

Cell Phone Use and Driving Death Research

Hello, my name is Jennifer Smith and I am a Grapevine resident. I am also the mother of two girls who are 13 and 1 ½ . On September 3, 2008, my mother, Linda Doyle, a 61 year old woman who was full of life, energy, and love was involved in a car accident at the intersection of her neighborhood, my old neighborhood in Oklahoma City, Ok. Her stop light turned green and she began to proceed through the intersection and a 20 year old man ran a red light resulting in him t-boning her car at 45- 50 miles per hour. He was not speeding, not on any drugs or alcohol, and the conditions were clear. He had actually just left the Goodwill store which was less than 1/4 mile from this intersection. He never saw my mother's car, never saw the red light, and never saw the other cars already stopped at the light. He was, as the news reported, "engrossed in a cell phone conversation." He also admitted this on the scene immediately when the accident happened. The accident happened at 4:43 pm, my mother was pronounced dead at 7:05pm. The cause of death was listed as blunt force trauma to the head, neck, and chest. I call it death by cell phone.

After my mother's accident I began to research the issue and was astonished to find a large amount of information scientifically proving the dangers of cell phone use while driving resulting in a large number of deaths, injuries, and an estimated \$43 billion in damages. Myself being a real estate agent frequently used the phone while driving and thought it was more of the issue of holding the phone while driving. I never knew there was scientific information comparing it to drunk driving and there was even a term for it, "inattention blindness." I have not used the phone while driving since I learned the facts. If other people knew this information would they also change their habits for safety's sake, to save their life or someone else's?

I feel that this is something we must do to protect our children. Is their's or anyone else's life worth a few minutes on the phone? Is yours? To me this is NOT an issue of personal freedom. This is a public safety issue. Fran Bents of the NHTSA stated, "After drunk driving laws were passed, the public learned that drinking more than one alcoholic beverage per hour influenced their ability to drive. Many law abiding people modified their drinking habits as a result. The public also needs to learn that talking on the phone while operating their vehicles impedes their performance... Without laws this message will never be delivered." We now have that same battle with cell phones and driving.

In January of this year the National Safety Council, a leading consumer safety organization began their campaign calling for a nationwide ban on drivers using all cell phones and other messaging devices. They plan to lobby in all 50 states and Washington, D.C. for laws that ban both hand-held and hands-free cell phone use as well as texting while driving. They also plan to work with the U. S. government to develop incentive programs and sanctions that will force states to enact such laws. They are sending letters to all governors and state legislative leaders, urging them to adopt statewide bans. Their campaign will educate the public and businesses about the risk of cell phone use while driving and they plan to supplement distracted driving content in its training of 1.5 million people annually in defensive driving. They are comparing it to their overcoming

of the challenges in the past with drunk driving, seat belt enforcement, child safety seats, and teenage driving laws.

There are many groups that have made a clear stand on this issue like including the American Psychological Association, the American Medical Association, the Canadian Medical Association, AAA, National Highway Transportation Safety Administration, and the Governor's Highway Safety Association whose chairman Chris Murphy stated, "they discourage the use of cell phones while driving. All drivers, but particularly teens need to focus solely on driving-- and that means the cell phone needs to be off." And more and more groups are joining this position everyday as they learn the facts. It is illegal in over 45 countries, hundreds if not thousands of school zones through the nation, numerous companies and some government and city employees throughout the nation ban their employees from using the electronic devices while driving> Exxon Mobile adopted a policy banning employees from using cell phones while driving on company time. It was adopted after they used their own scientists to research the issue. Many states have enacted legislation on teen drivers and bus drivers, including many other related laws nationwide with more and more being proposed every day.

I spent countless hours researching this issue and have compiled the following for you to review. Below is a detailed history and timeline of some of the important studies and research that have been done on this subject in hopes that the facts will convince you we need to do all we can to protect ourselves and our children at the city level and beyond. I apologize in advance for length of this material but there was been so much misinformation or lack of information for too long and the whole truth is important for us all to know. The cell phone industry is a billion dollar industry so this will be a long, hard road but our lives and the lives of our loved one's depend on it. I learned that the hard way.

Beginning in 1997 the *New England Journal of Medicine* published information from Redelmeier and Tibshirani, 'Association Between Cellular Telephone Calls & Motor Vehicle Collisions', associating driver use of a cell phone with a four-fold increase in risk for a crash and concluded that the relative risk "is similar to the hazard associated with driving with a blood alcohol level at the legal limit. In 2001, Redelmeier stated he underestimated the risks at that time.

In 2002, an article published by the *Harvard Center for Risk Analysis* estimated that cell phone use by drivers may cause approximately 2,600 deaths, 330,000 moderate to critical injuries, and 1.5 million instances of property damage in America per year. Felling are these numbers are under-reported because you must rely on an eye witness or self-reporting. They actually concluded that fatalities could range from 800 to 8,000 per year, with injury estimates ranging from 100,000 to 1 million per year. The researchers noted in 2002 that increasing cell phone use could be used to cause the annual death estimate to rise. So I feel the estimates being used in most articles are severely underestimated. According to the Cellular Telecommunication & Internet Association, cell phone use is now being estimated at 270 million+ users. And numerous surveys and studies show an average of 70-80% of those drivers are on their phones. If you do the math that is 189 -

216 million “cellular intoxicated drivers”.

In 2003, *The Transport Research Laboratory* in the UK conducted a study that was carried out over three months, after which a panel of volunteers was tested on a sophisticated driving simulator. The level of driving impairment was tested for the three relevant driving situations: talking on a hand-held cell phone, talking on a hands-free phone, and driving when slightly over the legal blood-alcohol limit. The result was that the drivers’ reaction times were 30% worse when they were talking on cell phones than when they were borderline intoxicated. Compared to normal driving conditions, drivers talking on the hand-held phone were 50% impaired. Two of the most visible problems that resulted from this impairment were an inability to maintain a constant speed and an inability to remain a safe distance from the vehicle ahead. Drivers in the study later admitted that they had actually found it easier to drive while intoxicated (just over the legal limit) than when using a cell phone, whether it was hand-held or hands-free.

In 2003, a Spanish study from *University of Complutense in Madrid and Spain’s Administration for Public Safety*, found that complex phone conversations affected visual scanning and reduced a driver’s ability to detect, discriminate among, and respond to visual targets by 30%.

In 2003, a study published in the March issue of *The Journal of Experimental Psychology: Applied*, found that the distraction risk is as high for drivers who use hands-free cell phones, as for drivers who use hand-held devices.

In 2004, *Gugerty L., Rakauskas M., & Brooks J.* stated in *Accident Analysis Prevention*, the condition of “looking but not seeing” or “inattention blindness” can occur when alone daydreaming or in a conversation. A passenger can pace the conversation according to the situation and concentration of the driver.

In 2005, the *British Medical Journal & Insurance Institute for Highway Safety*, published the findings of their study conducted in Perth, Australia found a four-fold increased risk of having a crash serious enough to cause injury. It also found the increased risk regardless of hands-free or not. This data confirms Redelmeier and Tibshirani’s earlier findings.

Also in 2005, *Human Factors* published *University of Utah* psychology professors David Strayer, Frank Drews, and Dennis Crouch’s research titled ‘*Fatal Distraction: A Comparison of the Cell Phone Driver and the Drunk Driver.*’ This research concluded, “when driving conditions and time on task were controlled for, the impairments associated with using a cell phone while driving can be as profound as those associated with driving while drunk.” It showed, “even when participants direct their gaze at objects in the driving environment, they often fail to “see” them when they are talking on a cell phone because attention has been directed away from the external environment and toward an internal, cognitive context associated with the phone conversation.” And they also noted that the difference between conversing with a passenger over on a cell phone is “a fellow passenger collaborates in the task of driving safely by referring to traffic and

conversing about it... something a person on the other end of the cell phone can not do.” As referenced in a later study it noted, “The differential effect of a concurrent task on primary versus secondary visual processing areas is consistent with eye-movement data suggesting that a concurrent task decreases foveal attention to visual information in driving without altering the pattern of fixations that the driver makes (Strayer et al., 2003), an impairment in driving performance caused by a concurrent task referred to as “inattention blindness.” Lastly, the study showed that with younger adult drivers, the results were worse. The younger driver’s response times were reduced to as slow as a 65-70 year old driver.

In 2005, the *National Highway Transportation Safety Administration (NHTSA)* issued a Policy Statement as follows, “The primary responsibility of the driver is to operate the motor vehicle safely. The task of driving requires full attention and focus. Cell phone use can distract drivers from this task, risking harm to themselves and others. Therefore, the safest course of action is to refrain from using a cell phone while driving.”

In 2006, *Virginia Tech Transportation Institute & National Highway Transportation Safety Administration (NHTSA)* conducted the *100 Car Naturalistic Driving Study* showed that 80% of crashes and 65% near crashes have an instance of driver inattention within seconds of the incident. And that wireless devices, mainly cell phone use is the most common form of driver distraction.

Additionally, *The University of Montreal* found that if you’re using a cell phone while driving, you are 38% more likely to get into an accident. ‘Having a complicated phone conversation is a demanding activity for the brain...’ stated Urs Mag, of the Transportation Safety Laboratory at the University.

The *Insurance Bureau of British Columbia* came to the same conclusion. They stated, ‘when it came to talking on the cell phone while undergoing more complicated driving tasks, they were twice as likely to drive dangerously.’ Dr. John Vavrick said, “time sharing and multitasking does not come easily to the brain.” *The Virginia Commonwealth University Center for Public Safety*, Crash Investigation team, noted that the cognitive resources required to carry on a telephone conversation are the same as those required to drive. *The Partnership for Safe Driving* states the use of cognitive functions can diminish the ability to focus on the task of driving.

To further evidence this data, *Carnegie Mellon University’s Center for Cognitive Brain Imaging of the Department of Psychology*, conducted a study published in *In Press, Brain Research: A Decrease in Brain Activation Associated with Driving While Listening to Someone Speak*. This study used functional magnetic resonance imaging (fMRI) to investigate the impact of concurrent auditory language comprehension on the brain activity associated with a simulated driving task. The findings show that language comprehension performed concurrently with driving draws mental resources away from the driving and produces deterioration in driving performance, even when it does not require holding or dialing a phone. Such findings suggest that the deterioration in driving performance resulting from cellular phone usage

results from competition for mental resources at a central cognitive level rather than at a motor output level, and that legislative measures which simply restrict drivers to the use of hand-free phones fail in their intent to limit an important distraction to driving. These results suggest that two concurrently performed complex tasks draw on some shared, limited resource, and thus the resources available for performing each component task are diminished in the concurrent situation relative to when the task is performed alone. This interpretation is consistent with the notion that there is a fundamental constraint that limits the ability to drive and process language at the same time. The central findings were that the sentence listening task reliably degraded driving performance, and in addition, it resulted in decreases in activation in key regions that underpin the driving task. It also addressed a common debate stating, the processing of spoken language has a special status by virtue of its automaticity, such that one cannot willfully stop one's processing of a spoken utterance (Newman et al., 2007), whereas one can willfully stop tuning a radio. These various considerations suggest that engaging in conversation while concurrently driving can be a risky choice, not just for commonsense reasons, but because of the compromised performance imposed by cognitive and neural constraints. Other MRI studies have also shown mobile phone use alone reduces 37% of brain activity engaged in driving. An amount similar to before mentioned studies. In Australia, researchers from the emergency department of Royal Melbourne Hospital have found that mobile users are more hazardous than drunken drivers. Researchers found that drivers using hand-held mobile phones are four times as likely as other drivers to have a collision, double the risk of drivers who exceed the blood alcohol limit. The risk of fatality increased ninefold when using a mobile phone - compared to drivers with a blood alcohol concentration of 0.05 and 0.09, who are 11 times more likely to cause death than a sober, undistracted driver.

To conclude, just as Strayer states in his 2005 Human Factors publication, "The objective of the present research was to help to establish a clear benchmark for assessing the relative risks associated with using a cell phone while driving. We compared the cell phone driver with the drunk driver for two reasons. First, there are now clear societal norms associated with intoxicated driving, and laws in the United States expressly prohibit driving with a blood alcohol level at or above 0.08%. Logical consistency would seem to dictate that any activity that leads to impairments in driving equal to or greater than the drunk driving standard should be avoided (Willette & Walsh, 1983). Second, the epidemiological study by Redelmeier and Tibshirani (1997) suggested that "the relative risk [of being in a traffic accident while using a cell phone] is similar to the hazard associated with driving with a blood alcohol level at the legal limit" (p. 456).

What are we waiting for? I feel it is our job and our responsibility to our citizens and our children, knowing the facts and the truth about the use of cell phones while driving and we need to do what we can and prohibit the use of cell phones while we are driving now rather than later. And please before you drive... Hang up, Save a Life.

