

Fatal distraction

Cell phone use while driving

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Today, as never before, society pressures us to “stay connected” via telecommunications devices; thus, it is no surprise that cell phone use while driving is a growing problem. This technological and social phenomenon is contributing to one of the leading causes of unintentional death and injury—motor vehicle collisions.

The evidence is clear and compelling. Epidemiologic, driver simulator, and naturalistic studies demonstrate that cell phones and driving are a dangerous combination. Unfortunately, while most drivers view cell phone use while driving as unacceptable, many of them still engage in it.¹⁻⁴ At any given time, 1 in 20 Canadian drivers is using a cell phone while driving.⁵ Driver distraction is responsible for up to 80% of motor vehicle collisions, and cell phone use is becoming a prevalent mode of distraction.⁶ Young drivers aged 16 to 20 are at highest risk of cell phone-related collisions, as surveys show that up to 80% admit to texting while driving.³ The goal for public education is not only to raise awareness about this problem but also to convince people to change their driving habits.

As physicians, patients regard us as community leaders and experts in health and safety. We are in a unique position to influence the thoughts and behaviour of people regarding their overall health and well-being by educating them about the issue of distracted driving. By doing so, we create opportunities to change societal norms, make our roads safer, and ultimately save lives. Unfortunately, many physicians also use their cell phones while driving and are setting a poor example for families and patients. This commentary highlights current evidence on this topic and equips physicians with tips on how to avoid this dangerous habit and educate their patients, friends, and family.

Approaching the topic

While there is abundant literature to support primary care discussions about cardiovascular disease, diabetes, and smoking cessation,^{7,8} evidence has yet to be published supporting counseling about the risks of distracted driving. In light of the evidence outlined in this commentary, primary care physicians are encouraged to integrate points about cell phone use while driving into the periodic health evaluation.

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Counseling in a doctor's office can be particularly effective for targeting some individuals at a higher risk of this distraction, such as those with attention deficit disorder and teenagers already engaging in risky behaviour like drinking and driving.

First, determine your patients' current views on this issue. Do they know the hazards associated with cell phone use while driving? Do they or their loved ones currently engage in this activity?

Discussing the risks

Next, inform patients about the dangers of cell phone use while driving. To guide you in this discussion, the following points demonstrate the most salient risks associated with this habit and questions that are often raised.

Cell phone conversation while driving increases collision risk by 4 to 6 times.^{9,10} Cell phone conversations have negative effects on reaction time, lane keeping, car-following ability, and speed control while driving.¹¹ Furthermore, distracted drivers accept suboptimal performance on driving tasks, like checking mirrors, in order to give attention to nondriving tasks.¹² All of these factors together contribute to a higher collision risk.

Whether it is hand-held or hands-free, the conversation is the distraction, regardless of what the laws say. Many countries worldwide and provinces throughout Canada have implemented legislation banning cell phone use while driving. Unfortunately, most laws allow the use of hands-free devices, which is just as dangerous as hand-held cell phone use.¹¹⁻¹³ These bans mislead the public and encourage them to trade one dangerous habit for another equally dangerous one.¹⁴ It is the cognitive task of having the cell phone conversation that is distracting, regardless of the device.

If hands-free conversations are just as dangerous as hand-held, what about passenger conversations? A simulator study comparing cell phone to passenger conversation found that passengers have a protective effect on driving ability.¹⁵ While cell phone conversation negatively affects lane keeping, navigation, and following

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distance, these effects are not seen with passenger conversation. Because of a shared awareness of the driving context, the amount and complexity of conversation drops in response to increased traffic demands, helping to lessen potential risks.

Text messaging while driving increases collision risk by 23 times. Even more alarming than cell phone conversations is text messaging while driving. Results of a large-scale, naturalistic driving study found a 23.2 times increase in crash or near-crash risk when reading and sending text messages compared with driving without distractions.¹⁶ Simulated experiments show that drivers who text message while driving display poorer car-following ability and lateral lane control,¹⁷ and they spend 400% more time with their eyes off the road when compared with baseline.¹⁸

Does practice make perfect? Many people respond to these stated risks with comments such as “I am good at multitasking” or “with practice, I learned how to use my phone while driving safely.” In reality, “multitasking” or concentrating on 2 tasks simultaneously is impossible for human cognition,¹⁹ and attempts to compensate for the distraction, such as decreasing speed or increasing following distance, are often inadequate to avoid collisions.¹² Even those who can dial and text message without looking at their devices suffer from *inattention blindness*, which occurs when a driver looking directly at a stimulus does not perceive it or process a response to it.²⁰ Cognition is divided between the tasks, and drivers are unable to adequately react to changing traffic situations despite their eyes being on the road.

Cell phone use while driving is comparable with driving under the influence of alcohol or cannabis. A simulator study found that cell phone use while driving might be as or more dangerous than driving with a blood alcohol level at the legal limit.²¹ Having a cell phone conversation slows driver reaction time by 18%, while alcohol (at a concentration in the blood of 0.08 weight/volume) slows reaction time by 12%.¹⁰ Another study suggests that texting while driving might be more dangerous than driving under the influence of cannabis; texting slows driver reactions by 35% while cannabis slows reactions by 21%.¹⁷ Unfortunately, while most drivers would not even consider driving under the influence of alcohol

or cannabis, many use their cell phones while driving despite knowing the risks.

“But I only use my cell phone at red lights or when I’m stuck in traffic.” Although the collision risk might appear to be lower at intersections and while stopped in traffic, the driver is not attentive to changes in traffic signals²² and is at increased risk of rear-end collisions.¹⁰ One case report outlined how a driver distracted by a cell phone conversation inadvertently lifted her foot off the brake and rolled into oncoming traffic while at a red light.

Is cell phone use more dangerous than other distractions? Cell phones might contribute to more collisions than other in-car tasks, such as eating and reaching for objects. In a 1-year naturalistic study of 241 drivers, dialing and having cell phone conversations contributed to more crashes and near crashes than any other task.²³ Compared with other distractions, drivers engage in cell phone conversations more frequently and for longer periods of time, which results in a greater overall collision risk.

Why do collision statistics not reflect the apparent prevalence and risk of cell phone use while driving? The reason for this paradox is unclear, but there are several potential explanations: risks of cell phone use while driving have been overestimated²⁴; cell phone involvement in collisions is under-reported¹¹; or gains made in reducing other distractions have been supplanted by cell phone use.²⁴ Although hard statistics are currently lacking, a recent study using American trends in distracted driving fatalities and text messaging estimated that text messaging while driving caused more than 16 000 fatalities from 2001 to 2007.²⁵

Suggesting a solution

Once patients are convinced of the risks of cell phone use while driving, help to prevent them from developing the habit or help them change their behaviour. Listed below are strategies that can help you and your patients avoid this practice. For patients who do not drive, empower them to protect their friends and family by educating their loved ones.

- Turn off your cell phone when you enter your vehicle or switch it to silent mode and put it somewhere you cannot reach it.


Students for Cellphone-Free Driving

Students for Cellphone-Free Driving, founded under the guidance of the Coalition for Cellphone-Free Driving, is a community education and awareness program created by medical students at the University of Alberta. The goal is to prevent injury by educating youth about the risks of cell phone use while driving and encouraging them to develop safe habits as they begin to drive. This is done through interactive presentations to high school students. For more information visit www.cellphonefreedriving.ca.

- Set up caller ID and a reliable voice mail system that lets callers know you might be driving and will return their call at a later time.
- Ask passengers to help by operating cell phones and other electronic devices. If you are the passenger, speak up and offer to help.
- If you need to make an important call, pull over and park in a safe location before reaching for your cell phone.
- Do not call your friends, co-workers, clients, or family when you know they are driving.

Conclusion

Motor vehicle collisions remain a leading cause of death for Canadians. Much like the issue of drinking and driving, addressing the problem of cell phone use while driving will not be easy. Individual counseling is only one part in the approach to stopping this problem, and additional strategies are required to reach individuals who do not seek out primary care. In the community, this message is being integrated into driver education and local awareness events. Employers are implementing policies prohibiting cell phone use while driving on company time. From a technological perspective, cell phone modifications and new devices designed to block cell phone use while driving must be made more readily available. In the media, measures must be undertaken to counteract the damaging effects of popular media in showcasing distracted driving on television and movie screens. On the national level, provinces are enacting and enforcing distracted driving legislation, and there has been discussion about increasing insurance premiums for drivers who use cell phones.

While there is abundant evidence showing that cell phone use while driving is dangerous, research must be undertaken to evaluate the efficacy of the individual counseling strategy encouraged in this commentary. Until then, as advocates for health and safety, physicians must advise patients about this danger. You can play an integral part in the fight against cell phone use while driving by setting a good example and informing your patients, friends, and family. 

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Competing interests

None declared

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