

Remifentanil Patient Controlled Analgesia (PCA) for pain relief in labour

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What are the options for pain relief in labour?

There are several medications that can be offered for pain relief in labour, and it is helpful for you to be aware of these. Available methods include:

- Gas and air (Entonox)
- Medications injected into your muscle, e.g. diamorphine
- Medication delivered into your vein, such as Remifentanil
- Epidural anaesthesia injected into your back

You may wish to review each of these further to help you make decisions about what is best for you. More information can be found at:

<https://www.labourpains.org/during-labour/pain-relief-andanaesthesia-choices-during-labour> (accessible via QR code below).



What is Remifentanil?

Remifentanil is a strong morphine-like pain relieving medication, that we can offer to patients in labour on the Delivery Suite. It has a very rapid onset and short duration of action making it well suited to the treatment of intermittent contraction pains experienced during labour. It is broken down by the body very quickly, minimising any long-lasting effects on you or your baby. Due to its short-lasting effects, it cannot be given by a one-off injection into the muscle like some other options in labour e.g. diamorphine. It must be delivered using a special pump, called a Patient Controlled Analgesia (PCA) device, into a vein via a cannula, a small plastic tube that stays in your vein, usually inserted into your hand or arm.

Remifentanil is not currently licensed for use via PCA, but it is widely used to treat labour pain in maternity units across the UK. Following a review of effectiveness and safety, the National Institute for Health and Care Excellence (NICE) have included Remifentanil PCA in their guidelines for the care of patients during labour.

What is a PCA?

A Patient Controlled Analgesia (PCA) system is a way of delivering medication into a vein using a pump and a hand-held control button. The device is programmed to deliver a safe amount of medication when you press your PCA button. The button can be pressed in time with the start of each contraction to provide a dose of Remifentanil. This will become fully effective at around one minute, just when the contraction is at its strongest. For safety, the device then locks for a set time before the next dose can be activated. It will be ready to press again for the next contraction. You can press the button as many times as you wish, but the device will only deliver medication at a set safe time to prevent accidental overdose.

Benefits of Remifentanil PCA

- Provides good pain relief in labour: it will not resolve the pain completely but makes it more manageable. It usually provides better pain relief than diamorphine but may not be as effective as an epidural.
- Quick and easy to set up, usually around 10 minutes, compared to an epidural which can take 40-60 minutes.
- Reduces the need for forceps or suction cup delivery when compared to an epidural.
- Very short acting, therefore, minimal effects on the newborn.
- If it does not work well for you, it can be stopped easily if you wish to switch to alternative pain relief, such as an epidural.
- You may also use gas and air and TENS machines alongside.

Who can use a Remifentanil PCA?

There are very few reasons why Remifentanil PCA may not be suitable for you, such as an allergy to Remifentanil or use of other similar pain killers, e.g. diamorphine, within 4 hours. However, if you are delivering your baby under 36 weeks pregnant, it may not be advised and will require further discussion with your obstetric and anaesthetic teams.

What are the disadvantages of Remifentanil PCA

As with all other morphine-like medications, Remifentanil may make you feel sick, dizzy and itchy. It may also make you feel a little sleepy and can slow down your breathing. For this reason, your oxygen levels must be monitored throughout using a peg on your finger. It is not uncommon to require oxygen (1 in 10 patients), which is usually given by plastic tubing that sits below your nose. Remifentanil PCA will not provide complete pain relief, and you need to stay awake to be able to press the button. For your safety, staff and relatives are not allowed to press the button for you under any circumstance.

What to expect during Remifentanil PCA

The Remifentanil PCA will be set up by an anaesthetic doctor, who will talk to you and explain more before starting the medication. They will insert a dedicated cannula to which the PCA device will be connected. You will be given the control button and advised to press it just before or as soon as you feel a contraction starting. It takes up to a minute for the medicine to work fully and the timing of the button can take a little practice at first.

Once the Remifentanil PCA has started:

- You will need to stay on your bed during use, as it may make you feel dizzy.
- You must be carefully observed by your midwife, who will stay with you in your room at all times to monitor for side effects.
- We will also place a cardiotocograph (CTG) monitor onto your abdomen to monitor your baby throughout.
- If your oxygen levels drop, your midwife will provide oxygen for you to breathe. If this does not help, we may need to take your PCA button away until the medication effect wears off.

For further information, please consult your anaesthetist who will be happy to answer any queries.



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