

Appendix B: Effect of alcohol on reaction times

Alcohol is water-soluble and is readily absorbed in the blood. More blood is supplied to the brain than to other organs, with the result that alcohol impairs your brain function within minutes. At a blood alcohol content (BAC) of 0.08 gm/100ml, the reaction time of the average driver doubles from 1.5 s to 3.0 s. Muscle coordination also diminishes and a driver is more likely to respond incorrectly to stimuli. A 1997 New England Journal of Medicine cited a study that found that talking on a cell phone quadruples a driver's risk of collision, roughly the same as being drunk. Studies have shown that BAC levels as low as 0.04 gm/100 ml can affect reaction times. Simple reaction times (where the subject attempts to detect a stimulus and respond as quickly as possible) appear to be less affected by lower BACs than do complex reaction times (where the subject must discriminate between stimuli and respond appropriately.) If your BAC is 0.08 gm/100 ml, you are 4 times more likely to crash than if you are sober. At a BAC of 0.12 gm/100 ml, your chances are 15 times more likely and at a BAC of 0.16 gm/100 ml, your chances of crashing are 30 times more than if you are sober.

According to an article in the 1/14/01 issue of Parade Magazine, "Three out of four teens say that they speed when they drive, and about half don't wear seat belts. Plus, 40% say they've ridden with a teen driver who was intoxicated or impaired."