



Substance Abuse and the Human Body

Substance use disorders occur when the recurrent use of alcohol and/or drugs causes clinically significant impairment, including health problems, disability, and failure to meet major responsibilities at work, school, or home.⁷ This info sheet gives a basic overview of how commonly used drugs impact the body, but should not be considered exhaustive.

ENDOCRINE SYSTEM

Changes to metabolism: Cocaine changes the body's metabolism, making fatty foods useless to the human body and giving addicts much less body fat than people who don't use cocaine. Often associated with eating disorders.⁶

CARDIOVASCULAR SYSTEM

Heart and Blood Vessel Damage: Stimulant abuse can lead to heart disease and heart failure. Injectable drugs can cause veins to collapse and infections in blood vessels or the heart. Meth damages blood vessels which can prevent proper circulation. Minor injuries can become infected and worsen, and the skin itself loses many of its healing and protective properties. Many users develop small sores all over their body.^{3,6}

URINARY SYSTEM

Kidney Damage: Many drugs (particularly heroin, ketamine, and synthetic cannabinoids) can cause long-term kidney damage, including kidney failure, which is life threatening. This is caused by increased body temperature, breakdown of muscle tissue, and dehydration.^{3,4}

CANCER

Cancer: Smoking can lead to cancer of the mouth, neck, stomach, and lungs (among others). Young men who use marijuana are at risk for developing testicular cancer. Steroids are also associated with testicular cancer.⁴

BRAIN

Drugs interfere with the way neurons send, receive, and process signals via neurotransmitters.²

Overstimulation of dopamine reward system: This can lead to permanent changes, such as producing less dopamine which can cause a person to struggle to feel any pleasure.²

Impaired cognitive functioning⁶

Loss of memory and brain cells: Some drugs are so toxic that they kill brain cells permanently.³

Unnaturally fast aging of brain: Cocaine users lose twice the brain volume each year compared to non-users.⁶

RESPIRATORY SYSTEM

Lung Damage: Smoking any drug can cause diseases like emphysema and chronic bronchitis. Opioids depress breathing, which can worsen asthma.

Nasal/Sinus Damage: Repeated exposure to cocaine through snorting and smoking can cause infections and tissue death of the nasal linings and sinuses.

DIGESTIVE SYSTEM

Mouth Damage: Meth dries the salivary glands, which removes the protective layer of the mouth's natural acids; any sugary or acidic foods consumed during a meth binge further damage the teeth, causing numerous cavities.⁶

Liver Damage: Heroin and prescription opioids can cause liver damage. In severe cases, a person may have life-threatening liver failure.³

Gastrointestinal Damage: Many kinds of drugs cause damage and decay in the stomach or intestines. This can result in chronic pain, acid reflux, and constipation.³

SKELETAL SYSTEM

Osteoporosis: Cocaine use can decrease bone and muscle density, which can lead to osteoporosis.

Changes to physical appearance: Many drugs can alter a person's physical appearance. Cocaine can cause extreme muscle loss. Steroids can cause short stature if used as an adolescent.³

SOURCES:

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