KETAMINE FOR DEPRESSION AND ANXIETY

What is Ketamine?

Multiple studies over the last decade have shown that ketamine can rapidly alleviate symptoms of treatment resistant depression, within hours of treatment. (References below)

This “off-label” psychiatric use appears to offer several advantages over traditional anti-depressant therapy. Rapid response is the primary benefit. Depression can improve within minutes or hours, compared to 4-6 weeks for a trial of anti-depressants. And unlike most anti-depressants, ketamine does not cause sexual side effects or weight gain. The medication is so promising (70% rapid response rate in most studies) and it is so different from existing anti-depressants, that it can now be offered to carefully selected patients in an office setting.

Ketamine was first synthesized in 1962 and received FDA approval in 1970 for use as an anesthetic for general anesthesia induction and maintenance. It is classified by the DEA as a schedule 3 controlled substance. It is also used off-label for the treatment of chronic pain conditions such as fibromyalgia and complex regional pain syndrome (CRPS).

What are the side effects?

Ketamine is a “fast-in, fast-out” drug that can be given as an injection in the arm or hip muscle with 90% absorption and elimination in 4-6 hours, or by monitored IV infusion, 100% absorption and elimination in minutes. The side effects are rare but include allergic reaction, elevation of blood pressure, and a weird “spaced out” dreamy state that quickly wears off. These risks require a companion to drive the patient home after the first treatment (Uber is okay too). Normal activities can be resumed after 2 hours. For follow-up treatments, patients are usually able to drive themselves home once they have been cleared by Dr. Weinstock.

What are the benefits?

Ultra-rapid relief of depression and anxiety symptoms. Symptoms can improve within minutes or hours, compared to 4-6 weeks for a trial of anti-depressants. And unlike most anti-depressants, ketamine does not cause sexual side effects or weight gain.

When starting ketamine, it is not necessary to stop your current medication, however; after demonstrating a positive response, patients may be able to gradually wean off of their other depression medication under the careful guidance and supervision of Dr. Weinstock.
Patients commonly describe the treatment experience as a feeling of complete calmness, peaceful, light, tranquil, relaxed, and mildly euphoric. The residual after-effects which can last several days to several weeks after your treatment include a general sense of well being and a much greater ability to cope with the daily stresses in your life.

Recent research has also discovered that ketamine increases the production and release of BDNF (brain derived neurotrophic factor) in the brain. BDNF acts as a kind of “fertilizer” for neurons and other brain cells, leading to increased synaptic connections between neurons and the formation of new neuronal pathways.

**Ketamine IV Infusion Therapy vs. Ketamine Injection Therapy**

Dr. Weinstock offers both Ketamine IV Infusion Therapy and Ketamine Injection Therapy.

The **Ketamine IV Infusion Therapy** requires placement of a peripheral IV in the arm or hand. A carefully titrated Ketamine / Saline sterile solution is then slowly infused into the blood stream over the course of 60-75 minutes in a private room with periodic monitoring. Once the patient has completed the infusion, the peripheral IV is removed and the patient is re-evaluated by Dr. Weinstock and then cleared for discharge. Routine blood pressure and pulse oximetry readings are measured both before and after the procedure.

The **Ketamine Injection Therapy** is a little less invasive. It consists of a very fine needle intramuscular injection of ketamine into the deltoid (shoulder) muscle. The patient will then relax in a private room for approximately one hour with periodic monitoring. The patient is then re-evaluated by Dr. Weinstock and then cleared for discharge. Routine blood pressure and pulse oximetry readings are measured both before and after the procedure.

**Patients often ask what is the difference between infusions and injections, is one better than the other?**

Most studies of ketamine therapy for depression have utilized infusions. Therefore, we have more data on efficacy for infusions. It is probably fair to say that injections can be anywhere from 50-75% as effective as infusions. Fast metabolizers will get better results from infusions, because the infusions can maintain a steady concentration of ketamine in the blood stream.

The specific treatment regimen will be individually tailored to each patient but it usually consists of 10 initial treatments, given twice or three times per week. Treatments can then start to be spaced out to once a week for another 4-6 treatments. Eventually once per month or longer is sufficient to maintain stability.

Dr. Weinstock may also give you a prescription for daily sublingual (under the tongue) ketamine tablets to extend the beneficial effects of the treatments. This prescription can be filled at most compounding pharmacies and usually costs around $50 per month. Using the sublingual tablets is optional and can usually help extend the time between treatments, but it is not required.
**What is the cost?**

You are responsible for paying your normal insurance co-pay plus deductible (if applicable) for the office visit plus an additional amount for the ketamine treatment because ketamine therapy is not a covered service by insurance.

You may use a health savings account (HSA) or flexible savings account (FSA) to pay for the treatment cost.

The Ketamine Injection Therapy cost is $250 per treatment.
The Ketamine IV Infusion Therapy cost is $500 per treatment.

**How do I get started?**

Call or email our office to schedule a new patient visit to determine if ketamine is right for you.

Office phone: 813-636-8300
Office email: floridamentalhealth@gmail.com

**References:**
From the U.S. Psychiatric and Mental Health Congress:
Novel Therapeutics for Major Depression

Journal Article References:
[Rapid and longer-term antidepressant effects of repeated ketamine infusions in treatment-resistant major depression.](#)
[Ketamine's antidepressant effect: focus on ketamine mechanisms of action](#)
[The role of ketamine in treatment-resistant depression: a systematic review.](#)
[Effects of intravenous ketamine on explicit and implicit measures of suicidality in treatment-resistant depression.](#)
[Antidepressant mechanism of ketamine: perspective from preclinical studies.](#)
[Acute Antidepressant Effects of Intramuscular Versus Intravenous Ketamine](#)