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What is Ketamine?

Ketamine is a medication that was approved by the FDA in 1970 for use as a general anesthetic. It has been used routinely since that time. It is especially useful because of it is very safe. Compared to other anesthetics, it has minimal effects on the heart and respiratory system.

What is Ketamine Therapy?

Ketamine Therapy is the use of ketamine to treat psychiatric conditions. When used in this way, ketamine is given in doses much lower than when it is used as an anesthetic. During Ketamine Therapy, these low doses of ketamine are administered very slowly through an intravenous (IV) infusion. This type of ketamine treatment is not intended to induce general anesthesia and is sometimes called "off-label" use. Ketamine is not approved by the FDA as a treatment for psychiatric conditions, including depression.

What conditions get better with Ketamine Therapy?

Substantial research, including studies conducted by experts in Ketamine Therapy here at the Menninger Clinic and the Baylor College of Medicine, suggests that Ketamine Therapy is safe and effective to treat certain psychiatric conditions. Most of this research has involved adults with depression. In the research studies, about one third of individuals noticed improvement in their depression symptoms, even after their depression did not respond to established anti-depression therapies. For many of these individuals noticed these beneficial effects rapidly.

These exciting results have led to more research on the use of ketamine in psychiatry. Some research suggests that Ketamine Therapy may also be helpful to people suffering from post-traumatic stress disorder (PTSD) and some forms of chronic pain. These uses of ketamine are considered experimental, and ketamine is not approved by the FDA for treatment of depression, PTSD, or chronic pain.

Who should NOT receive get Ketamine Therapy?

Ketamine Therapy is very safe. However, some health conditions may increase the risk of Ketamine Therapy in some individuals. These include certain heart or cardiovascular conditions, liver disease, substance use disorders, or psychotic disorders such as schizophrenia. The effects of ketamine on a developing baby still in the womb, or on a breastfeeding infant, are unknown and may be harmful. Women who are sexually active and could become pregnant should talk to their doctor before deciding to receive Ketamine Therapy.

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What steps must happen before starting Ketamine Therapy?

Before receiving Ketamine Therapy, you need a careful evaluation of their health. That evaluation typically includes a complete medical history, a physical examination, an electrocardiogram (EKG), and other tests if needed. Completing these steps helps make sure that each person is safe and healthy to receive Ketamine Therapy. The doctor may also recommend some changes in the medications you are taking to make sure they do not interfere with Ketamine Therapy or make Ketamine Therapy less safe or less effective.

Informed consent is another important part of the process. You and your family should feel comfortable and confident with the decision to receive Ketamine Therapy. You should be given educational information about Ketamine Therapy and have all your questions answered. Once you fully understand the risk and benefits of Ketamine Therapy and have made a decision, you will sign a written consent form. A patient can revoke their consent at any time for any reason.

How is Ketamine Therapy given?

Ketamine Therapy is typically given as a series of treatments, which are usually given in the morning. When the patient arrives for treatment, a number of steps will take place before the treatment begins. First, the patient has a brief exam by the nurse and doctor. Next, the risks and benefits of the treatment are reviewed. And then the treatment itself begins.

Ketamine may be administered through an infusion or by nasal spray. If receiving Ketamine through an infusion, a nurse or other member of the team will insert an intravenous (IV) line into the hand or arm through which the ketamine will be given. Depending on the person's health status, the treatment team may give other medications as well. Monitoring sensors and a blood pressure cuff are also applied before the treatment begins. During the treatments, the treatment team will use these sensors and cuff to monitor the heart and blood pressure. This monitoring does not cause any pain or discomfort. Each treatment usually lasts about 40 minutes. After the treatment ends, the patient will be monitored by a member of the treatment team to ensure they are safe and ready to leave the treatment suite.

How many Ketamine Therapy treatments does a person receive?

A typical course of Ketamine Therapy for depression is a total of 6 treatments given 2-3 times per week. A typical course of ketamine therapy for PTSD is 1-2 treatments administered 2-3 days apart. The exact number of treatments may vary for each person. The treatment team will work closely with the patient before and throughout the course of Ketamine Therapy to determine the number of treatments that are right for each patient.



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Who administers the treatments?

Ketamine therapy requires the skills of a specialized treatment team. Our team consists of a psychiatrist and a registered nurse. Other team members may include an anesthesiologist, researchers, medical students, and nursing students. The health care providers who provide Ketamine Therapy are experienced specialists.

What are the possible side effects?

Like any medical treatment, Ketamine Therapy has risks and potential side effects. Each person who receives Ketamine Therapy may respond differently. To reduce the risk of side effects, each person receiving Ketamine Therapy receives a medical evaluation before beginning treatment. Most side effects from the treatment go away on their own within a few minutes or after the infusion is over. There are no reports of long-lasting side effects in published studies.

Common side effects include: fast or irregular heartbeat, increased blood pressure, clear dreams that may seem real, confusion, irritability, floating sensation, feeling "out-of-body," breathing problems, coughing, nausea, vomiting, muscle twitching, muscle jerks, muscle tension, increased saliva (spit), increased thirst, headaches, metallic taste, constipation, and blurry or double vision.

Rare side effects include: allergic reactions, skin rash or pain at the infusion site, ulcerations (open sores) and inflammation (swelling or irritation) in the bladder, hallucinations (seeing or hearing things that are not really there), euphoria (a feeling of extreme happiness), involuntary eye movements, low mood, or suicidal thoughts.

Is ketamine addictive?

Ketamine can be a drug of abuse. When used to "get high," ketamine is taken more rapidly and at much higher doses than are used in Ketamine Therapy. During Ketamine Therapy treatments, individuals should not feel intoxicated or "high." Still, for some people, Ketamine Therapy may carry the potential for abuse and dependence. These problems have not been reported with repeated administration of ketamine for the treatment of depression. Nonetheless, an individual with addiction or an substance use disorder may not be a good candidate for Ketamine Therapy.



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Where are treatments provided?

Ketamine Therapy takes place at the Menninger Center for Brain Stimulation on the Menninger Clinic campus located at 12301 Main St. Houston, TX, 77035. The Center can be contacted by phone at (713) 275-5328, or by email at BrainStim@Menninger.edu. Patients arrive for treatment at scheduled times and generally should be accompanied by a responsible adult who can safely accompany the patient home.

Write down any questions you have about Ketamine Therapy	