## The Top 10 Excuses For Not Wearing a Seatbelt

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You turn the ignition on and hear the engine roar to life, followed by the "beep, beep" reminder to fasten your seatbelt. Most of us turn up the music and tune out the signal of one of the most important safety features in your car.

Seatbelt use in Canada leaped from a mere 26% in 1980 to 96% in 2011.<sup>1,2</sup> A large part of this increase can be attributed to seatbelt laws. These laws began to trickle into provincial legislation in 1976, with the last province jumping on board in 1987.<sup>3</sup> The increase also may be due to changing societal standards. My parents grew up during a time when it was normal not to wear a seatbelt, and it was perfectly fine to hold your baby on your lap when you were in the car. Even the child car seats at the time barely afforded any protection. Times have luckily changed!



Figure 1 : My mom, seated in what passed for a car seat in 1960.

Still though, that last 4% of people persist in coming up with reasons not to wear their seatbelt. Do they know something we don't? Should we ban seatbelt use altogether and go back to the way things used to be? Is it safer not to wear seatbelts? To answer these questions, let's take a look at some of the reasons why some people refuse to buckle up.

#### #10: The airbag will save me.

Airbags are not meant to be the only restraint system you use; they are referred to as a supplemental restraint system. They provide additional protection when used in conjunction with your (properly worn) seatbelt. In a study of frontal collisions where all vehicles involved had front airbags, it was found

<sup>&</sup>lt;sup>1</sup> Sen., A., Mizzen, B. "Estimating the Impact of Seat Belt Use on Traffic Fatalities: Empirical Evidence from Canada", Canadian Public Policy, Vol. 33, No. 3, September 2007, pp. 315-335.

<sup>&</sup>lt;sup>2</sup> World Health Organization

<sup>&</sup>lt;sup>3</sup> See reference #1.

that unrestrained occupants were still more than twice as likely to die at any severity of crash as those wearing seatbelts.<sup>4</sup> Furthermore, airbags will only deploy if the impact is significant enough to warrant one; they are not meant to deploy in minor collisions. Thus, if you are not wearing a seatbelt in a minor collision, you may not have any restraint system available to help protect you.

#### #9: You don't need to wear a seatbelt in the backseat.

While the rate of seatbelt use is nearly 96% for drivers, it is only at 89% compliance for rear seat passengers. The higher rate for drivers may be partially explained by the seatbelt reminder systems. People would rather wear their seatbelt than listen to that annoying "beep" in the vehicle telling you to buckle up. Such systems are not yet in place for rear seat passengers.



Passengers in the rear seat may have a false sense of security being behind a cushioned seat, rather than a solid steering wheel or dashboard. While the risk of injury for rear occupants has typically been found to be lower than that of front occupants, there is still a significantly higher risk of injury for unbelted rear adult occupants compared to belted. One study of frontal impacts in vehicles of model years 2000 to 2006 indicated that unbelted rear seat passengers had more than 11 times the risk of serious injury in comparison to belted rear seat passengers. It is just as important for rear seat passengers to buckle up as it is for front seat occupants.

# #8: I'm pregnant, so I shouldn't wear a seatbelt.

Some women are afraid that the seatbelt will hurt the fetus. As long as the seatbelt is worn properly (your vehicle's Owner Manual will provide instructions on this), the seatbelt will absolutely help protect the mother and her unborn child. One study of 57 pregnant women who had been in a collision estimated that properly wearing a seatbelt reduces the risk of adverse fetal outcomes (including premature birth, injuries or death) by 84%. The study found that the best way to protect the fetus is by protecting the mother from injury, and the best way to protect the mother is by wearing a seatbelt. <sup>7</sup>

# #7: I don't want to get tangled in the seatbelt or trapped in the car. It's better to be thrown from the vehicle in a collision.

The National Highway Traffic Safety Administration (NHTSA) studied the outcome of 400,000 occupants that were in fatal collisions between 2003 and 2007 to determine the factors involved in occupant ejection. The NHTSA found that unbelted occupants were nearly 18 times more likely to be ejected than

<sup>&</sup>lt;sup>4</sup> Ryb, G.E. et. al. <u>"Delta V, Principal Direction of Force, and Restraint Use Contributions to Motor Vehicle Crash Mortality,"</u> The Journal of TRAUMA Injury, Infection and Critical Care, November 2007.

<sup>&</sup>lt;sup>5</sup> World Health Organization

<sup>&</sup>lt;sup>6</sup> Esfahani, E.S., Digges, K., <u>"Trend of Rear Occupant Protection in Frontal Crashes over Model Years of Vehicles,"</u> Society of Automotive Engineers, Paper #2009-01-0377, 2009.

<sup>&</sup>lt;sup>7</sup> Klinich, K.D. et. al., <u>"Fetal Outcome in Motor-Vehicle Crashes: Effects of Crash Characteristics and Maternal Restraint,"</u> American Journal of Obstetrics & Gynecology, April 2008.

those wearing a seatbelt. Some people think that being thrown from the vehicle is better; however, this could not be further from the truth.

The NHTSA estimated that the risk of fatality of ejected occupants is 2.3 times that of those who are not ejected. The body of a vehicle is built to endure impact forces and absorb the energy from an impact, so as to preserve the integrity of the passenger compartment as much as possible. You also have airbags inside the vehicle which will help cushion contact to the steering wheel or side windows. If you are thrown from the vehicle, you may end up being thrown dozens of metres away, striking the pavement at a significant speed, or being hit by another vehicle. In the case of a rollover, the vehicle may even roll onto you. Staying inside of the vehicle is your best chance for surviving the collision, and your seatbelt can help you do that.

## #6: Wearing a seatbelt is not comfortable, especially if I want to sleep.

You know what's not comfortable? Being thrown through a windshield. I don't think I need to elaborate on this one!

# #5: I'm not going fast enough to get injured.

I have heard of some people that only wear a seatbelt when they are on the highway, as they believe that there is no need to wear a seatbelt while driving at slower speeds than that. Most people would be surprised at how much a collision at lower speeds can throw you around when you're not wearing a seatbelt. The images in Figures 2 and 3 show the difference in movement between a crash test dummy wearing a seatbelt, and one which is unbelted, at an impact speed of only 30 km/h. <sup>10</sup> Keep in mind, the force of the impact was not high enough to trigger the airbag deployment.



Figure 2: Belted crash test dummy during a 30 km/h impact.

<sup>&</sup>lt;sup>8</sup> Burgess, M., Starnes, M., <u>"Factors Related to the Likelihood of a Passenger Vehicle Occupant Being Ejected in a Fatal Crash,"</u> National Highway Traffic Safety Administration, December 2009.

<sup>&</sup>lt;sup>9</sup> lbid.

Deutsche Welle, 2013. "<u>Drive It! The Consequences of Driving Without a Seatbelt</u>", Retrieved from <a href="https://www.youtube.com">www.youtube.com</a>. Crash test conducted by Allgemeiner Deutscher Automobil-Club (ADAC), Germany.



Figure 3: Unbelted crash test dummy during a 30 km/h impact.

As you can see in the photographs, the chest of the unbelted crash test dummy impacted the steering wheel and its head struck the windshield. The belted dummy, meanwhile, has not impacted either. The seatbelt held the occupant in place and prevented their torso from being thrown forward. Simply buckling up can greatly reduce your injuries in any collision, whether it is low-speed or not.

## #4: Seatbelts cause injuries.

Study after study has shown that the use of seatbelts decreases the risk of fatality and injury across the board. A study of fatal collisions in the United States (where at least one occupant died), showed that the chances of an unbelted occupant dying were nearly twice that of someone wearing their seatbelt. <sup>11</sup> Is it possible for a seatbelt to injure you? Of course it could. In moderate to severe collisions, seatbelts can cause bruising as well as chest and abdominal injuries. However, as seen in the images from the previously mentioned crash test, a seatbelt can prevent your chest and head from striking components and surfaces inside the vehicle, which will almost certainly cause much more serious injuries than the seatbelt itself. So yes, you may still be injured by the seatbelt, but your injuries will be lessened in comparison to not wearing a seatbelt. "Seatbelts save lives." It's not just a catch phrase.

## #3: I'm a great driver, I won't crash.

Maybe you won't cause the collision, but someone else might! You may be the best driver in the world, but unfortunately, everyone else on the road is prone to making mistakes. Banking on your driving ability to save you is like playing Russian Roulette. There are some collision scenarios which are completely unavoidable because they happen too quickly for a driver to react; a car turns left in front of you, someone cuts you off and slams on the brakes, someone crosses the centreline or runs a stop sign...the list goes on. We are never afforded the opportunity to choose when, where or how a collision will occur, and so you must always be prepared for the worst. It's better to be safe than sorry!

#### #2: I'm not going far enough to get into a collision.

Another excuse for not wearing a seatbelt, which I have actually seen in statements from injured occupants involved in a collision, is "I was close to home." Most people are only concerned about safety when embarking on longer road trips. In reality, the majority of traffic collisions occur within a few kilometers of home, likely because that is where we spend the majority of our driving time. A survey

<sup>&</sup>lt;sup>11</sup> Mayrose, J. et. al. "<u>Influence of the Unbelted Rear-seat Passenger on Driver Mortality: "The Backseat Bullet</u>"", Academic Emergency Medicine, February 2005, Vol. 12, No. 2.

conducted by Progressive Insurance in the United States found that 52% of reported crashes occurred within only 8 km of home. 12

# #1: It's my life, I can do whatever I want.

What a lot of people do not realize is that by not wearing a seatbelt, they are not just putting themselves at risk. They are also putting the other belted passengers at a higher risk for serious injury and death. Impacts cause unrestrained occupants to become moving projectiles.

Studies have looked at the risk that belted occupants face when they are in the path of an unbelted occupant during a collision. An example of this would be a belted driver with an unrestrained right front passenger, wherein the impact was on the driver side (and consequently, the collision force causes the right front passenger to travel towards the driver). Research that looked at all types of collisions found that belted occupants had a 90% increased risk of injury when exposed to an unbelted passenger, and a 4.8 times greater risk of death.<sup>13</sup> In fatal head-on crashes, a belted driver seated in front of an unrestrained rear seat passenger had a 2.3 times greater risk of death compared to sitting in front of a restrained passenger.<sup>14</sup> Bottom line: If you don't want to buckle up for yourself, do it for your fellow passengers. Don't let your risky choices harm them.



Figure 4: Capture taken from a crash test video of a frontal impact with an unbelted child crash test dummy in the rear seat. 15

### What does it all mean?

Hopefully by this point I have successfully disputed every reason for you not to wear your seatbelt, and we can all agree that we should keep seatbelt laws. You might be wondering, why bother writing this article at all? If 96% of people are buckling up, that's great right? I mean, that's an A+ in school! The problem is, this is a life and death situation that is not improving. The Ontario Provincial Police reported

<sup>&</sup>lt;sup>12</sup> Progressive Insurance News Release, <u>"Claims Survey Finds There's No Place Like Home – For Vehicle Crashes,"</u> May 6, 2002. Retrieved from <u>www.progressive.com</u>.

<sup>&</sup>lt;sup>13</sup> MacLennanc, P.A. et. al., "Risk of Injury for Occupants of Motor Vehicle Collisions from Unbelted Occupants," Injury Prevention 2004, Vol. 10, pp 363-367.

<sup>&</sup>lt;sup>14</sup> Mayrose, J. et. al. "Influence of the Unbelted Rear-seat Passenger on Driver Mortality: "The Backseat Bullet"", Academic Emergency Medicine, February 2005, Vol. 12, No. 2.

<sup>&</sup>lt;sup>15</sup> Posted by the Road Safety Foundation. Retrieved from <u>www.youtube.com</u>.

that the number of deaths of occupants not wearing seatbelts (during the period of January  $1^{st}$  to mid-September 2015) was actually on the rise, compared to the same time period in 2014. <sup>16</sup>

The OPP also published a report only a year ago which stated that in the last decade, lack of seatbelt use was a factor in 856 collision fatalities. Males comprised an overwhelming 75% of the fatalities, and in particular, the 25 to 34 age group had the highest rate of fatalities due to lack of seatbelt use.<sup>17</sup> So, if you are a young male who does not bother to wear a seatbelt, you are at a significantly higher risk of dying in a collision than the rest of us. This is what bothers me most about people not wearing seatbelts – most of these deaths are preventable.

Clearly, there is a lot at stake when someone chooses not to wear their seatbelt. Lack of seatbelt use can increase of the risk of death and serious injury to not only you, but also to your fellow passengers. The take-home message is this: wearing a seatbelt is your best bet for both surviving a collision, and for sustaining as few serious injuries as possible. Spread the word, and pass on this research next time one of your friends or family members complains about wearing a seatbelt. Let's get that last 4% onboard, and aim for a future where no one has to die on the roads. Be smart – BUCKLE UP!

<sup>16</sup> CBC News Toronto, <u>"Deaths Related to Not Wearing Seatbelts on the Rise: OPP,"</u> September 22, 2015. Retrieved from <u>www.cbc.ca</u>.

<sup>&</sup>lt;sup>17</sup> Dubinski, K., The London Free Press, <u>"Ontario Provincial Police Release Crash Data on 3,500 Road Deaths Since 2005,"</u> March 23, 2015. Retrieved from <u>www.lfpress.com</u>.