Alcohol (Ethanol) - General Effects

Ethanol is a central nervous system (CNS) and respiratory depressant.

1. General effects of ethanol include, but are not limited to, euphoria, slowed reaction times, slurred speech, impaired vision, perception, memory, comprehension, judgment, balance, and other psychomotor functions.
2. The effects of ethanol on the human body are directly proportional to the concentration of ethanol in the blood.
    a. As the blood alcohol concentration increases, the severity of the effects increases.
    b. The impairing effects of ethanol can begin as low as 0.020 g/100mL.
3. When consumed orally, peak BAC occurs between 10-120 minutes after the end of drinking and on average after 60 minutes.
4. Ethanol is eliminated at a constant rate over time, post-absorption following zero-order kinetics.
    a. The blood ethanol decreases at a constant rate until approximately 0.020 g/100mL, after which the elimination tends to follow first-order kinetics or a non-linear relationship with a constant fraction of ethanol over time.
    b. Elimination rates are typically within the range of 0.010 to 0.025 g/100mL/hour, with an average elimination rate of 0.015 g/100mL/hour.
5. Driving is a complex task requiring prolonged divided attention. General impairing effects of ethanol on driving include, but are not limited to, impaired divided attention, reaction time, vision, memory, comprehension, perception of time and physical space, psychomotor function, and ability to maintain lane position.
6. Tolerance is a decrease in response to a given dose of ethanol after repeated intake.
    a. Larger doses of ethanol are necessary to achieve the desired effects previously achieved at lower doses.
    b. An individual may compensate for certain behavioral impairing effects of ethanol, but this can only be accomplished on simple tasks and for short periods of time. This compensation does not counteract the overall impairing effects of ethanol on skills required for safely operating a motor vehicle.

References

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** The interpretive information provided is not exhaustive nor meant to encompass all scenarios where toxicological results are reported. Interpretive information is meant to serve as a general guide for the reader and that for any given case, consultation with a forensic toxicologist is recommended. **