

## PATIENT INFORMATION



# PAIN RELIEF IN INTERVENTIONAL RADIOLOGY PROCEDURES

Interventional Radiology (IR) offers minimally invasive procedures as an alternative to traditional open surgery for a multitude of conditions.

IR uses x-rays, ultrasound or CT to look inside you whilst operating through tiny holes in the skin, manipulating wires & tubes to get to wherever we need to target treatment.

IR is sometimes referred to as “**Minimally Invasive Image Guided Surgery**”.

The vast majority of IR procedures can be performed under local anaesthetic with you being fully awake. Some longer procedures require the use of sedatives or “gas & air” to ensure that you remain comfortable. Occasionally, complex or lengthy procedures require a general anaesthetic.

## LOCAL ANAESTHETIC

Local anaesthetic involves numbing an area of the body using a type of medication known as local anaesthetic. This is usually given by a small injection under the skin. This initially burns, a bit like a bee sting, but quickly the area becomes numb. This allows larger needles to be inserted with very minimal pain due to the numbing effect of the local anaesthetic. Although you won't be able to feel pain, you may still feel pressure or movement.

Local anaesthetics don't cause you to feel sleepy or lose consciousness. This means that local anaesthetic is very safe: it doesn't require special preparation beforehand, it very rarely causes side effects, and you can recover from it more quickly. Local anaesthetic will wear off slowly after a few hours and full sensation will return.

## ENTONOX

Entonox, often referred to as “gas & air” or “laughing gas”, is a mixture of oxygen and nitrous oxide gas which provides self-administered short-acting pain relief. Entonox only works when you breathe it in. This means it starts to act very quickly and wears off quickly, it is very safe and has minimal side effects. A nurse will be with you throughout and will be monitoring you regularly.

Entonox is not suitable for all patients and this will be discussed with you at the time of your procedure. Although there is no specific preparation for having Entonox, we do request that you do not eat or drink anything for an hour beforehand to reduce the chance of nausea or vomiting. Entonox clears from your body within a few minutes, so we recommend that you rest for a short while after the procedure.

## SEDATION

For longer procedures or procedures which can be uncomfortable, sedative medications can be administered directly into a vein through a cannula in the vein. These are usually given alongside a pain killer (an analgesic) and a medication to reduce nausea and sickness (an anti-emetic). Sedation often allows to drift off to sleep, but unlike a general anaesthetic, you will remain conscious, and can be woken if required. A nurse will be with you throughout and will be monitoring you regularly.

Sedation is not suitable for all patients and will be discussed with you at the time of your procedure. You will be asked not to eat anything for 6 hours prior to sedation,

but you may drink clear fluids for up to 2 hours prior to sedation. It can take a number of hours for sedatives to wear off, so you will need to stay in hospital until they do. You should not return to work, drive or operate machinery for 24 hours.

## GENERAL ANAESTHESIA

General anaesthesia is only required for the most complex and lengthy procedures. It makes you fully unconscious and sends you to sleep. A specialist doctor (anaesthetist) will administer this, monitor you throughout, and wake you up. Following a general anaesthetic, you will usually need to stay in hospital for several hours to a few days. A number of more serious complications are associated with general anaesthetics, but these are rare.

It is relatively rare that we use general anaesthesia for IR procedures, due to the minimally invasive nature of what we do, but if this is required for your case, it will be discussed with you in advance and you will often have to undergo an assessment with a specialist doctor (anaesthetist) to assess your fitness and suitability.

## PRE-PROCEDURE ASSESSMENT

As many procedures can be performed safely using local anaesthetic, you may not need to undergo a pre-procedure assessment. For more complex procedures, it might be necessary to meet with a member of the IR team or anaesthetic team to discuss your procedure and assess your suitability. This will be an opportunity for you to ask questions and discuss the options of pain relief during your procedure. It is important that you tell a member of the IR team if you have allergies to any medications.

## MONITORING EQUIPMENT DURING YOUR PROCEDURE

The amount of monitoring you will require during your procedure will depend on the level of pain relief or sedation you are having. These are a few of the common monitors and equipment which you might need when undergoing a procedure:

**Electrocardiogram (ECG):** a trace of the electrical activity of your heart. Wires are attached to sticky pads which are put on your chest to monitor you throughout the procedure.

**Blood pressure (BP) cuff:** monitors your blood pressure by squeezing your arm every few minutes throughout the procedure.

**Oxygen saturation (sats) monitor:** a small peg or clip usually put on your finger, toe or earlobe which continually measures the oxygen levels in your blood.

**Intravenous cannula (IV line):** a small plastic tube usually inserted into a vein in your hand or arm to deliver the drugs and fluids you might need during the procedure.

**Urinary catheter:** a tube inserted into your bladder to collect urine which is inserted along with local anaesthetic gel to minimise discomfort.

## PAIN RELIEF AFTER YOUR PROCEDURE

As IR procedures are minimally invasive, recovery is usually much quicker than with traditional open surgery and many procedures are performed as day case procedures with patients going home on the same day. Pain following most procedures should be minimal and can be easily controlled with over-the-counter medications such as paracetamol. If you require stronger pain killers, these can be provided to you before you leave the hospital.

For more complex or lengthy procedures, such as those requiring sedation or general anaesthesia or requiring an overnight stay, you will be looked after on a ward and given pain killers as required.

## Patient Controlled Analgesia (PCA)

In some circumstances, it might be appropriate for you to be given a PCA. This is a pain relief pump connected to your cannula which you control yourself by pressing a button. The pump has safety settings to stop you accidentally getting too much medication.

## CONTACT

BSIR @ [www.bsir.org](http://www.bsir.org)