

Illusion and Escape: The Cell Phone Disease Quagmire

Dr. George L. Carlo¹

“Anything can be faked... by anyone. In the many years that I have been before the public, my secret methods have been steadily shielded by the strict integrity of my assistants.... But then, so far as I know, I am the only performer who ever pledged his assistants to secrecy, honor and allegiance under a notarial oath.”.....Harry Houdini

It struck me while watching the film classic, *The Great Houdini*, the other night. The most skilled magician and escape artist of all time would likely be in awe of the deft illusions that have lured the global public into buying four billion life-threatening devices called cell phones. That slight of hand being accomplished right under the noses of a legal system avowed to protect the rights of victims – while the perpetrators escape all accountability. Just think what Houdini could have done with a trillion dollar industry behind him!

Sadly, the story is not metaphor. It is the reality that threatens the essence of our being, the futures of our children, and the fragile ecological balance of a planet already under siege. It is potentially more serious than global warming – and already claiming lives.

So, you say: “If this technology is so dangerous, why isn’t it portrayed that way in the news? Do we not have scientists who study this to make the technology safe? Do we not have regulations and government policing to keep us safe? Do we not have the news media to keep us informed? And do we not have lawyers who will advocate on our behalf to ensure that we are treated fairly?”

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Yes, we have all of those protections. But they are not working to protect us. And, there is catastrophic trouble ahead if corrective steps are not taken to stem the tide of danger being precipitated by the unbridled expansion of wireless technology.

Fact: Cell Phones Cause Disease.

When cell phones were first proposed for consumer use in 1983, the fledgling wireless communications industry succeeded in convincing the Food and Drug Administration (FDA) that pre-market safety testing was not necessary. The rationale: cell phones were like little microwave ovens that operated at power levels too low to cause heating. Thus, because cell phones could not be used to cook food, they were deemed safe by the FDA. That mistake in 1983 was the foundation for a long-term detrimental public health threat that is increasing daily.²

By 1993, there were 15 million Americans using cell phones – 25 million people worldwide. When a Florida lawsuit raised public questions about cell phones causing brain cancer, the industry, the FDA and the media were caught by surprise. The confusion prompted Congressional hearings and a subsequent deal between the cell phone industry and the FDA to do research as a means of filling in the data gaps that were present because of their 1983 decision to forego pre-market safety testing.³ By the end of 2008, there will be more than 280 million American users and more than four billion users worldwide.⁴ The cell phone has become ubiquitous among all demographic groups – including young children.

While a cell phone is held close to the head, electro-magnetic radiation penetrates deep into brain tissue, and that is where the problem begins. (*See Illustration 1*) Indeed, a decade ago the primary concern was the penetrating near-field plume – or the area within six inches of the antenna. However, that concern is now one of many, as ambient radiation has become a very serious problem for those who are electro-sensitive or otherwise symptomatic with conditions involving cell membrane sympathetic stress.⁵

Every cell phone must be connected to a base-station antenna to be functional. Each connection results in a biologically active electromagnetic directional wave, which combines with the waves from other cell phones and wireless devices to form a mesh of information carrying radio waves (ICRW) from which there is little escape for most people. The mechanism of harm perpetrated by ICRWs is biological and therefore carries no threshold for effects – in other words, there is no absolutely safe level of exposure. All cells, tissues and organs in the range of exposure are therefore triggered,

² To be sure, had scientific studies now completed been done appropriately as pre-market testing, cell phones as we know them today would not have made it to the marketplace.

³ The history of those occurrences is detailed in the book, Cell Phones: Invisible Hazards in the Wireless Age, 2001, co-written by Dr. George Carlo and Washington syndicated columnist, Martin Schram.

⁴ This magnitude of growth is astonishing – especially when considering that the item is a radiation emitting device that has never been tested for safety and that consumer surveys indicate more than half of all users believe there is an associated health risk.

⁵ Reports from clinicians who treat electro-magnetic radiation-related membrane sensitivity conditions suggest that between five and ten percent of the general population could now be affected.

and the difference between people who develop symptoms and those who do not is related to factors such as age, state of wellness, gender and genetics.⁶

Peer-reviewed studies from around the world show cell phones and other wireless technologies ranging from WiFi in schools to transmission towers in neighborhoods, cause adverse biological effects and disease. (*See Side-Bar 1: Key Cell Phone Disease Causation References*). Epidemiological studies indicate the risk of benign and malignant brain tumors, acoustic neuroma, melanoma of the eye and salivary gland tumors increases significantly after ten years of cell phone use – some studies suggest that even short-term use statistically increases cancer risk.⁷

Cancer is not the only concern, as studies confirm myriad conditions associated with wireless radiation exposure, including neurological disease and Autism.⁸ (*See Side-Bar 2: Cell Phone-Related Diseases and Early Warning Symptoms*) As more precise scientific information is gathered, it is clear that ICRW and other types of electromagnetic radiation can act both as direct causes of disease and as indirect antagonists or synergens.⁹

With respect to cause and effect proof, the key is that in the past two years, clear elucidation of the pathological mechanism of harm has been discerned. (*See Side-Bar 3: The Causal Mechanism; See Illustrations 2, 3 and 4*). The cumulative science thus lays the groundwork for establishing medical causation under the stringent Daubert standard. Indeed, among scientists and clinicians whose work is focused on wireless technology induced health effects, the debate has shifted from the presence or absence of cause and effect to the urgent need for remedies to control an emerging medical problem impacting millions of people every day.

The urgency is profound because the most vulnerable are the young, the sick, the elderly and the poor – population groups who, for survival, routinely rely on assistance from public and private caretakers. Affected patients from around the world report personal devastation and economic ruin coinciding with electromagnetic radiation related disease. Patients with electro-hypersensitivity, for example, are not able to work in environments where there is any type of electromagnetic radiation exposure – areas absent the exposure are near impossible to find. These people become permanently unemployable.¹⁰ Thus, the effects of cell phone radiation have drifted into areas of fundamental public policy, lifestyle choices, politics, health care, national security and personal economic viability.

⁶ Indeed, clinicians familiar with cell phone pathology suggest that the proper distinctions for most of the population are ‘those symptomatic’ and ‘those not yet symptomatic’.

⁷ In the peer-reviewed published epidemiological literature addressing the link between cell phones and tumors, there are more than 300 statistically significant findings of excess risk.

⁸ Autism is believed to be associated with heavy metal toxicity, including exposures sustained through mercury containing vaccinations. Data now suggest that electromagnetic radiation exposure could be exacerbating the effects of heavy metals by closing down cell membranes and trapping metals within cells. Mariea and Carlo, *Australasian Journal of Clinical Environmental Medicine*, November 2007.

⁹ Clinical data suggest that therapeutic medications necessary for controlling symptoms from heart disease, cancer, diabetes and other conditions do not work efficiently in the presence of electromagnetic radiation.

¹⁰ A very high proportion of indoor work environments – offices, schools, universities, banks, service providers – contain wireless Internet, cordless phones, and other sources of electromagnetic radiation.

Indeed, some governments around the world have begun to take steps to protect vulnerable populations.

(See Side-Bar 4: Governments Recommending Precautions for Mobile Phone Use Among Young People)

The tragedy is that most of the suffering is probably avoidable. The problems associated with electromagnetic radiation health effects have been known for at least three decades, and technological solutions have been available, but not implemented, for at least two.¹¹

(See Side Bar 5: The Story of J.G. Brady)

Fact: Orchestrated Illusions Have Shaped Public Opinion

Were these devastating and far-reaching effects accidents of nature, finding solutions could be collective collaborations of citizens, government and industry. However, the unfortunate reality is that a dangerous fraud is being perpetrated upon the public that has kept knowledge regarding mobile-phone related health and ecological dangers suppressed and technologies capable of saving lives from reaching the consumer market place. The perpetrators are the ever expanding brethren of the telecommunications and internet industries. Armed with the experiences of public relations, marketing and defense law personnel who learned their skills in the tobacco and asbestos wars, the orchestrated ruse around the safety of telecommunications technology is the most sophisticated in history.¹²

(See Side-Bar 6: The Cell Phone Industry Playbook: Controlling Illusion)

The cornerstone of the industry approach: Keeping the cell phone health effects issue out of the scientific and medical playing fields and in the public relations and political arena. According to the rules in their playbook, the issue is not about public health and safety – it is about public perception. It is not about scientific truth – it is about opinion. And, to achieve that end, sometimes it becomes necessary to change the science to suit the desired outcome.

(See Side-Bar 7: Data Manipulation: Thumbs on the Scales of Science)

The complexity of the science is used to advantage by the industry in their public positioning. Professional wordsmiths within the industry split hairs with complicated scientific concepts such as the differences between thermal and non-thermal mechanisms; biological effects and health effects; replication of studies and corroborative research; and weight of scientific evidence versus proper scientific judgment. Reporters glaze over when confronted with the complicated nuances, and public reports of harm are either not

¹¹ While corrective technologies exist, few have made it successfully into the consumer marketplace.

¹² Following a 2005 U.S. Supreme Court ruling denying a request for certiorari regarding a 4th Circuit Court of Appeals ruling against the industry – the case argued by Kenneth Starr as counsel to the cell phone industry – written public statements by cell phone industry operatives must be cleared through litigation counsel.

communicated or are so watered down that readers, listeners and viewers are left with the impression that ‘the issue is being looked into and so far, there are no problems’. Thus, consumers continue to buy.

The most obvious motivation for the wireless industry’s focus on manipulating public opinion is maintaining sales volume. The industry is highly competitive as companies work on narrow profit margins. A shift of one or two percentage points of market share can have devastating effects of the bottom line of even the largest industry players.¹³

However, more insidious and equally motivating has been the decision by insurance carriers to exclude health risk claims from product liability coverage sold to the wireless industry. Beginning in 2002, major insurers walked away from health risk coverage to protect themselves from expenses (*See Side-Bar 8: Chronology of Key Cell Phone Personal Injury Litigation*) and potential losses (*See Side-Bar 9: Workers’ Compensation Cases*) associated with ongoing product liability and personal injury litigation against the cell phone industry.

To avoid appearing as a lone target for litigation, the cell phone industry has continued to meld itself into the burgeoning information technology and internet industries. In 1999, the main cell phone industry trade association, the Cellular Telephone Industry Association, changed its name to the Cellular Telephone and Internet Association. That opened the door to recruit the likes of Microsoft and Apple into their midst. In 2005, they moved into the entertainment industry – exemplified by the joint venture between Sprint and the Disney Corporation that brought Disney into the ranks of wireless signal carriers. Café companies such as Starbucks Coffee and Panera Bread have been lured into wireless Internet partnerships. These moves have diluted the potential liability for cell phone companies. These moves have spawned an institutional arrogance within the industry – their new breadth and apparent strength in numbers portraying their apparent belief in their own invincibility. Over time, however, it remains to be seen whether or not Microsoft, Apple, Disney and Starbucks among others are willing to carry the burden of the cell phone industry’s self-inflicted liability.¹⁴

Manipulation of the consumer market is also part of the industry strategy to extend their reach. Campaigns remain in place to convince parents and teachers that WiFi wireless Internet connections in schools improve education – while there is no evidence to support improvement and the pathology associated with ICRW is consistent with learning deficiencies being caused by the WiFi itself.¹⁵ The use of cell phones as personal safety devices for young and old alike remains a selling point – even though there are no data to support the claims that cell phones accrue safety benefits that would outweigh the associated health risks.

¹³ It is noteworthy that Motorola, Inc. is set to leave the wireless device space and become a component manufacturer only. There will be no American companies manufacturing cell phones in the near future.

¹⁴ Thus far, Microsoft, Apple, Disney, Starbucks and other of these new telecommunications industry partners have not been named as co-defendants in personal injury, workers’ compensation or consumer fraud lawsuits. Actions naming these co-defendants, however, could change the landscape.

¹⁵ Teachers’ Unions and university faculty in the United States and Canada have taken public note of the potential hazards.

Manipulating science for profit is not one-sided as another opportunistic emergent ‘industry’ is serving to exacerbate the public health problem. Multi-layer marketing companies and other ‘grass roots’ participatory businesses sell numerous products such as pendants and stick-on tabs through unsupportable claims of protecting consumers against the dangers of cell phones and other electro-magnetic radiation emitting devices. The science of prevention and therapeutic intervention with respect to cell phone-related diseases is still being formed, but one aspect is abundantly clear: there is no panacea for the problem. Thus, bogus devices are being sold that not only give desperate consumers a false sense of security – luring them into more excessive use of wireless devices – but data now show that improper use of intervention devices can cause an exacerbation of symptoms and serious disease relapses.¹⁶

Because these businesses are person to person, they fly under the radar of regulatory groups such as the Federal Trade Commission and there are no incentives for these companies to develop proper scientific data on safety and efficacy. These companies prey on patients who are ill or poorly informed consumers who can be swayed by unscientific and unsupportable personal testimonials and other wild claims about miracle cures. The fraud perpetrated by these ‘helpful’ companies is equally as damaging to public health as the ruse promoted by the wireless industry itself.¹⁷

Fact: The Industry Has Escaped Accountability

Thus far, the cell phone industry has been freed from any accountability pertaining to the health and environmental damage done by their devices and supportive infrastructure. Those who are being injured are left without recourse. In short, the system is not working.

The industry has the FDA held in abeyance. Because the FDA gave the industry a variance on the requirement for pre-market safety, it is unlikely that any other action will be taken by them. With respect to radiation-emitting devices, the FDA has very narrow regulatory authority: they can require pre-market testing; they can do post-market surveillance; they can ban products if post-market surveillance identifies problems. With upwards of 280 million Americans using cell phones, a cell phone ban is politically infeasible. The FDA has their hands tied and as such is not directly involved in the safety regulation of cell phones at all.¹⁸

The wireless industry controls the Federal Communications Commission (FCC). The revolving door between the FCC and the wireless industry is well documented. Indeed, the partnership is cited publicly by both industry and the FCC as a major reason for the tremendous growth and ‘success’ of the wireless industry itself. It is noteworthy that in a

¹⁶ See, Medical Alert: www.safewireless.org.

¹⁷ Earlier this year, a video hoax traveled the Internet world with a scene depicting popcorn being popped by four cell phones surrounding the kernels on a table. The hoax was proudly claimed by a Pittsburgh, Pa. company selling wireless Blue Tooth headsets. The hoax was apparently orchestrated by using internal components of a microwave oven situated out of sight below the table.

¹⁸ It is noteworthy that the verbiage on the FDA website over the years regarding the dangers of cell phones closely follows the public positions taken by the cell phone industry itself.

recent cell phone-brain cancer proceeding in D.C. Superior Court, the FCC entered an amicus brief in support of the cell phone industry's motion for dismissal. The FCC had never before mingled in state or federal court proceedings regarding cell phone dangers, and the filing signals a new level of bold interference by the industry with the workings of that federal agency.¹⁹ Further, the emission guidelines for wireless radiation promulgated under the Telecommunications Act of 1996 and administered through the FCC, are routinely misrepresented by the cell phone industry as 'safety standards'. The FCC has no safety authority. Thus, currently in the U.S., there are no safety standards to protect consumers from the dangers of cell phones and other wireless devices.

Litigation thus far against the cell phone industry has provided yet another escape route. Federal pre-emption has been the battleground serving to delay existing cell phone litigation and prevent finders of fact from hearing scientific and medical causation testimony based on data generated after 1999.

Fact: Legal and Legislative Actions Are Necessary

In matters of public policy and consumer protection, litigation and legislation should be considered as last resorts to be employed when available remedial options have failed – such is the case with cell phones and other wireless technology.

Health risk questions about wireless have been on the national agenda for a half century. For the past fifteen years, the debate has been public. As time has elapsed, the public health threat has become exacerbated, not ameliorated, as personal and environmental exposures to dangerous electromagnetic fields have dramatically increased without health risk or ecological mitigation. Most importantly, there are large numbers of persons who are now affected with accumulating medical bills, lost wages, pain and suffering.

Litigation is necessary to compensate victims and to provide deterrents to the continued disingenuous and dangerous behavior of the wireless industry.

- Personal injury litigation is supportable by medical science for cell phone-related brain tumors, parotid gland tumors, acoustic neuroma, eye cancer, neurological disorders, electro-hypersensitivity and Autism.
- Product liability actions are needed to compensate injury and to eliminate the detrimental public health impact of company practices that victimize patients and fraudulently promote products under false claims of protection against the effects of various types of electromagnetic radiation.

In addition to compensating victims, there is an urgent need to apply political pressure to effectuate long term solutions and to ensure the health and safety of future generations.

¹⁹ Jeff Silva, the Washington, D.C. Bureau Chief for Radio Communications Reports, through meticulous inquiry including review of FCC day books, uncovered and reported that the FCC amicus brief was precipitated and written by counsel under retainer to the cell phone industry, and then submitted to the court through the FCC.

- Legislative actions to place warnings on cell phones and wireless devices, as well as warning signs in public spaces that carry WiFi and other wireless signals are necessary.
- The Telecommunications Act must be amended to include victims' compensation provisions; incentives for the development and commercialization of technologies that are protective against electromagnetic radiation harms; and civil rights provisions for homeowners in communities where cell phone base stations and other wireless infrastructure are constructed without environmental and health risk due process.

Harry Houdini did not tell his secrets for fear that the magical illusion would be gone. Rest assured, Harry...there are no illusions here....

(SIDE-BAR 1)

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(SIDE-BAR 2)

Cell Phone-Related Diseases and Early Warning Symptoms

More than 1,000 peer-reviewed, published studies form the basis for establishing the link between mobile phone use and a variety of health problems.

Cell Phone-Related Diseases:

- brain, eye and salivary gland tumors;
- neurological diseases including Autism and Alzheimer's;
- debilitating illnesses including electro-hypersensitivity, anxiety syndromes, sleep disorders, and depression;
- exacerbation of immune, endocrine, gastrointestinal and reproductive system symptoms; and
- compromising efficacy of necessary medical and therapeutic interventions

Early Warning Symptoms:

- fatigue, shortness of breath and lethargy
- difficulty sleeping including restless leg and other nuisance syndromes
- difficulty keeping focus and attention deficits
- short term memory lapses
- daydreaming and staring off into space
- dizziness and tingling in extremities
- loss of appetite or persistent diarrhea
- unusually severe allergic reactions
- intolerance to alcohol
- extreme sensitivity to sunlight and noise
- impotence and sexual dysfunction
- ineffectiveness of prescription remedies

(SIDE-BAR 3)

The Causal Mechanism

Laboratory experiments, epidemiological studies and clinical observations form a convergent database that has fostered a clear elucidation of the mechanism through which Information Carrying Radio Waves (ICRW) from cell phones and other wireless devices cause disease.

Key parts of the mechanism:

- Spatially and temporally coherent ICRW, necessary for wireless communication, do not occur in nature. When these waves resonate with cell membrane vibration receptors, they trigger a protective, sympathetic response.
- Because the ICRW are standing waves, the sympathetic response is chronic and causes a biological cascade of effects at the cellular level that includes a decrease in cell membrane permeability. This leads to cellular energy depletion, intra-cellular build-up of free radicals, and metabolic inefficiency.
- Intercellular communication is disrupted, leading to acute symptoms that are the result of cells not being able to work together as tissues, organs and organ systems. This fundamental disruption of normal physiology can lead to myriad diseases.
- As waste product becomes trapped inside cells, free-radical damage increases, including interference with DNA repair and genetic transcription.
- Disruption of DNA repair leads to the formation of micronuclei and other aberrant genetic constructs. When the burden becomes intolerable to the cell, the process of apoptosis facilitates cloning of the aberrant constructs, cell proliferation and consequent tumor development.
- Interference with genetic transcription alters the genomic fingerprint carried to daughter cells following normal mitosis, causing somatic alterations and chronic disease manifestations.

Of critical note: this causal mechanism is consistent with the unusual notion that varied diseases can follow from a single type of exposure. Thus, mobile phone exposure can plausibly lead to one type of disease in one person and another disease in another person. The differences in susceptibility are based on genetics, environment, lifestyle, occupation and other health status parameters.

(SIDE-BAR 4)

**Governments Recommending Precautions for Mobile Phone Use
Among Young People**

Country	Warning
India	No use in children under 16 years of age
Japan	General limitation under 18 years of age
Russia	General limitation; no use under 12 years
France	No long calls; no use under 16 years of age
Israel	No use under 12 years of age
United Kingdom	General limitation under 12 years of age

Note: The United States does not officially recognize mobile phone health risk problems. However, the National Research Council has now recommended more research on the risks of cell phone use in children and pregnant women. This is the first such action by any U.S. government agency.

(SIDE-BAR 5)

The Story of J.G. Brady

(Personal Account of G. L. Carlo)

In October of 1999, following the airing of an ABC News 20/20 special on the health effects of mobile phones which featured our work, my assistant received a phone call from a fellow who identified himself as J.G. Brady. During the call, Mr. Brady indicated that he was retired military, and that he had served as secretary for the U.S. Joint Chiefs of Staff. He indicated that he had information that I needed to see. I was not able to take the call, but suggested that he send the information to us in a letter.

We received his 17-page letter two days later, but regretfully I did not read it until the first of December. After reading the first page, I attempted to call Mr. Brady on the phone. The phone number he gave in the letter was disconnected. As I continued to read the letter, I was stunned by its contents, page after page. We tried to reach Mr. Brady in all ways at our disposal: the letter had a P.O. Box return address that had been closed a week earlier; his number was unlisted in Seattle, Washington, where the letter originated; he appeared to have no other family in Seattle, as we attempted to call all of the 'Brady's' listed in the telephone book. I later gave the letter to the CBS 60 Minutes news magazine, but they were also unable to find Mr. Brady. I later passed the letter to Washington ABC News reporter Del Walters, who was not able to find Mr. Brady, but indeed was able to confirm the viability of the contents of the letter through interviews with a number of retired military personnel.

What did the J.G. Brady letter say?

- The military establishment had been studying radio frequency health effects since the late 1940s because of radiation poisoning occurring among radio communications personnel in the services.
- The top-secret health effects research involved commercial co-sponsors including many of the main players in the mobile phone industry of today.
- The work was completed in the late 1980s, with solutions to the health risk problems identified and readied for implementation within the armed services.
- Prior to public release of the de-classified data reports in 1992, the commercial co-sponsors were granted by the White House their request that the research findings be re-stated so as not to alarm the public with respect to dangers of wireless communication devices such as cell phones. An Executive Order was signed by President George H. W. Bush that facilitated the re-writes.
- The original research clearly identified specific health risks and remedies. In the re-stated reports, the health risk findings were absent.
- In 1996, President Bill Clinton signed an Executive Order that allowed for the original research data to be destroyed.

J.G. Brady has never been found. But, the implications of the content of his letter, much of it independently verified, are far-reaching and suggest that many of the health problems associated with wireless technology were likely avoidable.

(SIDE-BAR 6)

The Cell Phone Industry Playbook: Controlling Illusion

The mobile telephone industry has been successful in manipulating scientific data, public opinion and public information to protect their interests, promote the unbridled sale of their technologies and create the illusion of safety – all to the detriment of public health.

Here is how they do it.

- Public relations “hit squads” are permanently in place in trade associations and corporate offices to monitor scientific, medical and consumer information for consistency with industry interests.
- When “problems” are identified, the public impact of detrimental information is altered first through public statements and written press releases.
- The media are ‘managed’ by leveraging advertising dollars
- Second level ‘management’ is achieved through control of scientific research and scientific organizational channels.
- Key watch words that signal industry manipulation:
 - Expert panel reports say.....
 - Third party opinions are....
 - The ‘weight of scientific evidence’ indicates.....
 - The studies need to be ‘replicated’ before.....
 - The ‘safety guidelines’ are being met
 - More research is needed before.....
 - Scientists around the world agree that.....
- Industry institutional collaborators:
 - The World Health Organization
 - The American National Standards Institute
 - The IEEE – Institute for Electronics and Electrical Engineers
 - The International Commission on Non-Ionizing Radiation Protection
 - The American Cancer Society
 - The Bioelectromagnetics Society – BEMS
 - The Federal Communications Commission
 - The Food and Drug Administration
- Industry consultants who publicly support industry positions:
 - Dr. William Bailey – Exponent Consultants
 - Dr. Linda Erdreich – Exponent Consultants
 - Dr. John Moulder – University of Wisconsin
 - Dr. Michael Repachioli – University of Rome (Italy)
 - Dr. Bernard Veyret – University of Bourdeaux (France)
 - Dr. Michael Thun – American Cancer Society
 - Dr. Joseph Roti Roti – Washington University (St. Louis)
 - Dr. John Boice – International Epidemiology Institute
 - Dr. Paolo Vecchia – International Committee on Non-Ionizing Radiation Protection

(SIDE-BAR 7)

Data Manipulation: Thumbs on the Scales of Science

Studies funded by the mobile phone industry are more than six times more likely to find "no problem" than studies funded by independent sources. This difference is statistically significant – suggesting the occurrence is not by chance. The following is an example.

In 1995, a young epidemiology student was working as an assistant to a senior scientist when their organization was contracted by an independent group to conduct a case-control study of brain tumors and cell phone use. When the lead investigator passed away before the study was completed, the work continued with the student and was completed in the fall of 1998. The results were peer-reviewed and the report submitted in compliance with the research contract revealed a statistically significant doubling in risk of rare neuro-epithelial brain tumors among cell phone users.

Between 1999 and 2000, the student forged a relationship with a cell phone industry epidemiologist who had been hired to assist in 'peer review' of studies prior to publication.

In late 2000, a paper describing the case-control study was submitted to the prestigious Journal of the American Medical Association (JAMA). In that paper, three cases of cancer that had been part of the previous analyses had been eliminated. That change in the number of cancer cases included in the study – a breach of the protocols that had been in place since the study began in 1995 -- eliminated the statistical significance of the link between brain tumors and cell phones.

In the original peer-reviewed report, he also detailed a statistically significant correlation between the side of the head where tumors were located and the side of the head where people reported using their cell phones. Another study from Sweden that same year showed a similar significant risk increase with ipsilateral phone use. The new finding was very damaging to the mobile phone industry, especially since there was another corroborative study.

With the three cases of cancer eliminated the statistically significant correlation between the side of the head where the phone was used and the side of the head where the tumor was located also conveniently disappeared. The peer-reviewers at JAMA had no way of knowing about the data manipulation.

In the end, manipulated data were published in a highly reputable peer-reviewed journal. The industry was able to use the paper as a public relations tool. Today, the paper remains prominent in the data package the industry uses advance its position that cell phones pose no health risk.

(SIDE-BAR 8)

Chronology of Key Cell Phone Personal Injury Litigation

<u>Year</u>	<u>Case</u>	<u>Comments</u>
1992	<i>Reynard v. NEC Corp. et al.</i>	<ul style="list-style-type: none">• First cell phone – brain cancer case• Filed in Florida• Disposition in favor of industry
1994	<i>Kane v. Motorola, Inc.</i>	<ul style="list-style-type: none">• Motorola cell phone research and development employee• Developed brain tumor after testing early cell phone prototypes• Case filed in Illinois and settled as a confidential employer-employee resolution
1996	<i>Wright v. Southwestern Bell Mobile Systems</i>	<ul style="list-style-type: none">• Employee of mobile phone carrier who developed brain tumor• Unlimited cell phone minutes as perk of her job• Case filed in Illinois and settled as a confidential employer-employee resolution
1997	<i>Busse v. Motorola, Inc. et al.</i>	<ul style="list-style-type: none">• Class Action filed in Illinois on theory that industry supported epidemiological studies of phone users based on phone records were meant to withhold health risk data from public• Illinois court agreed that the action represented several million mobile phone users across the U.S.• Certified as a nation-wide Class Action in 1999, with public notice in the Wall Street Journal and other national newspapers• Dismissed upon mutual consent of opposing counsel in 2003

- 2000 *Newman v. Motorola, Inc. et al.*
- Neurologist with brain tumor filed suit in Maryland
 - Removed to Multi-District Litigation in Federal Court in Baltimore under Judge Catherine Blake
 - Daubert evidentiary hearing in 2002 with historical scientific data prior to 1999 presented by witnesses
 - Case dismissed due to lack of scientific evidence to support causation
- 2001 *Murray et al. v. Motorola, Inc. et al.*
- Brain cancer in Motorola employee
 - Filed in Superior Court of the District of Columbia
 - Removed to Multi-District Litigation in 2002
 - Remanded to D.C. Superior Court in 2004
 - Dismissed on Defendant's motion in 2007
 - Currently in appeals process
- 2002 *Schofield v. Matsushita Electronics Corp. of America et al.;*
Cochran v. Audiovox Communications Corp. et al.;
Keller v. Nokia, Inc. et al.;
Schwamb v. Qualcomm, Inc. et al.;
Agro v. Motorola, Inc., et al..
- Brain cancer cases filed in D.C. Superior Court
 - Same movement and status as *Murray* above
- J. Douglas Pinney, et al. v. Nokia, Incorporated, et al., and consolidated cases, U.S. Court of Appeals for the 4th Circuit, App. Ct. No. 03-1433, an appeal from the U.S. District Court for the District of Maryland, D.C. Nos. CA-01-1421-CCB, CA-01-1456-CCB, CA-01-3259-CCB, CA-01-3260-CCB, CA-01-3261-CCB, and CA-01-3899-CCB), Judge Catherine Blake presiding..*
- Five separate state Class Actions filed in Louisiana, Maryland, Pennsylvania, New York and Georgia
 - Plaintiff's seeking money to purchase headsets for all cell phone users on theory that cell phones without headsets are defective products
 - Removed to Multi-District Litigation in Baltimore, Maryland
 - Dismissed in 2003 on grounds of federal pre-emption due to jurisdictional overlap of the Telecommunications

Act of 1996 and the regulatory function of the Federal Communications Commission

- Overturned on split decision by the United States Court of Appeals for the 4th Circuit in 2005
- Defendant's petition for certiorari to the United States Supreme Court denied in 2005
- Cases returned to state courts where all but one have been dropped by consent of opposing counsel.

2002

Dahlgren v. Audiovox Communications Corp. et al.

- Consumer fraud Class Action filed in D. C. Superior Court
- Plaintiffs contend inadequate notice from cell phone manufacturers and carriers regarding possible health risks from mobile phones
- Current status: ongoing

Brower v. Nokia, Inc. et al.

- Filed in California as a potential Class Action
- Removed to Multi-District Litigation in Baltimore, Md. in 2003
- Remanded to California in 2004
- Dropped by consent of opposing counsel in 2007

Louther v. AT&T

- Filed in Florida
- Plaintiff, Mary Louther, represented self in proceeding
- Removed to Multi-District Litigation in Baltimore, Md. in 2003
- Dropped by consent of opposing parties in 2007

Reference Assistance:

Jeff Silva, Washington Bureau Chief, Radio Communications Reports.

(SIDE-BAR 9)

Workers' Compensation Cases

Year	Jurisdiction	Comments
2005	California	<ul style="list-style-type: none">• Female employee of telecommunications company who tested cell phones 8 hours per day in closed environment• Brain tumor within three years after began work• Levels of ICRW exposure several times higher than FCC guidelines• Evidentiary hearing where scientific study findings post-2000 were presented• Settlement agreement reached for \$180,000
2006	California	<ul style="list-style-type: none">• Male employee who used cell phones in his job• Brain tumor within six years after began using phone• Same science presented as in evidentiary hearing above• Patient deceased• Undisclosed amount of settlement with surviving family member
2007	Alaska	<ul style="list-style-type: none">• Maintenance worker contracted to do repairs on a tower facility he expected was not operating during the work period• Developed severe cognitive and neurological damage and permanently disabled• Exposures to RF were far above the FCC guidelines• AT&T appealed decision and the award was upheld by the Alaska Supreme Court

Reference Assistance:

Jeff Silva, Washington Bureau Chief, Radio Communications Reports.

(SIDE-BAR 10)

Key Legal Citations and Precedents

Case	Precedents
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Cellular Phone Task Force v. FCC, 205 F.3d 82 (2nd Cir. 2000)

- Addressed thermal versus non-thermal effects from RF emissions
- Plaintiff's loss expanded subject matter jurisdiction of the FCC to include health effects in those who are electro-sensitive and hypersensitive
- Decision used to validate the process whereby the FCC establishes emission standards based on input from the American National Standards Institute and the IEEE

EMR Network v. FCC, 364 U.S. App. D.C. 20, 22-25, 391 F. 3d 269, 271-74 (2004)

- Challenged FCC process of issuing permits for infrastructure expansion without complying with EIS provisions of the National Environmental Policy Act.
- Plaintiff's loss established that the FCC procedures are "functionally" compliant with NEPA
- Re-enforced the FCC position on RF emissions by establishing presumption that FCC has "occupied the field" of RF emissions under two statutes: NEPA and the Federal Communication Act.

In re Wireless Tel. Radio Frequency Emission Prods. Liab. Litig., 216 F. Supp. 2d 474 (D. Md. 2002); *In re Wireless Tel. Radio Frequency Emission Prods. Liab. Litig.*, 248 F. Supp. 2d 452 (D. Md. 2003), rev'd, *Pinney v. Nokia, Inc.*, 402 F. 3d 430 (4th Cir.), cert. denied, *Nokia, Inc. v. Naquin*, 546 U.S. 998 (2005); *In re Wireless Tel. Radio Frequency Emission Prods. Liab. Litig.*, 327 F. Supp. 2d 554 (D. Md. 2004)

- Series of decisions addressing the issues of pre-emption regarding the FCC's authority over RF emissions
- Distinguished differences between personal injury claims and economic claims

Reference Assistance:

Jeff Silva, Washington Bureau Chief, Radio Communications Reports.