

BASICS

Blood Alcohol Concentration and Related Effects

Blood alcohol concentration (BAC) is a measure of how much alcohol is in the blood. The **amount** of alcohol consumed, **time** spent drinking, birth **sex**, and **weight** are used to estimate BAC. For low- or non-tolerant drinkers, BAC can provide an approximate predictor of effects on cognition (thinking, reasoning, memory, awareness), regulation of emotions, motor coordination and vital functions. As BAC increases, interference with mental and physical functioning increases.

Note: Variables such as tolerance* and the presence of other drugs in the body can alter the effects experienced by an individual at a given BAC.

Common Effects of Alcohol for Non-Tolerant Drinkers at Varying BAC Levels	
.02 -.04%	Relaxation, less inhibited, minor impairment in judgment, reasoning, perception.
.05 -.07%	More relaxed, euphoric mood. Judgment, perception and reasoning are somewhat impaired (“alcohol myopia”). Exaggerated emotions. Fine motor skills are impaired.
.08 -.10%	Euphoria begins to diminish. Judgment, attention and memory are impaired. Fatigue. Impaired balance, coordination, vision, reaction time and speech. Increased risk of nausea. Driving at $\geq .08$ is illegal in WI.
.11 -.15%	Judgment, perception, attention, memory further impaired. Increased sleepiness. Further impaired coordination, vision and speech. Further exaggerated emotions. Nausea and possible vomiting.
.16 -.19%	Judgment dangerously impaired. Confusion. Balance and coordination significantly impaired. Difficulty with walking or talking. Vomiting likely. May blackout (amnesia).
.20 -.24%	Disoriented, impaired sense of time and place. May need assistance to sit up, stand or walk. Impervious to pain. Impaired gag reflex increases risk of choking on vomit. Blackout likely.
.25 -.29%	Severe impairment of all physiological, sensory and mental functions. Stupor. Little comprehension of self or environment. Risk of losing consciousness/becoming unresponsive (i.e., does not respond to activity, touch, sound, or other stimulation).
.30 +%	Loss of consciousness/unresponsive. Slow or irregular breathing or heart rate. Incontinence. Lower body temperature. Significant risk of death due to respiratory or cardiovascular failure.

* Acquired **tolerance** means that drinking behavior has caused cellular adaptations resulting in the same amount of alcohol having less effect on the central nervous system. A person with tolerance has to drink more alcohol to feel the same effects one would normally expect at a lower BAC.