 14-year-old daughter whose repeated requests for a cellphone have been denied.

“It falls on government and industry to provide this information in a readily accessible, easily understood fashion so you don’t need a post-doctorate degree in radiation physics to realize that the jury is out.”

The \$120 billion North American industry is quick to dismiss any concerns, insisting that science has not drawn a conclusive link between the devices and health impacts.

“There are no indications that there are demonstrated public health risks in using cellphones,” says Peter Barnes, president and CEO of the Canadian

Wireless Telecommunications Association.

“You can never test every final, last, infinite possibility out there. The more there are studies made, the more certainty there can be to the statement of no demonstrated public health risk.”

Barnes’ comments were echoed by the U.S. Cellular Telecommunications and Internet Association.

The issue is less clear-cut inside Health Canada.

Seven years worth of internal Health Canada documents, obtained through access to information requests, reveal concerns about cellphone frequencies and potential — but unproven — links to “childhood leukemia, brain and other cancers of the head and neck, memory problems, stress and migraine/neurological ailment.”

One document plainly states: “Children are at the highest risk from (radio frequency) exposures.”

Yet Canadians who visit the agency’s website are simply instructed to decide for themselves whether they can live with the “possibility of an unknown risk from cellphone use.”

Many experts and health authorities in Europe see it differently.

- In 2000, the German Academy of Paediatrics warned parents to limit their children’s calls. That message was repeated a year later by the head of Germany’s radiation protection agency, which said links to leukemia and eye cancer couldn’t be ruled out.
- Seven French scientists released an in-depth report in 2001 urging parents to restrict their children’s cellphone use.
- In 2001, a committee with the Russian radiation protection bureau advised pregnant women and children under the age of 16 to avoid cellphone use.
- British health officials have arguably been the most proactive, twice urging the nation’s wireless industry to refrain from promoting cellphones to children and publicly discouraging children from using them for “non-essential” calls.

There have been no such public cautions in Canada or the U.S.

Dr. Robert Bradley, head of the radiation protection department of Health Canada, says his agency has issued no public statements about risks to children from cellphones.

“We don’t have a particular piece of advice on the (agency’s) website and it’s one I think we should be developing.”

Health Canada has maintained a quiet public approach despite internal concerns dating back to at least the late 1990s.

A 1998 memo cites “significant evidence” that frequencies similar to those emitted by cellphones could allow carcinogens and other toxins to seep into the brain. And recommendations for aggressive research funding in this area — including studies aimed at children — have been ignored, documents show.

“If there are health risks, even if small, the economic impact in terms of health-care costs is expected to be great because of the prevalence of (radio frequency) exposure in our daily lives,” says a 1999 internal Health Canada document.

Another document from the same year concedes that Canada “lags significantly behind efforts (of) other G-7 countries” on research into radio frequency effects and says “Inspection and enforcement is very weak or non-existent.”

The document called for a 10-year, \$11.5 million research program to “allow relevant risk management options to be proposed.”

That research funding never materialized.

A year later, another Health Canada proposal argued that studying cellphone effects on children’s brains and eyes was necessary for “risk assessment,” would help reduce “the possibility that acute health effects will develop in children” and would provide the knowledge needed to ensure that the department’s regulatory approach would “adequately protect children.”

The calculated cost for such research was \$700,000 a year.

It never came.

Today, the agency's financial commitment to cellphone emissions research is \$150,000 a year — the same as it was five years ago.

That's a drop in the bucket compared to many European countries. The British, for example, have devoted \$15 million (U.S.) over four years and are in the process of earmarking more.

Most studies over the past five years have been done in Europe. And while the research offers no clear answers, it's increasingly certain that wireless radio signals can cause biological effects — such as breaks in rat and human DNA, or nerve cell damage in animal brains — that potentially could be precursors to health effects.

Nearly 60 per cent of the more than 250 studies looking at the health effects of cellphone frequencies have shown some form of biological effect, according to an analysis by Dr. Henry Lai, a top researcher of the subject at the University of Washington in Seattle.

“There's a cause for concern,” says Lai. “The radiation is not as safe as the cellphone industry asserts.”

He says some effects, including potential sperm cell DNA damage found in a recent Australian study, are “likely to be health hazardous.”

Dr. Michael Repacholi, who heads the radiation research program at the World Health Organization, takes a different view, arguing that it's normal to see small biological effects in lab experiments.

“If you start getting effects that are going to damage DNA ... that's something that could lead to a consequence. But most of the biological effects that are reported are well within the range of normal compensation of the body.” Dr. Mary McBride, senior scientist in cancer control research at the B.C. Cancer Agency, agrees biological effects aren't necessarily caused for concern.



“There are many examples of biological effects that are neutral and positive in terms of health, so there’s no reason to presuppose that because there is a biological effect that that should raise a red flag in itself.”

While the scientific community remains divided on the link between cell signals and potential health risks, there’s growing concern about the lack of research related to children.

Computer image modeling comparing the heads of adults and children has shown radiation penetrates far more deeply into young skulls, resulting in greater exposure to potentially harmful radio waves.

As the youngest users of this technology, today’s children will be exposed more than any other generation to a steady stream of wireless signals. Market researchers predict 10 per cent of Canadians aged 8 to 11 will have their own cellphones by the end of this year, a number expected to quadruple by 2008.

Linnea Busby recently got a cellphone for her 11th birthday after a year-and-a-half of asking her parents. She uses it to chat with her friends, who also have their own cellphones, and check in with family.

“I like the idea of her having a phone for security reasons,” says Martin Busby, Linnea’s father. “The investment is well worth knowing I can be in touch with her. And it’s a status thing for her. If it gets to the point where it’s stuck to her ear all the time, it would concern me. It concerns me a little bit. But she knows it’s not a toy.”

Concern about cellphone exposure is one of the reasons Adam Kucharski took back the cellphone he gave his son Alex two years ago. The 13-year-old Richmond Hill student used to carry the phone with him everywhere. His parents cancelled his plan three months ago.

“I think they’re overused,” says Kucharski, a computer specialist. “And in the back of my mind I have concerns about the (radio frequencies). It’s better to be cautious. Frequencies are getting higher and that has an impact.”

In the absence of any clear advice from Health Canada, the industry has become the de facto voice on wireless health effects.

And its message is clear.

On its website, the Canadian cellphone association claims that “overwhelming evidence in the scientific community ... supports the conclusion that there is no demonstrated public health risk.”

It also says government agencies “support that wireless telephones are not a health risk.”

But Health Canada officials say they are uncomfortable with those claims.

“That’s their statement; it doesn’t come from us,” says Bradley. “There are still issues that need to be addressed so we can feel more comfortable with saying that ... There is no heavy, strong leaning saying, ‘No, absolutely, totally on the safe side,’ nor the other way, saying, ‘Absolutely, totally bad.’” The industry’s Barnes says the difference in messages reflects the differing “roles” of industry and science.

Even though studies indicate biological effects, he says the scientific community has not informed his association of any proven health effects.

“We’ve also been told they want to continue studying it and we’re more than willing to co-operate with them,” he says.

Meanwhile, Canadian children are using cellphones in record numbers.

By next year, one in every five children aged 8 to 11 will have a wireless phone, according to forecasts from Toronto-based Solutions Research Group.

That figure is expected to balloon as campaigns rev up and wireless phones become more accepted as a replacement for “wired” phones.

Some experts have conservatively suggested that half of all pre-teens in this country will regularly use a cellphone by the end of the decade.

Adding concern is the fact that the cellphone industry is relatively young. In Canada, the industry celebrates its 20th anniversary this summer, but the phones were very much a novelty during the first decade.

It's only been in the past five to eight years that consumers have been able to enjoy unlimited evening and weekend calling, affordable monthly rates and heavily subsidized handsets. Cellphones have become an essential social and business tool for many, and this has led to a dramatic increase in the time we spend using these devices.

For example, Canadians spent an average of 262 minutes a month on their cellphones in 2002, according to a report last year from Bell Canada, which predicted that by the end of 2005 average minutes would jump to nearly 400 — a rise of 50 per cent.

Some scientists say it could take decades to determine whether this popular embrace of cellphones will affect health, particularly for adults who began using the devices as children.

U.K. officials don't want to wait until it's too late.

“At this time, we believe that the widespread use of mobile phones by children for non-essential calls should be discouraged,” stated a report last year from the National Radiological Protection Board, a part of the U.K. Health Protection Agency.

“We also recommend that the mobile phone industry should refrain from promoting the use of mobile phones by children,” said the report, which encouraged the government to send information leaflets to every U.K. household outlining the health aspects of mobile phone use.

Dr. Michael Clark, scientific spokesperson for the U.K. protection board, says the British are more cautious than most countries because of the Mad Cow scare during the mid-1990s that caught the government off guard.

“You could look at the BSE thing and say we weren't cautious enough in the early days,” he says. “More children and younger children are using mobile phones. We felt we should re-emphasize the precautionary advice.”

Canada has so far decided to steer clear of any such cautionary messages. But Bradley concedes the agency may now need to do more.

“We'll have to look at this over the next couple of months and see whether

or not there is a missing piece of information for the public,” he says.

Meanwhile, red flags continue to emerge as the industry matures and cellular use increases.

A study out of the Karolinska Institute in Sweden last fall found that people who used a cellphone for more than 10 years doubled their risk of developing a non-cancerous tumour of the acoustic nerve — called an acoustic neuroma — that transmits sound from the inner ear to the brain.

Though benign, the condition can lead to loss of hearing and balance. Left untreated, the slow-growing tumour can even kill.

While studies have previously documented minor health effects from cellphone signals such as headaches, sleep disorders and slowed reaction times, studies on acoustic neuromas stand out as the first major warning signs of a possible health effect.

The wireless industry downplayed the Karolinska findings as isolated. But they weren't the first.

Earlier findings out of a competing research lab at Sweden's Örebro University found increased incidence of the benign tumour among long-term cellphone users.

A follow-up study published in June reinforced that conclusion.

Dr. Louis Slesin, who has published the respected New York-based scientific newsletter *Microwave News* for 20 years, calls the Swedish studies a “bombshell.”

“As far as I'm concerned, the acoustic neuroma data is not quite a smoking gun, but it's pretty close,” Slesin told the *Star*. “If there are any more studies showing acoustic neuroma increases, all hell will break loose.”

## Article 6

### **Melbourne Office Closes Floors After Mobile Phone Cancer Scare**

*Yahoo News, May 11, 2006*

SYDNEY (AFP) - The top two floors of a Melbourne building have been closed after seven office workers were diagnosed with brain tumors some fear may be linked to mobile phone transmitters on the roof, officials said.

The floors housing offices of a technical university were ordered evacuated Thursday after four staff members were found to have brain tumors over the past two weeks. Those tumors were in addition to three other cases among staff working on the floors, the first dating back to 2001, according to officials of the National Tertiary Education Union (NTEU). A spokesman for the Royal Melbourne Institute of Technology (RMIT), Steve Somogyi, said telecommunications transmitters on the roof of the building had raised concerns in the past, but a 2001 study found no link between them and the first cancer cases.

But he said the university was not ruling anything out and would ensure further studies were carried out. "Clearly we're very concerned with the health and safety of our staff. Therefore we have taken a number of key actions to ensure that our staff can continue to work in a healthy framework," he said. NTEU secretary Matthew McGowan said the concentration of brain tumor cases among staff working together "would appear to be much more than coincidence". "What we know at this stage is that five of the cases occurred on the top floor and that's a highly unusual concentration," he said on Australian Broadcasting Corporation radio. "What we also know is that a majority of those people are long-term employees, they've been there for more than 10 years," he said.

Five of those affected were academic staff and the other two administrative workers. McGowan said it was not believed that students would have been affected because "they are in and out of the building" rather than working in the area long-term. He said at least five of the brain tumor cases were not

malignant, but there were unconfirmed reports of “a couple of other people who’ve also had similar injuries” and possibly one person who died of their illness. Australia’s biggest telephone company, Telstra, maintains mobile phone towers on the building and issued a statement saying the equipment complied with health and safety standards and was regularly tested.

“The standards are set by Australian Radiation Protection and Nuclear Safety Agency and based on strict World Health Organisation guidelines,” it said. But the company pledged to cooperate with RMIT’s investigation “to address any staff concerns.”

## Article 7

### **Men and Mobiles: Calls to Take Caution**

*MSN.com June 28, 2004*

Mobile phones bring convenience and peace of mind, but the benefit of always being contactable may have a downside. New research shows men who regularly carry their mobiles near the groin, on a belt or in a pocket could potentially have their sperm count reduced by as much as 30 percent, ACA reports.

The study, conducted by Hungarian researchers, suggests male fertility could be affected by the radiation emitted by mobile phones. It also found the sperm that did survive exposure to radiation showed abnormal movements.

Dr. Chris Merry, vice-president of the Australian Medical Association (AMA), says men shouldn't panic; rather the findings serve as a warning to think carefully about what they do with their mobile phone.

“You want to be safe rather than sorry,” says Dr Merry. “Who knows if this will have long-term implications for Australia's reproductive future? I think in the short term it's probably better to keep your mobile phone in your jacket pocket or somewhere away from your groin.”

But Professor David de Krester, director of Andrology Australia, an organisation specialising in male fertility, is questioning the validity of the research, which studied 221 men over 13 months.

While the jury is still out, Dr Merry advises all of us to employ some cautionary measures when carrying our mobile phones. These include:

- Limiting the time you spend talking on your mobile phone;
- Store your mobile phone away from your groin area;
- Try storing your phone in your jacket pocket;
- If driving, try keeping your phone on the car seat next to you.
- Bear in mind mobiles still make regular transmission to maintain contact with radio towers even when they're not in use

## Article 8

### **Mobile Phone Radiation Harms DNA, New Study Finds**

*Mon Dec 20, 2004 04:38 PM GMT*

MUNICH/AMSTERDAM (Reuters) - Radio waves from mobile phones harm body cells and damage DNA in laboratory conditions, according to a new study majority-funded by the European Union, researchers said on Monday. The so-called Reflex study, conducted by 12 research groups in seven European countries, did not prove that mobile phones are a risk to health but concluded that more research is needed to see if effects can also be found outside a lab.

The \$100 billion a year mobile phone industry asserts that there is no conclusive evidence of harmful effects as a result of electromagnetic radiation.

About 650 million mobile phones are expected to be sold to consumers this year, and over 1.5 billion people around the world use one.

The research project, which took four years and which was coordinated by the German research group Verum, studied the effect of radiation on human and animal cells in a laboratory.

After being exposed to electromagnetic fields that are typical for mobile phones, the cells showed a significant increase in single and double-strand DNA breaks. The damage could not always be repaired by the cell. DNA carries the genetic material of an organism and its different cells.

“There was remaining damage for future generation of cells,” said project leader Franz Adlkofer.

This means the change had procreated. Mutated cells are seen as a possible cause of cancer.

The radiation used in the study was at levels between a Specific Absorption Rate (SAR) of between 0.3 and 2 watts per kilogram. Most phones emit radio signals at SAR levels of between 0.5 and 1 W/kg.

SAR is a measure of the rate of radio energy absorption in body tissue, and



the SAR limit recommended by the International Commission of Non-Ionizing Radiation Protection is 2 W/kg. The study also measured other harmful effects on cells. Because of the lab set-up, the researchers said the study did not prove any health risks. But they added that “the genotoxic and phenotypic effects clearly require further studies ... on animals and human volunteers.”

Adlkofer advised against the use of a mobile phone when an alternative fixed line phone was available, and recommended the use of a headset connected to a cellphone whenever possible.

“We don’t want to create a panic, but it is good to take precautions,” he said, adding that additional research could take another four or five years.

Previous independent studies into the health effects of mobile phone radiation have found it may have some effect on the human body, such as heating up body tissue and causing headaches and nausea, but no study that could be independently repeated has proved that radiation had permanent harmful effects.

None of the world’s top six mobile phone vendors could immediately respond to the results of the study.

In a separate announcement in Hong Kong, where consumers tend to spend more time talking on a mobile phone than in Europe, a German company called G-Hanz introduced a new type of mobile phone which it claimed had no harmful radiation, as a result of shorter bursts of the radio signal.

## Article 9

### **Mobile Phones Tumour Risk to Young Children**

*London Times, January 12, 2005*

CHILDREN under the age of eight should not use mobile phones, parents were advised last night after an authoritative report linked heavy use to ear and brain tumours and concluded that the risks had been underestimated by most scientists.

Professor Sir William Stewart, chairman of the National Radiological Protection Board (NRPB), said that evidence of potentially harmful effects had become more persuasive over the past five years.

The news prompted calls for phones to carry health warnings and panic in parts of the industry. One British manufacturer immediately suspended a model aimed at four to eight-year-olds.

The number of mobiles in Britain has doubled to 50 million since the first government-sponsored report in 2000. The number of children aged between five and nine using mobiles has increased fivefold in the same period.

In his report, *Mobile Phones and Health*, Sir William said that four studies have caused concern. One ten-year study in Sweden suggests that heavy mobile users are more prone to non-malignant tumours in the ear and brain while a Dutch study had suggested changes in cognitive function. A German study has hinted at an increase in cancer around base stations, while a project supported by the EU had shown evidence of cell damage from fields typical of those of mobile phones.

“All of these studies have yet to be replicated and are of varying quality but we can’t dismiss them out of hand,” Sir William said. If there was a health risk - which remained unproven - it would have a greater effect on the young than on older people, he added.

For children aged between 8 and 14, parents had to make their own judgments about the risks and benefits. “I can’t believe that for three to eight year-olds they can be readily justified,” he said.

David Hart, general secretary of the National Association of Head teachers, called last night for a ban on mobiles in schools.

Mobile phone companies reacted furiously, saying that the report fanned public concern without presenting new research. The youth market is highly lucrative because teenagers are more likely to use video downloads and other services.

The World Health Organisation is preparing to publish an international report, drawing on hundreds of studies conducted over a decade, which many hope will give a definitive judgment on mobile phone safety.

The board’s report says that while there is a lack of hard information of damage to health, the approach should be precautionary. Sir William said: “Just because there are 50 million of them out there doesn’t mean they are absolutely safe.”

One school in the North East has begun using mobile scanners to prevent pupils using mobiles in class. “Outside college hours it is up to parents, but in our care if mobiles are found on children, they are confiscated and returned to the parents,” David Riden, vice principal of Tollbar Business and Enterprise College in New Waltham, said.

One group that appears to target young users is Richard Branson’s Virgin Mobile, which derives much of its revenue from the 16s-35s market. It denies targeting under 16s but has cornered a large slice of the youth market with cheap voice and text messages.

## HEALTH RISK

- Acoustic neuromas are benign tumours of the acoustic nerve
- A study in Sweden has shown that they are twice as common in mobile phone users
- They were also four times as common on the side of the head where the phone was held
- Acoustic neuromas occur in 100,000 people a year and can cause deafness
- They can be treated by surgery. In most cases the patient's hearing is saved
- Brain tumours affect about 4,700 new patients a year in Britain
- They are becoming more common - the UK Brain Tumour Society says that incidence has increased by 45 per cent in 30 years
- The causes of primary brain tumours are unknown, so it is hard to identify specific risk factors

## Article 10

### **New Cordless Phones Danger**

*News of the World, February 5, 2006*

*by Robbie Collin*

Cordless handsets 100 times worse than mobiles, say experts.

Having a cordless phone in your house can be 100 times more of a health risk than using a mobile. The popular phones constantly blast out high levels of radiation - even when they are not in use. Landlines are widely thought a safer option than mobiles. But researchers in Sweden now warn cordless phones are far more likely to cause brain tumours than today's mobiles.

Emissions from a cordless phone's charger can be as high as six volts per metre - twice as strong as those found with a 100 metres of mobile masts. Two metres away from the charger the radiation is still as high as 2.5 volts per metre - that's 50 times what scientists regard as a safe level.

### **Powerful**

At a metre away the danger is multiplied 120 times - and it only drops to a safe 0.05 volts per metre when you are 100 metres away from the phone. Because of the way cordless phones work, the charger constantly emits radiation at full strength even when the phone is not in use - and so does the handset when it is off the charger.

The most common cancers caused by such radiation are leukemias. But breast cancer, brain tumours, insomnia, headaches and erratic behaviour in kids have also been linked. Those with chargers close to their beds are subjected to radiation while they sleep.

Phone watchdog Powerwatch, using a testing device called the Sensory Perspective Electromog Detector, even found electromagnetic fields as strong as three volts per metre in a bedroom above a room holding a cordless phone.

The group's director, Alasdair Philips said: "As ill-health effects have been found at levels of only 0.06 volts per metre, this is very concerning. It's likely everyone in a house with a cordless phone will be constantly exposed

to levels higher than this.”

The shock Swedish report - by scientists Lennart Hardell, Michael Carlbery and Kjell Hansson Mild - is backed up by many medical experts who believe cordless phones are a health risk.

Harley Street practitioner Dr David Dowson said: “Having a cordless phone is like having a mobile mast in your house. I’d recommend anyone who has one to switch to a plug-in phone.”

But BT’s health advisor, John Collins, disagreed. He said: “There’s no conclusive scientific evidence linking the radiation to any of the symptoms experienced. The evidence is that it doesn’t do us any harm. We’re a responsible company and abide by all the guidelines set down by recognised experts.”

## Article 11

### **Teddy Bear Mobile ‘Puts 4-Year Olds at Risk from Radiation’**

*Telegraph News, November 29, 2005*

*by Nic Fleming, Medical Correspondent*

A teddy bear-shaped mobile phone aimed at children as young as four was launched yesterday.

The manufacturers of the Teddyfone claimed it would help parents keep track of their children while minimising potential health hazards posed by radio frequency emissions.

With no screen and only four buttons that can be pre-programmed by parents, the device prevents users from being targeted by text message bullying, calls from strangers or inappropriate adult material.

The makers of the Teddyfone claim that the rate at which the body absorbs energy from the handset, known as its peak specific absorption rate, is 0.16w/kg - close to the lowest available. Most mobiles have SAR values of 0.4 to 0.7w/kg.

Sir William Stewart, the chairman of the Health Protection Agency, advised parents earlier this year to discourage use of mobile phones by children under eight as a precaution against potential health risks.

Yesterday the agency was joined in its criticism of the Teddyfone by even the industry body that represents mobile phone operators.

A spokesman for the Mobile Operators Association said: “The companies we represent don’t market their products to under-16s, as recommended by Sir William Stewart. We believe that is a responsible policy and is in line with the advice on health.”

Paul Liesching, the managing director of Teddyfone Ltd, who said the device was aimed at four- to 10-year-olds, pointed to research showing that a quarter of seven- to 10-year-olds owned mobiles. He said parents should be

able to buy low-emission handsets that also protected children from other potential dangers.

“This is a basic parental decision. If you see the utility and benefits of your child having a mobile phone are greater than any potential risks, give your child a mobile phone. If you don’t, then don’t.

“One million children under 10 already have mobile phones which potentially put them at risk from text-bullying, excessive charges and inappropriate material. Teddy-fone is a response to clear demand in the market.”

The new handset has an SOS button that allows children who feel under threat to connect automatically to a parent’s mobile.

A child monitor option allows concerned parents to listen in to what is happening around their child and an optional child locator service sends parents a map of where their son or daughter is, on request, for 50p.

The handsets and two years’ line rental are free. Calls are charged at standard rates.

Sir William, the Government’s leading adviser on radiation, said in January that children under nine should not use mobiles and that those aged nine to 14 should make only short, essential calls.

He said: “When it comes to suggesting that mobile phones should be available to three- to eight-year-olds, I can’t believe for a moment that can be justified.

“My advice is that they should not have them because children’s skulls are not fully thickened, their nervous systems are not fully developed and the radiation penetrates further into their brains.”

Published research suggests that a child’s brain absorbs 50-70 per cent more of the emissions from a mobile phone than an adult’s.

Alasdair Philips, of consumer group Powerwatch, said yesterday: “Marketing a product at children when there is increasing evidence that it may be causing them both short-term and long-term harm is at the very least highly



irresponsible.” Dr Michael Clarke, of the Health Protection Agency, said: “It’s up to any company to justify its product in light of our advice that children should be discouraged from excessive use of mobiles.”

Communi8, a British company, lost about £500,000 after launching Mymo, a mobile for under-eights, last year. It withdrew the product following Sir William’s comments.

A survey of 1,232 parents of children under 16 carried out on behalf of Tedyfone found that 35 per cent of respondents were concerned about the potential health hazards for children under 10 with mobiles. Nearly a quarter were worried about their child’s phone being stolen.

## Article 12

# **What Cell Phones Can Do To Youngster's Brain In 2 Minutes**

*U.K. Sunday Mirror April 1, 2004*

Scientists have discovered that a call lasting just two minutes can alter the natural electrical activity of a child's brain for up to an hour afterwards.

And they also found for the first time how radio waves from mobile phones penetrate deep into the brain and not just around the ear.

The study by Spanish scientists has prompted leading medical experts to question whether it is safe for children to use mobile phones at all.

Doctors fear that disturbed brain activity in children could lead to psychiatric and behavioral problems or impair learning ability.

It was the first time that human guinea pigs were used to measure the effects of mobile phone radiation on children. The tests were carried out on an 11-year-old boy and a 13-year-old girl called Jennifer.

Using a CATEEN scanner, linked to a machine measuring brain wave activity, researchers were able to create the images above.

The yellow coloured part of the scan on the right shows how radiation spreads through the centre of the brain and out to the ear on the other side of the skull. The scans found that disturbed brain wave activity lasted for up to an hour after the phone call ended.

Dr. Gerald Hyland -- a Government adviser on mobiles -- says he finds the results "extremely disturbing".

"It makes one wonder whether children, whose brains are still developing, should be using mobile phones," he adds. "The results show that children's brains are affected for long periods even after very short-term use.

"Their brain wave patterns are abnormal and stay like that for a long period.

“This could affect their mood and ability to learn in the classroom if they have been using a phone during break time, for instance.

“We don’t know all the answers yet, but the alteration in brain waves could lead to things like a lack of concentration, memory loss, inability to learn and aggressive behaviour.”

Previously it had been thought that interference with brain waves and brain chemistry stopped when a call ended.

The results of the study by the Spanish Neuro Diagnostic Research Institute in Marbella coincide with a new survey that shows 87 per cent of 11- to 16-year-olds own mobile phones and 40 per cent of them spend 15 minutes or more talking each day on them. And disturbingly, 70 per cent said they would not change the use of their phone even if advised to by the Government.

Dr. Hyland plans to publish the latest findings in medical journal The Lancet next year.

He said: “This information shows there really isn’t a safe amount of mobile phone use. We don’t know what lasting damage is being done by this exposure.

“If I were a parent I would now be extremely wary about allowing my children to use a mobile even for a very short period. My advice would be to avoid mobiles.”

Dr. Michael Klieseisen, who conducted the study, said: “We were able to see in minute detail what was going on in the brain.

“We never expected to see this continuing activity in the brain.”We are worried that delicate balances that exist -- such as the immunity to infection and disease -- could be altered by interference with chemical balances in the brain.”

A Department of Health spokesman said: “In children mobile phone use should be restricted to very short periods of time.”

## Article 13

### **WHO study links mobile phone use to cancer**

*Daily Mail, Published May 16 2010*

A ten-year study on mobile phones has found that there is a link between regular phone use and brain cancer.

The long-anticipated report, from the World Health Organisation, says that prolonged use - at least 30 minutes a day - increases the chance of suffering a malignant tumour by more than a third.

According to The Daily Mail, the Interphone study was conducted over a decade, compiling data from 13 countries, and has been substantially funded by the mobile phone industry.

It is a widely held belief that radiation from mobile phones and mobile masts are a health risk.



*A file picture of British school children making calls on their mobile phones as they leave Grey Coat School in central London*

While the study, based on interviews with more than 5,000 brain cancer victims and published this week, reveals that only those in the 'heaviest user' category are endangering their health, this includes those who spend more than half an hour a day with a mobile handset to their ear.

The report said that there was no significant risk for people who used their phones less than 30 minutes a day, or who used an earpiece or headphones.

But scientists admit that they did not take into account phone users under the age of 30, which will prompt questions over the validity of the study.

And the study's figures even suggest low levels of usage can actually protect against cancer - a result questioned by the researchers themselves.

Interphone defined a 'regular' user as a person who made one call a week over a six-month period.

It found the average mobile phone owner made the equivalent of two-and-a-half hours of calls a month - with heavy users significantly more.

The study has already been criticised for being deeply flawed.

New research, backed by the European Union, has been launched to investigate possible links between brain tumours in children in mobile phone use.

## Article 14

### **Interphone study finds hints of brain cancer risk in heavy cell-phone users**

*Overall data are so iffy, however, that researchers remain unsure of cell safety*  
by Janet Raloff

*Web edition : Monday, May 17th, 2010*



What's the risk? People who talk long and frequently -- and hold cells phones to their ear while they do so -- may face an elevated risk of developing gliomas, a serious type of brain cancer, according to a new study. iStock-Photo.

A major decade-long international study concludes that, overall, cell-phone users show no increased risk of developing brain tumors. The same study reports that among people who have used cell phones the most and longest — for at least 10 years and on average 30 minutes or more a day — risk of brain tumors is substantially elevated when compared to people who don't use cell phones.

But the real enigma: For people in each of the lower cell-phone-use categories, tumor risks were substantially lower than those seen in people who used regular, corded phones. In other words, for most people cell-phone use appeared to protect against brain tumors.

The generally contradictory findings — apparent protective effects at most doses and elevated cancer risk at the highest exposure — point to the

challenge scientists have had in figuring out what to make of data collected as part of the Interphone study. Participants were recruited in 13 countries (all outside of the United States) and included 7,416 tumor patients and almost twice that many controls.

Although the researchers analyzed risks for two types of brain tumors, only data linking heavy cell-phone use to gliomas appeared due to something other than chance. Moreover, even this association was hardly iron-clad. Based on the reported 95-percent confidence interval, the chance these cancers might have been linked to cell-phone use could be as small as 3 percent or as high as 89 percent.

Here the statistics appeared stronger, with a protective effect for both tumor types — gliomas and meningiomas — in the range of 10 to 25 percent, depending on the exposure category. (And the confidence intervals indicated that the likelihood the effects were real ranged from 2 to 50 percent, again depending on recalled estimates of cell-phone exposures).

Explains Interphone researcher Siegal Sadetzki, a public health physician at Tel Aviv University's Sackler School of Medicine, “If you look at the overall evidence, this study did not confirm or dismiss the possible association between cell phones and brain tumors. That’s the bottom line.”

Science requires data to meet “very strong criteria before you can say there is an association,” she explains. And the Interphone data that were reported online May 17 in the International Journal of Epidemiology, did not meet those criteria, she says.

“On the other hand,” she adds, “we do see a few indications of risk. And these indications appear among people who were exposed for the longest duration. We do see an association with ipsilateral use [tumors on the same side of the head that a user holds a cell phone to the ear]. We also see an association with temporal lobe [brain] exposure. So there are some indications of a positive association in these subgroups.”

As a result, she says, “We do have some suspicions.”

## Protective effects ‘can’t be real’

The paper’s authors acknowledge that the apparent brain-tumor protection afforded most of the 21,770 Interphone participants doesn’t make sense.

David Carpenter, who heads the State University of New York at Albany’s Institute for Health and the Environment in Rensselaer, N.Y., similarly finds “perplexing” that apparent protective effect of cell-phone use for all but the longest, heaviest users. In fact, he says, “This cannot be real and probably is a reflection of some flaw in the design of the study,” one that he says “results in an artificial lowering of the reported risk.”

The study concedes this is a possibility.

If the effect of cell-phone use on tumor risk was zero, it should yield a risk value of 1.0 — equivalent to that assigned to the control group of non-cell users. Any risk number below 1.0 suggests a protective effect of the exposures. The fact that computed tumor risks fell below 1.0 for all cell users except those in the highest-use category “could be taken to indicate an underlying lack of association with mobile phone use, systematic bias from one or more sources, a few random but essentially meaningless increased odds ratios [calculations of risk], or a small effect detectable only in a subset of the data,” the Interphone authors write.

Indeed, Sadetzki says of the below-1.0 risk that Interphone found for virtually all cell-phone users: “We think this is not a true thing. So this would suggest we have an underestimation of the risk.”

Yet “even under these circumstances [the authors] find a clear elevation in risk of brain cancer with prolonged use,” Carpenter points out, especially for gliomas and tumors that occur on the same side of the head as a user typically holds his or her phone. And “this conclusion is exactly what has been reported in the earlier studies,” he observes.

As such, he contends, the paper’s general claim that there is no increased brain-tumor risk among cell users is “certainly cautious, and in my judgment excessively cautious.”



## **Strong suspicion of hidden biases**

The new paper, written by a committee of Interphone researchers across the world, admits that biases and errors may have limited the strength of the study and prevented a causal interpretation.

Those qualifications were “added at the end of the editorial process of revision” and are “both elegant and oracular,” argue Rodolfo Saracci of the National Research Council in Pisa, Italy, and Jonathan Samet of the University of Southern California in Los Angeles. They suggest that Interphone’s authors attempted to finesse their interpretations in a way that would not unduly scare cell-phone users — even if their findings didn’t warrant such caution.

Writing in an editorial that accompanies the new paper, the two point out that “None of today’s established carcinogens, including tobacco, could have been firmly identified as increasing risk in the first 10 years or so since first exposure.” Tumors among the Interphone study’s participants were diagnosed between 2000 and 2004 — even though wide-scale cell-phone use got underway only in the mid-1990s. So fewer than 5 percent of meningiomas and 9 percent of gliomas occurred among people who had used cell phones 10 years or more.

Moreover, Saracci and Samet observe, the apparent protective effect computed in this study is not statistically “plausible.” They argue, therefore, that “bias stands as the most likely explanation of the observed results.”

They probed a few of the types of biases to which the data appeared susceptible and concluded that if these have occurred, they would likely have served to diminish the apparent tumor risk — even amongst people in the highest-exposure group.

For now, Saracci and Samet say, Interphone “tells us that the question as to whether mobile phone use increases risk for brain cancers remains open.”

## **More studies needed**

The study’s authors, too, acknowledge that the jury is still out on cell safety, which is why they recommend further investigation of “possible effects of long-term heavy use of mobile phones.”

That's a good idea, Saracci and Samet say, since the lower end of the high-use group studied by Interphone were people averaging only a half-hour of calling per day. That's well below usage patterns for many people in our increasingly cell-dominated society, they say — one that's populated by an estimated 4.6 billion mobile-phone users globally. Indeed, many people have begun jettisoning land lines for cell-phone-only service.

In a news release, the Mobile Manufacturers Forum, which represents aspects of the cell-phone and wireless industry, said "The mobile industry supports the need for ongoing research," and pointed to several studies that will be following users in coming decades. Some will even begin investigating risks to children and teens. MMF helped fund the Interphone study.

Until any followup data on heavy users come in, Sadetzki recommends that cell owners adopt "the precautionary principle:" Assume some risk might exist and therefore limit exposures. Tactics might include avoiding long calls, sending text messages instead of voice messages (that require both parties put the phone to their ears) and using a Bluetooth or other hands-free device to keep a phone away from close proximity to the head.

## Article 15

### **“A Practical Guide to the Benefits of Scalar Energy”**

*Author: Dr. John G. Florendo, 2010*

I write this book in the midst of being bombarded with a pollution that is unseen, you cannot smell it, hear, or feel it either. This pollution called Electro Magnetic Radiation and Electro Magnetic Frequencies emitted by cell phones, microwave ovens, computers, TV, home appliances, hand held devices, cars, air conditioners and a host of other products have been causing severe bodily damages, causing cancer, neurological disease, immune system disorders, fatigue, sleep disturbances and a number of other ill health conditions

At this particular time, following the release of the 10 year Interphone Study, a few states in the USA have mandated that warning labels be placed on newly bought cell phones that indicate “ these products may lead or cause cancer”. I believe this law will be a federal one eventually to protect the consumer and eventually a global law, again studies are published and countries realize the dangers of electro magnetic radiation and frequencies.

In June 2010, the New York Times ran an article on how San Francisco, California, mandated that the cell phone industry and retailers must display the amount of radiation each cell phone emits. The Federal Communication Commission has determined the Specific Absorption Rate ( S.A.R) to be safely at 1.6 watts per kilogram. This will have a direct effect on the electronics industry, which has a \$190 billion market.

Europe has been one of the first countries to ban the use of cell phones from children under the age of 12. This was due to the recent findings that indicate child brain cancer has escalated to an unbelievable level of 31%! Michael Rich, M.D., M.P.H. a pediatrician researcher from the prestigious Harvard Medical School, has pointed out that the use of hand held game devices used by adolescents, has contributed to the weakening of the immune system and the possible development of disease in young children, due to the EMR and EMF emitted from these game consoles like the PSP, Game Boy, as well as cell phones.

Dr. Levy, a neurological researcher from the film Cell Phone Health, pointed out that it is hard to ignore the data. Cell phone use has been detrimental to the human body. Studies done at Max Planck Institute where cell phones were placed around laboratory caged rats for a few hours a day. On follow-up CAT scan 30 days later, it showed bleeding of the blood vessels of the brain. The cell phone is not the only culprit to the damaging effects on the cellular level. Microwave ovens, computers, TV, home appliances, hand held devices, cars, air conditioners and a host of other products are also culprits.

The statistics have been staggering over the last 20 years.

- Over the last 20 years there has been a staggering increase in cancers 60%
- There has been 21% more brain tumor development in children.
- Testicular cancer and sterility in men has grown to a total of 51%.
- The occurrence and development of neurological diseases such as Parkinson's Disease, Multiple Sclerosis, ALS, Alzheimer's Disease, Myasthenia Gravis, Dementia and degenerative brain disorders.

The development of the cell phone has been revolutionary in electronics as well as health and disease. A recent article ran in a famous publication identified the dangers of the cell phone to the brain. It was linked to the dangerous cancer causing cigarette and the electro magnetic frequencies that are emitted from our cell phones. It was one of the only publications that identified the link between cancer and the use of the cell phone. Is it by coincidence that during that time of electronic explosion during the early 80's into the late 90's that we started to see the development of these disorders in the human body?

When the human body is being bombarded by EMR's and EMF's on a daily basis over a long period of time, can this contribute to the disruption of cellular function and atomic reaction? Can this loss of cellular energy and vibrancy be one of the major causes of sickness and disease in the world today? I believe it is and I will illustrate some of the facts from studies done with Scalar Energy, electro-magnetic-light energy and properties and light waves over the next few chapters.

What can be done to protect our bodies from this unseen, unheard, unfelt, no smell pollution?

The answer: Scalar Energy.

In my research and clinical experience on the damaging effects of EMR and EMF on the human body, FusionExcel has the only product that can safely protect as well as enhance health to improve life and longevity.

I have devoted my entire life to the essentials of healing. My being is a direct reflection of my dedication to the universal improvement of health utilizing Scalar Energy as the avenue to wellness.

With my family's "The Open Heart Foundation", we are pledging portions of the proceeds generated by the sale of my book "**A Practical Guide to the Benefits of Scalar Energy**", be donated to FE's "Hope for Children Foundation." **Dr. John G. Florendo.**

## **Unlimited Wellness Institute**

Dr. Florendo is a Director of the "Unlimited Wellness Institute of Las Vegas" and the developer of the "Florendo Synchronized Healing Technique" and "Florendo Spinal Tract Device", author of the famous health books "Keys To Vital Health" and "How to Have a Hell of a Body and Still Get to Heaven".

Dr. Florendo was awarded the "Chiropractor of The Year" Award in 1995, and developed one of the largest clinics in New Jersey from 1985- 2005. He went on to be awarded numerous masters certifications and hosted his own radio program in Las Vegas called "The Hour of Power, Health is Wealth Program". He now conducts research in his clinic on the overall benefits of Brain Based Therapy, Chiropractic, Nutritional Supplementation, Oxygen and Scalar Energy.

## Article 16

### **“Can you protect yourself from negative electromagnetic fields?”**

**Discover how you can reduce stress, fatigue, headaches and emotional uneasiness caused from using electronic appliances.**

Are you exposed to computers, TV, mobile phone, microwave oven and other electronic appliances everyday?



In today's lifestyle, you are exposed to man-made electromagnetic fields. The growing demands of ever-changing technologies and changes in social behavior have created more negative electromagnetic fields around you.

*Electromagnetic fields (EMF) above certain levels can trigger biological effects!*

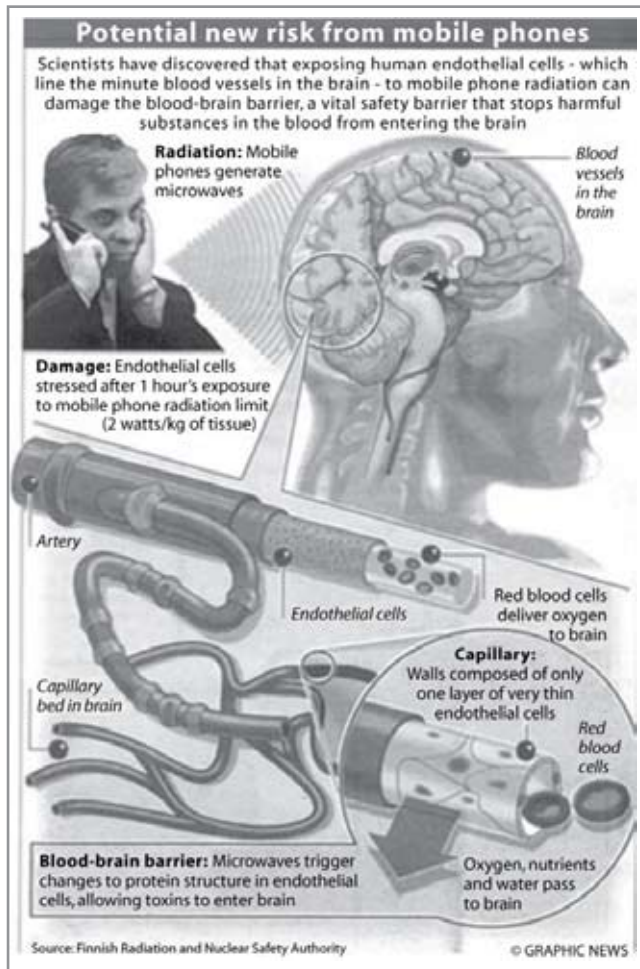
Over the decades, electromagnetic field sources have become the focus of health concerns.

### **Electromagnetic fields (EMF) is everywhere!**

In the workplace: computers, cell phones, fax machines, copy machines, fluorescent lights, printers, scanners, telephone (PBX) switching systems, electrical instruments, motors and other electrical devices.

At home: television sets, stereo systems, air conditioners, fluorescent lights, telephone answering machines, cell and portable phones, refrigerators, blenders, portable heaters, clothes washers and dryers, coffee makers, vacuum cleaners, toasters, microwave ovens and others.

**Reported symptoms of exposure to high levels of electromagnetic fields include headaches, anxiety, depression, nausea, fatigue and loss of libido!**



*You cannot escape from it but you can protect your family and yourself from electromagnetic fields.*

**Note: You Should Be Aware Of What You Are Exposing Yourself To!**

**1. The EMF problem in growing** - at a rapid rate! 35% of Americans rank electromagnetic field as the number one health concern. And yes, you should be concerned too! **Damage is being inflicted today even if you are not aware of it.**

**2. Bombarded with man-made EMP** - when your body is bombarded with man-made EMF (electromagnetic fields), its innate intelligence and energy can be weakened. This makes it more difficult for your body to protect itself from negative influences.

**3. 100 million times more electromagnetic field (EMF) radiation than your grandparents** - some scientists estimate that you are now daily exposed to 100 million times the EMF radiation of your grandparents.

**4. Lower energy levels** - your body's energy is altered by the high frequencies of EMF. Man-made radiation magnifies your body's "fight or flight" responses. It compounds your adrenal loads from other stressors and significantly reduces your ability to cope effectively.

**5. Increased daily stress levels** - EMF disrupts your natural energy levels and hence triggers your stress responses. **Alternative and traditional doctors have reported that electromagnetic fields (EMF) is a co-factor in increasing your daily stress levels.**

**6. Impaired ability to heal** - stress can impair your body's natural ability to heal. EMF adds stress to your personal stress and fatigue, and also adds stress your already taxed system. **EMF contributes to energy depletion and fatigue from cell phones, air travel and household appliances.**

*Do not subject your family and yourself to the risks of electromagnetic fields!*

What you need is a health protector that neutralizes the negative effects of electromagnetic fields safely, effectively and affordably...



## Article 17

### **Electrical Fields Can Make You Sick**

*The Sunday Times-Britain, September 11, 2005*

*by Sarah-Kate Templeton, Medical Correspondent*

A GOVERNMENT agency has acknowledged for the first time that people can suffer nausea, headaches and muscle pains when exposed to electromagnetic fields from mobile phones, electricity pylons and computer screens.

The condition known as electro sensitivity, a heightened reaction to electrical energy, will be recognised as a physical impairment.

A report by the Health Protection Agency (HPA), to be published next month, will state that increasing numbers of British people are suffering from the syndrome. While the total figure is not known, thousands are believed to be affected to some extent.

The report, by the agency's radiation protection division, is expected to say that GPs do not know how to treat sufferers and that more research is needed to find cures. It will give a full list of the symptoms, which can include dizziness, irregular heartbeat and loss of memory.

Although most European countries do not recognise the condition, Britain will follow Sweden where electro sensitivity was recognised as a physical impairment in 2000. About 300,000 Swedish men and women are sufferers. The acknowledgement may fuel legal action by sufferers who claim mobile phone masts have made them ill.

In January Sir William Stewart, chairman of the HPA and the government's adviser on mobile phones, warned that a small proportion of the population could be harmed by exposure to electromagnetic fields, and called for careful examination of the problem.

The HPA has now reviewed all scientific literature on electro sensitivity and concluded that it is a real syndrome. The condition had previously been dismissed as psychological.

The findings should lead to better treatment for sufferers. In Sweden people who are allergic to electrical energy receive government support to reduce exposure in their homes and workplaces.

Special cables are installed in sufferers' homes while electric cookers are replaced with gas stoves. Walls, roofs, floors and windows can be covered with a thin aluminium foil to keep out the electromagnetic field — the area of energy that occurs round any electrically conductive item.

British campaigners believe electrical devices in the home and the workplace, as well as mobile phones emitting microwave radiation, have created an environmental trigger for the syndrome.

There is particular concern about exposure to emissions from mobile phone masts or base stations, often located near schools or hospitals.

In January Stewart also called for a national review of planning rules for masts. The review was launched by the government in April.

British sufferers report feeling they are being “zapped” by electromagnetic fields from appliances and go out of their way to avoid them. Some have moved to remote areas where electromagnetic pollution is lower.

The HPA report is eagerly awaited by campaigners. Alasdair Philips, director of the campaign group Powerwatch, said: “This will help the increasing number of people who tell us their GPs do not know how to treat them.”

Rod Read, chairman of Electro sensitivity UK, added: “This will be the beginning of an awareness of a new form of pollution from electrical energy.”

## Article 18

### **Worldwide Press on EMF....Wi-Fi's Electric Shock**

*NOW Toronto News, March 15, 2006*

#### **Wireless Net Hoopla Masks Growing Concern Over Frequency Pollution.**

There's something lonely about parties. Especially if you're one of the few who isn't celebrating. And as laptop lovers citywide rejoice in the announcement that downtown Toronto will be a wireless Internet hot spot by the fall, critics worry that we may be feeding a new form of smog that hangs in the air without a trace and makes a growing number of us sick: electrical pollution.

Whether it's fluorescent lights, cellphones or computer screens, more and more of us are realizing that the technology we've welcomed into our homes and offices is making us ill. According to stats from Sweden and Britain, about 2 or 3 per cent of the population suffers from potentially debilitating electro-hypersensitivity, or EHS. Symptoms are all over the map, and include nausea, headaches, chronic fatigue, chronic pain, tinnitus and rashes, to name a few.

Researchers also say that many more, over a third of us, are a little electro-sensitive and just don't know it, blaming restless nights, office brain fog and Motrin moments on everything but our electrified environment.

While the biological effects of cellphones keep getting slammed in studies and researchers continue to examine the impact of electromagnetic fields on health, few people talk about the impact of Wi-Fi with an real specifics.

"Show me the studies that prove it is safe," says David Fancy, co-founder of the St. Catharines-based SWEEP (Safe Wireless Electric and Electromagnetic Policy) Initiative, a network for EHS sufferers across Canada.

"I've never seen anything from industry except blanket assurances from their PR departments," says the Brock U prof. "This is the identical strategy used

by the tobacco industry in the 50s and 60s.”

Indeed, Toronto Hydro, which is bringing the hot zone project to the table, is full of comforting messages. “I can assure you that the health and safety of our employees and customers is the number-one most important thing to this corporation,” says president David Dobbin.

But even he can sound a little shaky on the data. “I understand where people are coming from. When you stand back and look at it, hey, there may be a concern,” says Dobbin, “but at this point in time we don’t have any conclusive evidence that it’s a health concern.” Just inconclusive evidence, then? Dobbin says not to worry, the signal is about as weak as that from a baby monitor or a cordless phone.

But Dave Stetzer, a Wisconsin-based electrical engineer, says cordless phones make plenty of people sick. In fact, the consultant recommends people with sensitivities not only get rid of their cordless phones, but also toss their dimmer switches, energy-efficient fluorescent bulbs, halogen lights and, yes, baby monitors.

The link between them all? Radio frequencies. We know that wireless technology like cellphones and Wi-Fi emit such frequencies. But Stetzer explains that radio frequency surges created by appliances are also riding the electrical wiring in your home when they shouldn’t be.

“A few years ago, if you had a computer and you didn’t have a power bar surge suppressor, when a surge came though it could shut off your computer or destroy it,” he says. That surge is dirty electricity. “We know it affects electrical equipment, but what our research is showing is that it’s also having an effect on humans.”

Magda Havas, an environmental science professor at Trent, has been studying just that. Havas teaches a course on the biological impact of electromagnetic radiation and radio frequencies – the only one of its kind in Canada.

Her work with people with MS, diabetes and other illnesses documents how

many found their symptoms improved when their environments were electrically cleaned, so to speak, by placing capacitors (filters) throughout their homes. Brad Blumbergs has progressive multiple sclerosis and says he walked with a cane until he volunteered for Havas's experiment. Michelle Illiatovitch's daughter suffered from chronic fatigue from the time she was eight and saw her energy return once an electrician fixed some faulty wiring in their home and filters were put in her North York school.

Explains Havas, "We can take a person who is diabetic and put them in an [electrically] dirty environment, and their blood sugar levels rise. We then put them into a clean environment, and within half an hour their blood sugar levels are lower. It becomes a barometer."

## Article 19

# **Electro Magnetic Field (EMF) - Hazardous to Our Health?**

*Daily Mail, Published May 16 2010*

Can **electromagnetic fields (EMF)** from power lines, home wiring, airport and military radar, substations, transformers, computers and appliances cause brain tumors, leukemia, birth defects, miscarriages, chronic fatigue, headaches, cataracts, heart problems, stress, nausea, chest pain, forgetfulness, cancer and other health problems?

Numerous studies have produced contradictory results, yet some experts are convinced that the threat is real.

Dr. David Carpenter, Dean at the School of Public Health, State University of New York believes it is likely that up to 30% of all childhood cancers come from exposure to EMFs. The Environmental Protection Agency (EPA) warns “There is reason for concern” and advises prudent avoidance”.

Martin Halper, the EPA’s Director of Analysis and Support says “I have never seen a set of epidemiological studies that remotely approached the weight of evidence that we’re seeing with EMFs. Clearly there is something here.”

Concern over EMFs exploded after Paul Brodeur wrote a series of articles in the New Yorker Magazine in June 1989. Because of Paul Brodeur’s reputation, his articles had a catalytic effect on scientists, reporters and concerned people throughout the world.

In November 1989, the Department of Energy reported that “It has now become generally accepted that there are, indeed, biological effects due to field exposure.”

The EMF issue gained more publicity in 1990 when alarming reports appeared in Time, the Wall Street Journal, Business Week and popular computer publications. ABC’s Ted Koppel and CBS’s Dan Rather both aired special segments on EMFs.

In addition to the long-term health concerns, buying a house with high

fields will be an economic disaster. In a few years, when power line radiation is as well known as asbestos and radon, a house with high fields will be practically impossible to sell. Already there are hundreds of lawsuits regarding EMFs and property devaluation.

## **EPA Says the Threat Is Real**

By 1990, over one hundred studies had been conducted worldwide. Of these, at least two dozen epidemiological studies on humans indicated a link between EMFs and serious health problems. In response to public pressure, the Environmental Protection Agency (EPA) began reviewing and evaluating the available literature.

In a draft report issued in March 1990, the EPA recommended that EMFs be classified as a Class B carcinogen -- a "probable human carcinogen and joined the ranks of formaldehyde, DDT, dioxins and PCBs.

After the EPA draft report was released, utility, military and computer lobbyists came down hard on the EPA. The EPA's final revision did NOT classify EMFs as a Class B carcinogen. Rather, the following explanation was added:"

At this time such a characterization regarding the link between cancer and exposure to EMFs is not appropriate because the basic nature of the interaction between EMFs and biological processes leading to cancer is not understood."

Curiously, this rather unusual logic appears on the same page as the following: "In conclusion, several studies showing leukemia, lymphoma and cancer of the nervous system in children exposed to supported by similar findings in adults in several/ occupational studies also involving electrical power frequency exposures, show a consistent pattern of response that suggest a causal link. "

When questioned about the contradictory nature of these statements, the EPA responded that it was "not appropriate" to use the probable carcinogen label until it could demonstrate how EMFs caused cancer and exactly how much EMF is harmful.

This explanation does not satisfy many critics who claim that the EPA's upper management was influenced by political and economic considerations exerted by utility, computer and military lobbyists.

## **How Do I Measure EMFs?**

A Gauss is a common unit of measurement of magnetic field strength. A Gauss meter is an instrument which measures the strength of magnetic fields. Inside a Gauss meter there is a coil of thin wire, typically with hundreds of turns. As a magnetic field radiates through the coil, it induces a current, which is amplified by the circuitry inside the Gauss meter.

Gauss meters may vary in the strength of the magnetic field they are capable of measuring. A meter used for measuring EMFs from power lines, transformers, substations and appliances around the home, for example, should be able to measure as low as .1 mg.

Gauss meters vary widely in price and accuracy. Meters have either a single axis coil or a triple axis coil. Single axis meters are much simpler than triple axis meters to manufacture and thus, are less expensive.

To use a single axis meter you must point the meter's one sensor in three directions -- the x, y and z axis. Then, you combine the three readings in a mathematical equation to calculate the combined field strength. Obviously, it's far easier and more accurate to use a 3-axis meter. Triple axis Gauss meters are quite accurate, but they are also more expensive.

Another thing to watch out for when purchasing or renting a Gauss meter is whether or not it is frequency weighted. Most meters will read the same EMF strength no matter what the frequency.

As the human body appears to be sensitive to both the field strength AND the frequency, Gauss meters used for biological purposes should be "frequency weighted".

This means that if the field is different than 60 Hz the meter will consider the frequency and use it in calculating and displaying the EMF's strength. This feature is why frequency weighted meters will show higher EMF reading than those meters typically used by electricians and engineers.



## **Power Lines**

An enormous amount of electricity is created at power generating stations and sent across the country through wires that carry high voltages. All power lines radiate **electromagnetic fields**. The question is: how much are the power lines near YOUR home radiating? The amount of EMFs coming from a power line depends on its particular configuration. Power companies know which power line configurations are best for reducing EMFs but most don't feel the evidence supports costly changes in the way they deliver electricity.

## **Substations**

A substation is an assemblage of circuit breakers, disconnecting switches and transformers designed to substations have been blamed for causing cancer clusters among nearby residents. Paul Brodeur wrote about several such cancer clusters in the July 9, 1990 issue of the New Yorker Magazine.

## **Transformers**

A key component of a utility's electrical distribution network depends upon numerous, small transformers mounted on power poles. A transformer looks like a small metal trash can, usually cylindrical.

Even when the electrical service is underground, you will often see a metal box (usually square) located on the ground near the street. Many people don't realize that when they see a transformer, the power line feeding the transformer is 4000 to 13,800 volts.

The transformer then reduces the voltage to the 120/240 volts needed by nearby homes. Since these transformers can be seen in almost every neighborhood, they are a source of concern.

EMFs near a transformer can be quite high, but due to its small structure, the field strength diminishes rapidly with distance, as it does from any point source. For this reason, having a transformer located near your home is usually not a major source of concern, although just to make sure, everyone should measure the field strength around it.

## **Home Wiring**

If your home has high EMF readings, it is important to determine the sources of the EMF so that remedial action can be taken, if possible. Many times a particular room will have a higher EMF reading. Check to see if the electricity is coming into the house on the wall outside that room. When this is the case, it is usually a good idea to block off that room and only use it for storage purposes.

Sometimes, the source of a high magnetic field is incorrect wiring. If you suspect that your home is wired improperly, obtain the services of a licensed electrician. **Warning:** Do not touch electric wires, even if you think the current is turned off. If you need to disconnect electrical circuits to determine the source of magnetic fields, you should call a licensed electrician.

## **Computers**

Computers are a complicated subject. Know this: EMFs radiate from all sides of the computer. Thus, you must not only be concerned with sitting in front of the monitor but also if you are sitting near a computer or if a computer is operating in a nearby room.

The Swedish safety standard, effective 7/1/90, specifies a maximum of 0.25 mG at 50 cm from the display. Many US manufactured computers have EMFs of 5 - 100 mG at this distance. And know this too: the screens placed over monitors do NOT block EMFs. Not even a lead screen will block ELF and VLF magnetic fields.

Space does not permit a more thorough discussion of computers. If you use a computer, it is important that you

measure your EMF exposure with a Gauss meter and review the literature concerning the health impacts of computer use.

## **Electric Blankets and Waterbeds**

Electric blankets create a magnetic field that penetrates about 6-7 inches into the body. Thus it is not surprising that an epidemiological study has linked electric blankets with miscarriages and childhood leukemia.

This pioneering work was performed by Dr. Nancy Wertheimer and Ed Leeper, who originally discovered that magnetic fields were linked to childhood leukemia. Similar health effects have been noted with users of many electric blankets and waterbed heaters will emit EMFs even when turned off.

The devices must be unplugged to delete the EMF exposure. Additionally, there is the issue regarding the vibrations that are generated by sleeping on standing water. There is less hard data in this area but some experts are concerned about the consequences.

## **Electric Clocks**

Electric clocks have a very high magnetic field, as much as 5 to 10 mG up to three feet away. If you are using a bedside clock, you are probably sleeping in an EMF equivalent to that of a powerline. Studies have linked high rates of brain tumors with chronic exposure to magnetic fields, so it is wise to place all clocks and other electrical devices (such as telephones and answering devices) at least 6 feet from your bed.

## **Fluorescent Lights**

Fluorescent lights produce much more EMFs than incandescent bulbs. A typical fluorescent lamp of an office ceiling have readings of 160 to 200 mg 1 inch away.

## **Microwave Ovens and Radar**

Microwave ovens and radar from military installations and airports emit two types of radiation -- microwave and ELF. Microwaves are measured in milliwatt per centimeter squared ( $\text{mW}/\text{cm}^2$ ). As of 1/1/93, the U.S. safety limit for microwave exposure is  $1 \text{ mW}/\text{cm}^2$ , down from a previous  $10 \text{ mW}/\text{cm}^2$ . The Russian safety limit is  $.01 \text{ mW}/\text{cm}^2$ . All microwave ovens leak and exceed the Russian safety limit. In addition, recent Russian studies have shown that normal microwave cooking converts food protein molecules into carcinogenic substances.

When measuring microwaves from military and airport radar sources, 100% accurate readings can only be found with extremely expensive digital peak-hold meters. Why? Because analog devices begin to drop their reading

immediately after the radar sweep passes. Thus, while an analog meter can show whether or not you are being exposed to radar EMFs, analog meters can't show your true exposure. Although thousands of dollars to purchase, digital-hold meters capable of accurately detecting radar EMFs can be rented for several hundred to over a thousand dollars per month.

## **Telephones and Answering Machines**

Telephones can emit surprisingly strong EMFs, especially from the handset. This is a problem because we hold the telephone so close to our head. Place the Gauss meter right against the ear piece and the mouth piece before buying a phone.

Some brands emit no measurable fields and others emit strong fields that travel several inches....right into your brain. Answering machines, particular those with adapter plugs (mini-transformers), give off high levels of EMFs.

## **Electric Razors and Hair Dryers**

Electric razors and hair dryers emit EMFs as high as 200 to 400 mG. This seems alarming, but we don't know if this is worse (or better) than a chronic exposure to a 2-3 mG field. Some EMF consultants recommend that hair dryers not be used on children as the high fields are held close to their rapidly developing brain and nervous system.

## **Prudent Avoidance**

Electricity is an inseparable part of our modern day society. This means that EMFs will continue to be all around us. But as Discover Magazine postulated, aside from making our life easier, is electricity also making our lives shorter?

Most experts agree that limited, non-chronic exposure to EMFs is not a threat. For example, it is probably acceptable for a person to be near a toaster in the morning.

BUT, it is not advisable for a person to sleep under an electric blanket, up close, live near a powerline/substation, and sleep in a room where the power enters the home. This person is under an extreme case of chronic exposure.

This condition, unfortunately, applies to millions of Americans.

If you wish to follow the EPA's advice and practice "prudent avoidance" then the following advice is offered:

Measure your home, work and school environments with a Gauss meter. Measure EMFs both inside and outside your home. Don't let your children play near power lines, transformers, radar domes and microwave towers.

Avoid areas where the field is above 1 mG. Measure the EMFs from appliances both when they are operating and when they are turned off. Some appliances (like TVs) are still drawing current even when they are off.

Don't sleep under an electric blanket or on a waterbed. If you insist on using these, unplug them before going to bed (don't just turn it off). Even though there is no magnetic field when they are turned off, there may still be a high electric field.

Don't sit too close to your TV set. Distance yourself at least 6 feet away. Use a Gauss meter to help you decide where it is safe to sit.

Rearrange your office and home area so that you are not exposed to EMFs from the sides/back of electric appliances and computers. In the home, it is best that all major electrical appliances, such as computers, TVs, refrigerators etc, be placed up against outside walls. That way you are not creating an EMF field in the adjoining room.

Don't sit too close to your computer. Computer monitors vary greatly in the strength of their EMFs, so you should check yours with a meter. Don't stand close to your microwave oven. Move all electrical appliances at least 6 feet from your bed. Eliminate wires running under your bed. Eliminate dimmers and 3-way switches.

Be wary of cordless appliances such as electric toothbrushes and razors. You may choose not to wear a quartz-analog watch because it radiates pulsating EMFs along your acupuncture meridians.

An older mechanical windup watch would be an acceptable alternative. It is also recommended to wear as little jewelry as possible and to take it off at

night. Many people have metal sensitivity which can be aggravated by placing it right on the skin. Measure with a gauss meter to be sure.

And last, but not least, always always always remember that EMFs pass right through walls. The EMF you are reading on your Gauss meter could be radiating from the next room...or from outside your home.

### **Additional Radiation Info:**

Eyeglass frames should ideally be made from plastic with no wires in them, otherwise they can serve as an antenna to focus the radio and cellular phone waves directly into your brain.

### **What EMF Level Is Safe?**

There's a heated debate as to what **electromagnetic field (EMF) level** is considered safe. Since the experts have not come to an consensus, you'll have to decide for yourself... Many government and utility documents report the usual ambient level of 60-Hz magnetic field to be 0.5 mG.

Thus, any reading higher than 0.5 mG is above the "usual" ambient exposure. Many experts and public officials, as well as the few governments that have made an effort to offer public protection, have adopted the 3 mG cutoff point. The EPA has proposed a safety standard of 1 mG. Sweden has set a maximum safety limit of 1 mG.

Dr. Robert Becker, an MD who has been studying the effects of EMFs for 20 years, states a 1mG safety limit in his book *Cross Currents*. When electricians try to solve a magnetic field problem they do their best to drop the level to 1 mG or below.

Dr. Nancy Wertheimer, a Ph.D. epidemiologist who has been studying EMFs for 20 years, has been looking at the epidemiological data in a different way -- she is trying to associate EMF levels with health rather than disease. The level she is coming up with is a cut off of 1 mG. Russian researchers claim that 1/1000ths of a mG should be the standard.

The BioElectric Body believes that there are several stages of health between "optimum wellness", "degenerative disease" and "Cancer". Thus, we

maintain our own living and sleeping quarters at 0.5mG and below.

## **Recommended Reading**

Cross Currents The Perils of Electropollution. The Promise of Electromedicine Robert O. Becker, M.D. Jeremy P. Tarcher, Inc., 1990

Currents of Death The Attempt to Cover Up the Threat to Your Health Paul Brodeur Simon and Schuster, 1989

Electromagnetic Man Health & Hazard in the Electrical Environment Cyril W. Smith & Simon Best St. Martin's Press. Inc. 1989

## Article 20

### **Microwaves**

One of the more subtle **EMF Hazards** is Microwaves -- particularly from such things as microwave ovens. While microwaves do derive from other sources, it's the ovens that get most of the attention for the average individual. That's because there's so many of them! But throwing out your microwave oven does not eliminate the problem. It's just the first and in some cases the most effective step.

Three articles on this subject are included here: a quick "Ten Reasons to Throw out your Microwave Oven", a much longer article on "The Proven Dangers of Microwaves", and even a short article on the problems associated with using "Plastic Wrap in Microwaves". [It should be noted that the first article was originally part of the second, but is included here in (effectively) reverse order as a means of emphasis added.]

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Ten Reasons to Throw out your Microwave Oven.<<http://www.mercola.com/article/microwave/hazards.htm>>

Saving a few minutes of cooking time is not worth any risk to your health. This report is really scary when you think of the millions of people that don't give a thought to using a microwave (which I guess is caused from #1 below)! [Based on the conclusions of Swiss, Russian, and German scientific clinical studies.]

- 1). Continually eating food processed from a microwave oven causes long term, permanent brain damage by "shorting out" electrical impulses in the brain [de-polarizing or de-magnetizing the brain tissue].
- 2). The human body cannot metabolize [break down] the unknown by-products created in microwaved food.
- 3). Male and female hormone production is shut down and/or altered by continually eating microwaved foods.



- 4). The effects of microwaved food by-products are residual [long term, permanent] within the human body.
- 5). Minerals, vitamins, and nutrients of all microwaved food is reduced or altered so that the human body gets little or no benefit, or the human body absorbs altered compounds that cannot be broken down.
- 6). The minerals in vegetables are altered into cancerous free radicals when cooked in microwave ovens.
- 7). Microwaved foods cause stomach and intestinal cancerous growths [tumors]. This may explain the rapidly increased rate of colon cancer in America.
- 8). The prolonged eating of microwaved foods causes cancerous cells to increase in human blood.
- 9). Continual ingestion of microwaved food causes immune system deficiencies through lymph gland and blood serum alterations.
- 10). Eating microwaved food causes loss of memory, concentration, emotional instability, and a decrease of intelligence.

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## **The Proven Dangers of Microwaves**

*Anthony Wayne and Lawrence Newell*

Is it possible that millions of people are ignorantly sacrificing their health in exchange for the convenience of microwave ovens? Why did the Soviet Union ban the use of microwave ovens in 1976? Who invented microwave ovens, and why? The answers to these questions may shock you into throwing your microwave oven in the trash.

Over 90% of American homes have microwave ovens used for meal preparation. Because microwave ovens are so convenient and energy efficient, as compared to conventional ovens, very few homes or restaurants are without them. In general, people believe that whatever a microwave oven does to foods cooked in it doesn't have any negative effect on either the food or them. Of course, if microwave ovens were really harmful, our government

would never allow them on the market, would they? Would they? Regardless of what has been “officially” released concerning microwave ovens, we have personally stopped using ours based on the research facts outlined in this article.

The purpose of this report is to show proof -- evidence -- that microwave cooking is not natural, nor healthy, and is far more dangerous to the human body than anyone could imagine. However, the microwave oven manufacturers, Washington City politics [aka Corporate Politics], and plain old human nature are suppressing the facts and evidence. Because of this, people are continuing to microwave their food -- in blissful ignorance -- without knowing the effects and danger of doing so.

### **How do microwave ovens work?**

Microwaves are a form of electromagnetic energy, like light waves or radio waves, and occupy a part of the electromagnetic spectrum of power, or energy. Microwaves are very short waves of electromagnetic energy that travel at the speed of light (186,282 miles per second). In our modern technological age, microwaves are used to relay long distance telephone signals, television programs, and computer information across the earth or to a satellite in space. But the microwave is most familiar to us as an energy source for cooking food.

Every microwave oven contains a magnetron, a tube in which electrons are affected by magnetic and electric fields in such a way as to produce micro wavelength radiation at about 2450 Mega Hertz (MHz) or 2.45 Giga Hertz (GHz). This microwave radiation interacts with the molecules in food. All wave energy changes polarity from positive to negative with each cycle of the wave. In microwaves, these polarity changes happen millions of times every second. Food molecules -- especially the molecules of water -- have a positive and negative end in the same way a magnet has a north and a south polarity.

In commercial models, the oven has a power input of about 1000 watts of alternating current. As these microwaves generated from the magnetron bombard the food, they cause the polar molecules to rotate at the same frequency millions of times a second. All this agitation creates molecular friction, which heats up the food. The friction also causes substantial damage to the

surrounding molecules, often tearing them apart or forcefully deforming them. The scientific name for this deformation is “structural isomerism”.

By comparison, microwaves from the sun are based on principles of pulsed direct current (DC) that don't create frictional heat; microwave ovens use alternating current (AC) creating frictional heat. A microwave oven produces a spiked wavelength of energy with all the power going into only one narrow frequency of the energy spectrum. Energy from the sun operates in a wide frequency spectrum.

Many terms are used in describing electromagnetic waves, such as wavelength, amplitude, cycle and frequency:

*Wavelength determines the type of radiation, i.e. radio, X-ray, ultraviolet, visible, infrared, etc.*

*Amplitude determines the extent of movement measured from the starting point.*

*Cycle determines the unit of frequency, such as cycles per second, Hertz, Hz, or cycles/second.*

*Frequency determines the number of occurrences within a given time period (usually 1 second); The number of occurrences of a recurring process per unit of time, i.e. the number of repetitions of cycles per second.*

## **Radiation = Spreading Energy with Electromagnetic Waves**

Radiation, as defined by physics terminology, is “the electromagnetic waves emitted by the atoms and molecules of a radioactive substance as a result of nuclear decay.” Radiation causes ionization, which is what occurs when a neutral atom gains or loses electrons. In simpler terms, a microwave oven decays and changes the molecular structure of the food by the process of radiation. Had the manufacturers accurately called them “radiation ovens”, it's doubtful they would have ever sold one, but that's exactly what a microwave oven is.

We've all been told that microwaving food is not the same as irradiating it (radiation “treatment”). The two processes are supposed to use completely

different waves of energy and at different intensities. No FDA or officially released government studies have proven current microwaving usage to be harmful, but we all know that the validity of studies can be -- and are sometimes deliberately -- limiting. Many of these studies are later proven to be inaccurate. As consumers, we're supposed to have a certain degree of common sense to use in judgment.

Take the example of eggs and how they were "proven" to be so harmful to our health in the late 1960's. This brought about imitation egg products and big profits for the manufacturers, while egg farms went broke. Now, recent government sponsored studies are saying that eggs are not bad for us after all. So, whom should we believe and what criteria should we use to decide matters concerning our health? Since it's currently published that microwaves -- purportedly -- don't leak into the environment, when properly used and with approved design, the decision lies with each consumer as to whether or not you choose to eat food heated by a microwave oven or even purchase one in the first place.

### **Motherly Instincts are Right**

On a more humorous side, the "sixth sense" every mother has is impossible to argue with. Have you ever tried it? Children will never win against a mother's intuition. It's like trying to argue with the arm -- appearing out of nowhere -- that pinned you to the back of the seat when your mother slammed on the brakes.

Many of us come from a generation where mothers and grandmothers have distrusted the modern "inside out" cooking they claimed was "not suitable" for most foods. My mother refused to even try baking anything in a microwave. She also didn't like the way a cup of coffee tasted when heated in a microwave oven. I have to fully agree and can't argue either fact. Her own common sense and instincts told her that there was no way microwave cooking could be natural nor make foods "taste they way they're supposed to". Reluctantly, even my mother succumbed to re-heating leftovers in a microwave due to her work schedule before she retired.

Many others feel the same way, but they're considered an "old fashioned" minority dating back to before the 1970's when microwaves first overwhelmed the market. Like most young adults at the time, as microwave ovens

became commonplace, I chose to ignore my mother's intuitive wisdom and joined the majority who believed microwave cooking was far too convenient to ever believe anything could be wrong with it. Chalk one up for mom's perception, because even though she didn't know the scientific, technical, or health reasons why, she just knew that microwave ovens were not good based on how foods tasted when they were cooked in them. She didn't like the way the texture of the microwaved food changed either.

## **Microwaves Unsafe for Baby's Milk**

A number of warnings have been made public, but have been barely noticed. For example, Young Families, the Minnesota Extension Service of the University of Minnesota, published the following in 1989:

“Although microwaves heat food quickly, they are not recommended for heating a baby's bottle. The bottle may seem cool to the touch, but the liquid inside may become extremely hot and could burn the baby's mouth and throat. Also, the buildup of steam in a closed container, such as a baby bottle, could cause it to explode. Heating the bottle in a microwave can cause slight changes in the milk. In infant formulas, there may be a loss of some vitamins. In expressed breast milk, some protective properties may be destroyed. Warming a bottle by holding it under tap water, or by setting it in a bowl of warm water, then testing it on your wrist before feeding may take a few minutes longer, but it is much safer.”

Dr. Lita Lee of Hawaii reported in the December 9, 1989 Lancet:

“Microwaving baby formulas converted certain trans-amino acids into their synthetic cis-isomers. Synthetic isomers, whether cis-amino acids or trans-fatty acids, are not biologically active. Further, one of the amino acids, L-proline, was converted to its d-isomer, which is known to be neurotoxic (poisonous to the nervous system) and nephrotoxic (poisonous to the kidneys). It's bad enough that many babies are not nursed, but now they are given fake milk (baby formula) made even more toxic via microwaving.”

## **Microwaved Blood Kills Patient**

In 1991, there was a lawsuit in Oklahoma concerning the hospital use of a microwave oven to warm blood needed in a transfusion. The case involved a hip surgery patient, Norma Levitt, who died from a simple blood transfusion. It seems the nurse had warmed the blood in a microwave oven. This tragedy makes it very apparent that there's much more to "heating" with microwaves than we've been led to believe. Blood for transfusions is routinely warmed, but not in microwave ovens. In the case of Mrs. Levitt, the microwaving altered the blood and it killed her.

It's very obvious that this form of microwave radiation "heating" does something to the substances it heats. It's also becoming quite apparent that people who process food in a microwave oven are also ingesting these "unknowns".

Because the body is electrochemical in nature, any force that disrupts or changes human electrochemical events will affect the physiology of the body. This is further described in Robert O. Becker's book, *The Body Electric*, and in Ellen Sugarman's book, *Warning, the Electricity Around You May Be Hazardous to Your Health*.

## **Scientific Evidence and Facts**

In Comparative Study of Food Prepared Conventionally and in the Microwave Oven, published by Raum & Zelt in 1992, at 3(2): 43, it states :

“A basic hypothesis of natural medicine states that the introduction into the human body of molecules and energies, to which it is not accustomed, is much more likely to cause harm than good. Microwaved food contains both molecules and energies not present in food cooked in the way humans have been cooking food since the discovery of fire. Microwave energy from the sun and other stars is direct current based. Artificially produced microwaves, including those in ovens, are produced from alternating current and force a billion or more polarity reversals per second in every food molecule they hit. Production of unnatural molecules is inevitable. Naturally occurring amino acids have been observed to undergo isomeric changes (changes in shape morphing) as well as transformation into toxic forms, under the im

pact of microwaves produced in ovens.

“One short-term study found significant and disturbing changes in the blood of individuals consuming microwaved milk and vegetables. Eight volunteers ate various combinations of the same foods cooked different ways. All foods that were processed through the microwave ovens caused changes in the blood of the volunteers. Hemoglobin levels decreased and over all white cell levels and cholesterol levels increased. Lymphocytes decreased.

“Luminescent (light-emitting) bacteria were employed to detect energetic changes in the blood. Significant increases were found in the luminescence of these bacteria when exposed to blood serum obtained after the consumption of microwaved food.”

## **The Swiss Clinical Study**

Dr. Hans Ulrich Hertel, who is now retired, worked as a food scientist for many years with one of the major Swiss food companies that do business on a global scale. A few years ago, he was fired from his job for questioning certain processing procedures that denatured the food.

In 1991, he and a Lausanne University professor published a research paper indicating that food cooked in microwave ovens could pose a greater risk to health than food cooked by conventional means. An article also appeared in issue 19 of the Journal Franz Weber in which it was stated that the consumption of food cooked in microwave ovens had cancerous effects on the blood. The research paper itself followed the article. On the cover of the magazine there was a picture of the Grim Reaper holding a microwave oven in one of his hands.

Dr. Hertel was the first scientist to conceive and carry out a quality clinical study on the effects microwaved nutrients have on the blood and physiology of the human body. His small but well controlled study showed the degenerative force produced in microwave ovens and the food processed in them. The scientific conclusion showed that microwave cooking changed the nutrients in the food; and, changes took place in the participants' blood that could cause deterioration in the human system. Hertel's scientific study was done along with Dr. Bernard H. Blanc of the Swiss Federal Institute of Technology

and the University Institute for Biochemistry.

In intervals of two to five days, the volunteers in the study received one of the following food variants on an empty stomach: (1) raw milk; (2) the same milk conventionally cooked; (3) pasteurized milk; (4) the same raw milks cooked in a microwave oven; (5) raw vegetables from an organic farm; (6) the same vegetables cooked conventionally; (7) the same vegetables frozen and defrosted in a microwave oven; and (8) the same vegetables cooked in the microwave oven. Once the volunteers were isolated, blood samples were taken from every volunteer immediately before eating. Then, blood samples were taken at defined intervals after eating from the above milk or vegetable preparations.

Significant changes were discovered in the blood samples from the intervals following the foods cooked in the microwave oven. These changes included a decrease in all hemoglobin and cholesterol values, especially the ratio of HDL (good cholesterol) and LDL (bad cholesterol) values. Lymphocytes (white blood cells) showed a more distinct short-term decrease following the intake of microwaved food than after the intake of all the other variants. Each of these indicators pointed to degeneration. Additionally, there was a highly significant association between the amount of microwave energy in the test foods and the luminous power of luminescent bacteria exposed to serum from test persons who ate that food. This led Dr. Hertel to the conclusion that such technically derived energies may, indeed, be passed along to man inductively via eating microwaved food.

According to Dr. Hertel,

“Leukocytosis, which cannot be accounted for by normal daily deviations, is taken very seriously by hemotologists. Leukocytes are often signs of pathogenic effects on the living system, such as poisoning and cell damage. The increase of leukocytes with the microwaved foods were more pronounced than with all the other variants. It appears that these marked increases were caused entirely by ingesting the microwaved substances.

“This process is based on physical principles and has already been confirmed in the literature. The apparent additional energy exhibited by the luminescent bacteria was merely an extra confirmation. There



is extensive scientific literature concerning the hazardous effects of direct microwave radiation on living systems. It is astonishing, therefore, to realize how little effort has been taken to replace this detrimental technique of microwaves with technology more in accordance with nature. Technically produced microwaves are based on the principle of alternating current. Atoms, molecules, and cells hit by this hard electromagnetic radiation are forced to reverse polarity 1-100 billion times a second. There are no atoms, molecules or cells of any organic system able to withstand such a violent, destructive power for any extended period of time, not even in the low energy range of milliwatts.

“Of all the natural substances -- which are polar -- the oxygen of water molecules reacts most sensitively. This is how microwave cooking heat is generated -- friction from this violence in water molecules. Structures of molecules are torn apart, molecules are forcefully deformed, called structural isomerism, and thus become impaired in quality. This is contrary to conventional heating of food where heat transfers convectionally from without to within. Cooking by microwaves begins within the cells and molecules where water is present and where the energy is transformed into frictional heat.

“In addition to the violent frictional heat effects, called thermic effects, there are also athermic effects which have hardly ever been taken into account. These athermic effects are not presently measurable, but they can also deform the structures of molecules and have qualitative consequences. For example the weakening of cell membranes by microwaves is used in the field of gene altering technology. Because of the force involved, the cells are actually broken, thereby neutralizing the electrical potentials, the very life of the cells, between the outer and inner side of the cell membranes. Impaired cells become easy prey for viruses, fungi and other microorganisms. The natural repair mechanisms are suppressed and cells are forced to adapt to a state of energy emergency -- they switch from aerobic to anaerobic respiration. Instead of water and carbon dioxide, the cell poisons hydrogen peroxide and carbon monoxide are produced.”

The same violent deformations that occur in our bodies, when we are directly exposed to radar or microwaves, also occur in the molecules of foods cooked in a microwave oven. This radiation results in the destruction and deformation

of food molecules. Microwaving also creates new compounds, called radiolytic compounds, which are unknown fusions not found in nature. Radiolytic compounds are created by molecular decomposition -- decay -- as a direct result of radiation.

Microwave oven manufacturers insist that microwaved and irradiated foods do not have any significantly higher radiolytic compounds than do broiled, baked or other conventionally cooked foods. The scientific clinical evidence presented here has shown that this is simply a lie. In America, neither universities nor the federal government have conducted any tests concerning the effects on our bodies from eating microwaved foods. Isn't that a bit odd? They're more concerned with studies on what happens if the door on a microwave oven doesn't close properly. Once again, common sense tells us that their attention should be centered on what happens to food cooked inside a microwave oven. Since people ingest this altered food, shouldn't there be concern for how the same decayed molecules will affect our own human biological cell structure?

### **Industry's Action to Hide the Truth**

As soon as Doctors Hertel and Blanc published their results, the authorities reacted. A powerful trade organization, the Swiss Association of Dealers for Electro-apparatuses for Households and Industry, known as FEA, struck swiftly in 1992. They forced the President of the Court of Seftigen, Canton of Bern, to issue a "gag order" against Drs. Hertel and Blanc. In March 1993, Dr. Hertel was convicted for "interfering with commerce" and prohibited from further publishing his results. However, Dr. Hertel stood his ground and fought this decision over the years.

Not long ago, this decision was reversed in a judgment delivered in Strasbourg, Austria, on August 25, 1998. The European Court of Human Rights held that there had been a violation of Hertel's rights in the 1993 decision. The European Court of Human Rights also ruled that the "gag order" issued by the Swiss court in 1992 against Dr. Hertel, prohibiting him from declaring that microwave ovens are dangerous to human health, was contrary to the right to freedom of expression. In addition, Switzerland was ordered to pay Dr. Hertel compensation.

## **Who Invented Microwave Ovens?**

The Nazis, for use in their mobile support operations, originally developed microwave “radiomissor” cooking ovens to be used for the invasion of Russia. By being able to utilize electronic equipment for preparation of meals on a mass scale, the logistical problem of cooking fuels would have been eliminated, as well as the convenience of producing edible products in a greatly reduced time-factor.

After the war, the Allies discovered medical research done by the Germans on microwave ovens. These documents, along with some working microwave ovens, were transferred to the United States War Department and classified for reference and “further scientific investigation.” The Russians had also retrieved some microwave ovens and now have thorough research on their biological effects. As a result, their use was outlawed in the Soviet Union. The Soviets issued an international warning on the health hazards, both biological and environmental, of microwave ovens and similar frequency electronic devices.

Other Eastern European scientists also reported the harmful effects of microwave radiation and set up strict environmental limits for their usage. The United States has not accepted the European reports of harmful effects, even though the EPA estimates that radio frequency and microwave radiation sources in America are increasing at 15% per year.

## **Carcinogens in Microwaved Food**

In Dr. Lita Lee’s book, *Health Effects of Microwave Radiation -- Microwave Ovens*, and in the March and September 1991 issues of *Earthletter*, she stated that every microwave oven leaks electro-magnetic radiation, harms food, and converts substances cooked in it to dangerous organ-toxic and carcinogenic products. Further research summarized in this article reveal that microwave ovens are far more harmful than previously imagined.

The following is a summary of the Russian investigations published by the Atlantis Raising Educational Center in Portland, Oregon. Carcinogens were formed in virtually all foods tested. No test food was subjected to more microwaving than necessary to accomplish the purpose, i.e., cooking, thawing, or heating to insure sanitary ingestion. Here’s a summary of some of the results:

+ Microwaving prepared meats sufficiently to insure sanitary ingestion caused formation of d-Nitrosodienthanolamines, a well-known carcinogen.

+ Microwaving milk and cereal grains converted some of their amino acids into carcinogens.

+ Thawing frozen fruits converted their glucoside and galactoside containing fractions into carcinogenic substances.

+ Extremely short exposure of raw, cooked or frozen vegetables converted their plant alkaloids into carcinogens.

+ Carcinogenic free radicals were formed in microwaved plants, especially root vegetables.

## **Decrease in Nutritional Value**

Russian researchers also reported a marked acceleration of structural degradation leading to a decreased food value of 60 to 90% in all foods tested. Among the changes observed were:

+ Decreased bio-availability of vitamin B complex, vitamin C, vitamin E, essential minerals and lipotropics factors in all food tested.

+ Various kinds of damaged to many plant substances, such as alkaloids, glucosides, galactosides and nitrilosides.

+ The degradation of nucleo-proteins in meats.

## **Microwave Sickness is Discovered**

The Russians did research on thousands of workers who had been exposed to microwaves during the development of radar in the 1950's. Their research showed health problems so serious that the Russians set strict limits of 10 microwatts exposure for workers and one microwatt for civilians.

In Robert O. Becker's book, *The Body Electric*, he described Russian research on the health effects of microwave radiation, which they called "microwave sickness." On page 314, Becker states:

“Its [Microwave sickness] first signs are low blood pressure and slow pulse. The later and most common manifestations are chronic excitation of the sympathetic nervous system [stress syndrome] and high blood pressure. This phase also often includes headache, dizziness, eye pain, sleeplessness, irritability, anxiety, stomach pain, nervous tension, inability to concentrate, hair loss, plus an increased incidence of appendicitis, cataracts, reproductive problems, and cancer. The chronic symptoms are eventually succeeded by crisis of adrenal exhaustion and ischemic heart disease [the blockage of coronary arteries and heart attacks].”

According to Dr. Lee, changes are observed in the blood chemistries and the rates of certain diseases among consumers of microwaved foods. The symptoms above can easily be caused by the observations shown below. The following is a sample of these changes:

- + Lymphatic disorders were observed, leading to decreased ability to prevent certain types of cancers.
- + An increased rate of cancer cell formation was observed in the blood.
- + Increased rates of stomach and intestinal cancers were observed.
- + Higher rates of digestive disorders and a gradual breakdown of the systems of elimination were observed.

## **Microwave Research Conclusions**

The following were the most significant German and Russian research operations facilities concerning the biological effects of microwaves:

- 1) The initial research conducted by the Germans during the Barbarossa military campaign, at the Humbolt-Universitat zu Berlin (1942-1943); and,
- 2) From 1957 and up to the present [until the end of the cold war], the Russian research operations were conducted at: the Institute of Radio Technology at Kinsk, Byelorussian Autonomous Region; and, at the Institute of Radio Technology at Rajasthan in the Rossiskaja Autonomous Region, both in the Union of the Soviet Socialist Republics.

In most cases, the foods used for research analysis were exposed to microwave propagation at an energy potential of 100 kilowatts/cm<sup>3</sup>/second, to the point considered acceptable for sanitary, normal ingestion. The effects noted by both German and Russian researchers is presented in three categories:

Category I, Cancer-Causing Effects

Category II, Nutritive Destruction of Foods

Category III, Biological Effects of Exposure

**Category I -- Cancer-Causing Effects**

[The first two points of Category I are not readable from our report copy. The remainder of the report is intact.]

3. Creation of a “binding effect” to radioactivity in the atmosphere, thus causing a marked increase in the amount of alpha and beta particle saturation in foods;
4. Creation of cancer causing agents within protein hydrolysate compounds\* in milk and cereal grains [\*these are natural proteins that are split into unnatural fragments by the addition of water];
5. Alteration of elemental food-substances, causing disorders in the digestive system by unstable catabolism\* of foods subjected to microwaves [\*the metabolic breakdown process];
6. Due to chemical alterations within food substances, malfunctions were observed within the lymphatic systems [absorbent vessels], causing a degeneration of the immune potentials of the body to protect against certain forms of neoplastics [abnormal growths of tissue];
7. Ingestion of microwaved foods caused a higher percentage of cancerous cells within the blood serum [cytomas -- cell tumors such as sarcoma];
8. Microwave emissions caused alteration in the catabolic [metabolic breakdown] behavior of glucoside [hydrolyzed dextrose] and galactoside [oxidized alcohol] elements within frozen fruits when thawed in this manner;

9. Microwave emission caused alteration of the catabolic [metabolic breakdown] behavior of plant alkaloids [organic nitrogen based elements] when raw, cooked, or frozen vegetables were exposed for even extremely short durations;

10. Cancer causing free radicals [highly reactive incomplete molecules] were formed within certain trace mineral molecular formations in plant substances, and in particular, raw root-vegetables; and,

11. In a statistically high percentage of persons, microwaved foods caused stomach and intestinal cancerous growths, as well as a general degeneration of peripheral cellular tissues, with a gradual breakdown of the function of the digestive and excretive systems.

### **Category II -- Decrease in Food Value**

Microwave exposure caused significant decreases in the nutritive value of all foods researched. The following are the most important findings:

1. A decrease in the bioavailability [capability of the body to utilize the nutrient] of B-complex vitamins, Vitamin C, Vitamin E, essential minerals and lipotropics in all foods;

2. A loss of 60-90% of the vital energy field content of all tested foods;

3. A reduction in the metabolic behavior and integration process capability of alkaloids [organic nitrogen based elements], glucosides and galactosides, and nitrilosides;

4. A destruction of the nutritive value of nucleoproteins in meats;

5. A marked acceleration of structural disintegration in all foods.

### **Category III -- Biological Effects of Exposure**

Exposure to microwave emissions also had an unpredictably negative effect upon the general biological welfare of humans. This was not discovered until the Russians experimented with highly sophisticated equipment and discovered that a human did not even need to ingest the material substance

of the microwaved food substances: that even exposure to the energy-field itself was sufficient to cause such adverse side effects that the use of any such microwave apparatus was forbidden in 1976 by Soviet state law. The following are the enumerated effects:

1. A breakdown of the human “life-energy field” in those who were exposed to microwave ovens while in operation, with side-effects to the human energy field of increasingly longer duration;
2. A degeneration of the cellular voltage parallels during the process of using the apparatus, especially in the blood and lymphatic areas;
3. A degeneration and destabilization of the external energy activated potentials of food utilization within the processes of human metabolism;
4. A degeneration and destabilization of internal cellular membrane potentials while transferring catabolic [metabolic breakdown] processes into the blood serum from the digestive process;
5. Degeneration and circuit breakdowns of electrical nerve impulses within the junction potentials of the cerebrum [the front portion of the brain where thought and higher functions reside];
6. A degeneration and breakdown of nerve electrical circuits and loss of energy field symmetry in the neuroplexuses [nerve centers] both in the front and the rear of the central and autonomic nervous systems;
7. Loss of balance and circuiting of the bioelectric strengths within the ascending reticular activating system [the system which controls the function of consciousness];
8. A long term cumulative loss of vital energies within humans, animals and plants that were located within a 500-meter radius of the operational equipment;
9. Long lasting residual effects of magnetic “deposits” were located throughout the nervous system and lymphatic system;
10. A destabilization and interruption in the production of hormones and



maintenance of hormonal balance in males and females;

11. Markedly higher levels of brainwave disturbance in the alpha, theta, and delta wave signal patterns of persons exposed to microwave emission fields, and;

12. Because of this brainwave disturbance, negative psychological effects were noted, including loss of memory, loss of ability to concentrate, suppressed emotional threshold, deceleration of intellectual processes, and interruptive sleep episodes in a statistically higher percentage of individuals subjected to continual range emissive field effects of microwave apparatus, either in cooking apparatus or in transmission stations.

### **Forensic Research Conclusions**

From the 28 above enumerated indications, the use of microwave apparatus is definitely not advisable; and, with the decision of the Soviet government in 1976, present scientific opinion in many countries concerning the use of such apparatus is clearly in evidence.

Due to the problem of random magnetic residulation and binding within the biological systems of the body (Category III:9), which can ultimately effect the neurological systems, primarily the brain and neuroplexuses (nerve centers), long term depolarization of tissue neuroelectric circuits can result. Because these effects can cause virtually irreversible damage to the neuroelectric integrity of the various components of the nervous system (I. R. Luria, Novosibirsk 1975a), ingestion of microwaved foods is clearly contraindicated in all respects. Their magnetic residual effect can render the psychoneural receptor components of the brain more subject to influence psychologically by artificially induced microwave radio frequency fields from transmission stations and TV relay-networks.

The theoretical possibility of psycho telemetric influence (the capability of affecting human behavior by transmitted radio signals at controlled frequencies) has been suggested by Soviet neuropsychological investigations at Uralyera and Novosibirsk (Luria and Perov, 1974a, 1975c, 1976a), which can cause involuntary subliminal psychological energy field compliance to operative microwave apparatus.

[Forensic Research Document, Prepared By: William P. Kopp, A. R. E. C. Research Operations, TO61-7R10/10-77F05, Release Priority: Class I ROO1a]

## **Ten Reasons to Throw Out Your Microwave Oven** (Reprise)

From the conclusions of the Swiss, Russian and German scientific clinical studies, we can no longer ignore the microwave oven sitting in our kitchens. Based on this research, we will conclude this article with the following:

- 1). Continually eating food processed from a microwave oven causes long term -- permanent -- brain damage by “shorting out” electrical impulses in the brain [de-polarizing or de-magnetizing the brain tissue]. [Remember!?!]
- 2). The human body cannot metabolize [break down] the unknown by-products created in microwaved food.
- 3). Male and female hormone production is shut down and/or altered by continually eating microwaved foods.
- 4). The effects of microwaved food by-products are residual [long term, permanent] within the human body.
- 5). Minerals, vitamins, and nutrients of all microwaved food is reduced or altered so that the human body gets little or no benefit, or the human body absorbs altered compounds that cannot be broken down.
- 6). The minerals in vegetables are altered into cancerous free radicals when cooked in microwave ovens.
- 7). Microwaved foods cause stomach and intestinal cancerous growths [tumors]. This may explain the rapidly increased rate of colon cancer in America.
- 8). The prolonged eating of microwaved foods causes cancerous cells to increase in human blood.
- 9). Continual ingestion of microwaved food causes immune system deficiencies through lymph gland and blood serum alterations.

10). Eating microwaved food causes loss of memory, concentration, emotional instability, and a decrease of intelligence.

## **Have You Tossed Out Your Microwave Oven Yet?**

The use of artificial microwave transmissions for subliminal psychological control, a.k.a. “brainwashing”, has also been proven. We’re attempting to obtain copies of the 1970’s Russian research documents and results written by Drs. Luria and Perov specifying their clinical experiments in this area.

*Written by Anthony Wayne and Lawrence Newell  
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Updated on Tuesday, April 04, 2000*

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## **Plastic Wrap in Microwaves**

As a seventh grade student, Claire Nelson learned that di(ethylhexyl) adipate (DEHA), considered a carcinogen, is found in plastic wrap. She also learned that the FDA had never studied the effect of microwave cooking on plastic-wrapped food. Claire began to wonder: “Can cancer-causing particles seep into food covered with household plastic wrap while it is being microwaved?”

Three years later, with encouragement from her high school science teacher, Claire set out to test what the FDA had not. Although she had an idea for studying the effect of microwave radiation on plastic-wrapped food, she did not have the equipment. Eventually, Jon Wilkes at the National Center for Toxicological Research in Jefferson, Arkansas, agreed to help her. The research center, which is affiliated with the FDA, let her use its facilities to perform her experiments, which involved microwaving plastic wrap in virgin olive oil.

Claire tested four different plastic wraps and “found not just the carcinogens but also xenoestrogen was migrating [into the oil]....” Xenoestrogens are linked to low sperm counts in men and to breast cancer in women.

Throughout her junior and senior years, Claire made a couple of trips each week to the research center, which was 25 miles from her home, to work on her experiment. An article in Options reported that her analysis found DEHA was migrating into the oil at between 200 parts and 500 parts per million. The FDA standard is 0.05 parts per billion. Her summarized results have been published in science journals. Claire Nelson received the American Chemical Society's top science prize for students during her junior year and fourth place at the International Science and Engineering Fair (Fort Worth) as a senior.

Dr. Edward Fujimoto from Castle Hospital on the program is the manager of the Wellness Program at that hospital. He was talking about dioxins and how bad they are for us. He said that we should not be heating our food in the microwave using plastic containers.

This applies to foods that contain fat. He said that the combination of fat, high heat and plastics releases dioxins into the food and ultimately into the cells of the body. Dioxins are carcinogens and highly toxic to the cells of our bodies.

Instead, he recommends using glass, Corning Ware, or ceramic containers for heating food. You get the same results without the dioxins. So such things as TV dinners, instant saimin and soups, vegetables, etc. should be removed from the container and heated in something else.

Paper isn't bad, but you don't know what is in the paper. Just safer to use tempered glass, Corning Ware, etc. He said we might remember when some of the fast food restaurants moved away from the foam containers to paper. The dioxin problem is one of the reasons.

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Radiation kills. Even "second-hand" radiation. Avoid it. 'Nuf said.

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FusionExcel Scalar Energy Technology (SET) is leading the way in Energy Medicine innovations with the introduction of its new Quantum Shield™. This revolutionary Quantum Shield™ offers the most advanced technology to address stress where you live, work and play. Its universal application means the same Quantum Shield™ can be applied on all your electronic tech-gadgets (wired or wireless), household appliances, etc. – all of which emit various levels of electromagnetic fields (EMF) and electromagnetic radiation (EMR). Research has shown prolonged and repeated exposure to aggressive EMF and EMR causes a measurable stress response and negative shifts in the body's key energetic systems such as the bio electric field. It also triggers a series of troubling biochemical responses. Studies have linked electro pollution to health concerns like fatigue and hyper-tension, as well as potentially much more dangerous conditions.

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**How Many  
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**Where Do I  
Stick the Quantum Shield™ (QS)?**

**Mobile Phone**  
1 QS



1 QS centered on the center of the back cover of the phone

**Cordless Phone**  
2 QS



1 QS on base station, 1 QS on phone, both close to antenna

**Desktop Computer**  
2 QS



1 QS on computer tower (top, front, or side), 1 QS on display monitor (centered on top or bottom)

**Laptop Computer**  
1 QS



1 QS top-centered on the outside of the display panel

**Automobile**  
2 QS



1 QS on driver side dashboard, 1 QS on passenger side dashboard

**Vacuum Cleaner**  
2 QS



1 QS on handle, 1 QS on housing

**Toaster**  
1 QS



1 QS on front (centered)

**Alarm Clock**  
1 QS



1 QS on front-face or top of alarm clock

**Coffee Maker**  
1 QS



1 QS close to on/off switch

**Game Station**  
2 QS



1 QS centered on top of console, 1 QS on bottom of each control unit

**Television**  
2 QS



1 QS centered above TV screen, 1 QS centered below TV screen

**Refrigerator**  
2 QS



1 QS each on top and bottom center of refrigerator front

**Microwave**  
2 QS



1 QS each on top left and right front corners, close to door seals

**Hair Dryer**  
1 QS



1 QS on any flat surface of dryer



