

ANAESTHESIA FOR THORACIC (LUNGS AND CHEST WALL) PROCEDURES

(Information for patients)

1 - Anaesthesia and Anaesthetists

Nearly all thoracic operations need to be done under general anaesthesia. General anaesthesia is a state of carefully controlled unconsciousness during which time you feel nothing. Anaesthetists are doctors with specialist training in managing anaesthesia and pain relief. They will discuss your anaesthetic and your preferences with you in order to make a joint plan for your anaesthetic and your pain relief after your operation. They will then look after you during the time of your operation.

2 - Before arrival in hospital

2.1 Preparation

There are some things that you can do to help us get you through your anaesthetic in the best possible shape:

- If you smoke, giving up for several weeks before the operation reduces the risk of breathing problems and makes your anaesthetic safer. The longer you can give up beforehand, the better. If you cannot stop smoking completely, cutting down will help.
- If you are very overweight, reducing your weight will reduce many of the risks of having an anaesthetic.
- If you have loose teeth or crowns, treatment from your dentist may reduce the risk of damage to your teeth since your anaesthetist is likely to need to put a tube in your throat to help you breathe.
- If you have a long-standing medical problem such as diabetes, asthma or bronchitis, thyroid problems, heart problems or high blood pressure (hypertension) you should ask your GP if you need a check-up.

2.2 Your usual medicines

You should continue your usual medications up to and including the day of your operation unless the hospital or your doctor has given you instruction otherwise. For example, if you take drugs to stop you getting blood clots (anticoagulants), drugs for diabetes, aspirin or herbal remedies, you will need specific instructions.

2.3 Eating and drinking

It is important to not eat anything after midnight the night before your surgery. You can drink water up until 6am on the day of your surgery. If your stomach is full when you are

anaesthetised, the contents may come up and then go down your windpipe, seriously damaging your lungs.

3 - In hospital

3.1 Before coming to theatre.

One or more of the anaesthetic team will come to see you on the ward. They will listen to your story and ask questions to help make a plan for your anaesthetic and recovery (including pain relief). This is a good opportunity to ask any questions you may have (there is room to make notes at the end of this leaflet). Your anaesthetist will then make sure you understand and are satisfied with what is planned for your anaesthetic and recovery. Nothing will happen to you until you understand and agree with what is planned for you. You have the right to refuse if you do not want the treatment suggested.

3.2 On arrival to theatre

You will come to the anaesthetic room where members of the anaesthetic team will be present. These will include one or more anaesthetists and one or two operating department assistants (ODAs) who help the anaesthetist and surgical team during your operation. You will be asked some questions to double check your details and some leads will be attached to you so your anaesthetist can monitor your vital signs (heart rate, oxygen levels and blood pressure) when you are unconscious. Your anaesthetist will insert a drip if you don't have one already. He or she will then use this drip to inject the anaesthetic drugs which will drift you gently into unconsciousness.

If you are having a *spinal injection, epidural or paravertebral block* (see section below on pain relief), this may be done before your anaesthetic starts.

3.3 Whilst you are unconscious

Your anaesthetist may put in more drips and will usually put a breathing tube through your mouth into your windpipe. This is so your breathing can be controlled whilst you are unconscious and also helps the surgeon to operate. You will not feel any of this. After the breathing tube is placed, you will be taken into theatre and your operation will begin. The anaesthetic team will continue to take care of you throughout your operation. They will give you painkillers whilst you are unconscious so they have a chance to get to work before you come round.

3.4 Coming round

After your operation has finished, your anaesthetist will start to bring you out of unconsciousness in the operating theatre. The breathing tube is usually taken out before you are fully conscious and this is not distressing for most patients. You will then be taken on your bed or trolley to a recovery area where you will be monitored until you are fully alert and comfortable again. If you feel any discomfort during this period, you should tell the recovery nurses who will be able to give you treatment, including painkillers, to make you as comfortable as possible. Once you are comfortable and alert and your vital signs are stable, you will be transferred back to the ward.

Some patients benefit from longer or more complex care during their recovery, usually due to other illnesses or complicated surgery. These patients will go to an intensive care unit or high dependency unit. If you are one of these patients, this will be discussed with you when your anaesthetist sees you before your operation.

4 - Options for pain relief

The plan that is made for your pain relief after the operation depends on what sort of surgery you are having and your preferences. Your anaesthetist may recommend one or more of the following options. If you have any wishes about what you want or don't want, you should tell your anaesthetist and together you can decide what the best plan will be.

4.1 Regular tablets

Most patients will benefit from regular paracetamol after their operation, usually as tablets, or sometimes as a drip. In addition, some patients benefit from additional tablets of different painkillers (such as codeine, dihydrocodeine, tramadol, ibuprofen or diclofenac). Taking regular painkillers like this helps to control any pain throughout the day.

4.2 Spinal injection

Your anaesthetist may recommend this if you are having Video-assisted-Thoroscopic-Surgery (VATS – sometimes called keyhole surgery) or surgery which involves opening the chest (thoracotomy). It is usually done in the anaesthetic room just before you are anaesthetised (ie whilst you are still conscious). Being conscious helps to decrease the chance of some of the uncommon complications that can happen (see below). The spinal injection is not instead of a general anaesthetic - you will still be under a general anaesthetic for the operation. It is just designed to make you more comfortable when you wake up after your operation. It involves placing a very thin needle into the fluid around your spinal cord and injecting some strong painkiller there. Placing the painkiller here means it can work directly on the nerves in your spinal cord which send pain messages to your brain. Your anaesthetist will inject some local anaesthetic in your back before inserting the spinal needle, so you should be comfortable whilst it is being done. If you are nervous, he or she may also give you some sedative to help make you more relaxed before the procedure. The painkilling effects of a spinal anaesthetic usually last for several hours after your operation, although the exact duration varies from person to person. You are likely to need alternative methods of pain relief after your spinal wears off.

4.3 Thoracic Epidural

This may be recommended if you are having surgery which involves opening the chest (thoracotomy). It may be done before you are anaesthetised, to decrease the chance of complications (see below). It involves placing a needle into your back and advancing it until the tip sits just outside your spine in a place called the epidural space. The nerves from your spinal cord to the rest of your body pass through this space. A small plastic tube (catheter) is advanced through the needle and left in the epidural space. The other end of this catheter sits outside your body. Local anaesthetic (sometimes mixed with other painkillers) is injected through the catheter and acts to block the pain messages from your body to your spinal cord and brain. The epidural is not instead of a general anaesthetic - you will still be unconscious for your operation.

A continuous infusion of local anaesthetic/painkillers can be set up which means that pain relief from an epidural can last for days after your operation if necessary. You will need to be connected to the pump that supplies the local anaesthetic, which may limit your mobility.

4.4 Side effects and complications of spinal and epidural anaesthesia

Side effects and complications can occur during spinal or epidural anaesthesia. Since people vary in how they interpret words and numbers, the following scale is used to help try and understand the side effects and risks associated with a spinal or epidural anaesthetic:

Very Common	Common	Uncommon	Rare	Very Rare
1 in 10	1 in 100	1 in 1000	1 in 10 000	1 in 100 000

4.4.1 Very common and common side effects

These may be unpleasant, but can be treated and do not usually last long.

Itching – This can occur as a side effect of the drugs used in the injection. If you experience itching it can often be successfully treated, as long as you tell the staff when it occurs.

Difficulty passing water (urinary retention) – You may find it difficult to empty your bladder normally for several hours after the spinal or epidural. Your bladder function returns to normal after the spinal or epidural wears off. You may require a catheter to be placed in your bladder temporarily, either while the spinal or epidural wears off, or as part of the surgical procedure.

Pain during the injection – You should immediately tell your anaesthetist if you feel any pain or pins and needles in your legs or bottom as this may indicate irritation or damage to a nerve and the needle will need to be repositioned.

Headache – There are many causes of headache, including the anaesthetic, the operation, dehydration and anxiety. Most headaches get better within a few hours and can be treated with pain relieving medicines. Severe headache can occur after a spinal or epidural anaesthetic. If this happens to you, your nurses should ask the anaesthetist to come and see you. You may need special treatment to settle the headache.

Failure - Occasionally it may not be possible to get the spinal or epidural needle in the correct place, in which case the procedure will be abandoned. Epidural catheters may sometimes fall out or fail to block pain from all of the surgical area. If any of these situations happen, another suitable plan will be made for your pain relief.

If you have any further questions about spinal or epidural injections, please see the relevant leaflets or ask your anaesthetist.

4.4.2 Rare and Very Rare complications

Nerve damage – Temporary loss of sensation, pins and needles and sometimes muscle weakness may last for a few days or even weeks but almost all of these make a full recovery in time. Permanent nerve damage is even rarer and has about the same chance of occurring as major complications of general anaesthesia.

Others

Infection is rare and usually limited to the skin. It is very rare for infection to spread, but this could lead to permanent damage. Bleeding around the nerves (epidural haematoma) is very rare but can also lead to permanent damage. Convulsions (fits) or cardiac arrest (stopping of the heart) are very rare complications.

4.5 Paravertebral block

This involves injecting local anaesthetic around the nerves on one side of your back which transmit pain sensation from the areas where the surgeon is working. The local anaesthetic stops the nerves transmitting the pain signals. In practice, it involves one or more injections in your back, just to one side of your spine. It may be done before you are anaesthetised and will last through your anaesthetic and for a few hours afterwards. Your anaesthetist will use a small needle to inject some local anaesthetic into the skin so you are comfortable during the procedure and may offer you some sedative if you are particularly nervous. A plastic tube (catheter) may be left in place which means that local anaesthetic can be continually infused to provide pain relief for hours to days after your surgery. It is usually very safe. Common side effects may include bruising. It is very rare for the nerves to be damaged.

4.6 Patient controlled analgesia (PCA)

This involves giving you a button to press that gives you a dose of painkiller through a drip when you press it. It means you are in control of your pain relief and do not have to wait for a nurse to come and give you painkillers. Whenever you are sore, you just press the button. You can press the button as much as you like – it is designed to safeguard against overdose. You will need to be connected to the machine that delivers the painkiller which may limit your mobility. The drug (usually morphine) may make you feel sick, but this is usually treatable. If you would like more information about this method of pain relief, please ask for the leaflet on PCA.

4.7 Local anaesthetics

Whilst you are under your general anaesthetic, your surgeon injects local anaesthetic to numb the areas where he or she has been working so you are more comfortable when you come round. This usually lasts for several hours after your operation, to help you get over the worst of any pain you might have otherwise had. Sometimes your surgeon may be able to leave a small tube (catheter) in the operation site. Local anaesthetic can be infused down this tube to keep you comfortable for longer after your operation. This does mean you will need to be connected to the machine that delivers the painkiller which may limit your mobility.

4.8 What if I am uncomfortable after my operation?

Everybody reacts to pain in different ways and sometimes the measures taken to control your pain may not be completely successful. It is important that your pain is controlled, not only for

your own comfort, but also because studies have shown that good pain relief decreases the risk of developing complications after your surgery. Therefore, whatever methods of pain relief you use, you should tell the nurses if you are uncomfortable, so your pain relief can be reassessed.

5 - How will I feel afterwards and what can go wrong?

Some people will experience side effects after their anaesthetic. The common side effects (see below) are usually treatable and pass quickly. Modern procedures have made anaesthesia much safer over recent years and serious side effects and complications are rare (see below). There are probably about five deaths for every million anaesthetics in the UK. These are usually caused by a combination of several complications occurring together. Your anaesthetist will take all necessary steps to ensure your anaesthetic is as safe as can be. Everybody is an individual and will have different risk factors, which your anaesthetist can discuss with you. If you have other illnesses or your surgery is particularly long or complicated, your risks may be slightly increased. There are ways you can help us to decrease your risk - for example by ensuring any long term illnesses are reviewed by your GP, or by giving up smoking.

The following scale is used below to help try and understand the side effects and risks associated with anaesthesia:

Very Common	Common	Uncommon	Rare	Very Rare
1 in 10	1 in 100	1 in 1000	1 in 10 000	1 in 100 000

5.1 Very Common and Common side effects

- Feeling sick and/or vomiting
- Sore throat
- Dizziness/blurred vision
- Headache
- Itching
- Aches, pains and backache
- Confusion or memory loss

5.2 Uncommon side effects and complications

- Chest infection
- Bladder problems
- Muscle pains
- Slow breathing (depressed respiration)
- Damage to teeth, lips or tongue
- An existing medical condition getting worse
- Awareness (becoming conscious during your operation)

5.3 Rare or Very Rare complications

- Damage to the eyes
- Serious allergy to drugs

- Nerve damage
- Death

If you have any questions regarding your future anaesthetic that are not answered here please call AAGBI on 0207 6311650 or email honsec@aagbi.org

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