

Peripheral Nerve Block for Children

Parents' Information

What is peripheral nerve block?

Peripheral Nerve Block is a type of regional anaesthesia. It plays an important role in pain management for children undergoing surgical procedures. Local anaesthetic drug is injected around the nerves supplying organ(s). This will temporarily block sensation and power of the corresponding parts of the body. The site(s) of injection depend on the site(s) of surgery. For example, the anaesthesia given by dentist during tooth extraction is a common kind of regional anaesthesia.



For children, it is usually performed after children are put under general anaesthesia or sedation. It is used to supplement general anaesthesia to provide pain relief during and after surgery. Sometimes, for older children, nerve block can be used alone to provide anaesthesia for surgery.

What are the benefits of peripheral nerve block?

Peripheral nerve block provides a focused anaesthetic to a specific part of your child's body. It is intended to help with pain relief afterwards and reduce the need for other anaesthetic drugs. For example, your child may not need as much strong pain-relieving medicine, such as morphine. This will help reducing the side effects associated with these medicines, which include nausea and drowsiness. This may also allow your child to be mobile more quickly after operation and reduce the duration of hospital stay.

What are the types of peripheral nerve block?

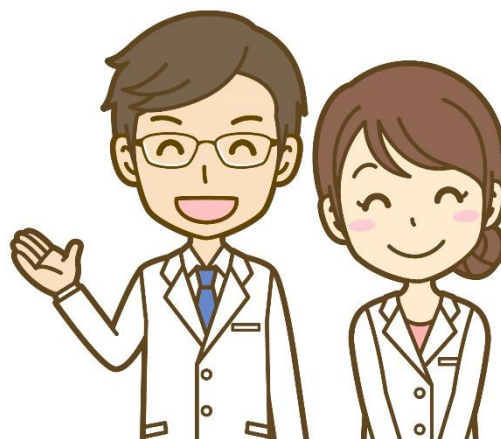
There are many types of nerve block. Your anaesthesiologist may offer the following for your child:

- **1. Single shot peripheral nerve block**, which only a single injection is given, or
- **2. Catheter-based peripheral nerve block**, in which a hollow tube called catheter is left in place near the nerve, allowing drug to infuse the affected area so that pain relief can last as long as needed following surgery.

Both single shots and catheters can be placed in various locations on your child's body, including the arms, legs, head, neck, chest, abdomen and back, depending on surgical location and need.

How long does the block last?

Single shot peripheral nerve block can provide pain relief from anywhere between 2 hours to 24 hours depending on site and drugs used. For catheter-based peripheral nerve block, drug can be infused through the catheter for a longer period of time – perhaps up to a few days.



How is peripheral nerve block done?

Your anaesthesiologist will perform the peripheral nerve block. He/she will do a pre-anaesthetic assessment before the procedure, including brief history taking, medical examination and reviewing your child's laboratory investigation results. He/she will also discuss with you on the risks and benefits of nerve block procedure and sign the consent form with you.

Usually peripheral nerve blocks for children will be performed after your child is put under general anaesthesia with aseptic technique. Ultrasound machine may sometimes be used to guide nerve position and needle insertion during the procedure. In some circumstances for older patients, peripheral nerve blocks may be performed while the patient is awake or sedated.



What are the risks of peripheral nerve block?

In general, peripheral nerve block for children is safe. Overall complication rate is 1 in 100 to 1 in 1,000. Infants younger than 6 month has a higher complication rate of 4 in 1000 (compared to 1 in 1000 for older children). The possible complications associated can be classified into the following groups: Common, uncommon and rare.

Common side effects (1 in 100)

- Failed block
- Vascular puncture
- Catheter kinking, dislodgement, leak, disconnection, obstruction, etc

Uncommon side effects (1 in 1000)

- Short term neurological symptoms
- Local infection

Rare side effects (1 in 10,000)

- Local anaesthetic systemic toxicity
- Long term neurological symptoms

Different approaches and locations of peripheral nerve blocks may result in slightly different incidences and types of complications.

Remarks

This is general information only and the list of complications is not exhaustive. Other unforeseen complications may occasionally occur. In special patient groups, the actual risk may be different. For further information please contact your anaesthesiologist.

Complications may sometimes occur despite all precautions. However, if they do occur, your anaesthesiologist will take appropriate steps to manage them.

Reference:

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