Ketamine Treatment Information Sheet

Before you agree to this treatment, it is important for you to know the reason why it is being done and the process it will involve. It is important to know the potential risks and benefits you might receive. Read the information below and discuss it with family and friends as you wish. Ask a nurse or care provider if there is anything that is not clear, or if you would like more details. Take your time to decide.

### Indications

1. Ketamine is a schedule III FDA approved medication for anesthesia. At lower doses, ketamine can be used off-label for treatment resistant depression, but it is not FDA approved for this indication. Treatment resistant depression means that a patient has failed 2 adequate trials of 2 different FDA approved antidepressant medications.
2. Ketamine may improve severe depressive symptoms including sadness, suicidality, and helplessness.
3. Ketamine alters a chemical called glutamate by blocking NMDA receptors in the brain and may produce a more rapid antidepressant effect compared to drugs that work on serotonin, dopamine, or norepinephrine.
4. Patients should start to receive an antidepressant benefit from a single dose within 40-120 minutes. This is unique because most oral antidepressants require 4-6 weeks before taking full effect.
5. The duration of effect is specific to the individual patient. Most patients have an effect that lasts 3-7 days from a single dose.

### Procedure

- Prior to the administration of ketamine, some medical tests are required, including a complete blood cell count, complete metabolic profile, drug screen, Beta-HCG pregnancy test for women, and an electrocardiogram.
- Ketamine dosing for depression is weight based and usual doses are between 0.5 mg/kg and 0.75 mg/kg. Higher doses are often associated with more side effects and are not necessarily associated with better depression treatment outcomes.
- The injection is given as a deep intramuscular (IM) injection using a 1½-inch or 2-inch 20 gauge needle into a deltoid muscle. This route tends to have fewer adverse effects compared to an IV administration.
- Patients are observed for 2 hours with periodic assessments at 15-min intervals. There will be an evaluation of the injection site for any signs of an adverse reaction (redness, swelling, itching). The nurse will look for signs of confusion, disorientation, or any unusual perceptual sensations. There will be monitoring for the presence of suicidal thinking and vital signs will be taken.
## Side Effects/Risks

- **Common** (between 1 and 10% of patients)
  - Temporary increase in heart rate and blood pressure
  - Respiratory depression
  - Blurred vision
  - Dizziness
  - Nausea/vomiting
  - Reduced coordination
  - Reduced concentration
  - Pain at the injection site

- **Rare** (between 0.1 and 1% of patients)
  - Increased muscle tone presenting as jerking movements or tremors
  - Hallucinations
  - Dissociation (“out of body” experiences), altered body and altered time perception
  - Confusion/altered mental status
  - Laryngospasm (abnormal muscle tone of the vocal cords leading to difficulty with speaking or breathing)

- Ketamine is a potential drug of abuse and dependence and tolerance can occur

## Who Should Not Receive Ketamine

- Patients diagnosed with schizophrenia (even if they are stable or controlled with medications)
- Patients actively using illicit drugs or alcohol
- Patients with uncontrolled, elevated blood pressure
- Pregnant patients/breast feeding

## Alternative Treatments

(Include but are not limited to the following)

- Other Antidepressant Medicines
- Psychotherapy/Counseling
- Electroconvulsive Therapy
- Transcranial Magnetic Stimulation

## Patient Instructions:

The patient may:
1. Take their usual medicines in the morning.
2. Avoid sedating medicines including benzodiazepines or narcotic pain medicines within several hours of receiving ketamine.
3. Not drive on the day after receiving ketamine.
4. Avoid conducting major business transactions, arrange for child care as necessary, and try not to make any important decisions the remainder of the day after the injection.
5. Refrain from alcohol or other substances prior to, and for 24 hours after, the injection.
6. Contact Connect at 981-8181, call 911, or go to the emergency room should there be any serious symptoms or decline in health after leaving the clinic.
Patient Follow-Up Instruction Sheet for Outpatient Ketamine

You will be scheduled for 6 to 10 intramuscular ketamine treatments to be administered in the outpatient psychiatry area at the Carilion Clinic Rehabilitation Center, 2017 S Jefferson St, 2nd Floor, Roanoke, VA 24014. The estimated date for the first treatment is ______________.

Treatments are usually scheduled on Tuesday, Wednesday, and Thursday. A common course of treatment involves 6 treatments over 2 to 3 weeks, followed by a weekly injection for 4 weeks. Each treatment will consist of a 2-hour period of nursing observation.

You will check in to the outpatient psychiatry area on the second floor at your appointment time and will meet with the psychiatrist briefly for a medication check to review psychiatric symptoms and answer any questions prior to the procedure. You will then be brought to the procedure area to meet with a nurse who will be administering the medicine on the second floor in the same building.

You are encouraged to not drive to the appointments as there may be some sedation and confusion that can occur with treatments that may make it dangerous to operate a vehicle. Your family or driver may wait in the designated outpatient psychiatry waiting area. You will be reunited with them after your treatment and when you are alert with stable vital signs and ready to return home.

Do not use any alcohol or any illicit drug throughout the course of ketamine treatments.

There may be routine lab work required prior to starting ketamine.

You may take your regularly prescribed medications at the usual times on the day of treatment. In some cases, the psychiatrist may ask you to avoid taking a particular medication based on a potential side effect with ketamine. Also, the psychiatrist may request that you take a medicine that you may not normally take, such as Clonidine, prior to treatment to reduce the risk for side effects. Please do not start any new complementary or alternative medicines prior to speaking with the psychiatrist in the ketamine clinic.

Specific medication recommendations:
1. ____________________________ 2. ____________________________ 3. ____________________________ 4. ____________________________

If you should have any significant abnormal reaction after you leave the clinic, please call Connect at 981-8181 or contact emergency services if there is an urgent medical problem.

Instructions reviewed and copy given to patient and/or responsible other.

Signed by Patient/Responsible Other: ____________________________ Date: ________________

Provider’s Signature: ____________________________ Date: ________________