Regional anaesthesia

Regional anaesthesia involves using local anaesthetic to numb a specific region of your body. It can be administered on its own (you are fully conscious), with sedation (you are drowsy but can be easily awakened), or with general anaesthesia (you are unconscious and unrousable). Your anaesthetist will recommend the most suitable option based on your surgery, chronic medical conditions, and personal preferences.

Regional anaesthesia is categorized into:

- Neuraxial anaesthesia (spinal and epidural anaesthesia)
- Peripheral nerve blocks
  - Truncal blocks (including transverse abdominal plane block; rectus sheath blocks; erector spinae block)
  - Upper limb blocks (including interscalene block; brachial plexus block)
  - Lower limb blocks (including femoral nerve block; popliteal nerve block)

Neuraxial anaesthesia

In a seated position neuraxial regional anaesthesia (spinal or epidural anaesthesia) is administered in your back (for most abdominal or lower limb surgery the lower back).

- During spinal anaesthesia, a single injection of local anaesthetic is administered into the spinal canal, typically providing anaesthetic effects for 2 ½ to 3 hours.
- During epidural anaesthesia, a small catheter (tubing) is inserted in the epidural space that surrounds the spinal canal. This enables continuous analgesia delivery until it is no longer required.

Peripheral nerve block

The nerve block procedure may be performed while you are awake, sedated, or under general anaesthesia.

If you are awake during the procedure, you may experience some discomfort. It is important to communicate with your anaesthetist if you experience excessive pain or a sharp, shooting sensation in the area being blocked.

A nerve block is typically performed using ultrasound (sonar) guidance, enhancing the safety, speed, and effectiveness of the block.

The procedure is carried out under sterile conditions, where the area is cleansed with alcohol to prevent infection at the injection site.

As the block begins to wear off, you may experience a sensation of pins and needles in the affected area. It is advisable to take pain medication before the block completely wears off to avoid a sudden return of pain.

Dr Karin Strauss

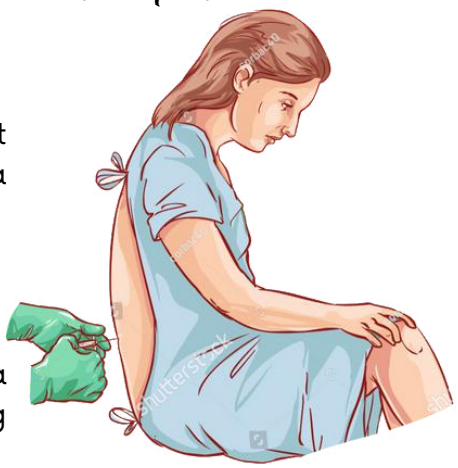
How to prepare for regional anaesthesia

- Abstain from alcohol, smoking, or recreational drugs for a minimum of 24 hours before your procedure.
- Fasting requirements for regional anaesthesia:

Have a light meal or milk-containing product no later than 6 hours before the procedure.
Only clear fluids (water, black coffee or tea, clear apple juice, or clear energy drinks) can be consumed up to 2 hours before the procedure.

- Regarding chronic medication:
  - Bring your chronic medication, including herbal supplements, in their original packaging or a copy of the most recent prescription to the hospital. The anaesthetist will determine which medications can be taken on the day of the procedure. If you are on blood thinners, consult the surgeon or anaesthetist regarding potential discontinuation.

During neuraxial regional anaesthesia (spinal and epidural anaesthesia)



Before performing spinal or epidural anaesthesia, monitors (heart rate, blood pressure, oxygen saturation) will be attached, and a intravenous drip will be inserted.

Assistance will be provided to ensure correct positioning.

The injection site will be cleansed with alcohol and numbed with a local anaesthetic injection, which may cause a brief burning sensation.

Inform the anaesthetist if you experience pins and needles or sharp pain in your buttock or leg during the procedure.

Following the regional anaesthesia procedure, you will lie on your back and experience a tingling sensation typically starting at the buttock and extending to your legs and abdomen.

The anaesthetist will verify the adequacy of the regional anaesthesia before the surgeon starts the operation.

While under the effects of regional anaesthesia, you may still perceive movement and pressure sensations, but you should not experience pain.

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Advantages of regional anaesthesia

Reduced likelihood of postoperative chest infections or breathing difficulties (spinal and epidural anaesthesia).

Immediate, effective pain relief following the procedure.

Decreased need for potent opioid pain medications with associated side effects such as sedation, nausea, vomiting, constipation, and itchiness.

Quicker resumption of normal eating and drinking patterns post-surgery.

Possibly earlier hospital discharge.

Lower risk of postoperative confusion, particularly beneficial for older individuals.

Complications or regional anaesthesia

Common

- Pain/discomfort during needle placement
- Persistent weakness/numbness lasting longer than 24 hours (usually temporary; may be related to procedure or positioning)
- Specific to neuraxial anaesthesia
  - Itchiness
  - Transient low blood pressure
  - Difficulty in passing urine
  - Headache

Rare and very rare

- Nerve damage – uncommon and usually transient (up to 6 months)
- Permanent nerve damage: 1 in 50 000.
- Abscess/haematoma at the site of injection
- damage to surrounding structures (blood vessels, nerves, muscle)
- Shortness of breath or lung collapse (certain blocks only)
- Allergic reactions
- Failure of block requiring alternative anaesthesia.
- Overdose of local anaesthesia which can lead to seizures or cardiac arrest (antidote available)
- Specific to neuraxial anaesthesia:
  - Paraplegia: 1 in 140 000
  - Meningitis