

## *Spinal Anesthesia*

### *Comox Valley Hospital Department of Anesthesia 2022*

#### *What is a 'spinal'?*

For many operations, patients are required to have a general anesthetic. For operations on the lower part of the body, it is often possible for you to have a spinal anesthetic instead. This is when an anesthetic is injected into your lower back (between the bones of your spine). This makes the **lower part of the body numb so you do not feel the pain** of the operation and can stay awake or be sedated.

Typically, a spinal lasts one to two hours. Other drugs may be injected at the same time to help with pain relief for many hours after the anesthetic has worn off. For some operations a spinal anesthetic can also be given before a general anesthetic to give additional pain relief afterwards. **Your anesthesiologist can help you decide which of these would be best for you.**

During your spinal anesthetic you may be:

- fully awake
- Sedated (mild, moderate or deep sedation can be used)

Depending on your personal health, there may be benefits to you from having a spinal anesthetic. Your anesthesiologist is there to discuss this with you and to help you make a decision as to what suits you best.

A spinal anesthetic can often be used on its own or with a general anesthetic for:

- Orthopedic surgery on joints or bones of the leg
- Groin hernia repair, varicose veins, haemorrhoid surgery
- Vascular surgery: operations on the blood vessels in the leg
- Gynecology: prolapse repairs, hysteroscopy and some kinds of hysterectomy
- Urology: prostate surgery, bladder operations, genital surgery.

## *How is the spinal performed?*

- You will have an intravenous cannula (IV), a small plastic tube inserted in a vein in your hand or arm, with a needle. This allows your anesthesiologist to give you fluids and any drugs you may need. You will also have **routine monitors** such as a blood pressure cuff applied.
- You will be helped into the correct **position for the spinal** in the operating room. A nurse or healthcare assistant will support and reassure you during the injection. You will either **sit on the side of the bed** with your feet on a low stool or you will **lie on your side**, curled up with your knees tucked up towards your chest.



- Your anesthesiologist will explain what is happening, so that you know what is taking place.
- **A local anesthetic (numbing medicine) is injected first to numb the skin.** This **may sting** for a few seconds.
- Then the anesthesiologist will **use a thin needle to give the spinal injection.** You will only feel a **pushing sensation** in your back during this part of the procedure and you will need to keep still for this to be done.

### *What will I feel during the spinal injection?*

A spinal injection is often **no more painful than having a blood test or having an IV inserted**. It may take a few minutes to perform, but may take longer if you have had any problems with your back or have obesity.

- The local anesthetic used to numb the skin can pinch or sting for a few seconds
- During the injection you may feel pins and needles or a sharp pain in one of your legs – if you do, try to remain still, and tell your anesthesiologist.
- When the injection is finished, you will usually be asked to lie flat if you have been sitting up.
- The spinal usually begins to have an effect within a few minutes.

### *What will I feel once the spinal starts to work?*

- To start with, your skin will feel warm, then numb to the touch, and then gradually you will feel your legs becoming heavier and more difficult to move.
- When the injection is working fully, **you will be unable to lift your legs up or feel any pain in the lower part of the body.**

Your anesthesiologist will only allow the surgery to begin when they are satisfied that the spinal is working.

### *What will I feel once the surgery starts?*

This depends on whether you have sedation or are fully awake.

If you are fully awake you will notice:

- In the operating room, a full team of staff will look after you.
- You will be positioned for the operation. You should tell your anesthesiologist if there is something that will make you more comfortable, such as an extra pillow or an armrest.
- You may be given oxygen to breathe, through a lightweight, clear plastic mask, to improve oxygen levels in your blood.

- You will be aware of the ‘hustle and bustle’ of the operating room, but you will be able to relax, with your anesthesiologist looking after you.
- You may listen to music during the operation. Bring your own music, with headphones.
- You can talk with the anesthesiologist during the operation.

If you have **sedation** during the operation, you will be relaxed and may be sleepy. You may snooze through the operation, or you may be awake during some or all of it. You may remember some, none or all of your time in the operating room - it all depends on the level of your sedation. Your anesthesiologist will discuss with you what level of sedation to expect.

| <b>Minimal Sedation</b>                                     | <b>Moderate Sedation</b>   | <b>Deep Sedation</b>  |
|---|--|---|
| You will have a <b>small</b> amount of sedative medication. | You will have a <b>moderate</b> amount of sedative medication.                   | You will have a <b>higher dose</b> of one or more sedating medications. |
| You will feel <b>relaxed</b> .                              | You will feel very <b>relaxed</b> and <b>sleepy</b> .                            | <b>You will sleep</b> during most of your procedure.                    |
| You will be <b>awake</b> and talking normally.              | You will be <b>sleepy</b> but are able to talk normally and follow instructions. | You will be sleeping and unlikely to talk.                              |
| You will <b>likely remember</b> having your procedure.      | You <b>may remember parts</b> of your procedure.                                 | You are <b>unlikely to remember much at all</b> about your procedure.   |

You may need a general anesthetic if:

- Your anesthesiologist cannot perform the spinal
- The spinal does not work well enough around the area of the surgery
- The surgery is more complicated or takes longer than expected.

## *What happens after the procedure?*

- You will be taken in a stretcher to the postanesthetic recovery room (**PARR**)
- **It takes up to four hours for sensation (feeling) to fully return**
- As sensation returns, you will usually feel some tingling. You may also become aware of some pain from the operation and you can ask for any pain relief you need.
- You may be unsteady on your feet when the spinal first wears off and may be a little lightheaded if your blood pressure is low. Please ask for help from the staff looking after you when you first get out of bed.
- You can usually eat and drink much sooner after a spinal anesthetic than after a general anesthetic.

**After having sedation you may not be able to think clearly and your judgment may be affected for up to 24hrs.** During this time, you should:

- NOT be responsible for children
- NOT drive a vehicle or ride a bicycle
- NOT cook or use any machinery
- NOT drink alcohol
- NOT make any important decisions or sign any legal documents
- AVOID posting on social media/public forums.

## *What are the benefits of having a spinal?*

The advantages of spinal alone compared with having a general anesthetic may be:

- Avoiding a breathing tube and ventilator, which may lead to:
  - a lower risk of a chest infection after surgery
  - less effect on the lungs and the breathing
- Being numb for the procedure and in the PARR:
  - good pain relief immediately after surgery
  - less need for strong pain-relieving drugs that can have side effects
- Less nausea and vomiting
- Earlier return to drinking and eating after surgery

## *What are the risks of having a spinal?*

As with all anesthetic techniques, **there is a possibility of unwanted side effects or complications with a spinal anesthetic.** However, serious problems are uncommon with modern anesthetics. New equipment and techniques, training standards and more effective drugs have made it a much safer procedure.

Your anesthesiologist can discuss risks with you and help you make a decision on what type of anesthetic is best for you. Their recommendation is based on the type of surgery, your specific medical problems, as well as your preferences.

### **Very common events and common side effects:**

- Low blood pressure – as the spinal takes effect, it can lower your blood pressure. This can make you feel faint or sick. This will be controlled by your anesthesiologist with the fluids given through your drip and by giving you medications to raise your blood pressure.
- Itching – this can commonly occur if morphine-like drugs have been used in the spinal anesthetic. If you have severe itching, medication can be given to help.
- Difficulty passing urine (urinary retention) or loss of bladder control (incontinence) – you may find it difficult to empty your bladder normally while the spinal is working or, more rarely, you may have loss of bladder control. Your bladder function will return to normal after the spinal wears off. You may need to have a catheter placed (painlessly) in your bladder temporarily, while the spinal wears off and for a short time afterwards. Your bowel function is not affected by the spinal.
- Pain during the injection – if you feel pain in places other than where the needle is – you should tell your anesthesiologist. This might be in your legs or bottom, and might be due to the needle coming close to a nerve. The needle will be repositioned.
- Post-dural puncture headache – there are many causes of headache after an operation, including being dehydrated, not eating and anxiety. Most

headaches can be treated with simple pain relief. Uncommonly, after a spinal it is possible to develop a more severe, persistent headache called a post-dural puncture headache, for which there is specific treatment. This happens on average about 0.5-1% spinal injections. This headache is worse if you sit up and is better if you lie flat. The headache may be accompanied by temporary distortion of hearing.

### Rare complications:

- Temporary Nerve damage – this is a rare complication of spinal anesthesia. Temporary loss of sensation, pins and needles and sometimes muscle weakness may last for a few days or even weeks, but the vast majority disappear with time and a full recovery is made.
- Permanent nerve damage is rare (approximately 1 in 50,000 spinal or 0.002%). **It has about the same chance of occurring as major complications of a general anesthetic.**

People vary in how they interpret words and numbers. This scale is provided to help.



### *Can I eat and drink before my spinal?*

You will be asked to **follow the same rules as if you were going to have a general anesthetic**. This is because it is occasionally necessary to change from a spinal to a general anesthetic. The hospital will give you clear instructions about when to stop eating and drinking before your surgery.

### *Do I have to stay fully conscious?*

**Before the operation, you and your anesthesiologist will decide together whether you remain fully awake during the operation or would prefer to be sedated so that you are not so aware of the whole process.** The amount of sedation can be adjusted so that you are aware, but no longer anxious. It is also possible to combine a spinal with a general anesthetic but this does mean there are risks of both a spinal and a general anesthetic.

### *Will I see what is happening to me?*

**No.** A screen is placed across your body at chest level to keep the surgical field sterile. This makes it so that you can't see the surgery. Some operations use video cameras and telescopes for 'keyhole' surgery. Some hospitals give patients the option to see what is happening on the screen.

### *Do I have a choice of anesthetic?*

**Yes usually**, depending on the actual surgery and any potential problems with you having a spinal. Your anesthesiologist will discuss choices with you.

There are uncommon reasons why you may not be able to have, or may be advised not to have, a spinal anesthetic. These include having:

- Certain abnormalities of your spine or certain previous surgery on your back
- 'blood thinning drugs' that cannot be stopped or abnormalities of your blood clotting
- infection in the skin of your back or a high temperature
- certain heart conditions.

### *Can I refuse to have the spinal?*

**Yes.** If, following discussion with your anaesthesiologist, you decide you do not want one or are still unhappy about having a spinal anesthetic, you can always say no.

### *Will I feel anything during the operation?*

You should not feel pain during the operation but for some procedures **you may be aware of pressure** as the surgical team carry out their work.

### *Is a spinal the same as an epidural?*

**No.** Although they both involve an injection of local anesthetic between the bones of the spine, the injections work in a slightly different way. With an epidural a fine plastic tube remains in your back during the operation meaning that more anesthetic can be used as necessary.

### *Further Questions:*

Please discuss your questions when you meet your anaesthesiologist.

### *Disclaimer:*

We try very hard to keep the information in this leaflet accurate and up-to-date, but we cannot guarantee this. We don't expect this general information to cover all the questions you might have or to deal with everything that might be important to you. You should discuss your choices and any worries you have with your medical team, using this leaflet as a guide. This leaflet on its own should not be treated as advice. It cannot be used for any commercial or business purpose.

### *References:*

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