Is There a Future for Cell Phone Litigation?

Suzanne Capriotti
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INTRODUCTION

In March, 1989, Susan Elen Reynard was diagnosed with a brain tumor on the left side of her brain.1 Approximately one year later, a subsequent MRI revealed growth in the size of the tumor. Shortly thereafter, she died.2 Richard T. Ward was also diagnosed with a brain tumor above his right ear.3 The similarities, however, do not end there. Ms. Reynard and Mr. Ward were both cell phone users,4 both had tumors located above the ear, precisely where a person would position a telephone,5 and both had tumors characterized by inexplicable growth and aggravation.6

Coincidence? Perhaps. However, it is no surprise that in light of these and other similar cases around the country, the public has become increasingly concerned that using cellular telephones may cause health problems, such as cancer.7 Despite this recent public outcry, little has been done to regulate the cellular telephone industry.8 Courts have

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2. Id. at 1502.
4. See Reynard, 887 F. Supp. at 1502; see Ward, 478 S.E.2d at 465.
6. See Reynard, 887 F. Supp. at 1502; see Ward, 478 S.E.2d at 466.
8. See generally U.S. General Accounting Office, 95-32, Telecommunications: Status of Research on the Safety of Cellular Telephones (Nov. 4, 1994) [hereinafter Safety of Cellular Telephones](noting that “on the basis of present scientific knowledge, federal agencies have no reason to take regulatory action on the use of portable cellular telephones because no research has been completed on long-term human exposure to the low levels of radiation generated by these phones and research findings on exposure to other sources of low-level radio-frequency
done even less with respect to holding cellular telephone manufacturers liable for injuries allegedly resulting from cell phone use or placing restrictions on cellular telephones. In light of the courts' cool reception to allegations surrounding cell phone litigation, as well as current regulatory inaction, do plaintiffs alleging wrongful death or product liability claims stand a chance against cell phone manufacturers?

Taking into consideration prior court rulings, federal regulations, and recent scientific studies, this Comment focuses on the legal theories of wrongful death and products liability. It analyzes the prospects of successful litigation surrounding injuries associated with cell phone use. The established area of law surrounding tobacco liability cases provides a comparison with which to speculate about the future of the less developed area of cell phone litigation.

Part I discusses the evolution of the cell phone controversy by examining the radiation emitted from cellular telephones, the results of scientific studies testing the effects of this radiation, as well as current legislation and legal decisions resulting from cell phone litigation. Part II examines the legal theories of wrongful death and products liability in conjunction with cell phone litigation. Part III analyzes the established area of tobacco litigation and compares it with cell phone litigation. Part IV explores whether plaintiffs alleging injuries or damages as a result of cellular telephone use would likely be successful in a cause of action now or in the future. Finally, Part V summarizes the legal, regulatory and medical issues involved in the uncertain future of cell phone litigation and explains why a successful outcome is unlikely.

I. EVOLUTION OF THE CELL PHONE CONTROVERSY

In recent years, the number of Americans who use cellular telephones...
has dramatically increased from sixteen million in 1994 to an estimated eighty million current users. This number is only expected to increase, as there are at least 30,000 new cell phone users each day. Data estimates the number of new users to be increasing at a rate of one million per month. Currently, it is estimated that by the year 2002, approximately 110 million Americans will own cellular telephones.

It is not surprising that serious controversy and fear about the possible health risks of cellular telephone use are escalating. This is the first time humans are holding a high-powered transmitter directly against their heads. The National Brain Tumor Foundation has reported that as the number of people who use cell phones has increased, so has the incidence of brain tumors. Electromagnetic radiation, which is emitted from cellular telephones, is the alleged cause of the fear and controversy surrounding health risks and cell phone use.

A. Electromagnetic Radiation

A cellular telephone transmits messages through electronic signals sent from its antenna to a cellular transmitter tower. These signals are a type of radiation. The amount of power required, or radiation emitted, to

10. See Safety of Cellular Telephones, supra note 8 (reporting in 1994 that the cell phone industry estimated that by the year 2000 over 60 million Americans will be using a portable cellular communications device); Consumer Update on Mobile Phones, U.S. Food and Drug Administration – Center for Devices and Radiological Health, (Oct. 20, 1999), at http://www.fda.gov/cdrh/ocd/mobilphone.html (assuming there are 80 million cell phone users); Diane Kaminski, Health Effects of Mobile Phones Remain Under Study, MED. INDUSTRY TODAY, July 24, 2000, at World Health Section.


14. Id. (quoting Ross Adley, MD, professor of biochemistry at the University of California at Riverside).


16. See Ward, 478 S.E.2d at 466; Reynard, 887 F. Supp. at 1502.

17. See Safety of Cellular Telephones, supra note 8.

18. Id.
transmit a signal depends on the distance between the cellular telephone and the tower and the location where the phone is used.

Electromagnetic radiation emitted by cell phones is a type of non-ionizing radiation, which can be described as low-frequency electromagnetic fields, or EMFs. Power lines, distribution lines, and microwaves are additional examples of sources using non-ionizing radiation. Non-ionizing radiation is a lower frequency radiation as compared to high frequency ionizing radiation. X-rays, gamma rays and other forms of nuclear radiation are examples of high frequency ionizing radiation.

It is well established that high frequency ionizing radiation is a health hazard. Although once thought to be safe, non-ionizing radiation, or the electromagnetic radiation emitted from cell phones, is now the center of controversy and fear. The public interest remains "widespread and continuous" despite the fact that exposure to EMFs have been closely studied for nearly twenty years, but no clear link between non-ionizing radiation and cancer has been shown.

19. *Id.*

20. Simon Romero, *As Cell Phone Use Explodes, Debate Over Health Risk Grows*, N.Y. TIMES, July 27, 2000, at G7 (explaining that a cell phone that is being used in Manhattan could emit a higher level of radiation because interference from buildings cause the cell phone to require more energy to communicate with a tower).


22. *Id.*

23. *Id.* (explaining in footnote 19 that "[c]ommon examples of EMF sources generated by electric power are power lines, distribution lines, hair dryers, baby monitors, pencil sharpeners, dishwashers, clocks, microwaves, vacuum cleaners, household wiring, computers, video display terminals, fans and lighting fixtures." Footnote 20 further explains that "EMFs exist during thunder or lightning storms, in front of cold fronts, and are present in human cell membranes.").


25. *Id.*

26. *Id.*

27. *Id.*


B. Why are Cell Phones Believed to Cause Cancer?

Although research has not established a definite health risk, some studies hint to a connection between cell phone use and changes in brain activity, brain cancer and genetic mutation. Furthermore, cell phone users have reportedly experienced symptoms such as nausea, headaches, problems with memory, dizziness and sleep disturbance. Changes in blood pressure as well as changes in the permeability of the blood-brain barrier have also been reported.

Skeptics argue that these symptoms could result from any number of things, including hypochondria or paranoia. However, imagine an electromagnetic radioactive signal turning on and off fifty times per second directly against your head? There is a possibility that these intermittent signals are responsible for adverse effects and may change how the brain metabolizes calcium. Calcium is involved in the regulation of cell life cycles. Radiation can affect calcium regulation and increase the risk for uncontrolled cell growth and cell division, thereby leading to cancer. In addition, cell phone use may also open the blood brain barrier and cause headaches due to substances, which are normally found only in the blood, permeating and reaching sensitive tissue covering the brain.

EMFs have also been presumed to be able to magnetically stimulate secondary electric currents in tissue fluids and cell membranes. These currents may alter cells, and eventually could lead to cancer. It is further

31. FDA: Joins Forces with Cell Phone Makers to Study Risks, AM. HEALTH LINE, June 9, 2000, at Research Notes Section.
32. Michael Maier et al., The Health Hazards of Mobile Phones, 320 BRIT. MED. J. 1288 (2000).
33. Id.
34. Kelly, supra note 13.
35. Id.
36. Id.
37. Id.
38. The blood-brain barrier is a protective shield that is designed to prevent toxins from reaching the brain tissues. Headaches may result from a blood-brain barrier that is not intact. Id.
39. Id.
41. Id.
implied that these currents could influence cell generation or DNA transcription. New research links changes in brain structure to cell phone use. This research indicates that cell phone EMFs interact with brain tissues, which can alter perception and judgment. This study lays a foundation for long term concerns of brain cell growth, cancer and even leukemia.

C. Scientific Studies

The studies that find a connection between the use of cellular telephones and cancer, whether conclusive or not, are adding to the controversy surrounding cell phone use.

1. Studies Show a Possible Connection, But No Concrete Link Has Been Established.

The National Brain Tumor Foundation reports that some studies show a correlation between EMFs emitted from cell phones and a slightly larger occurrence of brain tumors, while other studies discredit those results. Due to inconsistent results, no one can be sure whether, or to what extent, cell phone emissions cause adverse health effects.

Several studies have been published with respect to EMF exposure and cancer risk in the United States, Great Britain and Scandinavia. One study, which examined all types of cancers, concluded that the risk of cancer increased by thirty-nine percent. Four other studies examined the effects of EMF on leukemia, but failed to establish a significant increase in risk. However, significant increases in risk were found for brain cancer. According to Clark W. Heath, Jr., M.D., these findings, as well as many others, are “weak, inconsistent and inconclusive.”

Similarly, the National Radiological Protection Board acknowledged

42. Id.
43. Kelly, supra note 13.
44. Id.
45. Id.
46. Cell Phones and Brain Tumors, supra note 15.
47. Consumer Update on Mobile Phones, supra note 10.
49. Id.
50. Id.
51. Id.
52. Id.
an epidemiological connection between EMF exposure and cancer. The Board, however, dismissed new research showing more evidence of this connection because there is no study establishing EMF as a cause of cancer.53 Without a biological mechanism showing EMF's influence on the development of cancer, the Board cannot accept this research.54

Other studies found evidence of biological changes in human skin fibroblasts55 and long term memory loss in rats resulting from radiation exposure.56 Studies also show changes in blood cells and a three-fold increase in the incidence of certain brain cancers in cell phone users compared to people who do not use cell phones.57 Although some "preliminary evidence" indicates that cell phone emissions can have biological effects, it could take as long as a decade for evidence of adverse health risks to surface.58

The result of the scientific evidence gathered thus far is almost as predictable as it is controversial: researchers say cellular telephones "can no longer be considered risk-free because of radiation transmitted through the antenna."59 Nonetheless, this phenomenon remains

54. Id.
56. A new study at the University of Washington determined that long-term memory loss in rats was the result of exposure to microwave radiation, similar to the radiation emitted by cell phones. New Cell Phone Health Danger, supra, note 11 Responding to the study, Dr. Henry Lai of the University of Washington asserts, "[a]re they safe? No, I don’t think we can say that at this time.” Id.
unaccepted due to a lack of solid, conclusive proof. Notwithstanding the uncertainty of these findings, enough evidence exists to justify further testing and to take precautions in using cellular telephones.

2. Inconclusive Studies Warrant a Need for More Research.

The United States Food and Drug Administration (FDA) acknowledged that studies uncovered a correlation between cell phones and cancer, but decided not to take immediate action. According to the FDA, the studies justify further research, but do not justify regulatory action because the studies fail to identify a clear health threat. In addition, the long term effects of exposure to EMFs generated by cellular telephones has not been studied.

The FDA urged the cellular telephone industry to support research regarding the possible health effects of radiation emitted by cell phones. This has prompted the cell phone industry to project spending $25 million to study these possible cancer risks. The FDA is working not only with the cell phone industry, but also with the government and academic groups to ensure this need for further research is properly met. The FDA's primary role will be to oversee the research geared toward determining the possible health risks posed by radiation emissions from cell phones. The Cellular Telecommunications Industry Association

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60. See Zamora, supra note 59; Warning on Kids and Cell Phones, supra, note 58; Romero, supra note 20.
61. Maier, supra note 32.
63. Schwartz, supra note 62, at E1 (reporting that Elizabeth D. Jacobson, Deputy Director of science at the Food and Drug Administration's (FDA) Center for Devices and Radiological Health responded to the studies by saying, "[w]e didn't see what we thought were public health problems.")
64. See Safety of Cellular Telephones, supra, note 8.
65. In addition to supporting needed research, the FDA is recommending that the cell phone industry take a number of steps in the interest of public safety such as designing cell phones to minimize radiation exposure to the user, as well as providing consumers with "the best possible information" on the possible health effects of cell phones. Consumer Update on Mobile Phones, supra note 10.
67. See Consumer Update on Mobile Phones, supra note 65.
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(CTIA) in particular, is expected to assist the FDA by providing scientific oversight and research recommendations.\textsuperscript{69} In the meantime, the CTIA is requiring cell phone manufacturers to begin disclosing radiation levels as of August 2000.\textsuperscript{70} These emission figures will be printed on inserts included in the cell phone packaging, and should be provided within three to six months of the rule's implementation.\textsuperscript{71}

\textbf{D. Prior Law and Legislation}

Without solid conclusive evidence, courts have been reluctant to enter judgments in favor of plaintiffs who bring wrongful death or products liability claims against cell phone manufacturers.\textsuperscript{72} Using the \textit{Daubert} test, courts have held that plaintiffs and plaintiffs' experts simply cannot meet their burden to show causation.\textsuperscript{73} Thus, expert opinions on behalf of the plaintiffs are often not admissible.\textsuperscript{74} The courts have opined that not only is there a failure on the part of the plaintiff to show causation,\textsuperscript{75} but it is the function of the administrative agencies, rather than the function of the court to determine whether something is a health hazard.\textsuperscript{76}

The Federal Communications Commission (FCC) took some action in response to this controversy by issuing standards regarding radiation exposure.\textsuperscript{77} In 1996, the FCC also established guidelines with respect to

\textsuperscript{69} See \textit{Consumer Update on Mobile Phones}, supra note 65.
\textsuperscript{70} \textit{Cellular Phones}, supra note 68 (citing the Wall Street Journal).
\textsuperscript{71} Id.
\textsuperscript{72} See generally Schiffner v. Motorola, Inc., 697 N.E.2d 868, 876 (Ill. App. Ct. 1998) (affirming the dismissal of plaintiff's fourth amended complaint against defendant Motorola, Inc. regarding Motorola's marketing and sale of cell phones); Verb v. Motorola, Inc., 672 N.E.2d 1287, 1296 (Ill. App. Ct. 1996) (holding plaintiff's claims to be based upon mere possibilities of injury or damages); Ward, 478 S.E.2d at 466 (granting Motorola's Motion for Summary Judgment based in part on the fact that "mere conclusory allegations" are insufficient to show the existence of a genuine issue of material fact regarding the cause of the claimant's injury); \textit{Reynard}, 887 F. Supp. at 1506 (explaining that the plaintiff's wrongful death claim fails the "but-for test").
\textsuperscript{74} See \textit{Reynard}, 887 F. Supp. at 1508.
\textsuperscript{75} See \textit{id.} at 1503.
\textsuperscript{77} See \textit{Romero}, supra note 20, at G7.
emission of radiation.\textsuperscript{78} These guidelines are based on the specific absorption rate of radiation.\textsuperscript{79} Although cell phones meet the FCC's guidelines, consumers remain confused about what that level means.\textsuperscript{80} Some scientists have even attacked the FCC's guidelines asserting that they do not take into consideration whether weaker levels of radiation are a health hazard, and do not consider the non-thermal effects of exposure to radiation.\textsuperscript{81}

In addition to supporting research, the FDA has also promulgated regulations that it may proscribe standards controlling the emission of radiation from electronic devices if it is determined that such standards are essential for the public's safety.\textsuperscript{82} These standards include product testing and radiation measurement.\textsuperscript{83} However, the FDA has not fully exercised its available powers under the regulations, as it awaits feedback from the scientific community.\textsuperscript{84}

\section*{II. THE LEGAL THEORIES UNDERLYING CELL PHONE LITIGATION}

\textbf{A. Wrongful Death}

Generally, when a person's death results from a wrongful act or a failure to act, the person who caused the death is liable for damages.\textsuperscript{85} It is also well settled that a person is equally liable for his or her agent or

\begin{itemize}
\item \textsuperscript{78} \textit{Id.} (explaining that the maximum amount of radio waves allowable to be emitted by a device is 1.6 watts per kilogram).
\item \textsuperscript{79} Grasso, \textit{supra} note 7, at 3.
\item \textsuperscript{80} See Romero, \textit{supra} note 20, at G7.
\item \textsuperscript{81} "Thermal effects are well-established and therefore form a legitimate basis for establishing limits to [electromagnetic] RF radiation. In contrast, non-thermal effects are not well-established and, currently do not form a scientifically acceptable basis for restricting human exposure to RF radiation from cellular telephones." Grasso, \textit{supra} note 7, at 3.
\item \textsuperscript{83} \textit{Id.}
\item \textsuperscript{84} See Romero, \textit{supra} note 20, at 4.
\item \textsuperscript{85} See Rubin v. United States, 88 F. Supp. 2d 581 (S.D.W. Va. 1999); Mitchell v. United States, 141 F.3d 8 (1st Cir. 1998).
\end{itemize}
servant, who is engaged in the person's business. Each state's statute determines the amount of damages these persons may be liable for in wrongful death actions.

Plaintiffs suing under a wrongful death statute in cell phone cases claim the cell phone was the cause of the decedent's death by alleging the cell phone initiated a health problem, such as a brain tumor, or that the cell phone aggravated an existing condition. Due to insufficient evidence regarding the correlation between cell phone emissions and health risks, this is an extremely difficult task to accomplish. Plaintiffs bear the burden of establishing medical causation between cell phones and cancer. The plaintiff must provide evidence showing a reasonable basis to conclude that more likely than not the defendant's conduct was a significant factor in producing the result.

1. Causation

The plaintiffs in Reynard v. NEC Corp. faced such a challenge. Suing under Florida's wrongful death statute, the plaintiffs alleged that the cellular telephone used by Susan Reynard was the cause of her death. The defendants moved for summary judgment on the issue of causation, arguing that no scientific studies link emissions exposure from cell phones to brain cancer. The court stressed the importance of providing non-speculative evidence to show how, if at all, the use of a cell phone decreased Ms. Reynard's life expectancy. Due to a lack of conclusive evidence linking cell phone emissions to cancer, the plaintiffs had difficulty convincing the court that a causal connection existed. The court ultimately found no causal connection between cell phone use and brain cancer, citing the lack of general acceptance by the scientific community and the lack of scientific research underlying the opinion of

86. Mitchell, 141 F.3d at 28 (citing § 2 of the Massachusetts Wrongful Death Statute).
89. Id. at 1504.
90. Id.
91. Reynard, 887 F. Supp. at 1500.
92. Id. at 1502.
93. Id.
94. Id. at 1506.
95. Id.
the plaintiffs' expert.  

2. *The Daubert Test*

As seen in *Reynard*, the difficulty of proving causation between cell phone emissions and cancer is not made easier through the use of an expert witness.  

Courts often apply the test established by the U.S. Supreme Court in *Daubert v. Merrell Dow Pharmaceuticals, Inc.* as a means of ensuring that an expert's opinions are based on "sound science" and are relevant to the issues at hand. The Supreme Court held in *Daubert* that scientific evidence does not have to be generally accepted to be admissible under the Federal Rules of Evidence. However, the Federal Rules of Evidence, particularly Rule 702, give the trial judge the responsibility of ensuring that an expert's testimony rests on a reliable foundation and is relevant to the issue at hand. The Supreme Court further indicated that other criteria are appropriate, although it did not intend to set forth a definitive checklist or test: (1) whether the theory or technique has been or can be tested; (2) whether the theory or technique has been subjected to peer review and publication; (3) whether there is a known or potential rate of error in the technique; and (4) whether the theory or technique is generally accepted in the scientific community.  

Rendering its decision on remand, the Ninth Circuit Court of Appeals interpreted the Supreme Court's ruling in *Daubert* to mean that judges must assure that "scientific evidence meets a certain standard of reliability before it is admitted." The Ninth Circuit went on to explain that an expert's mere assurances of validity are insufficient. "Rather the party presenting the expert must show that the expert's findings are based on sound science, and this will require some objective, independent  

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96. Id. at 1505, 1508.

97. Id. at 1508 (holding that plaintiffs' expert, Dr. Perlmutter's, affidavit was not admissible).


100. *Daubert*, 509 U.S. at 597.

101. Id. at 597.

102. Id. at 593-94.

103. *Reynard*, 887 F. Supp at 1507 (citing Daubert v. Merrell Dow Pharmaceuticals, Inc., 43 F.3d 1311 (9th Cir. 1993)).

104. Id.
validation of the expert’s methodology.\textsuperscript{105}

In *Reynard*, lacking definitive evidence linking cell phone emissions to cancer, plaintiffs’ expert witness, Dr. Perlmutter, relied on the General Accounting Office’s November 1994 report when he testified that although the findings with regard to low-frequency radiation are inconclusive, the report is a “call for research.”\textsuperscript{106} Also contributing to the inadmissibility of his affidavit, Dr. Perlmutter’s testimony was in accord with defendants’ assertion that no scientific studies found a connection between the exposure of cell phone emissions to the brain and adverse biological effects such as brain cancer.\textsuperscript{107} Dr. Perlmutter failed to convince the court that scientific studies provided data, which indicated a likely acceleration of brain tumors when exposed to cell phone emissions.\textsuperscript{108} Although Dr. Perlmutter made these assertions as an expert with a “reasonable degree of medical certainty,” the court determined that was simply not enough to admit the affidavit.\textsuperscript{109}

The *Reynard* Court used both the Supreme Court’s test in *Daubert* as well as the Ninth Circuit’s interpretation to find the plaintiff’s expert’s affidavit inadmissible.\textsuperscript{110} More specifically, the court found no reference to research regarding the type of cellular telephone used by Susan Reynard, nor did it find research with respect to the type of radiation with which Susan Reynard claimed to have been exposed.\textsuperscript{111} Furthermore, it found no evidence of support from objective sources, such as medical journals, published articles or treatises.\textsuperscript{112}

3. The Prospect of Prevailing on Wrongful Death

Consequently, without some substantial conclusive evidence linking cell phone emissions to the initiation or promotion of cancer, plaintiffs bringing wrongful death actions will have difficulty establishing causation. Not only will the plaintiffs struggle with the task of proving a causal link between cell phone use and cancer, but this struggle will be exacerbated

\textsuperscript{105} *Id.*
\textsuperscript{106} *Id.* at 1505.
\textsuperscript{107} *Id.*
\textsuperscript{108} *Id.*
\textsuperscript{109} See *id.*
\textsuperscript{110} *Id.* at 1508.
\textsuperscript{111} *Id.*
\textsuperscript{112} *Id.*
by the criteria established by Daubert. Without substantial evidence, an expert's opinion is nothing more than that—a mere opinion, which will not be accepted by the court without a more reliable foundation. Until studies provide more definitive answers and more conclusive evidence, plaintiffs bringing wrongful death claims against cellular telephone manufacturers will find it difficult, if not impossible, to prevail on wrongful death actions.

B. Product Liability

The Sixth Circuit has defined a “product liability claim” as an action against a manufacturer or supplier for compensatory damages arising out of the death, physical injury, physical damage to property or emotional distress resulting from any of the following: (1) the design, formulation, production, construction, creation, assembly, rebuilding, testing, or marketing of that product; (2) any warning or instruction, or lack of warning or instruction, associated with that product; and (3) any failure of that product to conform to any relevant representation or warranty. However, a product is not considered defective if the harm was a result of an “inherent characteristic of the product which is a generic aspect of the product that cannot be eliminated without substantially compromising the product's usefulness or desirability.” A product also cannot be considered defective if the danger is “recognized by the ordinary person with the ordinary knowledge common to the community.” Even if the product contains an inadequate instruction or warning, it is not considered to be defective if the risk is one “that is a matter of common knowledge.”

1. Proving Damages and Defects in Cell Phone Cases

Similar to wrongful death actions, plaintiffs who bring products liability claims against cell phone manufacturers have been unsuccessful in
establishing that the injury alleged is the product of cell phone use. For example, in *Motorola v. Ward*, Richard Ward brought a product liability action against Motorola and Cartunes alleging regular cell phone use caused a malignant brain tumor on the right side of his brain. He did not prevail. The court determined that the plaintiff's alleged damage was the result of cell phone use, but the plaintiff failed to explain how the defendants' conduct caused the brain tumor.

Similarly, in *Verb v. Motorola*, Robert Verb and others brought a class action suit against Motorola and other cell phone companies alleging, among other things, a lack of warning regarding harmful physical effects of cell phones. Similar to *Motorola v. Ward*, the speculative nature of these claims led the court to hold that the plaintiffs' claims were "based upon mere theoretical possibilities of injury and/or damages." The plaintiffs failed to establish that the cell phones were the causative agent to harmful physical effects. The plaintiffs' underlying argument relied mainly on the possibility of defectiveness due to the "unproven" safety of cell phones. According to the court, the plaintiffs failed to demonstrate causation between a defect in the cell phones and a "present personal injury." Moreover, the court was unconvinced that any of the plaintiffs suffered "demonstrable personal injury."

2. **The Prospect of Prevailing in Product Liability**

Until more concrete evidence linking cell phones to cancer is available, prevailing on a product liability action will remain nearly impossible. Absent a showing of damage or an established defect, plaintiffs are unable to prove that cell phones are the cause of harmful physical effects...

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120. *Id.* at 465-466.
121. *Id.* at 466.
122. *Id.*
124. *Id.* at 1296.
125. *Id.* at 1295.
126. *Id.*
127. *Id.* at 1294.
128. *Id.* at 1295.
129. See, e.g., *Ward*, 478 S.E.2d at 466.
130. See *Verb*, 672 N.E.2d at 1287.
131. See *Ward*, 478 S.E.2d at 465.
and therefore will not have a case for product liability. 132

Whether or not scientific studies prove a link between cell phones and cancer, plaintiffs bringing product liability suits will likely have to dispute the common knowledge exception, placing yet another burden on consumers alleging cell phone related injuries. As mentioned earlier, one caveat to the product liability standard is the common knowledge exception, 133 which provides an exemption of liability for products whose dangers are regarded as common knowledge. 134 In light of the CTIA’s requirement of cell phone radiation level disclosure, which will provide consumers with specific information on applicable radiation emissions as well as an explanation of the procedure for testing radiation emissions, 135 plaintiffs will have to prove that they did not have common knowledge of health risks associated with cell phones, even after being provided with the CTIA’s required disclosures.

III. WHAT DO RECENT RULINGS IN TOBACCO CASES TELL US ABOUT THE FUTURE OF CELL PHONE LITIGATION?

If any industry is aware of the safeguards of consumer disclosure, it is the tobacco industry. The recent rulings in tobacco company cases indicate the effect of consumer knowledge on products liability litigation. 136 Tobacco cases provide a useful example for the cell phone industry to follow with respect to the issue of consumer disclosure.

A. How Does Consumer Disclosure Affect Litigation?

An industry that manufactures products with certain or questionable risks may be able to protect itself in litigation by raising consumer awareness. 137 Consumers are protected under the law in the absence of

132. See generally Verb, 672 N.E.2d at 1287; Ward, 478 S.E.2d at 465.
134. Id.
135. See Cellular Phones, supra note 68.
136. See, e.g., Glassner, 223 F.3d at 343 (barring plaintiff’s products liability claim as a result of the common knowledge doctrine); cf. Tompkin v. American Brands, 219 F.3d 566 (6th Cir. 2000) (reversing the district court’s grant of summary judgment on plaintiff’s claims noting the existence of a genuine issue of material fact regarding common knowledge of the health risks of cigarette smoking).
137. See, e.g., Glassner, 223 F.3d at 343.
adequate warning or sufficient information regarding the risks of a product, thus increasing the success of a plaintiff who brings a lawsuit against the manufacturer of a "risky" product. For example, David Tompkin was diagnosed with lung cancer in 1992. Mr. Tompkin, who started smoking in 1950 and stopped smoking in 1965, sued the tobacco company alleging that they misrepresented the hazards of smoking. The Sixth Circuit Court of Appeals determined that by enacting the 1966 Labeling Act, which required warning labels to be placed on cigarette packages, Congress recognized that the health risks of smoking were not yet common knowledge. Since Mr. Tompkin stopped smoking prior to the enactment, the court found a genuine issue of material fact with respect to the extent of common knowledge of the health risks of smoking cigarettes.

Where public disclosure clearly exists in regard to a product and a particular health risk, consumers are thought to possess common knowledge, whereas a lack of public disclosure exposes that particular industry to legal actions. Therefore, providing informational inserts inside each cell phone package is a factor in decreasing the success of plaintiffs in lawsuits against the cellular telephone industry.

As a result of the disclosures, consumers will have an even smaller chance of successfully bringing a products liability claim. The requirement of disclosing radiation emission information to cell phones users has a dual purpose. It not only gives cellular telephone manufacturers the appearance of seeming consumer-oriented, but upon closer inspection, serves the purpose of protecting the manufacturers from future legal action. By educating consumers about radiation levels emitted from cell phones, cell phone manufacturers have a better chance of protecting themselves from the likelihood of future litigation.

138. See, e.g., Tompkin, 219 F.3d at 566.
139. Id. at 219 F.3d at 567-568.
140. Id. at 568.
141. Id. at 573.
142. Id. at 576.
144. See Cellular Phones, supra note 68.
145. See Romero, supra note 20, at 1 (comparing the recent rulings of tobacco companies to the possible future litigation of cell phone manufacturers).
146. Id.
B. Is a Definitive Link Between Cell Phones and Cancer Really that Inconceivable?

It is safe to say that the health hazards of smoking cigarettes are now common knowledge. This was not the case forty years ago or even thirty years ago.\(^{147}\) For instance, a 1954 advertisement by a cigarette company asserted, "[n]o adverse effects to the nose, throat, and sinuses from smoking Chesterfields."\(^{148}\) In 1957, doctors and scientists criticized the theory that lung cancer and cigarette smoking were linked,\(^{149}\) but abandoned the allegations for "lack of evidence."\(^{150}\) Moreover, 1963 reports by the American Medical Association indicated that more research was needed to determine whether a connection existed between cigarette smoking and lung cancer.\(^{151}\)

If history should repeat itself, the cell phone industry will be in for far more controversy and litigation than it is presently encountering. Perhaps the cell phone industry is anticipating such a future, and that could explain why consumers are being inundated with information regarding radiation emissions from cell phones.\(^{152}\) No one can say for sure at this point. The cell phone industry is basically in limbo. Currently, no conclusive evidence links cell phone use to brain cancer, yet some studies show that health risks should not be ruled out.\(^{153}\)

Presently there is little the cell phone industry or government agencies can do in terms of regulation or restriction. Until a conclusive link is established between cell phone emissions and cancer, no further regulatory actions or restrictions should be placed on cell phones. This approach is in the best interest of both the public as well as the cell phone industry. Premature restrictions, absent conclusive scientific evidence, could flood the courts with cases against cellular telephone manufacturers and cause adverse financial affects in the cell phone industry. Until more evidence demonstrating causation is established, the cell phone industry will just have to wait and hope that in the future cellular telephone cases do not mirror the tobacco liability cases of today.

\(^{147}\) See generally Tompkin, 219 F.3d at 566.

\(^{148}\) Id. at 570.

\(^{149}\) Id. at 568.

\(^{150}\) Id.

\(^{151}\) See id., 219 F.3d at 568.

\(^{152}\) See Cellular Phones, supra note 68; see Consumer Update on Mobile Phones, supra note 12.

\(^{153}\) See supra Part I of this Comment.
IV. THE FUTURE OF CELL PHONE LITIGATION

Thus far, plaintiffs involved in cell phone litigation have been unsuccessful in the past, but past failure is not necessarily the best indicator of future success against cell phone manufacturers.

A. Will Research Provide Closure?

The FDA recognizes a need for more research and is working with the cell phone industry in an attempt to provide closure to the unanswered questions and concerns raised by consumers. Research is ongoing, with millions of dollars being spent by the cell phone industry alone. Consequently, one could draw the conclusion that there is some pressing reason for this need for more research. One could further conclude that scientists and researchers will report with certainty that adverse effects of cell phone use are more likely than not.

Notwithstanding this continued research, one must ponder exactly what the value of this research will be. Will the public be sufficiently notified if a danger is identified? In answering these questions, it is important to keep in mind that this research is being funded by the cell phone industry. Regardless of how much money they propose to spend or have spent thus far to protect consumer interests, they are nevertheless self-interested in the outcome of these studies.

For instance, while the tobacco industry’s “independent” research laboratory was investigating the adverse effects of cigarettes, a link between lung cancer and smoking was established. However, cigarette companies were not warning smokers of this risk, and even advertised the lack of any adverse effect from smoking. By funding this research, the cell phone industry holds the same power to cloud results and essentially

154. See, e.g., Ward, 478 S.E.2d at 465; Reynard, 887 F. Supp. at 1500.
155. See Consumer Update on Mobile Phones, supra note 10; supra Part I of this Comment.
156. See Romero, supra note 20.
157. See Tompkin, 219 F.3d 566 at 570 (noting that in the 1940's, scientific medical reports about lung cancer and smoking were published). Cf. id. at 569-70 (stating that Chesterfield was advertised in 1954 as having “[n]o adverse effects to the nose, throat, and sinuses from smoking Chesterfields.” Furthermore, “[c]ongress did not require any cautionary labeling or warnings on cigarettes until 1966, when the Federal Cigarette Labeling and Advertising Act... required all cigarette packages to read 'CAUTION: CIGARETTE SMOKING MAY BE HAZARDOUS TO YOUR HEALTH.'”).
keep consumers in the dark.

Furthermore, prior research has been criticized for drawing conclusions from improperly administered tests or tests that do not address emissions specific to cell phones. These studies tested the emissions effects on the entire body, rather than focusing on localized areas of the body. Since cell phone handsets are generally positioned directly against the head during use, studies testing the effects of localized exposure are extremely important in establishing the existence or nonexistence of a link between cell phones and cancer, and it is possible that this type of study could yield differing results than the prior studies. A recent study published in the Journal of the American Medical Association concluded that short-term use of cell phones does not cause brain cancer. The study, however, did not address long-term use, and it is therefore entirely possible that the effects of long-term use could yield an entirely different result.

These concerns regarding the methods of testing not only warrant new and more helpful testing, but also warrant the application of more stringent standards on the cell phone industry to ensure proper testing is underway and that the appropriate measures will be taken to inform the public of its findings.

The possibility that cell phones are linked to cancer has been discredited and invalidated, but so was the idea that lung cancer was 

158. See, e.g., Kaminsky, supra note 10 (quoting Dr. Michael Repacholi, coordinator for the WHO's Occupational and Environmental Health Unit and manager of the International Electromagnetic Fields Project as stating, "[a]ll the information we have to date shows no adverse health effects from the use of mobile phones", however Dr. Repacholi noted that prior studies have not focused on localized areas of the body.).

159. Id.

160. See id.

161. See Angelos Strikes, THE DAILY RECORD, vol. 112, no. 71 (Dec. 28, 2000) at 1A, 8A (emphasizing the lack of a study addressing long-term cell phone use. Notwithstanding this recent finding, more suits claiming radiation poisoning have been filed against cell phone manufacturers, and The Law Offices of Peter G. Angelos expects to file suit during the year 2001 against Britain's Voda-phone, the world's largest mobile phone company and Verizon Wireless, the largest mobile phone company in the U.S.).

162. See, e.g., Schwartz, supra note 62, at E1 (quoting Joseph Roti of Washington University in St. Louis) ("I've found nothing that would alarm me, or alert me to a possible hazardous health effect.").
linked to cigarette smoking forty years ago.\textsuperscript{163} Some medical professionals believe that "[i]t is far too early in the game to say that cell phones are the harmless little objects the industry makes them out to be."\textsuperscript{164} Consequently, current research may provide a solid connection between cell phones and cancer. Should a new study find a substantiated connection between cell phones and cancer, there is little doubt cell phone litigation will sharply increase.

\textbf{B. The Use Factor}

More people than ever are regularly using cell phones. The number of cell phone users has greatly increased in the past few years and is expected to continue increasing at a rapid pace.\textsuperscript{165}

Prior to the 1990s, cell phones were generally mounted in cars, providing a reasonable distance between the user and the radiation emitting from the antenna.\textsuperscript{166} Positioning the cell phone antenna away from the head can make a big difference in the amount of exposure.\textsuperscript{167} Notwithstanding this fact, more recent models are hand-held and thus position the antenna immediately next to the skull.\textsuperscript{168} In the 1990s, holding the cell phone directly against the head became commonplace.\textsuperscript{169} Because of the recent increase in cell phone users as well as hand-held cell phones, the United States may start seeing more cases of brain tumors in the future if the cell phone emissions do, in fact, cause cancer. However, if research leads to inconclusive results, it will be up to the scientific community to reach a consensus about the extent and probability of the

\begin{itemize}
\item \textsuperscript{163} \textit{See generally} Tompkin, 219 F.3d at 566.
\item \textsuperscript{164} \textit{See} Romero, \textit{supra} note 20, at G7 (quoting C. Ross Adey, a former professor of physiology at the Loma Linda School of Medicine, basing his statement on the fact that "[o]n numerous occasions, microwave radiation from sources similar to cellular phones has been showed to increase the chances of cancer").
\item \textsuperscript{165} \textit{See generally} Kelly, \textit{supra} note 13.
\item \textsuperscript{166} \textit{See} Schwartz, \textit{supra} note 62, at E1.
\item \textsuperscript{167} \textit{See} New Cell Phone Health Danger, \textit{supra} note 11 (quoting Lo Slesin, editor of \textit{Microwave News}) ("Every millimeter you move the phone antenna away makes a big difference.").
\item \textsuperscript{168} \textit{See} Tests Find Possible Link Between Cell Phones & Cancer, \textit{supra} note 57.
\item \textsuperscript{169} \textit{See} Schwartz, \textit{supra} note 62, at E1.
\end{itemize}
risk of adverse physical effects.\textsuperscript{170} With this uncertain result, plaintiffs in wrongful death and product liability actions may never get the justice they are seeking.

CONCLUSION

The statistical increase in cell phone users, new scientific research and the shift toward hand-held cell phones are all factors that could increase cell phone litigation in the future. This is new and unknown territory. Little is known about the long-term effects of cell phone use, and without an established causal link, plaintiffs’ burden of showing a causal relationship between their alleged injuries and cell phone use becomes almost impossible to prove. However, if the recently funded research establishes a causal link, plaintiffs will have a better chance in prevailing against cell phone manufacturers on wrongful death and products liability claims, assuming the “common knowledge” caveat does not apply. Although conclusive evidence linking cell phones and cancer could eventually end the speculation, it will only be the beginning of a wave of cell phone lawsuits.

\textsuperscript{170} See generally Heath, supra note 28.