



## 1. What is Ketamine?

Ketamine was originally developed as an anesthetic in the 1960s. Since its FDA approval in 1970 for use as an anesthetic, it has been used routinely and is especially useful because of its safety profile in many settings and for many people. Compared to other anesthetics, it has minimal effects on the cardiac and respiratory systems.

Consequently, after being used in the operating room for many years, providers started noticing that it also had an anti-depressive effect on many patients. Because of that consequential finding, many studies have been conducted since the early 2000s and show that Ketamine is a powerful and fast-acting treatment for conditions such as depression, anxiety, post-traumatic stress disorder (PTSD), suicidal ideation, other mental health conditions, as well as acute and chronic pain. It has been widely used for these treatments with impressive results for relieving symptoms in hours instead of weeks with demonstrated safety and fewer side effects.

In 2019, the FDA approved a nasal spray of Ketamine to treat depression (esketamine or “Spravato”). Besides this medication, other preparations of Ketamine are currently used “off-label” for the treatment of mental health conditions. Ketamine is legal in all 50 states in a medical setting and being used “off-label” just means that the FDA has yet to approve ketamine for the treatment of mental health conditions. However, the safety of the medication does not change when treating a different condition. Off-label prescribing is a common and legal practice in medicine and many medications are used in this fashion.

Some other medications that you might know of that are used off-label are:

- Metformin
  - Approved to treat diabetes but is also used off-label to treat polycystic ovarian disease.
- GLP-1
  - Approved to treat diabetes, is also used off-label for weight loss.
- Wellbutrin
  - Approved to treat depression but is also used off-label for smoking cessation.
- Propranolol
  - Approved to treat hypertension (high blood pressure) but is also used off-label to treat acute anxiety/panic attacks.

## 2. How does Ketamine work for mental health?

Exactly how Ketamine treats so many mental health concerns is not fully understood. Ketamine is called a “promiscuous drug” meaning that it interacts with many different receptors in the brain that have many different effects in the body. One of the things that is understood is that Ketamine affects the glutamate system in the brain. **Glutamate is a neurotransmitter (chemical messenger in the brain) that is involved in neural communication (messages that your brain receives), synaptic plasticity (the brain’s ability to strengthen or weaken connections), and the regulation of mood, emotions, and anxiety.** Ketamine rapidly increases the glutamate levels in the prefrontal cortex where

emotional control happens. This action helps “reset” the brain and enables it to become more flexible and form new, healthier connections, and to process fear and stress differently.

In summary, Ketamine:

- Promotes neuroplasticity by reorganizing neural connections or “rewiring”. It can break unhealthy patterns and help the brain be more adaptable to new ways of thinking.
- Promotes emotional regulation by increasing emotional processing and decreasing agitation, irritability, and emotional volatility. It helps build new emotional patterns for lasting emotional balance, fosters flexibility, reduces hypervigilance, and creates space for healthier responses.

### **3. What is Ketamine used to treat?**

While this list is not exhaustive, Ketamine is currently being used to treat major depressive disorder, bipolar depression, post-traumatic stress disorder (PTSD), anxiety disorders (generalized and social anxiety), and obsessive-compulsive disorder (OCD).

- **Depression**

- Ketamine is an excellent treatment option for major depression, with over 70% of patients seeing a significant reduction in negative symptoms like sadness, hopelessness, and irritability. The results from a single ketamine infusion can show benefit within an hour and can last up to 14 days.

- **Anxiety**

- Ketamine can be very effective in treating anxiety. It addresses both the acute symptoms and the long-term cognitive patterns associated with anxiety. Many people experience immense symptom relief and a reduction in the overwhelming nature of anxiety in minutes to hours. Longer term, Ketamine treatment can help reframe thoughts, find healthier perspectives, better manage anxious signals from the body, and increase neuroplasticity to alter the brain’s response to stress and fear and form new, healthier connections.

- **Postpartum Depression and/or Anxiety Mood Disorders**

- Postpartum depression and/or anxiety is specific to the period after birth and often involves strong feelings of sadness, anxiety, worry, fatigue and sometimes intrusive thoughts. It often starts 3-6 weeks after giving birth but one or both can begin anytime in the first year. These postpartum mood disorders can make it hard for you to care for yourself and your baby; the first few months of an infant’s life are a critical period affecting the infant’s health, subsequent social behavior, and cognitive development. Thus, treating these mood disorders in a timely manner is imperative to prevent or lessen subsequent negative outcomes for both mother and child.
- Seeking professional support plays a crucial role in managing postpartum depression or anxiety and improves you and your baby’s bonding experience. Ketamine therapy can make a difference in your mental health much quicker than SSRI’s (traditional anti-depressant or anti-anxiety medications) which is so very important during this precious time with your new baby.
- Ketamine is safe for breastfeeding parents. Some studies suggest that the amounts are low enough in breastmilk that no interruption of nursing is needed while some professional organizations are more cautious and recommend 12 hours between Ketamine therapy and breastfeeding.

- **Bipolar Depression (I & II)**

- Lithium, Lamictal, and other mood stabilizers used for the treatment of bipolar disorder usually take weeks to become effective. Ketamine can treat the depression and anxiety aspect of bipolar disorder as well as blunt the manic or hypomania episodes quickly. For people experiencing severe mood swings, the quickness of relief can be life-saving. With bipolar disorder, it is important to know that there are some reported cases of clients experiencing mania or hypomania episodes after treatment with Ketamine. For this reason, we want to ensure that we can work with the client's mental health provider to track mood and avoid destabilization.

- **Suicidality**

- Ketamine has great capacity to rapidly reduce symptoms of suicidality. About 78% of patients experiencing suicidal thoughts showed gradual or rapid improvement following a single intravenous (IV) ketamine treatment, making it a critical tool for managing suicidal ideation.

- **Obsessive-compulsive disorder (OCD)**

- Because Ketamine therapy increases glutamate, it disrupts the rigid neural pathways that cause obsessive thoughts and compulsive behaviors. People that struggle with OCD also often struggle with depression and anxiety. These conditions can worsen OCD so by also treating these, the severity of OCD is often lessened.

- **Post-traumatic stress disorder (PTSD)**

- PTSD is a “state of being” following a traumatic experience where the person is unable to process the fear associated with the past event(s). This inability to process often manifests as anxiety, sleep issues, intrusive thoughts, and flashbacks after the event. Ketamine has been shown to rapidly reduce these symptoms. Also, by boosting the plasticity it may be possible for individuals to unlearn the fear memories that produce these symptoms and to replace them with safe memories. There are current studies that are investigating if giving Ketamine soon after a traumatic event may help disrupt the consolidation of these memories and thereby prevent the PTSD response.

#### **4. Is Ketamine a psychedelic or hallucinogen?**

“Psychedelic” is a word that is derived from the Greek words “psyche” which is mind/soul and “dēlein” which is “to manifest” or “reveal”—mind-manifesting. A few examples of classical psychedelic drugs are LSD and Psilocybin (the active compound in “magic mushrooms”). A hallucinogen is a medication that can induce hallucinations. A hallucination is simply a sensory experience (seeing, hearing, smelling, tasting, or feeling) that is a false perception or not real. They are caused by chemical reactions in the brain. Some drugs, medications, falling asleep or waking up might cause vivid sensory experiences that blend waking reality with dream-like content.

Ketamine is not considered a “classic” psychedelic as it works on different receptors in the brain. However, Ketamine can produce the hallmarks of a psychedelic experience because it is considered a “dissociative” (see below). These experiences may include:

- **Ineffability**

- Difficult, if not impossible, to adequately put the experience into words.

- **Novel Experiences/Insights**

- Provide or induce new experiences, emotions, insights, revelations, or connections that were not previously known, understood, or embodied as reality.

- **Ego Dissolution**
  - Interruption of the sense of being an isolated or a separate “Self” and instead feeling a deeper connection to other and life. It is a disruption of the default mode network (DMN) of the brain.
- **Timelessness**
  - The feeling that the experience is taking place outside of time or where the linear perception of past, present, and future dissolves, and produces a sense of existing in an “infinite present”.
- **Higher-Order Reality**
  - A sense of “seeing true reality” or a higher order reality than what is commonly available in ordinary waking consciousness.
- **Third Person Perspective**
  - Detached perspective, offering individuals new insights into themselves.

## 5. What is a “dissociative” medication?

Ketamine is often referred to as a dissociative medication. The term “dissociation,” can be worrying to some people. However, we all experience normal periods of dissociation, or detaching from reality, in our everyday lives. Have you ever daydreamed, gotten “lost” in a great book, or “zoned out”? These are all forms of dissociation. Other more common dissociative medications are nitrous oxide (laughing gas) and dextromethorphan which is used in many cough medicines.

Ketamine can induce a therapeutic state of consciousness where one can step back from rigid thought loops and better process negative thoughts, emotions, and memories. Ketamine also provides rapid relief from symptoms of depression or anxiety and facilitates emotional processing and openness.

Clients typically report feelings of euphoria, pleasure, creativity and a deeper sense of spiritual connection during and after their Ketamine treatment. Many will leave their treatments feeling lighter, like the weight of their struggles with depression and/or anxiety have been lifted. This feeling can persist for days to weeks after a single infusion.

## 6. Isn't Ketamine a dangerous “party” or recreational drug or a horse tranquilizer?

Because of its safety in humans, Ketamine is also very safe as an anesthetic for animals and is used by veterinarians. Ketamine can be a drug of abuse like many medicinal medications. Recreational users typically consume much larger doses than the low dose that is used in therapy. Additionally, when used recreationally, it is often used in powder form and snorted.

Remember, Ketamine has been used safely in humans (and animals!) for decades. Dosing and intention is very different when used in therapeutic settings. In addition, for treating mental health conditions, the doses are much smaller than the doses used for anesthesia. You will never be unconscious or unaware of your surroundings.

## 7. How is Ketamine given?

Ketamine can be delivered in several ways: intravenously (IV), intramuscular injection (IM), orally (as a tablet), or as a nasal spray (Spravato). IV is often considered the gold standard for therapy since it's 100% bioavailable (the percentage of the drug that can be used by the body). The IV route is very predictable and consistent across most patients; it can also be discontinued with effects wearing off quickly if requested for any reason by the patient. IM injections also have a high bioavailability at 93%. IM injections last longer and are not as predictable during the session but works just as well as the IV route. When given IV or IM the dose is based on weight and is tailored to the patient's experience.

## 8. What does the treatment feel like?

The ketamine therapy experience is highly personal and unique. No two people have the same response, but many report similar sensations:

- **During**
  - A sense of detachment from your body or surroundings (aka dissociation)
  - Distorted perception of sound, light, or time
  - A dreamlike calm, sometimes paired with euphoria
  - Heavy, whole-body tingling or numbness
  - Feeling like they're inside a movie or dream
  - Floating weightlessly
  - A deep wave of relaxation or calmness
  - Watching themselves from outside their body
- **After**
  - "Tipsy"
  - Glowing
  - Drowsy
  - Foggy
  - Improved mood
  - Being more emotionally open/tender/vulnerable

## 9. What are some of most common the side effects of Ketamine?

- Nausea
- Blurred Vision
- Poor coordination: Imbalance, difficulty speaking
- Drowsiness
- Increased heart rate
- Increased blood pressure

## 10. How many Ketamine treatments will I need?

The number of infusions for optimal results can vary greatly. While most people will feel tremendous relief of symptoms with the first infusion, the recommendation for lasting change is more than one and usually a series. The most studied regimen for depression and anxiety is called an "induction series" and consists of 6 infusions spaced out over 2-3 weeks. After this initial induction series, some feel in remission from the condition that they sought treatment for. For others, they find that doing an occasional single "booster" infusion is needed to continue to feel their best. Boosters typically range from 4-12 weeks between sessions. This is based solely on each client's needs and their psychotherapeutic response.

## 11. Who should NOT receive Ketamine treatment?

There are some people for whom Ketamine is NOT safe. The following conditions are considered **absolute contraindications** for Ketamine treatment:

- Uncontrolled hypertension (high blood pressure)
- Cardiac arrhythmia
- Current substance dependence or abuse including opiates
- Blood vessel aneurysm
- History of stroke
- Severe liver disease

- A/V malformations
- Current use of MAO Inhibitors
- BMI>35
- Pregnancy (current)
- Active psychosis
- Active mania

Special **consideration and caution** is used for the following:

- Daily use of stimulant medications/amphetamines such as Ritalin (not to be used on treatment days)
- Daily use of benzodiazepines (not to be used on treatment days)
- Daily use of alcohol or cannabis (alcohol not to be used within 48 hours before and after treatment, and cannabis not to be used for 24 hours before and after treatment)
- BMI>30
- Sleep apnea (client should bring their CPAP machine with them for treatments)
- Migraines
- Bipolar disorder
- History of psychosis
- History of personality disorder
- Recurrent cystitis (urinary tract infections)
- Current use of beta blockers
- Breastfeeding (recommended not to breastfeed for 12 hours after administration)
- Not using reliable birth control (current)

## 12. What Ketamine is NOT...

While Ketamine can offer rapid relief and sustained changes for many, it is not a magic bullet and does not work for everyone. For some it is just not the right medicine. This can be greatly disappointing, especially for those who have tried many other healing modalities. No one can guarantee that Ketamine will provide the desired results.

## 13. How to get the most from your Ketamine treatment.

### • Preparation before the treatment:

- It is recommended to prepare both your body and mind prior to the infusion.
- “Set and setting” means mindset and environment. We will do our best to ensure a comfortable, relaxing space of support. You will do your best to bring an open, curious mind and set your intentions before each session. This is paramount in shaping the nature and quality of your experience. It is normal to feel a bit nervous before undertaking anything new but feeling overly fearful or anxious can produce a distressing experience. Optimism and calmness are very valuable to the overall outcome.
- Avoid certain things like alcohol and negative content consumption on the internet and TV, as well as stressful situations.
- Journaling: write down goals and intentions. Goals might be your overall desired outcomes, while intentions could be grounding mantras like “gratitude”, “trust the process”, “I am healing”.
- Care for yourself with nutritious food and exercise
- Fast for about 4 hours before your first treatment—this can help prevent nausea and vomiting that some experience. If you did not have any issues with nausea or vomiting during your first treatment, you can decrease this time to two hours prior to treatment.
- Get a good night’s sleep the night before your sessions.

- Dress in cozy clothes and bring comfort items. This could be a favorite pillow, blanket, stone, necklace, etc. It is also recommended that you bring an eye mask. We do have plenty of blankets and pillows that you can use. We will provide headphones and accompanying therapeutic music. We also have eye masks for sale that fully block all light, even if your eyes are open under the mask.
- If you have a regular therapist, talk to them about your hopes and fears about the treatment.
- **During the treatment:**
  - Relax! We will be with you the entire time. We will not intrude on your journey but will be readily available should you need anything from us. We will take your vital signs before and after your session and provide any support or assistance you may need.
  - If you are doing treatment via IV infusion, it is normal for your arm to feel heavy and/or tingling.
  - You can choose to have a loved one with you during your session although we don't necessarily recommend that.
  - Try to let go and settle into the journey. Remember that time may feel different, and you may feel some dissociation, but this is temporary. Try to let thoughts and feelings flow without judgement or analyzation.
  - Let us know if you need anything! At any point the IV can be stopped if you desire.
- **After the treatment and “integration”:**
  - Integration takes advantage of your heightened neuroplasticity as you process your insights, emotions, and breakthroughs from Ketamine sessions and is a crucial step in creating lasting results.
  - You must have someone to drive you home and you should not drive for 12 hours after your infusion as judgment can still be impaired. Your driver should not be an Uber, Lyft, or other ride share. If this is a barrier to receiving treatment, please talk to us.
  - Have scheduled downtime. Try not to work, run errands, or have other obligations to attend to for several hours after. This is the prime time for reflection and rest.
  - Journal! This will help you solidify understanding about insights and ground any clarity in reality without letting them fade with the experience.
  - Contemplate old routines, habits, and unhealthy behaviors that you want to change.
  - Schedule a therapy session with your regular therapist (if you have one) within 24-72 hours after your session. If you do not have a regular therapist, and you are interested, we have a referral list of therapists that specialize in integration therapy. Exploring certain symbology or metaphors from your session can help bring about a deeper understanding. It also helps connect subconscious experiences with conscious actions to transform negative patterns.
  - Connect with nature. Walking, biking, gardening, or just spending time outside can be deeply healing.
  - Express yourself—make art! This is not for show, but for your own healing.
  - **DO NOT** make any dramatic life changes immediately. Although you might be very inspired, make smaller incremental changes. Making dramatic changes can be stressful and counterproductive for healing.
  - **DO NOT** take anything that you experience too literally. Think of Ketamine revelations like a dream, the subconscious often communicates through symbols and metaphors.

Every Ketamine session is different. You may not always experience deep insights or remember your sessions clearly. You may not always feel motivated to change. You may gain more clarity in the days or weeks after your treatment session. All of this is totally normal and does not mean that the medicine session was not successful. Real change comes from within—Ketamine is only a tool to help you unlock your own inner wisdom and healing potential. Integration is key to extend the benefits beyond the physical effects of Ketamine. Dedication, ownership, and action is required for lasting changes. Everyone is capable of this with the right tools, support, and planning.

#### **14. Why choose Dar a Luz Health Center for your Ketamine treatment?**

Abigail and Alisa are Ketamine Assisted Psychotherapy (KAP) trained providers and completed their training through the Psychedelic Research and Training Institute (PRATI).

We each have over 20 years' experience as certified nurse-midwives in women's healthcare. In that time, we have cared for many during different phases of their lives including births and losses, joys and traumas, beginnings and endings. The word "midwife" literally means "with woman", and there are many ways to support and be with women.

Frequently, Ketamine treatments are called "life changing". We have had the privilege of accompanying countless people through life changing experiences. Many of life's profound experiences share similarities to labor and birth.

Like labor and birth, there are situations that are incredibly challenging and spur immense growth and wisdom beyond perceived limitations. Some circumstances can be astonishing and frightening and can show one their depths of resilience and strength. Some journeys uncover intense emotions and feelings. And as with labor and birth, we are skilled at holding space for women while they do the work they need to do while offering compassion, safety, and guidance. We look forward to supporting you on your healing journey and thank you for trusting us.