

45.6 percent in FY 2002. While Kerlikowske and ONDCP will apparently no longer use the term *drug war*, nearly two-thirds of the federal drug control budget remains devoted to the most “war-like” aspects of U.S. policy (i.e., law enforcement, interdiction, and international efforts).

This is not to say that there has not been real change in drug policy under Kerlikowske. The 2010 National Drug Control Strategy correctly characterizes drug addiction as a disease with a biological basis that must be addressed by families, communities, schools, faith-based organizations, and medical professionals. Previously ONDCP characterized drug addiction as a personal, moral failure. The Strategy also pledges to embrace scientific research as a tool to guide federal drug control policy as well as evaluate its own performance to its stated goals. Historically, ONDCP has failed to effectively utilize scientific research to guide its policies or evaluate drug control policy. Finally, ONDCP has already laid out a new approach to drug use prevention, one that focuses less on drugs and more on the ability of young people to resist using them.

**See Also:** Anti-Drug Abuse Act (Drug-Free America Act); Demand-Side Policies; Obama Administration, Barack; Office of National Drug Control Policy; Office of National Drug Control Policy Reauthorization Act; Supply-Side Policies.

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## Ketamine

Ketamine is a prescription medication used by physicians for general anesthesia and by veterinarians for animal tranquilization. Unlike other anesthetics, ketamine does not cause loss of consciousness and produces psychedelic or transpersonal effects. Research supports ketamine’s effectiveness for off-label treatment of various pain, mental health, and substance use disorders, and it is the only psychedelic drug that can be legally prescribed by U.S. physicians. While widely used legally, ketamine is also used illegally as a recreational drug. According to the Monitoring the Future data, the annual prevalence of ketamine among eighth, 10th, and 12th graders ranges from 1 percent to 1.5 percent. Unlike most drugs used in medicine and for recreation, the typical recreational dose of ketamine is a small fraction of the dose used in medicine. Although legally produced ketamine is occasionally diverted to illegal markets, Mexico is a major supplier of illicit ketamine in the United States according to the U.S. Drug Enforcement Administration.

Ketamine was first synthesized in 1962 and was later patented by Parke-Davis in 1966 as a human anesthetic. During the Vietnam War, ketamine was the most widely used battlefield anesthetic. In 1970 the U.S. Food and Drug Administration (FDA) approved ketamine anesthesia for use with children, adults, and the elderly. Ketamine has been adopted by many hospitals, medical offices, and veterinary clinics because of its rapid onset, proven safety, and short duration of action. Ketamine is also widely used at low doses for treatment of so-called breakthrough pain in patients with acute and chronic pain and for management of neuropathic pain disorder, ischaemic limb pain disorder, refractory cancer pain, and as an adjunct to standard opioid therapy. It also has shown promise as an antidepressant and treatment for alcohol and drug problems. Ketamine is typically snorted, smoked, or administered intramuscularly, but it can also be administered intravenously, orally, or rectally.

Ketamine has minimum life-threatening side effects. Several unintentional overdoses of up to 10 times the amount usually administered have been documented by complete recovery. Clinical studies have failed to detect long-term psychologi-

cal impairment following its use, including recent studies employing sophisticated neuropsychological tests to examine subtle signs of damage. Considerable ketamine research is occurring at U.S. universities with both normal volunteers and pathological groups like individuals with schizophrenia, substance use, or mood disorders. Studies have demonstrated that ketamine can prevent brain damage in high-risk circumstances due to low blood sugar, low oxygen levels, epileptic seizure, head trauma, heart attack, or stroke.

When abused recreationally in uncontrolled settings like so-called raves, ketamine use can result in significant medical problems, including hyperthermia, excessive sedation, and respiratory depression; this is particularly true when combined with depressants like alcohol, Valium, or gamma hydroxybutyrate. The problems from ketamine misuse support its restriction for research and clinical applications under supervision by qualified professionals.

Ketamine is a rapid-acting, nonbarbiturate, and nonnarcotic agent that has been called a dissociative anesthetic because it creates a sense of disconnection between so-called mind and body. This is quite unlike the properties of conventional anesthetics, which basically extinguish consciousness. Ketamine's dissociative property also creates what can be described as emergence phenomena, which is a nonordinary consciousness state that can be viewed as psychedelic or transpersonal. Users describe profound hallucinations including visual distortions and a lost sense of time, sense, and identity that last from 30 minutes to two hours. Unlike other psychedelic drugs, ketamine has substantial addictive risk. This risk is in part due to its rare pharmacological properties among psychedelic drugs. Ketamine (like DMT and PCP) does not form the acute tolerance characteristic of other drugs with hallucinogenic effects, which makes daily "tripping" impossible. Ketamine, by contrast, does not lose its potency on repeated administration over a short period of time.

### Legal Status

Ketamine is a Schedule III nonnarcotic substance under the Controlled Substances Act. Although ketamine can be classified with other compounds called psychedelics because of its mind-altering effects, it is the only psychedelic that is legal for

U.S. physicians to prescribe for therapeutic purposes. It is readily available for use as an anesthetic—and it can also be legally administered off-label by licensed U.S. physicians for treating various medical conditions.

Off-label applications of ketamine include treating severe intractable pain and refractory cancer pain, tension headaches, ulcerative colitis, substance use disorders, and mood disorders. The appropriateness or legality of prescribing approved drugs for uses not included in their official labeling is sometimes a cause of concern and confusion among practitioners. Under the Federal Food, Drug, and Cosmetics Act, a drug approved for marketing may be labeled, promoted, and advertised by the manufacturer only for those uses for which the drug's safety and effectiveness have been established and which the FDA has approved. Once approved for marketing, a physician may prescribe a product for uses or in treatment regimens of patient populations that are not included in approved labeling.

**See Also:** Club Drugs; Hallucinogens; Policies Regulating Pharmaceutical Drugs, U.S.; Prescription Drug Abuse.

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