The Christie
NHS Foundation Trust

Pharmacy department

Ketamine

This leaflet provides information on a medicine called ketamine which is used to treat pain that is difficult to control. It is offered as a guide to you and your family. The possible benefits of treatment vary; your doctor, nurse or pharmacist will be happy to answer any questions you have about your treatment.

What is ketamine?

Ketamine is a drug which has been used as an anaesthetic for many years. More recently it has been used at low doses in the management of severe pain, especially neuropathic (nerve) pain. It is available as an oral liquid, and may occasionally be given as an injection.

Ketamine does not currently hold a product licence for the treatment of pain.

Most medicines available in the UK are licensed before they can be used to treat patients. The licence describes the ways in which the medicine can be given and the conditions it can be used to treat. In order to get a licence, the manufacturer of the medicine has to show that it is safe and made to a high standard.

Ketamine is licensed for use as an anaesthetic. It also has an 'off licence' use for the treatment of pain and if used correctly under medical supervision, has been shown to be safe and effective for many years.

Please carry this leaflet with you at all times as it contains a record of your ketamine treatment. You should inform health care professionals involved in your care that you are prescribed ketamine for pain.

How does ketamine work?

Ketamine works mainly by blocking the action of a chemical in the nervous system that is important in creating persistent pain. This reduces the amplification of the messages sent to the brain that tell you that you are in a lot of pain.

What is the benefit of taking ketamine?

It is helpful in some patients to reduce the severity of pain when other types of painkillers have not worked.

When is ketamine prescribed?

Ketamine is usually prescribed when other painkillers have not worked. It may be prescribed by itself, or in combination with other painkillers. It is always prescribed by a doctor who specialises in treating pain.

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What dose of ketamine is usually prescribed?

Ketamine is usually taken by mouth 3 to 4 times times a day. Your doctor or specialist will usually start off by prescribing a low dose of ketamine and then slowly increasing it. This is because like any medicine, ketamine has a number of side-effects.

Starting off with a low dose and slowly increasing it allows your body to get used to these effects. It also allows your doctor to see how well your symptoms are responding to ketamine.

How much ketamine you will need depends upon how well it is working for you and the severity of any side effects you may have.

How should you take the prescribed ketamine?

Oral liquid: the oral syringe(s) or spoons you are given are re-usable. You should only take the prescribed dose. Measure the exact amount. The medicine should be swallowed.

Injection: This is administered under the skin if you have difficulty swallowing or when a continuous dose of ketamine is required to manage your pain. A portable battery operated pump (syringe driver) administers the ketamine over a 24 hour period through a small needle placed under the skin. A nurse will change the syringe of medicine each day.

What should I do if I miss a dose?

If you miss a dose try to take it as soon as you remember. However if it is almost time for your next usual dose, wait until then to take your medicine and skip the missed dose. Never double up the dose to make up for a missed dose. If you are sick within 1 hour of taking an oral dose of ketamine, do not repeat the dose. If you miss more than 1 dose through being unwell, contact your doctor.

How well or quickly does ketamine work?

For some people ketamine can work very quickly (within a few hours). For other people it may take a few weeks of taking ketamine before their pain reduces. Some patients do not find ketamine to be helpful. It is not possible to tell who will respond to ketamine.

Can I take other medicines if I take ketamine?

In general, ketamine should not affect your other medicines. Other painkillers such as weak opioids (for example codeine), non-steroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen, or paracetamol can be taken at the same time as ketamine.

If you are already taking a strong opioid such as morphine, and you are started on ketamine your doctor will sometimes reduce the dose of your morphine. This is because you may not need the same amount of strong opioid while taking ketamine.

Before you take or buy any new medicines always tell your doctor or pharmacist that you are taking ketamine.

What is the length of treatment?

The length of treatment will depend on why you were started on ketamine and how well it works. You will be reviewed periodically to assess whether your ketamine can be reduced or discontinued. It may be necessary for your doctor to change the dose during your treatment.

Is ketamine addictive?

It is very rare for someone who is taking ketamine for pain relief to become addicted. However, it is sometimes taken illegally in high doses and drug abusers can become addicted to it.

If you need to stop taking ketamine it should be stopped slowly. This is because stopping it suddenly can result in severe rebound pain. This is when pain comes back quickly and can be severe.

What are the possible risks/side-effects?

Tiredness or sleepiness may occur for a short period of time after taking the prescribed dose. You may also experience a sensation that everything feels 'unreal' or 'far away' but this will last for only a short time.

Other common side-effects include:

- drowsiness
- vivid dreams
- hallucinations (feeling, seeing or hearing something that is not actually there)
- dysphoria (feeling unwell or unhappy)

These symptoms can also be signs that your dose of ketamine is too high.

Less commonly reported side-effects include an increase in blood pressure, and a fast heart rate. We do not know what the long term problems are with using this medicine. Some studies suggest that there may be problems with memory loss or thought processing, but it is not known if this is a problem with the dosage being used at The Christie.

More recently there have been reports of ketamine causing problems with kidney function, ulcers in the bladder and urinary tract (the tube that passes urine out of your body), and lower abdominal pain on long term use. Most of these patients had been using ketamine for recreational purposes.

However, there were some who were taking it to treat pain.

If you have any of the following problems then please contact your GP or your pain nurse or pain doctor:

- pain on passing water
- blood in the urine
- needing to pass urine more often

Ketamine can cause skin irritation if given by continuous injection under the skin. Your nurse will check the skin daily for signs of redness or swelling and change the needle if needed. Please tell your nurse if you have any redness or discomfort at the needle site.

Who cannot take ketamine?

Normally you should not take ketamine if you have:

- raised pressure within the skull
- raised pressure inside the eye (glaucoma)
- recent history of epilepsy
- recent history of psychosis
- severe high blood pressure

Do I need to have any tests when taking ketamine?

While you are taking ketamine you will need to have your blood pressure taken regularly. In addition you will also be monitored for problems with your urinary tract. Your doctor or nurse will ask you if you have any problem such as stinging when you pass water, if you are passing water more often than normal and if you have any blood in the urine.

Can I drink alcohol if I am taking ketamine?

You should avoid drinking alcohol if you are taking ketamine. This is because alcohol may increase some of the side-effects of ketamine. Remember that alcohol will also affect your ability to drive or operate machinery.

Can I drive if I am taking ketamine?

You should not drive after starting ketamine or after a dose increase until you have had a discussion with your doctor regarding whether this is advisable/safe. See the patient information leaflet 'Driving while taking strong painkillers' available on The Christie website.

Who will initiate ketamine and issue further prescriptions?

Prescriptions for ketamine will be issued by the supportive care team at The Christie.

The initiating supportive/palliative care team should advise you on whether they intend to continue this treatment. Ketamine may be used for palliative/end of life care but also can be used long term for patients who are still under review at The Christie.

If you are unable to attend The Christie (for example due to very advanced disease), we will liaise with the local palliative care team to take over ketamine prescribing.

It is very important that you attend your clinic appointment. If you are unable to attend or expect to run out of ketamine before your next review, you must contact the supportive care team for advice.

What is the plan for follow up?

Follow up will vary from patient to patient. The Christie supportive care team will manage the initiation of your ketamine and ongoing prescribing once an effective dose is established. We will share the plan for the prescribing and follow up of ketamine with the appropriate practitioners such as GPs, community Macmillan nurses etc. You will be reviewed in the supportive care or pain clinic on a regular basis to ensure ketamine is still the right treatment for you.

How should ketamine be stored?

Ketamine liquid and injection should be stored in the original dispensing container, in a cool dry place out of the reach of children. Any unused medication can be returned to pharmacy for safe disposal.

Who should I phone if I need advice urgently about ketamine?

Monday to Friday, 9am to 5pm contact the supportive care team on **0161 446 3559**.

During the evening or at weekends and bank holidays, if you have any queries, contact The Christie Hotline on **0161 446 3658**.

Useful contacts

Supportive care team secretary: **0161 446 3559**

Supportive care pharmacist (via switchboard): **0161 446 3000**

The Christie pharmacy: **0161 446 3432 / 3433**

Patient prescription record: ketamine 50mg/5ml liquid

Date	Dose and frequency in mg (mls)	Clinician name	Next appointment	Clinician signature

If you need information in a different format, such as easy read, large print, BSL, braille, email, SMS text or other communication support, please tell your ward or clinic nurse.

The Christie is committed to producing high quality, evidence based information for patients. Our patient information adheres to the principles and quality statements of the Information Standard. If you would like to have details about the sources used please contact **the-christie.patient.information@nhs.net**

For information and advice visit the cancer information centres at Withington, Oldham, Salford or Macclesfield. Opening times can vary, please check before making a special journey.

Contact The Christie Hotline for urgent support and specialist advice
The Christie Hotline: 0161 446 3658
Open 24 hours a day, 7 days a week

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The Christie Patient Information Service
Tel: 0161 446 3000 www.christie.nhs.uk