# Ketamine Side Effect Tool (KSET)

The Ketamine Side Effect Tool (KSET) comprises a set of forms designed to monitor side effects across a course of treatment with ketamine or ketamine derivatives. It is based on evidence from a systematic review (Short et al. 2018)[1] of side effects associated with ketamine use in depression, combined with expert opinion. Although based on studies related to ketamine as a treatment for depression, the KSET has been developed to also be useful for other treatment indications, e.g., chronic pain. Most of the forms can be rated by either the clinician and/or patient and cover three distinct clinical stages:

**KSET – Screening** assesses medical issues which should be considered before a patient is prescribed ketamine treatment.

**KSET – Baseline / KSET – Follow Up** assesses for medium- and longer-term side effects and potential withdrawal symptoms related to ketamine treatment.

**KSET – Acute Treatment** assesses acute side effects associated with ketamine administration.

The forms do not replace the need for thorough psychiatric assessment and physical examination of patients considered for ketamine treatment, or for further investigations (including additional blood tests or urine toxicology) if adverse effects emerge during treatment. The KSET is an assessment and monitoring tool only and is not intended to provide clinicians or researchers with a comprehensive education on how ketamine or ketamine derivatives should be used. It can complement other policies and procedures already established at a clinical site and/or research protocol.

## KSET – Screening

This form is designed to supplement the psychiatric and physical examinations conducted when assessing the safety of ketamine[^] treatment for a patient.

- **Page 1** of the form can be completed by either the patient or clinician. It enquires about medical conditions that are known to increase the risk of adverse effects with ketamine treatment. It also elicits information about any prior experience with ketamine to assist in determining the patient's risk of developing adverse effects, including dependency. There is a space to list allergies and medications used, as a prompt for clinicians to consider potential drug interactions with ketamine.
- **Page 2** of the form is to be completed by the clinician and includes baseline heart rate (HR) and blood pressure (BP) measurements, as well as a panel for recording whether important investigations have been completed. There is also a space for the clinician to document other relevant notes (e.g. length of current depression episode, number of previously failed antidepressant trials, past augmentation strategies).

[1] Short B, Fong J, Galvez V, Shelker W, Loo C.K, 2018. Side-effects associated with ketamine use in depression: a systematic review, The Lancet Psychiatry 5(1) 65-78.

[^] In these instructions, the word 'ketamine' refers to ketamine and ketamine derivatives.

# KSET— Screening (Page 1)

**Complete when assessing suitability for ketamine treatment.**

**If pre-filled by patient, clinician should review**

| | |
|---|---|
| **Patient Name** | |
| **Date of Birth** | |

| **Have you experienced or currently experience any of the following?** | | |
|---|---|---|
| Hallucinations (e.g., seeing, hearing, smelling or tasting things that are not present in reality) | Yes | No |
| Elevated/irritable mood (e.g., euphoria, agitation, recklessness, increased energy, increased confidence) | Yes | No |
| Dissociation – induced by a drug/substance (e.g., feeling disconnected from self, body, thoughts, surroundings) | Yes | No |
| Dissociation – not related to drug/substance use | Yes | No |
| High blood pressure (hypertension) | Yes | No |
| Heart/cardiovascular condition | Yes | No |
| Seizures/stroke/head injury/neurological disorder | Yes | No |
| Glaucoma | Yes | No |
| Liver problems | Yes | No |
| Kidney problems | Yes | No |
| Bladder problems or problems passing urine (e.g., pain, burning, irritation, increased frequency, difficulties passing and/or changes in colour/smell of urine) | Yes | No |
| Alcohol or drug misuse | Yes | No |
| Chronic pain | Yes | No |
| Problems with memory and/or concentration | Yes | No |
| For females: Current pregnancy | Yes | No |
| For females: Currently breastfeeding | Yes | No |

**Have you ever received or used ketamine for any reason? Tick all that apply:**

- ☐ No previous use (please continue on to **Allergies** section)
- ☐ Depression treatment → If yes, was it helpful? ☐ Yes ☐ No
- ☐ Pain management → If yes, was it helpful? ☐ Yes ☐ No
- ☐ Other medical reasons (e.g., anaesthesia, sedation) → Please specify: _____
- ☐ Recreational use

Please fill in the table to the best of your ability regarding past ketamine use (as relevant):

| | Depression treatment | Pain management | Recreational use |
|---|---|---|---|
| When did you last receive ketamine? | ☐ Last 3 months<br>☐ 3—12 months ago<br>☐ > 12 months ago | ☐ Last 3 months<br>☐ 3—12 months ago<br>☐ > 12 months ago | ☐ Last 3 months<br>☐ 3—12 months ago<br>☐ > 12 months ago |
| How many times in total (lifetime)? | | | |
| Route (e.g., injection, infusion 'drip', nasal, oral) | | | |
| Highest dose received | | | |
| Did you have any adverse reactions? | ☐ No<br>☐ Yes—specify:<br>_____<br>_____ | ☐ No<br>☐ Yes—specify:<br>_____<br>_____ | ☐ No<br>☐ Yes—specify:<br>_____<br>_____ |

| Have you ever craved ketamine? | Yes | No |
|---|---|---|
| If "Yes", please specify how recently: | | |

| **Current use of medications or supplements?**<br>**If "Yes" please list all medications and supplements below** | Yes | No |
|---|---|---|
| | | |

| **Allergies** |
|---|
| |

| | |
|---|---|
| **Clinician Name** | |
| **Signature** | |
| **Date** | |

# KSET— Screening (Page 2)

**To be completed by clinician**

| | |
|---|---|
| **Patient Name** | |
| **Date of Birth** | |
| **Medical Record No.** | |

| **Vital Signs** | |
|---|---|
| **Heart rate** (per minute) | |
| **Blood pressure** (mmHg) | |

| **Investigations** | |
|---|---|
| **Liver Function Tests (LFTs)**<br>*(Please attach results)* | **Test Date:** _____ |
| ☐ Normal result<br>☐ Abnormal result(s) | |
| **Urinalysis (Dipstick)**<br>*(Please attach results if completed)* | **Test Date:** _____ |
| ☐ Not applicable<br>☐ Normal result<br>☐ Abnormal result(s) | |
| **ECG**<br>*(Please attach results if completed)* | **Test Date:** _____ |
| ☐ Not applicable<br>☐ Normal result<br>☐ Abnormal result(s) | |

| **Clinician Notes** |
|---|
| |

| | |
|---|---|
| **Clinician Name** | |
| **Signature** | |
| **Date** | |

**Short B, Dong V, Galvez V, Vulovic V, Martin D, Bayes A, Loo CK, 2019**

## KSET – Baseline / KSET – Follow Up

The KSET – Baseline and KSET – Follow-Up are two complementary forms that can be used together to elicit details about any medium- and longer-term side effects which emerge during ketamine treatment (i.e., compared to pre-treatment baseline). Potential side effects are assessed in a systematic method via a table of symptoms, which can be completed by either the clinician or patient. Any symptoms present should be circled and rated according to the severity key. The severity of these symptoms can then be summed to give a total score to indicate the total side effect burden. This total score is to be viewed as a guide only.

**KSET – Baseline** should be completed before commencing ketamine treatment to allow for comparison of symptoms after the patient has received ketamine treatment. It needs to be completed once only at the beginning of the patient's ketamine treatment course. The recommended timeframe for enquiry is 'over the past month', but this may be modified if clinically appropriate.
**KSET – Follow Up** form(s) should be completed at intervals determined by the treating clinician, taking into consideration the patient's dose, route of administration and frequency of treatment. The recommended timeframe for enquiry is 'over the past month', but this may be modified if clinically appropriate. A section of the KSET – Follow Up form allows for the recording of liver function tests (LFTs) and urinalysis. These should be completed as clinically indicated (e.g., if the patient begins to subjectively report urological problems) or, in the case of LFTs, at clinician-specified follow-up time points.

Both the KSET – Baseline and KSET – Follow-Up forms also have sections to record cognitive test results to facilitate cognitive monitoring. If subjectively reported cognitive side effects emerge during treatment, or there is concern for cognitive side effects (e.g., due to cognitive impairment at pre-treatment, or if high doses, frequency or number of treatments are prescribed), it is recommended the patient be assessed using measures such as those detailed below and in the associated paper, Short et al. (in press)[2]. The cognitive domains in the table below are those which can be affected by ketamine. Several measures are listed for assessing each domain – any one of these tests can be used to assess that domain. The measures listed are standardized and validated tests suitable for repeated assessment (i.e., with alternative forms).

The KSET – Follow Up form(s) can then be compared with KSET – Screening and KSET – Baseline forms to assess whether there is a temporal relationship between ketamine treatment and the onset of new symptoms or changes. The follow-up form can also be used to assess for potential withdrawal symptoms once ketamine administration has been ceased.

| Cognitive Domain | Examples of suitable measures for assessment of cognitive side effects with ketamine |
|---|---|
| *Verbal episodic memory* | Rey Auditory Verbal Learning Test[3], Hopkins Verbal Learning Test-Revised[4], California Verbal Learning Test 2nd Ed[5], CogState International Shopping List Task[6] |
| *Working memory/Attention* | Symbol Digit Substitution Test[7], CogState One Back Test[6], Conners Continuous Performance Test 3rd Ed[8] |
| *Verbal fluency* | Controlled Oral Word Association Test[9], Delis-Kaplan Executive Function System Verbal Fluency subtest[10] |

[2]Short et al KSET (in Press). [3]Rey, A., 1964. L'Examen Clinique en Psychologie. Presses Universitaires de France, Paris. [4]Benedict RHB, et al., 1998. Hopkins Verbal Learning Test revised: normative data and analysis of inter-form and test-retest reliability. Clin Neuropsychol 12: 43–55. [5]Delis, D.C., et al. 2000. California Verbal Learning Test, 2nd edn. The Psychological Corporation, San Antonio, TX.[6]Westerman, R., et al. 2001. Computer-assisted cognitive function assessment in pilots: How and why? ADF Health, 2, 29-36.[7]Smith, A., 1991. Symbol Digit Modalities Test. Western Psychological Services, Los Angeles, CA. [8]Conners, C.K., et al. 2000. Conners' Continuous Performance Test II: Computer Program for Windows Technical Guide and Software Manual. North Tonawanda, NY: Multi-Health Systems. [9]Benton, A.L., et al., 1989. Multilingual Aphasia Examination. AJA Associates, Iowa City, IA. [10]Delis, D.C., et al. , 2001. The Delis-Kaplan Executive Function System: Examiner's Manual. The Psychological Corporation, San Antonio.

# KSET— Baseline

**If pre-filled by patient, clinician should review**

| | |
|---|---|
| **Patient Name** | |
| **Date of Birth** | |
| **Medical Record No.** | |
| **Weight** | |

| **Questions for patient**<br>***"Have you experienced the following symptoms over the past month? If yes, how severe were they?"*** | **Severity (circle)**<br>0 = Never<br>1 = Mild<br>2 = Moderate<br>3 = Severe | | | |
|---|---|---|---|---|
| **Symptoms**<br>Circle relevant items. Further details can be documented by the clinician in **Clinician Notes** (e.g., pre-existing conditions, treatments etc.) | | | | |
| Dissociation (e.g., felt disconnected from self, body, thoughts, surroundings; feeling strange and/or "spaced out") | 0 | 1 | 2 | 3 |
| Hallucinations (e.g., seeing, hearing, smelling or tasting things that were not present in reality) | 0 | 1 | 2 | 3 |
| Problems with memory and/or concentration | 0 | 1 | 2 | 3 |
| Anxiety | 0 | 1 | 2 | 3 |
| Restlessness and/or agitation | 0 | 1 | 2 | 3 |
| Elevated/irritable mood (e.g., euphoria, recklessness, increased energy, increased confidence) | 0 | 1 | 2 | 3 |
| Insomnia, nightmares and/or unusual dreams | 0 | 1 | 2 | 3 |
| Drowsiness, fatigue, and/or weakness | 0 | 1 | 2 | 3 |
| Headache | 0 | 1 | 2 | 3 |
| Abnormal movements (e.g., tremor, incoordination and/or spasms) | 0 | 1 | 2 | 3 |
| Vision or hearing changes (e.g., blurred vision, double vision and/or tinnitus) | 0 | 1 | 2 | 3 |
| Cardiovascular (e.g., shortness of breath, chest pain and/or palpitations) | 0 | 1 | 2 | 3 |
| Diarrhoea and/or constipation | 0 | 1 | 2 | 3 |
| Abdominal pain and/or cramps | 0 | 1 | 2 | 3 |
| Nausea and/or vomiting | 0 | 1 | 2 | 3 |
| Skin changes (e.g., rash, itch, yellow discolouration) | 0 | 1 | 2 | 3 |
| Problems passing urine (e.g., pain, burning, irritation, increased frequency, difficulties passing and/or changes in colour/smell of urine) | 0 | 1 | 2 | 3 |
| A craving for ketamine (e.g., often thinking about wanting more ketamine) | 0 | 1 | 2 | 3 |
| Seeking and/or using non-prescribed ketamine | 0 | 1 | 2 | 3 |
| Other—specify: | 0 | 1 | 2 | 3 |
| | **Total =** | | | |

**Severity Key**

**0 Never**
**1 Mild** - transient and easily tolerated
**2 Moderate** - caused discomfort and/or interference with usual activities
**3 Severe** - caused significant discomfort and/or considerable interference with usual activities

**Clinician Notes**

| **Cognitive Testing** | | |
|---|---|---|
| **Name of Test** | **Test Date** | **Score** |
| | | |
| | | |
| | | |

| | |
|---|---|
| **Clinician Name** | |
| **Signature** | |
| **Date** | |

**Short B, Dong V, Galvez V, Vulovic V, Martin D, Bayes A, Loo CK, 2019**

**KSET – Acute Treatment**

This form is to be completed during each ketamine administration session.
It consists of three pages, with sections colour-coded to indicate at what stage of the treatment session they should be completed:

- Yellow items should be completed prior to ketamine administration (i.e., pre-dose).
- Blue items should be completed after ketamine administration (i.e., post-dose).
- Green items (discharge checklist) should be completed at the time of patient discharge, e.g. at 120 minutes after treatment.

**Page 1** can be filled out by either the patient or clinician and is used to assess whether side effects have emerged since the patient's last treatment session. The questions are bundled in the table entitled **Pre-treatment Check**.

**Page 2** allows the clinician or patient to:

- Assess and record symptoms present **Pre-Dose***
- Assess and record symptoms present **Post-Dose** after ketamine administration**
- If a symptom emerges, the patient should be asked if it has **Resolved at time of discharge (i.e., 120 mins)**, circling either yes or no.

Each symptom is rated according to the severity key. If a symptom has emerged, it should be circled. A 'Clinician Comments' box is available on pages 1 and 2 for the clinician to note any other relevant information elicited (e.g., medication changes since the last ketamine treatment, notes regarding emergent side effects).

** Some of these symptom questions are repeated from the Pre-Treatment Checklist. This is with the aim of assessing whether they are present at the moment of pre-dose. The Pre-Treatment Checklist asks whether they have been present at any time since the last ketamine treatment (i.e., which may have been a week ago, not necessarily on the day the dose is due to be administered).*

*** Although the form stipulates that the post-dose column can be completed at 60 minutes, the treating clinician should determine what time interval is most appropriate taking into account the route of ketamine administration, dosage and peak severity of symptoms. Please refer to your clinical site procedures and/or research protocols for guidance.*

**Page 3** allows the clinician to complete:

- **Cardiovascular Monitoring**. Pre-treatment measurements should be taken before ketamine is administered (highlighted in yellow). The clinician should ensure that the pre-treatment BP reading is within safe limits before dosing; e.g., a reasonable upper threshold for BP may be 160/90mmHg. Subsequent observations could be done at 15-minutes and 30-minutes post-dose, then at 30-minute intervals thereafter. Note that what is considered a safe pre-dose BP and the exact timing of cardiovascular monitoring will depend on the patient, dose and route of administration. We recommend you check your clinical site procedures and/or research protocols.
- **Dosing Information** and an **Administration Site Check**. Prescription information can be added here as well as comments about administration site effects (e.g., IV/IM/SC site swelling, nasal congestion and/or bleeding associated with inhaled ketamine).
- **Orientation & Discharge Assessments** allow the clinician to assess whether the patient is safe for discharge after ketamine administration. This requires that a pre-treatment orientation score is obtained prior to ketamine administration (highlighted in yellow), for purpose of comparison. The First Assessment column can be completed at a time when the clinician considers a patient may be suitable for discharge. It involves an assessment of orientation along with other criteria which are listed in the table. If the answers on the checklist are all "Yes" the patient is likely to be suitable for discharge. If at least one answer is "No", a doctor should be consulted; if deemed necessary, the patient may be observed for a further 30 minutes, after which a Second Assessment can be completed. If the patient does not meet all the criteria at second assessment, a further period of observation may be required and recorded elsewhere.
- An **Overall Tolerability** assessment of ketamine relating to the treatment session can also be recorded. In completing this, the clinician should consider the side effect burden as well as cardiovascular and discharge checklist findings. The tolerability rating can then be used to inform future ketamine dosing.



**Short B, Dong V, Galvez V, Vulovic V, Martin D, Bayes A, Loo CK, 2019**

# KSET— Acute Treatment (Page 1)

**If pre-filled by patient, clinician should review**

| | |
|---|---|
| **Patient Name** | |
| **Date of Birth** | |
| **Medical Record No.** | |
| **Treatment Number** | |

## KSET—Acute Treatment Flowchart

**Complete pre-treatment sections on Pages 1, 2 and 3** ⟹ **Administer Ketamine and monitor** ⟹ **Complete post dose questions on Pages 2 and 3** ⟹ **Complete discharge checklist on Pages 2 and 3**

**Clinician Notes**

## Pre-Treatment Check (consider before proceeding with treatment)

**Questions for patient**
***"Have you experienced any of the following symptoms since your last treatment session? If yes, how severe were they?"***

**Not required at first treatment**

**Severity Key**
**0 Never**
**1 Mild** - transient and easily tolerated
**2 Moderate** - caused discomfort and/or interrupted usual activities
**3 Severe** - caused significant discomfort and/or considerable interference with usual activities

**Severity (circle)**
0 = Never
1 = Mild
2 = Moderate
3 = Severe

| Symptoms | | | | |
|---|---|---|---|---|
| Problems with memory and/or concentration | 0 | 1 | 2 | 3 |
| Diarrhoea, constipation and/or abdominal pain/cramps | 0 | 1 | 2 | 3 |
| Skin changes (e.g., rash, itch, yellow discolouration) | 0 | 1 | 2 | 3 |
| Problems passing urine (e.g., pain, burning, irritation, increased frequency, difficulties passing and/or changes in colour/smell of urine) | 0 | 1 | 2 | 3 |
| A craving for ketamine (e.g., often thinking about wanting more ketamine) | 0 | 1 | 2 | 3 |
| Seeking and/or using non-prescribed ketamine | 0 | 1 | 2 | 3 |
| Insomnia, nightmares and/or unusual dreams | 0 | 1 | 2 | 3 |
| Hallucinations (e.g., seeing, hearing, smelling or tasting things that were not present in reality) | 0 | 1 | 2 | 3 |
| Elevated/irritable mood (e.g., euphoria, recklessness, increased energy, increased confidence) | 0 | 1 | 2 | 3 |
| Other—specify: _____ | 0 | 1 | 2 | 3 |

| | |
|---|---|
| **Clinician Name** | |
| **Signature** | |
| **Date** | |

# KSET— Acute Treatment (Page 2)

**If pre-filled by patient, clinician should review**

| Patient Name | |
|---|---|
| Date of Birth | |
| Medical Record No. | |
| Treatment No. | |

**Questions for patient**

***"Have you experienced any of the following symptoms today?***
***If yes, how severe were they? "***

**Severity Key**

**0 = Never**
**1 = Mild** - transient and easily tolerated
**2 = Moderate** - caused discomfort and/or interference
**3 = Severe** - caused significant discomfort and/or considerable interference

| **Symptoms**<br>**Circle relevant items and severity.** Further details can be documented by the clinician in **Clinician Notes** (e.g., any other observations during treatment) | **Pre Dose**<br>*Time completed :* _____ | | | | **Post Dose (60 mins)**<br>**(Ask patient to rate peak severity)**<br>*Time completed :* _____ | | | | **Resolved at 120mins?**<br>*Time completed :* _____ | |
|---|---|---|---|---|---|---|---|---|---|---|
| Dissociation (e.g., felt disconnected from self, body, thoughts, surroundings; feeling strange and/or "spaced out") | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | Yes | No |
| Hallucinations (e.g., seeing, hearing, smelling or tasting things that were not present in reality) | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | Yes | No |
| Problems with memory and/or concentration | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | Yes | No |
| Anxiety | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | Yes | No |
| Restlessness and/or agitation | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | Yes | No |
| Elevated/irritable mood (e.g., euphoria, recklessness, increased energy, increased confidence) | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | Yes | No |
| Tearfulness | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | Yes | No |
| Drowsiness, fatigue, and/or weakness | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | Yes | No |
| Dizziness, lightheadedness, feeling faint and/or vertigo (e.g., felt like swaying or spinning) | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | Yes | No |
| Headache | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | Yes | No |
| Numbness and/or tingling of body parts | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | Yes | No |
| Abnormal movements (e.g., tremor, incoordination and/or spasms) | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | Yes | No |
| Vision changes (e.g., blurred vision) | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | Yes | No |
| Hearing changes (e.g., hearing impairment or tinnitus) | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | Yes | No |
| Dry mouth, increased salivation or metallic/unusual taste | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | Yes | No |
| Cardiovascular (e.g., shortness of breath, chest pain and/or palpitations) | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | Yes | No |
| Nausea and/or vomiting | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | Yes | No |
| Skin changes (e.g., rash, itch, yellow discolouration) | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | Yes | No |
| Felt unusually hot, sweaty or cold | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | Yes | No |
| Other – specify: _____ | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 3 | Yes | No |
| **Total =** | | | | | | | | | | |

**Clinician Notes**

| **Clinician Name** | |
|---|---|
| **Signature** | |
| **Date** | |

# KSET— Acute Treatment (Page 3)

**To be completed by clinician**

| | |
|---|---|
| **Patient Name** | |
| **Date of Birth** | |
| **Medical Record No.** | |
| **Treatment No.** | |

**Ensure pre-treatment BP is within safe limits before proceeding (details in manual)**

**Cardiovascular Monitoring** (Refer to your site's clinical/research protocol regarding time intervals)

| **Time Intervals** | Pre Treatment | 15 min | 30 min | 60 min | 90 min | 120 min |
|---|---|---|---|---|---|---|
| **Time** | | | | | | |
| Blood Pressure | / | / | / | / | / | / |
| Heart Rate | | | | | | |
| Other—Specify _____ | | | | | | |

**Orientation & Discharge Assessments**

| | **Pre Treatment** | **Post-Treatment Assessment 1 (120 mins post dose)** | **Post-Treatment Assessment 2 (if needed)** |
|---|---|---|---|
| Time | | | |
| **Orientation** (tick if correct and record answer if incorrect) | | | |
| Name | | | |
| Date of Birth | | | |
| Age | | | |
| Year | | | |
| Month | | | |
| Day | | | |
| Place | | | |
| **Total Score** | | | |

| **Discharge Checklist** | | | | | |
|---|---|---|---|---|---|
| Orientation Score ≥ Pre Treatment Orientation Score | | Yes | No | Yes | No |
| Blood pressure ≤ 120% Pre Treatment | | Yes | No | Yes | No |
| Heart Rate ≤ 120% Pre Treatment | | Yes | No | Yes | No |
| Can walk unassisted | | Yes | No | Yes | No |
| Feeling physically well | | Yes | No | Yes | No |
| Alert, calm, and comfortable (i.e., not distressed) | | Yes | No | Yes | No |
| Patient meets all criteria for discharge | | Yes | No | Yes | No |

**If discharge criteria not met at Post-Treatment Assessment 1, complete Post-Treatment Assessment 2 at a later time (e.g., after 30 mins).**

| **Dosing Information** | |
|---|---|
| Time of Administration | |
| Dosage | |
| Route | |
| **Administration Site Check** | |
| Comments | |

**Overall Tolerability**

**Select one answer prior to discharge.**

**Consider both subjective patient reports and objective observations**

- ☐ Good, **could tolerate higher dose.**
- ☐ Moderate, **could tolerate same dose.**
- ☐ Poor, **could not tolerate same dose.**

| | |
|---|---|
| **Time of Discharge** | |
| **Clinician Name** | |
| **Signature** | |
| **Date** | |

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| *Working memory/Attention* | Symbol Digit Substitution Test[7], CogState One Back Test[6], Conners Continuous Performance Test 3rd Ed[8] |
| *Verbal fluency* | Controlled Oral Word Association Test[9], Delis-Kaplan Executive Function System Verbal Fluency subtest[10] |

[2]Short et al KSET (in Press). [3]Rey, A., 1964. L'Examen Clinique en Psychologie. Presses Universitaires de France, Paris. [4]Benedict RHB, et al., 1998. Hopkins Verbal Learning Test revised: normative data and analysis of inter-form and test-retest reliability. Clin Neuropsychol 12: 43–55. [5]Delis, D.C., et al. 2000. California Verbal Learning Test, 2nd edn. The Psychological Corporation, San Antonio, TX.[6]Westerman, R., et al. 2001. Computer-assisted cognitive function assessment in pilots: How and why? ADF Health, 2, 29-36.[7]Smith, A., 1991. Symbol Digit Modalities Test. Western Psychological Services, Los Angeles, CA. [8]Conners, C.K., et al. 2000. Conners' Continuous Performance Test II: Computer Program for Windows Technical Guide and Software Manual. North Tonawanda, NY: Multi-Health Systems. [9]Benton, A.L., et al., 1989. Multilingual Aphasia Examination. AJA Associates, Iowa City, IA. [10]Delis, D.C., et al. , 2001. The Delis-Kaplan Executive Function System: Examiner's Manual. The Psychological Corporation, San Antonio.

# KSET— Follow-Up

**If pre-filled by patient, clinician should review**

| Patient Name | |
|---|---|
| Date of Birth | |
| Medical Record No. | |

**Questions for patient**

***"Excluding treatment sessions, have you experienced the following symptoms over the past month (or enter time range)? If yes, how severe were they?"***

**Symptoms**

Circle relevant items and provide further details in **Clinician Notes** (e.g., pre-existing conditions, treatments, etc.)

| Symptoms | Severity (circle) 0 = Never 1 = Mild 2 = Moderate 3 = Severe | | | |
|---|---|---|---|---|
| Dissociation (e.g., felt disconnected from self, body, thoughts, surroundings; feeling strange and/or "spaced out") | 0 | 1 | 2 | 3 |
| Hallucinations (e.g., seeing, hearing, smelling or tasting things that were not present in reality) | 0 | 1 | 2 | 3 |
| Problems with memory and/or concentration | 0 | 1 | 2 | 3 |
| Anxiety | 0 | 1 | 2 | 3 |
| Restlessness and/or agitation | 0 | 1 | 2 | 3 |
| Elevated/irritable mood (e.g., euphoria, recklessness, increased energy, increased confidence) | 0 | 1 | 2 | 3 |
| Insomnia, nightmares and/or unusual dreams | 0 | 1 | 2 | 3 |
| Drowsiness, fatigue, and/or weakness | 0 | 1 | 2 | 3 |
| Headache | 0 | 1 | 2 | 3 |
| Abnormal movements (e.g., tremor, incoordination and/or spasms) | 0 | 1 | 2 | 3 |
| Vision or hearing changes (e.g., blurred vision, double vision and/or tinnitus) | 0 | 1 | 2 | 3 |
| Cardiovascular (e.g., shortness of breath, chest pain and/or palpitations) | 0 | 1 | 2 | 3 |
| Diarrhoea and/or constipation | 0 | 1 | 2 | 3 |
| Abdominal pain and/or cramps | 0 | 1 | 2 | 3 |
| Nausea and/or vomiting | 0 | 1 | 2 | 3 |
| Skin changes (e.g., rash, itch, yellow discolouration) | 0 | 1 | 2 | 3 |
| Problems passing urine (e.g., pain, burning, irritation, increased frequency, difficulties passing and/or changes in colour/smell of urine) | 0 | 1 | 2 | 3 |
| A craving for ketamine (e.g., often thinking about wanting more ketamine) | 0 | 1 | 2 | 3 |
| Seeking and/or using non-prescribed ketamine | 0 | 1 | 2 | 3 |
| Other—specify: | 0 | 1 | 2 | 3 |
| | **Total =** | | | |

**Severity Key**

**0 Never**

**1 Mild**- transient and easily tolerated

**2 Moderate**- caused discomfort and/or interference with usual activities

**3 Severe**- caused significant discomfort and/or considerable interference with usual activities

**Date of last ketamine dose:**

**Investigations**

**Liver Function Tests (LFTs)** *(Attach results if completed)* — **Test Date:**

- ☐ Not applicable
- ☐ Normal result
- ☐ Abnormal result(s)

**Further tests required?**

- ☐ Yes - Specify due date: _____
- ☐ No

**Urinalysis (Dipstick)** *(Attach results if completed)* — **Test Date:**

- ☐ Not applicable
- ☐ Normal result
- ☐ Abnormal result(s)

**Further tests required?**

- ☐ Yes - Specify due date: _____
- ☐ No

**Cognitive Assessment**

| Name of Test | Test Date | Score |
|---|---|---|
| | | |
| | | |
| | | |

**Clinician Notes**

| Clinician Name | |
|---|---|
| Signature | |
| Date | |

**Short B, Dong V, Galvez V, Vulovic V, Martin D, Bayes A, Loo CK, 2019**