SHARED CARE AGREEMENT

Name of medicine Ketamine

Indication Complex Pain in Palliative Care Patients

Version: 3.0 **Approval date: September 2024** **Review date: September 2027**

The Shared Care Agreement (SCA) is intended to facilitate the accessibility and safe prescribing of complex treatments across the secondary/primary care interface. It does not contain all of the relevant product information, which should be sought using the current British National Formulary and manufacturer's Summary of Product Characteristics. The SCA must be used in conjunction with the NHS Lothian Procedure for the Shared Care of Medicines, available here.

Roles and responsibilities

Listed below are specific responsibilities that are additional to those included in the NHS Lothian Policy and Procedures for Shared Care. Please refer to the policy for core roles and responsibilities that apply to all Shared Care Agreements.

Consultant/Specialist Team

- Initiate therapy using the appropriate dose and route of administration
- Daily monitoring of blood pressure, pulse and respiratory rate during initiation of ketamine until patient is stable
- Supervise titration of the dose to achieve adequate analgesic effect, treat any adverse effects and review opioid dose as required
- Liaise closely with the GP, community nurse, and unscheduled care service. Once patient stabilised on treatment care will be handed over to GP and shared with consultant (see discontinuation of treatment)
- Provide 24 hour specialist advice by telephone.

General Practitioner and District Nurse

- Monitor for adverse drug reactions and liaise with the palliative medicine consultant / specialist team regarding any complications of therapy
- After patient has been stabilised, monitor blood pressure, pulse and respiratory rate weekly. Inform the palliative medicine consultant / specialist team of an abnormal result as soon as possible.

Patient, Relatives, Carers

- Ensure awareness of the importance of safe storage in the patient's home
- As listed in NHS Lothian Policy and Procedures for the Shared Care of Medicines
- Patient Information Leaflet will be issued by the specialist palliative care team on initiation.

Support and Advice for the GP

During normal working hours: Contact your local palliative care consultant/specialist team at their Hospital/hospice base

Out of hours advice is available from: St Columba's Hospice 0131 551 1381 or Marie Curie Hospice 0131 470 2201 for general advice, and 07515 199019 for specialist palliative medical advice

Key Information on the Medicine

Full Guideline is available on Ketamine within the Scottish Palliative Care Guidelines – medicine information section at Ketamine | Right Decisions (scot.nhs.uk)

Ketamine was rescheduled to a Schedule 2 Controlled Drug on November 30th 2015

Introduction

Anaesthetic agent used with specialist supervision as a third line analgesic to manage complex pain. It is an N-methyl-D-aspartate (NMDA) receptor antagonist. This use is outside the UK marketing authorisation.

Preparations

- **Ketamine Oral Solution:** Strength 50mg in 5ml (Unlicensed medicine – available via specials manufacturer). This is the preferred strength but other options are available.
- **Ketamine Injection:** Strengths 10mg/ml (20ml ampoule), 50mg/ml (10ml ampoule). Used as a continuous subcutaneous infusion.

Indication

- Neuropathic pain poorly responsive to titrated opioids and oral adjuvant analgesics (eg antidepressant and/or anticonvulsant) particularly when there is abnormal pain sensitivity – allodynia, hyperalgesia or hyperpathia.
- Complex ischaemic limb pain or phantom limb pain
- Poorly controlled incident bone pain (often has a neuropathic element)
- Complex visceral / abdominal neuropathic pain

Starting Ketamine

- Ketamine should only be started on the recommendation of a palliative medicine consultant.This is usually done in an inpatient setting. Only very occasionally will a patient need to start ketamine in the community. When starting a patient on ketamine the route of choice is generally oral. The palliative medicine consultant will liaise closely with the GP, district nurse, and unscheduled care service in a timely manner. 24 hour palliative medicine advice will be available.
- Patients starting ketamine will generally be taking a regular opioid. Ketamine may restore the patient's opioid sensitivity and lead to opioid toxicity.
- The specialist may recommend changing to a short acting, regular opioid before starting ketamine, particularly if the patient has side effects from the current opioid dose.

Dosage and Administration

- **Oral**: Ketamine can be started using the oral route or patients may be changed from a SC infusion when pain is controlled. Starting dose 5mg - 10mg four times daily. Dose is increased in 5-10mg increments. Usual dose range: 10 - 60mg four times daily. A flavouring e.g. fruit cordial, can be added to the oral solution mask the bitter taste.

- **Subcutaneous Infusion**: Starting dose 50 -150mg /24hours. Increase dose in 50-100mg increments. Usual dose range: 50 – 600mg /24hours. Prepare a new syringe every 24 hours. Dilute ketamine with sodium chloride 0.9%. Check the syringe is not cloudy and protect it from light. Refer to **syringe pump ketamine compatibility table** for stability and compatibility information.

Monitoring

Test	Frequency	Abnormal Result	Action if Abnormal Result
Blood Pressure	Daily when initiating therapy and then weekly once patient stabilised	20mmHG above baseline	Inform the palliative medicine consultant / team as soon as possible.
Pulse		20 bpm above baseline or rises above 100bpm	
Respiratory Rate		Decreases to 10 breaths per minute	

Discontinuing Ketamine

- In patients with a prognosis of more than a few weeks, once analgesia has been obtained, an attempt should be made to withdraw ketamine over 2–3 weeks. Benefit from a short course can last for weeks or even months, and the course can be repeated if necessary.
- The decision to withdraw ketamine should be made by the specialist team

Contra-Indications

For full detail of contraindications please refer to the current Summary of Product Characteristics (SPC) available at www.medicines.org.uk

Raised intracranial pressure, uncontrolled hypertension, delirium or recent seizures; history of psychosis

Cautions

For full detail of cautions please refer to the current Summary of Product Characteristics (SPC) available at www.medicines.org.uk

Cardiac failure, cerebrovascular disease, ischaemic heart disease.

If used for over 3 weeks, discontinue ketamine gradually.

Consider dose reduction in severe hepatic impairment

Adverse Effects

For full detail of adverse effects please refer to the current Summary of Product Characteristics (SPC) available at www.medicines.org.uk

- Hallucinations, dysphoria and vivid dreams may occur. Consider review of opioid doses with palliative medicine consultant as adverse effect may be due to opioid toxicity. If patient is not drowsy then it is more likely to be a ketamine side-effect. Consider reducing the dose of ketamine and treat with one of the following: diazepam 5mg PO stat & at bedtime, lorazepam 1mg PO stat & b.d, midazolam SC 2mg prn, haloperidol oral 0.5mg-1mg twice daily or haloperidol SC 1mg-2mg once daily.

  Ketamine dysphoria can be prevented by oral haloperidol 0.5mg-1mg daily when initiating treatment. It can be stopped when the patient is stable.
- Other adverse effects: Hypertension, tachycardia, raised intracranial pressure, sedation at higher doses, erythema and pain at infusion site, urinary tract symptoms eg frequency, urgency, urge incontinence, dysuria, haematuria (where there is no evidence of bacterial infection consider discontinuing ketamine and seeking urology advice)

Drug Interactions

For full detail of drug interactions please refer to the current Summary Product Characteristic (SPC) available at www.medicines.org.uk and the BNF at www.medicinescomplete.com

Ketamine interacts with theophylline (tachycardia, seizures) and levothyroxine (monitor for hypertension, tachycardia). Diazepam increases the plasma concentration of ketamine. Refer to relevant British National Formulary (BNF) section for further information.

The presence of this Shared Care Agreement does not compel a primary care prescriber to prescribe if they feel that it is out with the scope of their competencies (as per GMC guidance on safe prescribing) or resources, as ultimate responsibility lies with the prescribing, not the recommending, clinician.

For office use only:

Approved by the General Practice Prescribing Committee (GPPC) on 10th September 2024