



### Cocaine - General Effects

Cocaine is a central nervous system (CNS) stimulant and a drug of abuse.

1. As a drug of abuse, the salt form of cocaine is administered by nasal insufflation or intravenous injection. The free base form of cocaine is usually smoked.
  - a. Cocaine has a half-life of 0.7-1.5 hours.
  - b. Infrequently, cocaine is used medicinally as a topical local anesthetic.
2. Benzoylcegonine and ecgonine methyl ester are inactive metabolites of cocaine. Inactive metabolites produce no psychoactive effects on the body.
  - a. Presence of either metabolite indicates past use of cocaine.
3. Cocaethylene is a pharmacologically active compound formed when cocaine and alcohol are ingested concurrently.
  - a. Cocaethylene has similar active effects to cocaine and can enhance the effects associated with cocaine and alcohol.
4. Cocaine and its metabolites are listed as restricted controlled substances per Wisconsin State Legislature statute 340.01 (50m).
5. Cocaine is a CNS stimulant that may cause restlessness, euphoria, dizziness, dyskinesia, tremor, dysphoria, and insomnia.
  - a. General impairing effects of CNS stimulants on driving behavior during the "rush" phase include impaired divided attention, aggressive driving, taking unnecessary risks, over-confidence in abilities, disorientation, and inability to maintain lane position. The "rush" phase is followed by a "crash" phase where central nervous system depression may be observed.
6. The longer an individual uses a drug, the more they can build up a tolerance to its effects. Tolerance occurs when an individual no longer responds to the drug in the way that they initially responded. When an individual gains tolerance to a drug, a higher dose of the drug is necessary to achieve the same level or response initially achieved. As tolerance is gained, it may reduce some of the possible negative effects of a drug.
7. Drug metabolism (alcohol excluded) exhibits first order kinetics, or the elimination of a constant fraction of drug quantity per unit of time, which means that the amount eliminated is proportional to the drug concentration.
8. The use of more than one drug at a time may enhance the effects the drugs would otherwise have on their own, leading to greater impairment.

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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. \*\*

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