

“The Cell Phone Poisoning of America”

Table of Contents

Facts About Cell Phone Use.....	2
The Russians Knew About This A Long Time Ago	2
How Do Cell Phones Work?	3
Where The “Cell” In Cell Phone Comes From	3
What Exactly Is Cell Phone Radiation?	4
Helpful Terms to Understand.....	4
Fewer Signal Bars Mean More Danger.....	5
Why Are Cell Phones Dangerous?.....	5
Here’s How The Harm Happens	6
Health Effects Linked to Electromagnetic Radiation.....	8
Cell Phone Radiation Inhibits Melatonin	9
Melatonin Inhibits Estrogen and Cancer	10
Cell Phones Affect Male Fertility	11
Cell Phones Disable The Blood-Brain Barrier In Two Minutes!	11
Cell Phone Radiation Is a Source of Stress	12
Miscarriages and High Blood Pressure Linked to Electromagnetic Radiation.....	12
You Can’t Escape the Radiation	13
Cell Phones Were Never Safety Tested Before Being Sold.....	13
The Cell Phone Companies Know	14
The Deadly Facts from the Cell Phone Industry’s Own Study	14
Former Motorola Research Scientist Acknowledges Radiation Problem	15
What Are SARs? Are They A Guide To Cell Phone Safety?.....	16
The Truth about Headsets	16
Bluetooth Blues.....	17
Cordless Phones Are More Dangerous Than Cell Phones	17
Baby Monitors Can Harm Your Child	18
What about Cell Phone Towers?	18
Studies Show Adverse Health Effects from Cell Phone Towers.....	19
Cell Phone Towers Placed On Schools, Fire Stations, and Church Steeples	20
Children Have Higher Rates of Leukemia	20
Living Near Cell Phone Towers Increases Neurological Symptoms	21
Cell Phone Towers Affect Animals.....	21
Your Community Can’t Stop Cell Phone Tower Construction	21
Firefighters Vote To Suspend Cell Tower Construction on Fire Stations.....	21
Find Out How Many Towers and Antennas Are Near Your Home	22
Effects of Cell Phone Radiation on Children Are Worse Than Adults	22
Radiation Penetrates the Head of Children	23
Heavy Absorption of Cell Phone Radiation into the Head.....	23
Disney and Sprint Market Cell Phones to Children	24
Our Children Will Be Endangered Most.....	24
Legal Action Against Cell Phone Companies	24
The Cell Phone Industry Has No Insurance	25
Verizon’s New Contracts	25
Cell Phone Industry Is In a Predicament	25
The Government’s Position.....	25
Lessons from History	26
Guidelines for Protection and Prevention	27
Strengthen Your System To Increase Resistance To EMR Damage:.....	27
Minimize Exposure to Reduce Risks	28
References.....	30

“The Cell Phone Poisoning Of America”

“Electromagnetic pollution may be the most significant form of pollution human activity has produced this century, all the more dangerous because it is invisible and insensible.”

This powerful and striking statement was made by prominent physician Andrew Weil, MD, best-selling author of eight books, a Harvard Medical School graduate, and internationally recognized expert on medicinal herbs and integrative medicine. When you read the rest of this report you'll understand why his statement is both accurate and valid.

Facts About Cell Phone Use

- Talking on a cell phone as little as 500 minutes a month can increase the probability of brain cancer by 140% to 300% (1)
- Cell phone radiation has been shown to damage and break living DNA (2)
- Cell phone radiation causes leakage of the blood-brain barrier allowing toxins to damage sensitive brain tissue (3)
- Cell phones worn by men on a belt clip can reduce sperm count by 30% (4)(5)
- After using a cell phone for six years the risk of developing an acoustic neuroma (tumor of the auditory nerve) increases by 50% (6)
- Cell phone radiation increases estrogen and adrenaline levels in the body disrupting hormonal balance (7)
- A two-minute cell phone call alters a child's brain function for an hour (8) (9)
- Cordless phones have even higher cancer risks than cell phones (10)

The Russians Knew About This A Long Time Ago

Between 1953 and 1976 the Russians directed electromagnetic radiation directly at the US embassy in Moscow. The radiation was a continual round-the-clock bombardment as the Russians were using this technology in an attempt to listen in on conversations within the US compound. Soon the American embassy staff became ill. The US ambassador to Russia developed leukemia and was forced to return to the United States. His replacement also developed leukemia and he, too, was replaced. Staff members were continually ill and additionally complained of memory loss, brain fog, loss of focus and insomnia during their stay in the embassy.

“Radio Frequency Sickness Syndrome” was a condition the Russians had earlier identified in experiments. So they weren’t surprised to learn of these health problems. However, this same technology is being promoted today as safe and convenient. Convenient it may be but safe it is not.

How Do Cell Phones Work?

Cell phones are really just radio transmitters emitting signals through radio waves. These waves are a form of electromagnetic radiation, or EMR. When the cell phone is turned on it locates itself by broadcasting a series of signals to the cell phone carrier’s closest cell phone tower. The carrier then relays that information to the nearest mobile telephone switching office. When making a call the phone sends its data to the carrier’s nearest tower, to the switching office and then to the switching office in the area code of the number being called. Once the connection is made the cell phone’s transmitter packages your voice or text data onto a second radio wave that is created for the purpose of transmitting the information. This second wave is called the Information-Carrying Radio Wave, or ICRW. When the call is received by the recipient’s switching office a connection is made through the nearest tower that connects the call with your phone. Through a processor in the phone the digital information signal is converted into an analog signal so a voice can be heard. All this occurs in an average time of four to eight seconds.

Each cell phone contains its own transmitter. The purpose of the transmitter is to encode information onto a radio wave. This radio wave radiates out from the phone’s antenna evenly through space. The information being encoded, for example, could be the sound of your voice, the data from your text message or a photo. The transmitter will then send the encoded wave, with your information or voice, to the antenna and the antenna will then send the signal. The function of the antenna is to propel these radio waves out into space so that a receiver in a nearby cell tower will pick them up. This makes the antenna the most dangerous part of the phone.

Where The “Cell” In Cell Phone Comes From

Cell phone towers emit signals in a “flower petal” pattern around the tower. This 360-degree radius around the tower is called a “cell” and this is what the term “cell” in cell phone means. When a cell phone is in a “cell” one usually enjoys good reception. But when the cell phone is not in a “cell” area reception is poor. So for a cell phone company to provide complete coverage cell phone towers and antenna towers must be positioned all across the countryside so that the “cells” overlap one another. One can begin to see what a huge infrastructure needs to be created to provide complete cell phone coverage. That’s why cell phone towers and antenna towers are so prevalent. And that’s why these antennas are installed in so many places like fire stations, schools, churches and rooftops everywhere.

What Exactly Is Cell Phone Radiation?

Electromagnetic radiation is a form of energy consisting of a magnetic field plus an electrical field. Cell phone radiation is one form of electromagnetic radiation. All electromagnetic radiation falls within a spectrum that can range from extremely low frequency radiation, or ELF's, on the low end, to microwaves, X-Rays and gamma rays at the upper end. For example, electrical power lines and wiring in our homes operate in the 60 Hertz frequency which is found at the low end of the spectrum. AM radio operates at one megahertz while most cell phones operate in the range of 800 to 2200 megahertz. These frequencies are substantially higher than 60 Hertz. At the high end of the energy spectrum we find X-Rays that operate at more than one million megahertz. This kind of radiation energy is also known as "ionizing" radiation since these radio waves are so powerful that they can break chemical bonds in the body and cause genetic damage. Radiation at the low end of the spectrum is known as "non-ionizing" radiation and radiation of this kind is generated by such devices as cell phones, cell phone towers, wireless routers, WiFi, etc. This form of radiation is too weak to break chemical bonds and is one reason why many falsely believe that cell phone radiation is harmless.

When the radio wave from a cell phone is oscillating at 800 to 2200 megahertz, (or two thousand two hundred million cycles per second) it is moving much too fast for the body to detect. The body simply cannot recognize a radio wave moving at this speed and thus it moves invisibly through the body without detection. Radiation moving this fast could only be recognized if it were driven by a very strong source of power. If the power driving a radio wave is of sufficient strength the wave could cause damage through the heating of biological tissue. Since cell phones aren't strong enough to heat biological tissue the mechanism by which cell phone radiation causes harm occurs in a different manner. This mechanism will be explained in a different section of this report.

Helpful Terms to Understand

Electricity is simply the flow of electrons. This can occur over a high power transmission line or through wiring in the home or office. Whenever electricity passes through a wire two fields of force are created. One is an electrical field and the other is a magnetic field. In the United States electrical current reverses direction 60 times each second and thus is called alternating current, or AC. The cycles of current are measured in a unit called Hertz (Hz) so named for the German physicist Heinrich Hertz. Hertz is simply defined as the number of cycles per second. Electrical current in the U.S. operates at 60 Hz while electricity in most other parts of the world operates at 50 Hz. Most electric power in the U.S. is of an extremely low frequency, i.e., under 3000 Hz. As frequencies increase, the distance between one wave and the next becomes shorter and shorter. Consequently, there is a greater amount of energy generated in the field. Shorter wavelengths mean greater energy. Electrical fields can be shielded rather easily by using metallic barriers. However, magnetic fields, such as those in the 60 Hz range, will easily penetrate through most any barrier and become very difficult, if not impossible, to shield. It's important to understand the term Hertz (Hz) since it is used commonly to express the frequencies of

appliances and devices like cell phones and microwave ovens. Megahertz (MHz) is one million hertz and gigahertz (GHz) is one billion hertz or one billion cycles per second. Most cell phones operate in the frequency range of 800 to 2200 megahertz. To make a comparison, the human heart being dependent upon electrical function, beats in a frequency of 2 Hz, or two cycles per second. Most electrical activity of the human body operates in the hertz range.

Another important term is gauss, or milligauss (mG). This unit measures the **intensity** of the magnetic field. It was so named for the German astronomer and mathematician Karl Gauss. A milligauss is one one-thousandth of one gauss. As an example, the earth has a natural magnetic field that has been measured to be about 0.5 gauss. Since humans have been exposed to the earth's natural magnetic field from the beginning of their existence this natural magnetic field is not harmful to the human body. However, power lines, electrical appliances, electrical wiring, cell phones, etc. all give off magnetic fields that are not natural to mankind. The intensity of these fields is expressed through the term milligauss. Abnormalities in embryos can be produced from magnetic fields as little as one milligauss. (11) Studies have shown a 500% increase in the risk of childhood leukemia, lymphomas and brain tumors in children exposed to power lines generating an electromagnetic field of only four milligauss. (12) Most scientists believe we should be exposed to no more than 1 mG. Small handheld meters called gaussmeters can be purchased inexpensively to measure the electromagnetic field in the home and office. However, the gaussmeter only measures the intensity of the magnetic field. It does not measure the wireless signal or information-carrying radio wave.

Hertz measures **frequency** and milligauss measures **intensity**. Keep those terms in mind as you read information about devices such as cell phones and common household appliances.

Fewer Signal Bars Mean More Danger

Pay close attention to the signal bars on the display panel of your cell phone. Fewer bars indicate a weaker signal. A weaker signal means the cell phone will generate more power to maintain the connection. In fact, for each bar lost due to poor signal strength the cell phone will increase its power by 1000% to maintain the connection. More power means greater exposure to the radiation for the caller. Ideally, always try to talk outdoors in an open space. This allows an easier connection from your cell phone to the nearest cell phone tower. The easier the connection the less power is needed to stay connected. Also, avoid making cell phone calls from cars, buses, trains, subways or airplanes. These enclosures make the connection more difficult and also tend to concentrate the radiation within the enclosure.

Why Are Cell Phones Dangerous?

The cell phone antenna generates a wireless signal that connects and communicates with the nearest cell phone tower. This signal is a form of radiation, often called cell phone radiation. Cell phone radiation is one type of electromagnetic radiation, or EMR. Other types of EMR include radio frequencies (RF), microwaves (MW) and electromagnetic frequencies or EMFs. There are other additional forms of radiation but these are the most common. This form of radiation is not the same as nuclear radiation or radiation from X-Rays. Those forms of radiation are referred to as ionizing radiation because they contain enough energy to break chemical bonds in the body. The form of radiation to which we are referring is found in the very low-frequency end of the electromagnetic spectrum and is generated from items such as televisions, AM and FM radio, radar, microwave communication devices, electrical wiring, power transmission lines and, of course, cell phones. All electric and electronic devices produce some varying amounts of electromagnetic radiation, that is, they create both an electric and a magnetic field. There is overwhelming evidence of significant biological consequences from being exposed to these forms of radiation, including that from cell phones. One of the problems is that cell phone radiation can't be seen. It's invisible. And for most people, it can't be sensed or felt either. We can't see, feel or hear the thousands upon thousands of EMR frequencies that are continuously bombarding every cell in our body 24 hours a day. This explosion of wireless technology is drowning us in a sea of electropollution and cell phone radiation.

This insidious and invisible toxin called electromagnetic radiation is wrecking havoc on our health. We think because it can't be seen or felt it isn't there. But, frankly, there isn't a time during any day when we are not exposed to the damaging effects of electromagnetic radiation. In fact, never before in the history of civilization has this type of environment existed. The United States, Canada, Western Europe and China emit so much EMR that it is even detectable by satellites in outer space.

Here's How The Harm Happens

Damage from the cell phone comes from two sources. The first damaging source occurs from the near-field plume of radiation generated by the cell phone's antenna. This plume of radiation extends out a distance of six or seven inches from the antenna in all directions. The near-field plume has been studied most extensively and contains the most intense energy. It is able to penetrate deep into biological tissue. This radiation is absorbed when the cell phone is held in close proximity to the body. This form of radiation is also given off by wireless laptop computers and similar devices. Later in this report you will see a picture from a study showing how deep this near-field plume of radiation penetrates into the head. The warning is this: don't allow a cell phone, wireless laptop or any similar electronic device to be too close to your body due to this near-field plume. And never put the cell phone's antenna in your mouth.

The second form of damage comes from a radio wave called the Information-Carrying Radio Wave, or ICRW. The cell phone signal is made up of two parts. The first part of the signal vibrates at 800 to 2200 megahertz. This wave is moving much too fast for the

body to recognize and, as far as we can tell, is not causing any harm. However, when a person speaks or sends a text message the information is “piggy-backed” or packeted onto the first radio wave. This creates a second wave or signal which is called the information- carrying radio wave, or ICRW. It vibrates at a frequency down in the hertz range. In this range the ICRW is recognized by the body and it is this wave that is causing damage.

Here’s what happens. Receptors are located on the cell membrane of each cell in our body. These receptors are both chemical and vibrational. The vibrational receptors pick up signals which vibrate in the hertz range. As the information from the ICRW contacts the vibrational receptors on the cell membrane the ICRW is recognized as a foreign invader and begins disrupting cell communication and function.

Everyone is exposed to these ICRWs on a continual basis. When the body senses that a foreign invader is present it takes measures to protect itself. It does this by shutting down the active transport channels in the cell membrane and as a result the permeability of the cell membrane changes. Consequently, the nutrients that are in the space between the cells can’t get inside the cell to nourish it. Because nutrients can’t get inside the cell membrane the cell suffers from a lack of nourishment. Conversely, the toxins and free radicals that build up inside the cell as a part of our body’s normal metabolic processes can’t exit the cell properly. This build up of toxins and free radicals inside the cell damages and destroys mitochondria. The mitochondria are the organelles inside the cell that produce energy for the body in the form of ATP. When energy is not generated the cell cannot detoxify nor will it have energy to communicate with other cells. Consequently, the vital cell-to-cell communication process is lost. When this communication is lost a basic physiological process is disrupted. Messages between cells aren’t sent, needed hormones and neurotransmitters are not secreted and the immune system can’t respond appropriately.

As waste material and free radicals build up inside the cell mitochondria are damaged and cellular dysfunction ensues. To illustrate the effect of this disruption think of the consequences to a group of cells that function to keep the blood-brain barrier closed. Those cells could no longer perform that task and leakage of the blood-brain barrier would occur. Indeed, leakage of the blood-brain barrier has been one of many findings in research. (13)

The free radicals that build up inside the cell also interfere with the repair and replication of DNA. Many studies have shown the formation of micronuclei following exposure to information-carrying radio waves. (14) Micronuclei are fragments of DNA that break off but still have the ability to form a cell membrane and replicate. Micronuclei are precursors to cancer formation and do not present a problem as long as they remain inside the cell. But when the damaged cells undergo their normal programmed cell death, called apoptosis, the contents of the cell, including micronuclei, are released. Normally, the immune system, through the release of macrophages would rid the body of these improperly formed cells. But because the communication system has been disrupted the

message to the immune system doesn't arrive. Now these micronuclei sit in a nutrient-rich environment and are free to clone. And this is how the tumor begins.

Health Effects Are Linked To Electromagnetic Radiation

It is indeed naïve to think that all the radiation that moves invisibly through our body on a daily basis is not harmful. Quite the contrary. If these invisible EMR waves can move easily through the concrete walls of buildings, as we know they do, they will easily pass through the soft tissue of your body. Think about it. You can make a cell phone call from the basement of a building in New York City and easily connect to someone in a building in Los Angeles, CA. That signal moves through many barriers and obstructions as it connects from one tower to the next. And as this microwave signal moves invisibly through us the ICRW that is attached to it wrecks havoc on our biochemistry. Consequently, our society is becoming sicker and sicker. In fact, numerous studies have linked long-term EMR exposure to increased risk for many, many conditions. Here are a few:

- Alzheimer's disease (15)
- Autism (16)
- Parkinson's disease (17)
- Heart disease (18)
- Miscarriage (19)
- Brain tumors (20)
- Leukemia (21)
- Fatigue (22)
- Depression (23)
- Immune system disorders (24)
- Learning disabilities (25)
- Memory loss (26)
- Sleep disorders and insomnia (27)
- Headaches and migraines (28)
- Loss of concentration (29)
- Lowered sperm counts (30)
- Increased blood pressure (31)
- DNA damage (32)
- Blood-brain barrier damage (33)
- Hormonal imbalance (34)

The list of symptoms and conditions being linked to cell phone radiation and wireless technology is lengthy and this short list represents only a few of the conditions now linked to cell phone radiation and EMR.

Cell Phone Radiation Affects Hormones

Charles Graham, PhD, physiologist at the Midwest Research Institute in Kansas City, MO., has conducted studies indicating that electromagnetic radiation alters hormone levels. (35) When women were exposed to elevated levels of EMR overnight in the laboratory serum estrogen levels increased. Studies have shown that elevated estrogen levels are a risk for cancer development. Also, testosterone levels in men were reduced following exposure to EMR. Reduced testosterone levels have been linked to prostate and testicular cancers.

Much is written today about the harmful effects of “estrogen mimickers” produced from the multitude of many chemicals and pollutants in the environment. Indeed, these products that mimic the effects of estrogen have a damaging effect on the body in terms of their disruption to proper hormonal balance. Dr. Graham believes that electromagnetic radiation may fit the description of an endocrine disruptor better than many of the known environmental hormone mimickers. He feels this occurs because EMR appears to cause its effects by acting on and through hormones as opposed to acting as a hormone as mimickers do.

For many years breast cancer patients all over the world have been prescribed a drug called tamoxifen as a means to prevent recurrence of breast cancer. In a study published in Electricity and Magnetism in Biology and Medicine in 1998, it was shown that tamoxifen lost its ability to halt the proliferation of cancer cells when exposed to EMR. (36) The amount of electromagnetic radiation used to produce this effect was only 12 milligauss. This amount of EMR is generated when commonly used appliances like hairdryers, vacuum cleaners, can openers, computers, microwave ovens, desk lamps, and electric clocks are in use in the home. Imagine the implications of this finding. Women who were taking a drug to help prevent recurrence of breast cancer may have had their medication rendered useless by the exposure to EMR from common household appliances!

Cell Phone Radiation Inhibits Melatonin

Studies have also shown that electromagnetic radiation inhibits the production of a hormone called melatonin. (37) Melatonin regulates the sleep cycle and is secreted by the pineal gland in the brain. It is produced about 90 minutes after falling asleep. Consequently, melatonin levels rise at night and remain low during the day. Melatonin has many useful effects but the most common is that of regulating the sleep cycle. When cell phone radiation, or other EMR, inhibits this important hormone the sleep cycle is compromised. Could this be one reason why so many people today have insomnia? Could the multitude of sleep problems in America today be a result of all the radiation in our environment? Should we remove the cordless phone or clock radio from the nightstand near our bed? Common sense would say so.

Why is this important? If the body doesn't reach the deeper phases of sleep during the night it cannot repair itself. Cells will not have a chance to rejuvenate and repair. Sleep is necessary for this repair process to occur. Yet today 81% of young people 15 to 20 years of age sleep with their cell phone on! (38) Considering the value of melatonin to our health the implications of this statistic cannot be overstated.

A study published in the Journal of the National Cancer Institute found that a woman's risk of breast cancer increased up to 60% if she routinely worked a nighttime shift. (39) Men's risk of prostate cancer also increased. How does this occur? Light raises cortisol levels. Cortisol is produced by the adrenal gland which is activated by light. Light furthermore inhibits production of melatonin by the pineal gland in the brain. So the combination of increased cortisol, which suppresses our immune system, and decreased melatonin, which suppresses tumor development leads to conditions favorable for the potential development of cancer. Melatonin is also a known regulator of estrogen. So when melatonin isn't produced in adequate amounts one of the body's natural mechanisms to suppress estrogen is removed and estrogen dominance results.

Another important function of melatonin is that it is a powerful antioxidant and is very efficient in destroying free radicals. Destruction of free radicals and proper DNA synthesis allows our cells to function properly. One of the known effects of free radicals is premature aging and one of the ways free radicals are produced is from environmental toxins that include EMR.

Melatonin also enhances the immune system. It does this is through its ability to increase the activity of the immune system's killer lymphocytes. Additionally, melatonin also strengthens the ability of Vitamin D to stop tumor growth. In fact, the tumor-fighting ability of Vitamin D is strengthened by 20 to 100 times. (40)

A study published in the Journal of Pineal Research in 2007 reported on the therapeutic effects of melatonin in treating cognitive impairment such as that found in Alzheimer's disease, dementia, etc. Results showed significantly better improvement in patients treated with melatonin. (41) As we can see melatonin is important for many reasons. Any disruptive influence, like electromagnetic radiation, that would suppress or limit the body's ability to produce melatonin could have serious health implications for each of us.

Melatonin Inhibits Estrogen and Cancer

A 2001 study done at Japan's National Institute for Environmental Studies revealed that **breast cancer cells treated with melatonin would resume growing when exposed to electromagnetic radiation!** (42) Findings showed that the cells' signaling system was disrupted, impeding or preventing cell-to-cell communication. Thus, cells were not able to communicate effectively with each other and this affected their ability to respond to environmental challenges and threats.

Perhaps one of the most important functions of melatonin is that it inhibits the release of estrogen and suppresses the development of breast cancer. (43) Seventy percent of breast cancers today are estrogen sensitive. When EMR inhibits the release of melatonin the activity of one of the body's most protective hormones is lost. Additionally, other studies have shown that reduced levels of melatonin from electromagnetic radiation suppression have caused a number of other malignancies including prostate cancer, melanoma, and ovarian cancer.

A causal link between breast cancer and EMR continues to be reported. Dr. Patricia Coogan at Boston University of Public Health reported a forty-three per cent increased risk for breast cancer for women who worked in occupations where exposure to magnetic fields occurred. (44) Such occupations included electricians, power line workers, phone installation workers, electrical engineers and those working near mainframe computers. This increased risk has been directly linked to the suppression of melatonin by EMR.

There is also concern that this increased risk of breast cancer is not confined to women. As much as a six-fold increase in male breast cancer has been found among men who work in the utilities industries, in switching stations and as telephone linemen. (45)

Cell Phones Affect Male Fertility

A recent study released by the prestigious Cleveland Clinic showed a link between poor sperm production and the number of hours a day a man uses a cell phone. Men who use a cell phone more than four hours a day had significantly worse sperm counts and the quality of sperm was substantially diminished. (46) Doctors believe this damage may be caused by radiation emitted by cell phones. Men who used a cell phone more than four hours a day had sperm counts that were 25 percent lower than men who never used a cell phone. (47) Additionally, sperm quality was adversely affected. The swimming ability of the sperm was reduced markedly. Furthermore, a 50 percent drop in the number of properly formed sperm was noted. (48) Sperm count, motility, viability and appearance all were significantly affected.

It is advisable for men (and women) not to carry a cell phone on a belt clip or in a pocket close to the body. Neither should anyone work on a laptop computer while resting it on the lap.

Cell Phones Disable The Blood-Brain Barrier In Two Minutes

The blood-brain barrier is a delicate membrane that separates the brain from the rest of the body and filters the blood supply to the brain. This filtering membrane keeps toxins and damaging proteins that might be found in the blood from coming in contact with sensitive brain tissue. Research has shown that talking on a cell phone for as little as **two minutes** will disable the blood-brain barrier. (49) In studies done by neurologist Dr. Leif Salford it was found that toxins and harmful proteins can pass out of the blood and into

the brain while the cell phone is switched on. It is noteworthy that diseases such as multiple sclerosis and Alzheimer's are linked to unwanted proteins being found in the brain.

It's Like Driving While Drunk

The U.S. Department of Energy found that using a cell phone while driving will severely impair memory and reaction time. In fact, the impairment is so severe that it is similar to driving while intoxicated. Additionally, University of Toronto investigators found that the impaired effects of a cell phone call made while driving will persist up to 15 minutes **after** completing the call. (50) The effect was the same whether the driver used a hands-free headset or not. Many countries are now moving to join England, Spain, Israel, Switzerland, and Brazil in restricting or banning cell phone use by drivers.

Cell Phones Radiation Is a Source of Stress

In addition to the stress of continual mental interruption cell phones can cause a physical stress response in the body. When the body experiences a stress event the "flight or fight" response is triggered. Certain stress hormones are released from the adrenal glands, the first of which is adrenaline. Most of us are familiar with the effects of adrenaline: rapid heart rate, increased energy level, increased blood pressure, muscle contraction, rapid breathing, etc. These effects are not harmful if they only occur for a short period of time. But what about a stress response that **continually** releases adrenaline such as that occurring from constant exposure to cell phone radiation? Obviously, this would not be healthy over a long period of time. The second chemical released in the stress response by the adrenal gland is a hormone called cortisol. Cortisol is the body's natural form of cortisone. It is necessary for many maintenance functions of everyday life. When our bodies are chronically stressed increased amounts of cortisol are released. Consequently, high amounts of cortisol suppress the immune system, blood sugar levels rise and insomnia can occur. Finally, after long-term continual stress responses the adrenal glands become tired and fatigued. Consequently, the ability to respond to stress situations appropriately becomes compromised. Irritability, fatigue, anger, road rage, high blood pressure, loss of blood sugar control, decreased thyroid function and weight gain are a few of the many symptoms that can result from this condition.

Miscarriages and High Blood Pressure Caused By EMR

Blood pressure can be increased simply from being exposed to a cell phone. A German study, published in The Lancet, reported that blood pressure was elevated in a group of volunteers when cell phones were randomly turned on and off without the participants knowledge. (51) Miscarriages have also been linked to electromagnetic radiation exposure. In one of the many studies that have been conducted in this area one thousand pregnant women were shown to have a 180% increased risk for miscarriage when exposed to intermittent magnetic fields as low as 16 milligauss. (52)

We Can't Escape the Radiation

Researchers have shown that one doesn't have to own a cell phone to be exposed to electromagnetic radiation. There are so many cell phones users surrounding each of us who are making calls on their cell phones that we are constantly being exposed as those cell phones connect with the cell phone towers and other callers. Plus, there are now wireless networks everywhere. And it's worse than second-hand smoke because these radio waves are invisible. You may not own a cell phone or use one very often. But there is always someone around you using a cell phone or wireless network. And those cell phones and wireless networks are emitting signals, or radiation, to maintain their connection. So the signals are everywhere and each and every one of us is caught in the crossfire. There simply is no way to escape it.

Cell Phones Were Never Safety Tested Before Being Sold

When cell phones came onto the market in 1983 they did so without **any** pre-market safety testing. How was this allowed? Normally, any consumer device that emits radiation would be required to go through specific safety testing to determine if there would be any risk to the population. But based on information from the cell phone industry the cell phone became exempt from any such testing. The information provided by the cell phone industry to the government at that time stated that the only harm that could come from this type of radiation had to do with the heating effect on biological tissues. Because cell phones operated at such a very low power it was not possible for them to heat biological tissue. Therefore, the government excluded cell phones from the requirement of doing any pre-market safety testing. The microwave oven was used as the example in the cell phone industry's claim. The microwave oven produces microwaves, i.e. radiation, that oscillate at a very high frequency. These microwaves are also driven by a very high source of power. When a food item is placed in a microwave oven it causes the water molecules in the food to move very rapidly. This increased activity produces friction that, in turn, produces heat. When this occurs long enough food will cook. It's a fairly simple process. Obviously, exposing the human body to those microwaves wouldn't be wise since the heating effect would eventually heat and destroy human tissue. So to make the microwave radiation used by cell phones safe the cell phone manufacturers simply lowered the power used to drive those frequencies. Since the power used by cell phones was so much lower than a microwave oven the heating effect did not take place. Therefore, the cell phone was presumed to be safe. The rationale was that if only a small amount of power was used and it wasn't strong enough to heat human tissue then no damage would occur. No heat, no harm. And that was the assumption that was used by the federal government to allow cell phones to be sold and manufactured. Current standards for safe radiation exposure are based solely on this heating, or thermal effect. No testing was ever done to evaluate whether or not the frequencies themselves might be harmful. This was left to chance discovery. It is a giant experiment that every

cell phone user is participating in today. We now know that the mechanism causing damage is not a thermal or heating effect issue but is something more subtle and even more damaging.

The Cell Phone Companies Know

In 1993, Larry King had a guest on his show named David Reynard of Tampa, FL. During the show Mr. Reynard unleashed a bombshell that ignited one of the most shocking controversies in television history. He stated that he was filing a lawsuit against the cell phone companies and was alleging that his wife, Susan, had died from a brain tumor caused by repeated use of a cell phone. This allegation caused cellular stocks to quickly tumble. Congressional inquiries were triggered and the cell phone industry scrambled to save its image. In an effort to reassure the public and the government the cell phone industry agreed to conduct long-term research studies to prove that cell phones were safe. Following public hearings the Senate took issue with both the cell phone industry and with the Food and Drug Administration. The FDA was the agency of responsibility for granting approval of cell phones. To settle the allegations and bring proof to the issue the cell phone industry volunteered to conduct long-term research to prove cell phone safety. However, they offered to do so only if the FDA agreed not to regulate them until the research was completed. And so the process began.

As a first step, the cell phone industry hired appropriate medical and science researchers to conduct a study that was to become the largest of its kind ever conducted on cell phone safety. The cell phone industry funded this research project with \$28.5 million of its own money. The protocol required that every study conducted to be duplicated in at least two laboratories. Research protocols were peer reviewed before being initiated. Furthermore, preliminary data were peer reviewed before interpretation and final reports and data were peer reviewed at the conclusion of the process. Every effort was made to ensure the study was above reproach and that the results of the study were credible and not biased due to industry funding.

The Deadly Facts from the Cell Phone Industry's Own Study

In 1999, the results of the research findings were published. The following summary is quoted directly from that report:

- 1. The rate of death from brain cancer among handheld phone users was higher than the rate of brain cancer among those who used non-handheld phones that were away from their head**
- 2. The risk of acoustic neuroma, a benign tumor of the auditory nerve, was 50% higher in people who reported using cell phones for six years or more**
- 3. The risk of rare neuro-epithelial tumors on the outside of the brain was more than doubled in cell phone users as compared to non-users**

4. **There is some correlation between tumors occurring on the right side of the head and use of the phone on the right side of the head**
5. **Laboratory studies looking at the ability of radiation from a cell phone's antenna to cause functional genetic damage were definitely positive**

In other words, the research found genetic damage, leakage of the blood-brain barrier, cellular dysfunction and a tripling in the risk of rare neuroepithelial tumors and rare brain tumors in people using cell phones versus those who did not use cell phones. In fact, the tumors even correlated to the side of the head where the subjects reported using the phone most often.

In all, over 56 studies were funded by the cell phone industry and over 200 scientists and doctors from around the world participated.

The research findings were reported to the cell phone industry executives with the suggestion that the industry inform the public and allow users to begin to take precautionary steps until more research could be done. A detailed account of the whole story can be found in a book that chronicled the events that took place. The book, titled Cell Phones: Invisible Hazards in the Wireless Age can be found at most book stores. The shocking part of this whole process is that in spite of the concrete peer-reviewed findings produced by this research the cell phone industry chose not to go public with the information.

And there's more.

Former Motorola Research Scientist Acknowledges Radiation Problem

Robert Kane, PhD., former Motorola Senior Research Scientist and Technical Staff Member, said this, **“Recent research has demonstrated that even short-term exposure to radiation power densities emanating from a nearby cellular telephone is sufficient to modify brainwave patterns, affect short-term memory, and modify an individual's ability to perform physical tasks such as driving an automobile.”** He went on to say, **“The body of available research indicates that operation of a nearby portable cellular telephone will expose a non-user to radiation, some of which will be deposited into the brain of the non-user at levels higher than necessary to elicit undesirable biological effects even though the phone may be more than ten feet away from the non-user.”**

Translation: Cell phone radiation bombards you whether you are making calls yourself or not. You can be driving in your car, eating in a restaurant, watching a game or attending a concert and you'll be irradiated from someone else's cell phone calls whether you know it or not. There is no escape. It's not just the caller's brain that gets irradiated; it's everyone around the caller, too. This information comes straight from one of Motorola's top former research scientists.

What Are SARs? Are They A Guide To Cell Phone Safety?

SAR stands for Specific Absorption Rate. It is a complex measurement of how much radiation passes through tissue during a specified time period. In other words, it measures the level of absorption of EMR by the body. When biological tissues absorb EMR it can lead to the distortion of cellular function. Up until 1993 no one had ever observed that there were any heating effects occurring at SAR levels below 40 watts per kilogram. Cell phones operate at a power of about 0.6 watts and yield a SAR value of less than 2 watts per kilogram which appears to be a safe level. Again, this was the rationale used when the government exempted cell phones from any pre-market testing and any form of regulation. As long as SARs were this low and no heating effect took place it was assumed that no harm could be done to biological tissue by a cell phone. We now know this to be an erroneous assumption.

All cell phones today have a published SAR value. It varies slightly from phone model to phone model. However, knowing the SAR number of your phone is of minimal value since all phones manufactured today must meet the FCC established standard of 1.6 watts/kg or below. That said, it's still a good idea to purchase a cell phone with a SAR value as low as possible to minimize the absorption of radiation when the cell phone is near the head. But SAR only measures the intensity of the electromagnetic field. Keep in mind that SAR does not measure the pulsating or oscillatory action of the wave. For example, the wave frequency or pulse could be low enough to mimic the electrical activity of the brain itself and thereby cause damage but the cell phone could still have a low SAR value. So knowing the SAR would be of little value in this case. SARs may have a useful application for microwave ovens but they simply are not adequate for cell phones, as the heating effect doesn't occur until SARs reach 20 to 25 watts per kilogram. It is also important to understand that SARs in no way address the mechanism of damage being caused by the Information-Carrying Radio Wave. The SAR value for your specific phone can be found by visiting the FCC website or by visiting www.sarvalues.com.

The Truth about Headsets

Headsets have been promoted as being an effective method to reduce exposure to EMR being generated by the cell phone. Since the near-field plume of radiation from a cell phone emanates out a distance of six to seven inches from the cell phone's antenna it becomes necessary to either (a) change the radiation in some way to make it harmless to the body or (b) move the phone away from the head at least six to seven inches when talking. In evaluating the effectiveness of headsets we must keep in the mind the **two mechanisms** of harm that are created by cell phones. First, there is the near-field plume of radiation created and emitted by the cell phone's antenna and, secondly, there is the information-carrying radio wave (ICRW) that is created when we speak or send a text message. Both of these mechanisms cause harm to the body. Using a headset will certainly reduce the exposure to the near-field plume. But the headset does nothing to

reduce the damage being caused by the information-carrying radio wave. Neither does the speakerphone function. Furthermore, not all headsets are safe to use. Many wired headsets actually attract radiation to the head by acting as an antenna, i.e., the wires of headsets can actually draw surrounding radiation in the immediate area to the head. In fact, it has been reported that wired headsets can **increase** the radiation exposure to the head by 300 times! (53) Air-tube headsets do help in this regard but they still do nothing to address the harm being caused by the information-carrying radio wave. If you must use a headset use an air-tube headset. At least this way you address one of the harm mechanisms by avoiding the “antenna effect” created by wired headsets. Just remember though, headsets don’t protect against the information-carrying radio wave. They can’t be relied upon for complete protection.

Bluetooth Blues

Bluetooth headsets are even worse than conventional headsets. Here’s why. Bluetooth technology is wireless technology in which a wired connection has been replaced with a receiver and transmitter and this connection communicates on a 2.4 gigahertz frequency. This is the same frequency used by a microwave oven. However, the power used to send these frequencies is very low. In fact, the signal strength is only about 1 milliwatt of power, whereas a cell phone can operate on a signal of up to three watts. (54) So the lower power used by Bluetooth technology limits range to around 30 feet. But here’s the problem. When the earpiece is worn on the head it is on **continually**. And although the power is less the radiation exposure is constant even when no conversation is occurring. At least with a cell phone you lay the phone down when the conversation is concluded. Not so with a Bluetooth earpiece. Secondly, this is a wireless connection. From what has been said about how cell phone radiation harms us we know that when we talk or send information over a Bluetooth connection of any kind we’re being exposed to the information-carrying radio wave. And it is this wave that does the damage. So, Bluetooth devices are not any safer than non-wireless devices and, in fact, can be more dangerous due to the continual exposure of radiation to the head.

Here’s something else to question. With the Bluetooth earpiece worn on the ear and with radiation being emitted continuously, will we see damage to the auditory nerve or perhaps damage to the inner ear at some point? Will this continual radiation exposure damage hearing in some way? These are questions that remain unanswered.

Cordless Phones Are More Dangerous Than Cell Phones

Cordless phones are not safer than cell phones. In fact, some published research has shown that cordless phones are three times more dangerous than cell phones! (55) Here’s why. A cordless phone utilizes a base station for its operation. This base station acts like a mini-cell phone tower sitting in the home or office. The base station continuously emits a pulsing microwave at full power as long as it’s plugged in to an electrical outlet. It does this so that it can maintain a signal with the handset(s). This means that everyone in the

home or office is exposed to the continual broadcasting of microwaves whether the phone is in use or not. Newer cordless phones now use newer technology called DECT technology, which stands for Digital Enhanced Cordless Telecommunications. The signal from a DECT phone broadcasts at a 2.4 or 5.8 gigahertz transmission continuously. This continuous transmission of frequencies on DECT phones is what makes them different from older models. And since many cordless phones are often placed near the bedside on a nightstand individuals sleeping near them are constantly being exposed to a pulsing electromagnetic wave that has an electrical field strength of about 6.5 volts per meter (56) What's the significance of this? A New Zealand study reported a significant increase in both chronic fatigue and sleep problems in residents living near an AM and FM radio tower (57). The highest field strength taken from the tower was 2.66 volts/meter, which was significantly less than that of the DECT cordless phone. Another study from Schwarzenburg, Switzerland reported that 55% of residents living near a short-wave radio transmitter reported symptoms of disturbed sleep and 35% reported full insomnia. (58) The researchers were able to turn the transmitter on and off on different nights. Symptoms were greatly reduced when the transmitters were off. The German Federal Radiation Protection Agency stated that a cordless DECT phone is often the strongest single source of radiation in a private home. The Frieberger Appeal of October 2002, a document signed by over 130 medical practitioners from the German environmental medicine medical organization called IGUMED, has called for a ban on DECT phones in preschools, schools, hospitals, nursing homes, and public buildings. The bottom line is that you are much safer returning to the use of wired landline phones.

Baby Monitors Can Harm Your Child

Are we putting newborns at risk by placing monitoring devices in the child's bedroom? Some scientists are saying this is an unnecessary exposure to radiation. The radiation generated from some baby monitors can reach up to six volts per meter which is twice as strong as radiation found within 100 meters of cell phone towers. (59) The British consumer group Powerwatch has urged parents to stop using DECT baby monitors. "We have had a number of reports from parents that their babies did not sleep well and cried a lot when they used DECT monitors but were okay when no baby monitor was used," according to the agency. (60)

What about Cell Phone Towers?

There are an estimated 1.3 million base station antennas installed on towers and rooftops worldwide. As more and more of these are installed to increase coverage and to power new applications the ocean of electropollution to which we are exposed will only continue to thicken. Cell towers and antennas are popping up everywhere. In the United States there are now more than 1,947,000 towers and antennas currently online. Towers are the structures on which antennas are placed and multiple antennas may be attached to a single tower. The antenna is the actual emitter of the radio signal. Antennas are placed not only on towers but also on fire stations, churches, schools, cemeteries, and even in

our national parks. Did you know there's a cell tower near Old Faithful in Yellowstone Park? And to make them esthetically pleasing to the environment antenna towers are often disguised. It's not uncommon to see cell phone towers in the southwest that look like palm trees, for example. These towers and antennas are often hidden, too, in places like church steeples or placed on rooftops where they can't be seen. Can't sleep well in a hotel at night? There may be an antenna tower hidden on the roof.

As explained earlier, each cell phone tower emits its signal in a circular pattern that would look much like a flower petal if it were visible. In other words, the pattern spreads itself 360 degrees around the tower in a circle. This "circle" around the tower is called a "cell" and this is where the term "cell" in cell phone gets its name. When under the umbrella of the "cell" good reception is maintained. When out of this cell area the reception is poor. Cell phone towers, then, are positioned throughout the countryside in such a way that these "cells" overlap one another so that, ideally, one is never out of coverage anywhere.

Studies Show Adverse Health Effects from Cell Phone Towers

Below are listed six studies that have shown significant adverse health effects on people living near cell phone towers.

1. Santini et al. found significant health problems in people living within 300 meters of a cell phone base station or tower. The recommendation was made from the study that cell phone base stations should not be placed closer than 300 meters to populated areas. *Pathol Biol (Paris)* 2002; 50: 369-373.
2. A Netherlands Organization for Applied Scientific Research study entitled, "Effects of Global Communications System Radio-Frequency Fields on Well Being and Cognitive Function of Human Subjects With and Without Subjective Complaints" found significant effects on well being including headaches, muscle fatigue, pain, and dizziness from tower emissions well below the "safety" level.
3. Gerd, Enrique, Manuel, Ceferino and Claludio conducted a Spanish study called "The Microwave Syndrome" and found adverse health effects from those living near two cell phone base stations. The health effects included fatigue, a tendency toward depression, sleeping disorders, difficulty in concentration and cardiovascular problems.
4. From an Israeli study published in the *International Journal of Cancer Prevention*, Vol. 1, No. 2, April 2004, Wolf and Wolf reported a fourfold increase in the incidence of cancer in people living within 350 meters of a cell phone tower as compared to the Israeli general population. They also reported a tenfold increase specifically among women.
5. In the Naila Study from Germany, November 2004, five medical doctors collaborated to assess the risk to people living near a cell phone tower. The retrospective study was taken from patient case histories between 1994 and 2004 from those who had lived during the past ten years at a distance up to 400 meters from the tower site. The results showed that the proportion of newly developed

6. An Austrian Study released in May, 2005, showed that radiation from a cell phone tower at a distance of 80 meters causes significant changes of the electrical currents in the brains of test subjects. All test subjects indicated they felt unwell while radiated and some reported being seriously ill. According to the scientists doing the study, this is the first worldwide proof of significant changes of the electrical currents in the brain, as measured by EEG, by a cell phone base station at a distance of 80 meters. Subjects reported symptoms such as buzzing in the head, tinnitus, palpitations of the heart, lightheadedness, anxiety, shortness of breath, nervousness, agitation, headache, heat sensation and depression.

Cell Phone Towers Placed On Schools, Fire Stations, and Church Steeples

Just why would a cell phone tower be placed on a church, school or fire station? Money. Cell phone companies pay organizations handsomely to install cell tower equipment on these properties. This eliminates the need for the cell phone company to lease or purchase land or buildings to erect their own towers. They can simply rent existing structures from someone else. This “rent money” can range from a few hundred dollars to several thousand dollars a month. What school district or church couldn’t use a few extra dollars to benefit a tight budget? But does the income outweigh the potential risk? The studies say absolutely not.

Two-time Nobel Prize nominee, Dr. Gerald Hyland, a physicist, had this to say about cell phone towers. **“Existing safety guidelines for cell phone towers are completely inadequate. Quite justifiably, the public remains skeptical of attempts by government and industry to reassure them that all is well, particularly given the unethical way in which they often operate symbiotically so as to promote their own vested interests.”**

Children Have Higher Rates of Leukemia Near Broadcast Towers

Dr. Bruce Hocking did a study in Sydney, Australia, of children living near TV and FM broadcast towers that are very similar to cell phone towers. He found that these children had more than twice the rate of leukemia as children living more than seven miles away from these same towers. (61)

So if cell phone companies install antennas on the rooftops of our schools do we really want our children sitting at a desk right beneath the source of this radiation? Do we fully know the potential effects on the developing brains of our children? How many children

in school today already suffer from inability to focus, learning disorders and attention deficit problems? Might there a connection? Many studies show a definite correlation.

Living Near Cell Phone Towers Increases Neurological Symptoms

Another study conducted on inhabitants living near or under a cell phone base station antenna produced the following prevalence of complaints: headache (23.5%), memory changes (28.2%), dizziness (18.8%), tremors (9.4%), symptoms of depression (21.7%), and sleep disturbances (23.5%). (62)

Cell Phone Towers Will Affect Animals

Cell phone towers affect animals, too. A veterinary school in Hanover, Germany, reports that dairy cows kept in close proximity to a cell phone tower for two years had a substantial reduction in milk production in addition to other health problems including abnormal behavior patterns. (63)

Our Communities Can't Stop Cell Phone Tower Construction

What can communities do about the installation of cell phone towers? Unfortunately, very little. The Federal Communications Act of 1996 was a landmark bill that mandated rapid development of wireless infrastructure across the country. Section 704 of this act made it virtually impossible for communities to stop the construction of cell phone towers in their areas in spite of threats to public health and the environment. This law forbids local governments from stepping in and stopping the construction of cell phone towers based on health concerns or environmental concerns. It is unfortunate that our leaders have been pressured by cell phone lobbyists to pass legislation where communities and local governments no longer have control over what is best for their community. We have relegated complete control of this matter over to the cell phone companies. The government even allowed the cell phone industry to help write the law.

Here's the quote from the Federal Communications Act of 1996 that prohibits states, neighborhoods and communities from installing cell phone towers: "**No State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the Commission's regulations concerning such emissions.**"

Firefighters Vote To Suspend Cell Tower Construction on Fire Stations

In August 2004, the International Association of Fire Fighters voiced its opinion on cell phone towers and antennas by passing a resolution at its annual assembly opposing the

installation of cell phone antennas on or near fire stations until a credible study could be done to establish safety. The union's Health and Safety Department completed their review of the available science in April 2005. They concluded that there is sufficient evidence to oppose any installation of cell phone antennas on fire stations. This conclusion was supported by a position paper citing 49 references and 40 citations. Some of the effects experienced by fire fighters due to this exposure included vertigo, lack of focus, severe headaches, sleep deprivation, depression, slowed reaction times and tremors. (64)

Find Out How Many Towers and Antennas Are Near Your Home

The average person lives within one-half mile of a cell phone tower. Are you curious if there are any cell phone towers or antennas near your home or business? Would it bother you if you knew you lived near a cell phone tower or antenna tower? How many are around your home or office? Find out by visiting the website www.antennasearch.com. Type in your address and you'll get a listing and a map of all the towers and antennas within a short radius of your address. You'll be surprised to learn how prevalent these towers and antennas are and how many are sitting right in your back yard. For example, in one square mile of downtown Manhattan there are about 2500 antennas.

And let's don't forget the more than 2000 communications satellites floating around in outer space. They shower the planet continually with radiation. Got a new GPS device? How do you think it works? It gets its information from a satellite that knows where we are and where we want to go. It then beams the instructions down and off we go without a second thought that we are being irradiated by the radio signal of this convenience. Remember the information-carrying radio wave discussed earlier? It's being created here, too. And let's don't forget all military projects. I think you get the picture. The amount of electropollution we're subjected to on a daily basis is staggering and is growing by the day. At what point will our biological systems no longer be able to handle this burden? What happens then? Are the rising rates of cancer and disease indicators that we're reaching a point where we can't tolerate more?

Effects of Cell Phone Radiation on Children Are Worse Than Adults

Does cell phone radiation affect children differently than it does adults? Absolutely. Here's why. A child's head is smaller yet contains more fluid than that of an adult. This increased amount of water acts as conductor of the radiation. Furthermore, the skull bones in the head of a child don't fully harden until about 22 years of age. So the skull bones of a child's head are softer and thinner. Softer bones mean greater penetration of radiation into the head. Greater penetration means more damage. And remember, there is an accumulation of this radiation as children grow.

Radiation Penetrates the Head of Children

In 1997, Dr. Om Ghandi from the University of Utah conducted studies showing how radiation penetrates into the head of a child much deeper than that of an adult. Her pictures are frightening.

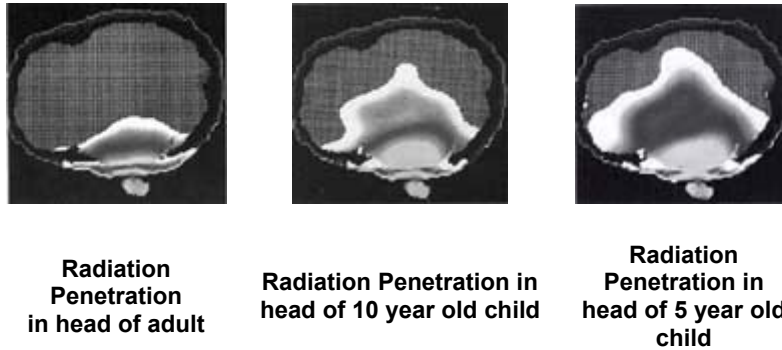


Figure 1

Children obviously have smaller body masses. When exposed to the same amount of radiation as an adult the harmful effects of the radiation will be greater. Children have a smaller body mass, softer skull bones and more fluid in the head. All allow more damage to occur.

Studies at the Karolinska Institute in Stockholm, Sweden, found that children who were exposed to radiation as low as one milligauss (1mG) over long periods of time have twice the normal risk of developing leukemia. (65)

The National Radiological Protection Board (NRPB) issued a report in May of 2000 stating that “children might be more vulnerable to any effects arising from the use of mobile phones because of their developing nervous system, the greater absorption of energy in the tissues of the head and the longer lifetime of exposure.”

Heavy Absorption of Cell Phone Radiation into the Head

According to a University of Washington scientist 70 to 80 percent of the radiation emitted from a cell phone antenna is absorbed into the head. (66) This is especially concerning as we watch children and teenagers using cell phones on a continual basis. Children today will be exposed to this type of radiation for a much longer period over their lifetime than their parents. Thus, the exposure risk is much greater.

Disney and Sprint Market Cell Phones to Children

It is truly disturbing that in light of the many published studies now available cautioning cell phone use in children major cell phone corporations are targeting and marketing to children anyway. They see children as the next big cell phone “market.” For example, Disney and Sprint recently joined in a \$2 billion deal to market cell phones to kids between eight and 12 years of age. Other companies have followed suit promoting similar programs. Teddyfone Ltd. in the United Kingdom has launched a cell phone that looks like a teddy bear. Their target market is children six to eight years old. The American counterpart to this phone is called the Firefly. Of course there’s a Barbie™ phone available now, too.

Our Children Will Be Affected Most

“If there are risks, and we think that maybe there are, then the people most likely to be affected are children, and the younger the children, the greater the danger.” Sir William Stewart, Chairman of the UK Health Protection Agency, issued this statement at a press conference in 2005. He went on to say that no child under the age of nine should use a cell phone, and anyone under sixteen should use one only for emergency calls.

We don’t know what the long-term effects of cell phone radiation are to children. Tumors can take 15 to 20 years to develop and by then it’s often too late to treat. We must ask ourselves if we want our children to participate in this giant experiment. Certainly, protection, prevention and limiting exposure is a must until science can confirm the danger or confer safety on these products of convenience.

Evidence in medical science continues to mount that radiation from devices such as cell phones, cordless phones, and WiFi produces dangerous and damaging health effects. The time for action is now. The lives of our children could depend on it.

Legal Action Against Cell Phone Companies

Currently, there are seven class action lawsuits that have been filed and are active against the cell phone manufacturers. In the fall of 2005 five of those cases were reviewed by the Supreme Court as the cell phone industry asked for the cases to be dismissed. The Supreme Court however ruled that there was enough evidence for the cases to move forward. Those cases are currently in the active process of working their way through the legal system. In addition, there are numerous active individual cases that have been filed where brain cancer development has allegedly occurred due to cell phone use.

One workman’s compensation case in California has already been ruled in favor of the plaintiff. The court ruled that there was substantial evidence that the plaintiff’s brain tumor had been caused by excessive use of the cell phone in her line of work. She won her petition. No doubt this will set an important precedent in cases to follow.

The Cell Phone Industry Has No Insurance

It is interesting that the insurance industry now excludes health-risk claims in the product liability coverage of cell phone industry products. This has forced the cell phone industry to become self-insured. The implication here is that the cell phone industry does not have any insurance to cover losses incurred in any litigation processes. Once their money runs out no more money would be available to pay a judgment. When Lloyds of London refuses to insure they don't turn hefty premiums down for no reason. Obviously, they felt the risk was too great.

Verizon's New Contracts

Buried in the fine print of Verizon's new contracts is a clause the customer, by signing that states that the customer agrees not to sue the cell phone manufacturer for any bodily damages or harm. The customer also agrees not to participate in any class action lawsuit. Suggestion: take the time to read the fine print of your carrier's contract. Think twice before signing it.

Cell Phone Industry Is In a Predicament

The cell phone industry finds itself in a difficult situation. It has adamantly denied there are health problems created by cell phone radiation. Scientific studies continue to be published that say otherwise. So why doesn't the cell phone industry just purchase available safety technology that would make the cell phone safe to use? If that happened it would be an admission of guilt or an admission that there may be a health problem with cell phone usage. The addition of such technology would underscore their guilt and they would immediately lose all lawsuits, past and present. So the cell phone companies have no choice now but to deny any problems exist.

The Government's Position

You can visit the FDA website and read the government's position on this whole issue. However, it is best summed up with this quote taken directly from the FDA website: **“The available scientific evidence does not show that any health problems are associated with using wireless phones. There is no proof, however, that wireless phones are absolutely safe.”** How's that for confidence? Does that statement make you feel absolutely safe about cell phones? Should the FDA be asking for conclusive studies that prove cell phones are safe?

Here is why the government won't say much publicly about cell phone safety. Cell phones are big business. Telecommunication technology stocks comprise a huge

percentage of our financial markets. Any mention of a safety problem would cause a catastrophic plunge in the stock market. Secondly, cell phone minutes are the second largest consumer product revenue producer for the federal government. Only gasoline generates more revenue from consumers. Imagine what would happen if the FDA or FCC issued a statement that there just might be a safety issue with cell phones. The sell-off of these stocks would be huge. The stock market would tumble. The government would lose an important source of revenue and our economy would be crippled. Such an announcement would be disastrous. So the government will be very reluctant to issue any statement of warning or suggestion that cell phones may pose a hazard.

Lessons from History

Remember that it took decades for the government to respond to the early warnings about tobacco, asbestos, and X-Rays. Cell phones haven't been around for very long and the technology is relatively new. However, it may benefit us to take a quick look back at history and learn a lesson.

The tobacco time line:

- The health effects of tobacco were first debated in **1856** in the medical journal The Lancet
- Dr. Isaac Adler suggested lung cancer was related to smoking in **1912**
- A British medical journal published a study in **1950** finding that smokers were 50 times more likely to get lung cancer
- It wasn't until **1997** that tobacco companies agreed to fund healthcare costs from smoking

The X-Ray time line:

- Thomas Edison noted injuries from X-Rays in **1896**
- Edison's assistant died from X-Ray exposure in **1904**
- Fluoroscopes were used in shoe stores to see through shoes to aid proper fitting in **1930**
- The deaths of over 200 radiologists from radioactive cancer were published in **1934**
- Radiation levels of fluoroscopes were questioned in **1949**
- In **1990** the risk of cancer from radiation was found to be five times greater than previously thought

The Asbestos time line:

- A British factory inspector warned of asbestos harm in **1898**
- Rat studies raised questions about harmful effects of asbestos dust in **1911**
- U.S. insurers refused to cover asbestos worker's claims in **1918**

- From **1935 to 1949** lung cancer was reported in asbestos workers
- Asbestos was finally banned in the U.S. in **1989**

There is no question that EMR and cell phone radiation is a potential carcinogen. The evidence to support the toxicity and carcinogenicity of cell phone radiation is overwhelming. Current safety standards are archaic and do not address the issues created by current technology in use today. As seen from these timelines it took many, many decades and untold casualties before those carcinogens were ever properly addressed. Cell phone radiation is a much bigger toxin than tobacco, X-Rays or asbestos due to the sheer numbers of people that use cell phones and wireless technology. Consequently, the numbers of people now being affected is enormous. There isn't enough time for us to wait for our government or industry to come to the realization that a problem exists. We know that they will be reluctant to make such an admission. Reasonable precautions must be taken now. The evidence is before us. Research studies tell us there is a problem. We can't wait until industry and government are forced to admit it. We did that with tobacco, X-Rays and asbestos.

The question is this. Are you willing to see this problem for what it is? If so, are you willing to take appropriate measures to do everything possible to protect yourself and your family from this toxin that is everywhere?

Guidelines for Protection and Prevention

What can we do to protect ourselves? What steps can be taken to minimize our exposure and risk? Since wireless technology is here to stay the problem of protection must be approached in two ways. First, measures must be taken to maximize the body's resistance to damage from EMR. This can be done by strengthening our biofield and our immune system to better resist the negative impact of electromagnetic radiation. Second, exposure to EMR must be minimized to decrease the risk.

Here are some things that can be done right now.

Increase Resistance to EMR Damage:

1. Good nutrition is essential to building a strong immune system that can resist the effects of electropollution. Eat a healthy diet. This includes eating fresh organic fruits and vegetables every day. Five to nine servings daily of organic fresh fruits and vegetables are recommended.
2. If you eat meat eat free-range hormone-free meat whenever possible. Avoid farm-fed fish.
3. Hydrate adequately. Drink good quality bottled or filtered water. Use glass and ceramic containers whenever possible. Good quality water is essential for energy and for proper detoxification. As a rule of thumb divide body weight

by two. This is the number of ounces of water per day a normal healthy individual should consume.

4. Take a high-quality multi-vitamin/multi-mineral product daily.
5. Take extra antioxidants daily to neutralize free radicals produced by EMR.
6. Take Omega-3 oils such as Fish Oil daily. Minimum dose is 3000mg per day.
7. Take melatonin 2-4mg in a sublingual form before bedtime.
8. Exercise 5 days a week for at least 20 minutes per session.
9. Minimize your exposure to synthetic chemicals, solvents, cleaners and cosmetics. These products are loaded with harmful chemicals that are damaging to the body. Avoid the use of pesticides and insecticides whenever possible.

By eating healthy and exercising the biofield and immune system will be strengthened. This will minimize the damaging effects of EMR and cell phone radiation exposure. Healthy eating and proper hydration will also allow for quicker repair of damage already done.

Minimize Exposure to Reduce Risks

1. Whenever possible avoid using any type of wireless communication devices such as cell phones, cordless phones, and WiFi connections.
2. When purchasing a cell phone purchase one that has a 'speakerphone' feature. Use the speakerphone whenever talking and keep the cell phone away from the head and body whenever the phone is on or in standby mode.
3. Use an "air tube" hands-free headset if your cell phone does not have a speakerphone function. Not just any hands-free headset will work. It must be an "air tube" headset.
4. Turn the cell phone off when not in use and do not sleep with a cell phone on or near the bed. The cell phone emits a signal in stand-by mode even when you aren't talking.
5. Keep the cell phone at least 6-7 inches away from the body at all times. Don't carry the cell phone close to the body such as in a pocket or on a belt clip.
6. Don't talk on a cell phone or cordless phone when pregnant or while carrying a baby or small child.
7. Avoid digital enhanced cordless telecommunications, or DECT, technology. This is often the strongest source of radiation in the home. DECT phones emit radiation continuously, not just while the phone is in use.
8. Don't talk on a cell phone while in a vehicle, on a train, bus, plane, or subway. These enclosed areas trap radiation and consequently exposure becomes higher in these enclosed metal surroundings. They also impede the signal so your cell phone must use more power to maintain the connection.
9. Use wired and corded telephones. Eliminate cordless phones and WiFi equipment in your home and work environments.

10. Use wired Internet connections instead of wireless routers. If you must use a wireless router turn it off at night or when it is not in use.
11. Pay attention to the signal bars on the cell phone display. Don't use the cell phone when the signal is weak. The weaker the signal the more power required to maintain the connection. Preferably, only use cell phones in open areas.
12. Keep laptops away from the body and don't operate a laptop while it rests on the lap. Sit back from computer monitors and screens as much as possible.
13. Keep all electronic devices like alarm clocks, radios and cordless phones at least six feet away from your head during sleep.
14. Avoid waterbeds, electric blankets and metal bed frames.
15. Use a gaussmeter to measure the electrical field inside electrically-powered automobiles. Large electrical cables often run directly under the driver's seat.
16. Encourage use of fiber optic cable in place of wireless networks in your local municipalities.
17. Wear a personal protection device to strengthen your body's biofield and increase your resistance to the radiation around you
18. Install intervention technologies and prevention technologies that will "camouflage" or disguise the Information-Carrying Radio Wave from being detected by the body. These should be installed on all electrical and electronic devices, electrical circuits, appliances, cell phones and cordless phones in your home, office and business areas.

If you are not sure of what type of device to use or what type of technology works I would be happy to share my information and opinions with you from the research and reading I have done on available technology.

Wireless technology is perhaps the greatest convenience of our time. Yet it could also prove to be the greatest toxin we have ever created. Thank you for your interest in learning more about this growing problem in our society. Educate and protect those close to you. And please join me in informing those in your circle of influence. Your questions and comments are welcomed and you are free to contact me.

Passionate about health,

Lynn Quiring, RPh, CCN, NMD
Logical Health LLC
1163 E. Geronimo Place
Chandler, AZ. 85225
480-275-5915
lynnquiring@msn.com

Visit my bog at <http://cellphoneradiationusa.blogspot.com>.

References

1. *Jour Am Med Assoc*. Jan 2001; Wire Technology Research, Second State of the Science Colloquium.
2. Lai H, Singh NP, “Acute low-intensity microwave exposure increases DNA single-strand breaks in rat brain cells”, *Bioelectromagnetics* 1995; 16:207-210.
3. Salford LG, Stureson K, Eberhardt JL, Persson BR, “Permeability of the blood-brain barrier induced by 915 MHz electromagnetic radiation, continuous wave and modulated at 8, 16, 50 and 200 Hz”, *Microsc Res Tech* 1994; 27(6):535-542.
4. Agarwal A, “Relationship between cell phone use and human fertility: An observational study”, presentation P-398, October 23, 2006, 62nd Annual Meeting of the American Society for Reproductive Medicine (ASRM), New Orleans, October 21-25, 2006.
5. Henderson M, “Mobiles may decrease men’s fertility”, October 23, 2006, <http://www.timesonline.co.uk/tol/news/world/article610494.ece>
6. Hardell L, Carlberg M, Soderqvist F, Mild KH, Morgan LL, “Long-term use of cellular phones and brain tumours: increased risk associated with use ≥ 10 years”, *Occup Environ Med* 2007;64:626-632.
7. Graham C, Cook MR, Gerkovich MM, Sastre A, “Examination of the melatonin hypothesis in women exposed at night to EMR or bright light”, *Environ Health Perspect* 2001 Dec; 109(suppl 6):911-933.

8. Klieesen, Michael, Spanish Neuro-Diagnostic Research Institute, Marbella, Spain.
9. "The child scrambler—What a mobile can do to a youngster's brain in 2 minutes", UK Sunday Mirror, April 1, 2004.
10. Hardell L, op cit.
11. Becker, Robert O, MD, *Cross Currents: The Promise of Electromedicine, the Perils of Electropollution*, Jeremy P. Tarcher, New York, December 1989, 1st ed.
12. Olsen J, Nielsen A, Schulgen G. "Residents near high voltage facilities and risk of cancer in children", *British Medical Journal* 1993;307:891-895.
13. Salford, op. cit.
14. Gandhi G A. "Genetic damage in mobile phone user: some preliminary findings", *Indian J Hum Genet.* 2005;11:99-104.
15. Sobel E, Dunn M, Davanipour Z, Qian Z, Chui H. "Elevated risk of Alzheimer's disease among workers with likely electromagnetic field exposure", *Neurology* 1996;47(6):1594-1600.
16. Mariea T, Carlo G. "Wireless Radiation in the Etiology and Treatment of Autism: Clinical Observations and Mechanisms", *Australasian Journal of Clinical Environmental Medicine* 2007; 26(2):3-7.
17. Noonan C, Reif J, Yost M, Touchstone J. "Occupational exposure to magnetic fields in case-referent studies of neurodegenerative diseases", *Scand J Work Environ Health* 2002; 28:42-44.
18. Savitz D, Liao D, Sastre A, Kleckner R. "Magnetic field exposure and cardiovascular disease mortality among electric utility workers", *Am J Epidemiology* 1999; 149:135-142.
19. Sandyk R, Anastasiadis P, Anninos P, Tsagas N. "The pineal gland and spontaneous abortions: implications for therapy with melatonin and magnetic field", *Int J Neuroscience* 1992; 62(3-4):243-250.
20. Khurana V. <http://canberra.yourguide.com.au/news/local/general/mobiles-may-be-death-sentence/1210628.html> March 2008.
21. Schuz J, Grigat J, Brinkmann K, Michaelis J. "Residential magnetic fields as a risk factor for childhood acute leukemia: Results from a German population-based case-control study", *Int J Cancer* 2001; 91:728-735.
22. Freiburger Appeal. Umwelt.medizin.gesellschaft. 2003; 35-36. http://www.igumed.de/images/fa_1_03.pdf
23. Verkasalo P, Kaprio J, Varjonen J, Romanov K, Heikkila K, Koskenvuo M. "Magnetic fields of transmission lines and depression", *Am J Epidemiology* 1997; 146(12):1037-1045.
24. Szmigielski S, Bielec M, Lipski S, Sokalska G. "Immunological and cancer related aspects of exposure to low level microwave and radiofrequency fields", *Modern Bioelectricity*. Marcel Bekker, New York. 1988;861-925.
25. Salford L, Brun A, Eberhardt J, Malmgren L, Persson B. "Nerve cell damage in mammalian brain after exposure to microwaves from GSM mobile phones", *Environ Health Perspect* 2003 June; 111(7):881-883.

26. Lai, H. "Neurological effects of radiofrequency electromagnetic radiation in Advances in Electromagnetic Fields in Living Systems", 1994. (JC Lin, Ed.) Plenum Press, New York.
27. Savitz D, Checkoway H, Loomis D, "Magnetic field exposure and neurodegenerative disease mortality among electric utility workers", *Epidemiology* 1998; 9:398-404.
28. Freiburger Appeal. Umwelt.medizin.gesellschaft. 2003; 35-36.
http://www.igumed.de/images/fa_1_03.pdf
29. Johnson-Liakouris A, "Radiofrequency Sickness in the Lilienfeld Study: an effect of modulated microwaves", *Arch Environ Health* 1998, 53:236-238.
30. Agarwal A, Deepinder F, Sharma R, Ranga G, Li J, "Effect of cell phone usage on semen analysis in men attending infertility clinic: an observational study", *Fertil Steril* 2007, May 3.
31. Braune S, Reidel A, Schulte-Monting J, Raczek J, "Influence of a radio-frequency magnetic field on cardiovascular and hormonal parameters of the autonomic nervous system in healthy individuals", *Radiat Res* 2002; 158:352-356.
32. Lai H, Singh H. "Single and double strand DNA breaks in rat brain cells after acute exposure to radiofrequency electromagnetic radiation", *Int J Radiat Biol* 1996; 69:513-521.
33. Salford L, Brun A, Stureson K, Eberhardt J, Persson B. "Permeability of the blood-brain barrier induced by 915 MHz electromagnetic radiation, continuous wave and modulated at 8,16, 50 and 200 Hz", *Microsc Res Tech* 1994;27(6):535-542.
34. Graham C, Cook M, Gerkovich M, Sastre A. "Examination of the melatonin hypothesis in women exposed at night to EMR or bright light", *Environ Health Perspect* 2001 May; 109(5):501-507.
35. Graham C, op. cit.
36. Harland J, Lee M, Levine G, Liburdy R. "Differential inhibition of tamoxifen's oncostatic functions in a breast cancer cell line by 12 mG magnetic field", *Electricity and Magnetism in Biology and Medicine*, Bersani F (ed.), Plenum Press, Bologna, Italy, 1998.
37. Wilson B, Anderson L, Hilton D, Phillips R. "Chronic exposure to 60-Hz electric fields: Effects on pineal function in the rat", *Bioelectromagnetics*, 1981; (2):371-380.
38. Salter, Chuck. "At One With Our Cells", *Fast Company*, 104; April 2006
39. Davis S, et al. "Night Shift Work, Light at Night", *Journal of the National Cancer Institute* Oct. 17, 2001; 93(20): 1557-1562.
40. Robien K, Cutler G, Lazovich D. "Vitamin D intake and breast cancer risk in post menopausal women: the Iowa Women's Health Study", *Cancer Causes Control* 2007 Sept; 18(7):775-82, epub 2007 June 5, PMID: 17549593.
41. Furio A, Brusco L, Cardinali D. "Possible therapeutic value of melatonin in mild cognitive impairment: a retrospective study", *Journal of Pineal Research* Nov 2007; 43(4): 404-409.
42. Masami I, Nitta H, Kabuto M. "Magnetic fields of 50 Hz at 1.2 uT as well as 100 uT cause uncoupling of inhibitory pathways of adenylyl cyclase mediated

- by melatonin 1a receptor in MF-sensitive MCF-7 cells”, *Carcinogenesis* 2001 July; 22(7): 1043-48.
43. Srinivasan V, Spence D, et al. “Melatonin, environmental light, and breast cancer”, *Breast Cancer Res Treat* 2007 May 31; PMID: 17541739.
 44. Coogan P, Clapp R, Newcomb P, Wenzl T, Bogdan G, Mittendor R, Baron J, Longanecker M. “Occupational Exposure to 60-Hz Magnetic Fields and Risk of Breast Cancer in Women”, *Epidemiology* 1996 Sep; 7(5): 459-64.
 45. Demers P, Thomas D, Rosenblatt K, et al. “Occupational Exposure to Electromagnetic Fields and Breast Cancer in Men”, *Am J Epidemiology* 2003 Apr 15; 157(8):683-91.
 46. Agarwal A, Deepinder F, Sharma R, Randga G, Li J. “Effect of cell phone usage on semen analysis in men attending infertility clinic: an observational study”, *Fertil Steril.* 2007 May 3.
 47. Ibid.
 48. Ibid.
 49. Salford L, Brun A, Eberhardt J, Malmgren, Persson B. “Permeability of the blood-brain barrier induced by 915 MHz electromagnetic radiation, continuous wave and modulated at 8, 16, 50 and 200 Hz”, *Microsc Res Tech.* 1994; 27(6):535-542.
 50. Redelmeier D, Tibshirani R. “Association between cellular telephone calls and motor vehicle collisions”, *New England Jour Med.* 1997 Feb.13; 336(7): 453-458.
 51. Braune S, Wrocklage C, Raczek J, Gailus T, Lucking C. “Resting blood pressure increased during exposure to a radio-frequency electromagnetic field”, *Lancet* 1998; 351:1857-1858.
 52. Li D, Odouli R, Wi S, et al. “A population-based prospective cohort study of personal exposure to magnetic fields during pregnancy and the risk of miscarriage”, *Epidemiology* 2002; 13:9-20.
 53. British Consumer Association, April 2000.
 54. http://reviews.cnet.com/4520-6454_7-5140288-1.html
 55. Hardell L, Carlberg M, Soderqvist F, Mild KH, Morgan LL, “Long-term use of cellular phones and brain tumours: increased risk associated with use ≥ 10 years”, *Occup Environ Med* 2007;64:626-632.
 56. Schulz J, et al. “Radiofrequency Electromagnetic Fields Emitted from Base Stations of DECT Cordless Phones and the Risk of Glioma and Meningioma, (Interphone Study Group)”, *Radiation Research*, 2006 Jul; 166(1).
 57. “Concerns of the Residents of Ouruhia Regarding the Radio Tower at 123 Lower Stux Road, Christchurch, New Zealand.” Prepared for Christchurch City Council, Context (NZ) Scientific Services, pg. 2, October 20, 1998.
 58. “Study on Health Effects of the Shortwave Transmitter Station of Schwarzenburg, Berne, Switzerland.” The Federal Office of Energy, August, 1995.
 59. <http://omega.twoday.net/stories/1616128>
 60. Ibid.
 61. Hocking B, Gordon I, Grain H, Hatfield G. “Cancer Incidence and Mortality and Proximity to TV Towers”, *MJA* 1996; 165:601-605.

62. Abdel-Rassoul, et al. “Neurobehavioral Effects Among Inhabitants Around Mobile Phone Base Stations”, *Neurotoxicology* 2006 Aug 1.
63. Lsscher W. Institute of Pharmacology, Toxicology and Pharmacy of the Veterinary School of Hanover, Germany.
64. International Association of Fire Fighters 2004 Convention, Boston, MA. August 17, 2004. Resolution No. 15.
65. Feychting M, Ahlbom A. “Magnetic Fields and Cancer in Children Residing Near Swedish High Voltage Power Lines”, *Am J Epidemiology* 1993; 138:467-481.
66. Lai, H. “Neurological Effects of Radiofrequency Electromagnetic Radiation Relating to Wireless Communication Technology”, Bioelectromagnetics Research Laboratory, Dept. of Engineering, University of Washington, Seattle, Washington. Paper presented at the IBC-UK Conference: Mobile Phones – Is there a health risk? Sept. 16-17, 1997, Brussels, Belgium.