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Ketamine Information Sheet

This document contains important information about the therapeutic use of ketamine as provided by Integr8 Health. Please read it carefully, and ask any questions about the information it contains *before* you decide to participate in ketamine treatment.

What is Ketamine?

Ketamine is a synthetic pharmaceutical compound, classified as a *dissociative anesthetic*. It is one of the most widely used drugs in modern medicine, and is on the World Health Organization's List of Essential Medicines. It was developed in 1963, FDA approved in 1970, and adopted by many hospitals and medical offices because of its rapid onset, proven safety, and short duration of action.

Ketamine is most commonly used in surgical settings, including pediatric surgery, due to its excellent safety profile, particularly around breathing/airway management. It has also been utilized successfully in managing acute and chronic pain conditions due to its *analgesic* properties.

In the last two decades, ketamine has been increasingly clinically applied at subanesthetic doses as an off-label treatment for chronic pain along with various chronic treatment-resistant mental health conditions, such as depression, alcoholism, substance dependencies, post-traumatic stress disorder, obsessive compulsive disorder, and other psychiatric diagnoses. Clinical studies demonstrate the safety and effectiveness of some but not all of these off-label uses.

Dosing Strategies and Route of Administration

Ketamine can be administered via a variety of routes, including intravenous (IV), intramuscular injection (IM), subcutaneous injection (SC), intranasally, or oromucosally (sublingual). Routes vary in the onset, bioavailability and duration of active effects for each person.

Though research has demonstrated an antidepressant response to low doses that are minimally psychoactive or sub-psychedelic, this effect tends to be cumulative, requiring repeated administrations over short periods of time. Some practitioners view the psychedelic and dissociative experiences that occur at higher doses to provide a more robust and longer-lasting outcome.

Though experiences vary greatly, it is generally thought that lower doses provide empathogen-like (heart-opening) responses, while higher doses create dissociative, psychedelic, out-of-body, ego-dissolving peak experiences.

The choice of dose and route of administration also depends on multiple factors, including patient preference, therapeutic goals, prior exposure to ketamine and other psychedelics, body height and weight, and historical sensitivity to ketamine.

The Ketamine Experience

The ketamine experience is characterized by the relaxation of ordinary concerns and usual mindset, all while maintaining conscious awareness.

Sensory effects of ketamine may include visual distortions, feeling suspended in space or floating, experiencing out-of-body sensations, vivid dreaming, time distortion, and changes in visual, tactile, and auditory processing. Synesthesia (a mingling of the senses) may occur.

These effects typically start 1 to 10 minutes after ketamine dosing. The peak effects typically last 20 to 30 minutes, and then slowly diminish for the 30-60 minutes. Infrequently, some alterations in sensory perception, speech, and motor ability may continue for approximately 5 hours.

Using Ketamine at Home

Patients are often prescribed low or moderate doses of ketamine to be used at home. Instructions usually involve a starting dose and a method of titrating (incrementally increasing) the dose to find the individualized dose that produces a mild psychoactive effect, as described above. The at home use of ketamine should be done in strict compliance with your provider's instructions.

We recommend a serene and safe environment for the use of ketamine at home. Avoid interruptions if possible. Soothing, instrumental music and eye masks can support an optimal experience. Have a journal ready for taking notes on insights and experiences after the acute effects of the drug have resolved.

Suggestibility and Susceptibility

Ketamine's mechanism of action in improving psychological symptoms is thought to be related to its ability to increase neuroplasticity, the growth of new connections among neurons. This can enhance learning, memory formation, and the restructuring of traumatic memories. Thus, in the hours and days following treatment with ketamine, your thoughts and behaviors may be more susceptible to influences from your environment.

We encourage you to limit or avoid exposing yourself to distressing or dysfunctional thought and behavioral patterns in the time after using ketamine. This may include avoiding media exposure

to, for example, the news or horror films. Because we can also subconsciously acquire emotional and behavioral traits of those around us, it may also be helpful to temporarily avoid interactions with individuals who reinforce your previous dysfunctional patterns or who expose you to undesirable patterns of thought or behavior.

Impairment

Driving an automobile, engaging in hazardous activities, or making legal decisions should not be undertaken within 3 hours of an oromucosal or intranasal dose of ketamine.

After receiving an intramuscular dose of ketamine, these activities should be avoided on the day of the administration or until all impairing effects have resolved and a clinician has provided explicit permission after an examination.

Potential Risks of Ketamine

Ketamine has an extensive record of safety and has been used at much higher doses for surgical anesthesia, without respiratory depression. The most common physical side effect is a short-term elevation in blood pressure, pulse, or heart rate, which may be a risk to those with heart disease, and can be misinterpreted as a symptom of anxiety. Other potential side effects include dizziness/lightheadedness, sedation, impaired balance and coordination, slurred speech, mental confusion, excitability, diminished ability to see things that are actually present, diminished ability to hear or to feel objects accurately including one's own body, headache, anxiety, nausea, vomiting, and diminished awareness of physical functions such as respiration. These effects are transient and resolve as the active phase of the medication ends, usually within 3 hours.

Repeated, high dose, chronic use of ketamine has caused urinary tract symptoms and even permanent bladder injury in individuals abusing the drug. These adverse effects are much less likely in medically supervised ketamine treatment populations, but might include more frequent, painful, or difficult urination, or erectile dysfunction. Please inform your providers immediately if you notice any of these side effects.

In addition to physical adverse effects, ketamine has the potential to worsen psychotic symptoms in people who suffer from schizophrenia or other serious mental disorders. It may also worsen underlying psychological problems in people with severe personality disorders and dissociative disorders.

Management of Adverse Effects

Abstain from eating or drinking in the 2 hours prior to treatment with ketamine will greatly reduce the likelihood of nausea or vomiting. Additionally, due to possible blurred and altered vision, we advise keeping your eyes closed or using an eye mask until the acute effects have worn off – this also helps prevent nausea. Excessive movement can exacerbate nausea and dizziness, so it is best to lie still during the active phase while balance and coordination may be impaired.

Some people report the perceptual experiences during the acute effects of ketamine as bizarre or frightening, while others describe them as pleasurable, joyful, or fascinating. We have found that even frightening experiences can be of value to healing and long-term symptom improvement. Patients are encouraged to share any of these experiences with their treating provider.

Potential for Ketamine Abuse and Physical Dependence

Ketamine is categorized as a Schedule III controlled substance. Tolerance-building and psychological addiction to ketamine are possible when the drug is used illicitly, but are unlikely when used as directed by your medical provider. Please inform your provider immediately if you find yourself wanting to use ketamine in a manner other than as directed.

Alternative Procedures and Treatments

FDA-approved medications and non-pharmacological treatments like psychotherapy or osteopathic manipulation can be used to treat the depression, anxiety, other psychological symptoms, and chronic pain. Please inform your provider if you would like treatment with or referral for a therapeutic alternative to ketamine.