

COCAINE ADDICTION

Cocaine is a powerful central nervous system stimulant derived from coca leaves. Its effects last from 5 minutes to an hour depending on how a person takes it and how much they take.

Cocaine blocks sodium channels in cell membranes that allow nerves to propagate an impulse. At low doses, it produces topical anesthesia for eye and nose surgery. At high doses, blockade of sodium channels causes constriction of blood vessels increasing blood pressure and the risk of stroke, and cardiac arrest.

Cocaine easily crosses the blood-brain barrier where it prolongs the effect of three neurotransmitters; dopamine, serotonin and norepinephrine at nerve endings. The accumulation of neurotransmitters in the brain produces euphoria, and because of their effect on the limbic reward pathway, cocaine is addictive.

Cocaine suppresses the appetite and can cause abdominal pain and nausea. People who use cocaine regularly are at risk for malnutrition.

After snorting powdered cocaine, the pleasurable effect lasts 15 to 30 minutes. Snorting cocaine may damage the mucous membranes of the nose because blood vessels constrict, decreasing blood and oxygen to the membranes. The substances used to cut cocaine cause nosebleeds. Hydrochloride remaining in the nose after the cocaine is absorbed degrades the nasal septum.

Euphoria passes quickly, within 5 minutes, after injection of powdered cocaine mixed with water. Because cocaine constricts blood vessels, subsequent injections are more difficult. Injection carries the risk of infection, HIV and Hepatitis C. Insoluble additives in cocaine can block blood vessels and lodge in the lungs, heart or brain.

Crack cocaine, made from processing cocaine with baking soda and water, is smoked. The pleasurable effects last 5 to 10 minutes. Smoking cocaine causes cough, shortness of breath, hoarse voice, lung trauma and inflammation, chest pain and flu-like symptoms.

People often binge use cocaine to prolong the high increasing the toxic effects. Toxic effects include itching, hyperthermia, anxiety, paranoia, hallucinations, and seizures. They are at risk for rapid heart rate, cardiac arrhythmias and sudden death.

With chronic use of cocaine, imbalance of brain neurotransmitters may cause headaches, insomnia, lethargy, oversleeping, and depression. People who use cocaine chronically are at risk for autoimmune diseases and kidney disease.