



An Educated Minute

from the Human Resources & Information Services Department

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Winter's Coming. Take the Winter Driving Quiz.

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Love it or hate it, winter is a tough season for Canadians to ignore. It's right there in your face, just beyond the wiper blades: frigid, blowing, slippery, unpredictable. Too many adjectives, none of them pleasant, can be used to describe winter driving. Although more driving fatalities occur in the summer, more crashes occur in the winter months. Year after year, it seems we all make the same mistakes over again. Try this quiz to see if you're ready.

1. **True or false? The best way to stop is to pump the brakes.**

False. Smooth application of the brakes with steadily increasing pressure is the best way. Pumping may exert enough pressure to lock the wheels on a slippery surface, which is a very inefficient braking method. A locked wheel will slide in a straight line even if you've turned the steering wheel. Smooth application of the brakes gradually tilts the vehicle's weight forward, pressing the front wheels, which have the stronger brakes, more firmly on the surface. Steadily increasing the brake pressure helps the driver sense if the wheels are beginning to lock from too much pressure.

2. **A driver should:**

- (a) look down at the road to see icy patches OR
- (b) look as far ahead as possible

The better answer is (b). If you are looking down at the lines or the edge of the roadway to get your bearings, you're traveling too fast to process focal and peripheral vision information. The distance a driver can actually see ahead varies with weather and traffic conditions. In downtown traffic at 50 km/hr and clear visibility, you should be aware of the environment up to two traffic lights ahead. At highway speed, you should be looking 500 to 800 metres ahead (five to eight football fields). At that distance, an icy patch looks more reflective than the dry roadway. You might also see shaded portions of the road, which may indicate ice or slippery areas created by snow blowing across the highway. Also watch out for other drivers who may be losing control. Detecting difficulties at this distance allows 15 to 25 seconds to prepare for hazards, so that you can slow down gradually and give following drivers time to respond appropriately.

3. **True or false? In an emergency, anti-lock braking systems allow you to brake hard and steer at the same time?**

True. Using information from wheel sensors, a computer calculates the optimal rate of deceleration. Pumps and valves modulate the brake pressure without allowing the wheels to lock. Since the wheels are still rolling they will respond to the driver's steering input. Keep in mind that tires always respond best when asked to perform one function at a time, i.e. brake or steer. Steering while the anti-lock braking system is engaged will increase overall stopping distances and produce less responsive steering. You must remain composed enough to realize that there may be an option to swerve away from something while there is still time.

4. **How much more room do you need to stop on glare ice rather than dry pavement?**

- (a) two times
- (b) four times
- (c) seven to ten times

The answer is (c). Depending on temperature and texture, ice provides approximately 10 to 15 percent of the grip available on dry asphalt. It is no surprise that stopping a mid-size car moving at only 50 km/hr requires over 60 metres.



5. **True or false? Two snow tires on the drive wheels are all you need.**

False. In the bad old days, snow tires were only expected to keep cars from getting stuck. Now we expect our vehicles to stop, corner and obey our every wish. Having snow tires on only two wheels may give one end of the car good grip but the other end can behave erratically. Installing four winter tires balances the grip at both ends of the car.

6. **If the rear end of the car skids, the driver should steer:**

- (a) opposite to the skid
- (b) in the direction you want the car to go

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(c) in the direction of the skid

B is the correct answer. We have heard answer (c) repeated ad nauseum, but it's meaningless to many drivers. More useful advice is for you to visually target where you want the car to go and steer in that direction. This makes vision far more important than feel as the primary skid detection and recovery sense.

7. **Following distance should be no less than:**

(a) 3.0 seconds

(b) 2.0 seconds

(c) enough room to stop

The correct answer is (a). The root of all evil in driving is tailgating. Tailgaters are forced to focus their vision and attention on near-range problems such as the taillights of the first or second car ahead. With a 3.0 second following distance, peripheral vision will handle these tasks, allowing the driver to target their focal vision as explained in question two. Practise this by counting "one thousand and one, one thousand and two, one thousand and three" when the car ahead passes a fixed object. You should be saying "three" as you reach the same fixed point. Start practicing this right away, so that the habit will be formed before the emergency occurs. Being a driver with the 'big picture' means you can respond to what is happening when it is hundreds of metres away, well before the driver ahead hits the brakes.

8. **When stopped behind another vehicle at a red light, minimum space should be:**

(a) 1 car length

(b) enough that the rear tires of the vehicle ahead are visible

(c) enough space to escape

The correct answer is (c). Leaving a gap ahead allows escape space if the driver behind is going to hit you. The size of that gap depends on the slipperiness of the road surface and the size of your vehicle. The space can be used to change lanes or move up, providing extra stopping space for the following driver who has misjudged the surface.

9. **The primary factor for determining the proper highway speed in winter is:**

(a) the speed limit

(b) visibility

(c) the traffic flow



The correct answer is (b). The fact that rear enders are the most common crash type in Ontario proves that "going with the flow" is no smarter than joining lemmings on a charge to the ocean. Using the same method to judge following space, locate a fixed target as far ahead as you can see, such as a bridge or sign. Count seconds until you reach the target to determine how big your picture of the traffic scene is. Your vision should provide awareness of the road and adjacent hazards that you may encounter within the next 15 to 30 seconds. If you reach the fixed point before the count of 15, practise high aim targeting to expand your forward picture. If fog, snow or mist limit visibility, slow down so that a few more precious seconds will allow time for an emergency maneuver.

10. **To change lanes on a snow-rutted road, you should:**

(a) ease off the gas and steer sharply

(b) ease off the gas and steer smoothly

(c) accelerate and steer smoothly

The answer is (b). Traversing the six inches of slush and snow separating lanes on the highway is one of the riskiest winter maneuvers. Accelerating will only increase the risk of spinning the tires and losing control. Easing off the gas will produce mild deceleration but the amount is insignificant with modern, electronically controlled automatic transmissions. The real deceleration will occur when the tires sink into the soft slush. Steer smoothly while gripping the wheel firmly at 9 and 3 o'clock hand positions. Target your vision ahead in preparation for skid recovery if necessary. If you're driving a standard shift vehicle, it's wise to depress the clutch pedal while making this maneuver.

Winter driving is serious business in Canada. It requires discipline, vigilance and application of basic survival techniques.

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