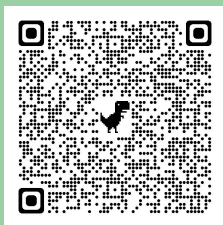


Day Surgery
 General Anaesthesia
 for Children
 Parents' Information



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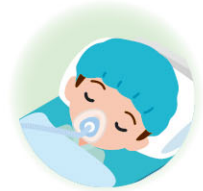


Introduction

This leaflet aims to provide you with basic information about general anaesthesia that your child is going to receive. If you have any questions about your child's anaesthesia that are not covered in this leaflet, please discuss with your child's anaesthetist who will be willing to answer your questions.

What is General Anaesthesia?

General anaesthesia is a drug-induced unconsciousness that can ensure that your child is unaware of the operation and free of pain.



Who is responsible for your child's anaesthesia?

Anaesthetists are specialist doctors who conduct the anaesthesia and take care of your child during surgery. They will stay with your child all the time during anaesthesia and ensure his/her safety. They are also closely involved with your child's pain relief after the operation.

Pre-anaesthetic assessment



An anaesthetist should see you and your child before the procedure to assess your child and discuss your child's anaesthetic plan with you, either in ward or anaesthetic clinic.

The anaesthetist may ask some questions about:



- Your child's birth and developmental history, general health, any medicines he/she is taking, and any allergies he/she has.
- Your child's previous experiences of anaesthesia
- Family history of anaesthetic problems
- Snoring or difficulties in breathing
- Recent illnesses, especially respiratory tract infection, such as fever, runny nose, coughing and sputum.

The anaesthetist may also do the following preparation:

- Examine your child's heart, chest, back, airway and other relevant physical exams
- Review your child's medical records
- Review investigation results and order further investigations if needed
- Discuss with you about the anaesthetic and pain management plan



This is a good time to talk about any particular concerns you have about the anaesthesia.

How can I prepare my child for the operation?

These are some useful points shared by many parents to prepare their children for operation.



- ✓ Except for very young children, explain to your child about the timing of operation. If your child will stay in hospital, let him/her know the duration and when he/she can see you.
- ✓ Explain that the operation will help him/her get better
- ✓ Attend ward/operating theatre visit if available
- ✓ Bring his/her comfort toys/blankets to admission and operation

Why must my child fast?

If there is food or liquid in your child's stomach during anaesthesia, it could come up from the stomach and get into his/her lungs (aspiration). Fasting improves your child's safety. If your child fails to fast, the procedure may be cancelled or postponed. Anaesthetic team will try their best to keep fasting as short as possible. The anaesthesiologist will give you clear instructions on fasting.

The following are generally agreed timings for fasting before non-urgent surgery.



Six hours for light meal/formula milk



Four hours for breast milk



Two hours for clear fluid, including water, clear glucose solution, clear juice (NO milk based product)

Should my child take his/her usual medications during fasting?

The anaesthesiologist will advise you on the arrangement of these medications. When needed, your child can take medications with a mouthful of water during fasting.

What should I do if my child feels unwell before/on the day of operation?

Please inform hospital staff if your child feels unwell within a few days of the operation. Generally speaking, it may be best to delay the operation until they are better. Please let hospital staff know if your child has been in recent contact with chickenpox, hand-foot-mouth disease or other infectious diseases.

Why may my child need medications before anaesthesia?

The anaesthetist may prescribe medications ('pre-meds') before operation to help your child relax, improve pain control or treat the preexisting illness. Please follow the instructions to take these medicines.

Local anaesthetic cream ('magic cream') is a common premed. When put on skin, it takes 30-60 minutes to work. It works well to reduce discomfort when an intravenous cannula is placed. An intravenous cannula is a thin plastic tube that is placed into a vein under the skin, so that drugs and fluids can be given as needed during and after the operation.



What will happen on the day of operation?



Before going to operation, your child may get changed. A ward nurse and you will accompany your child to the operating room. Your child can bring his/her favorite toy or comforter.



You may be allowed to stay with your child until he/she is asleep. However, there are a few circumstances when this will not be possible. You can discuss with the anaesthesiologist about this.



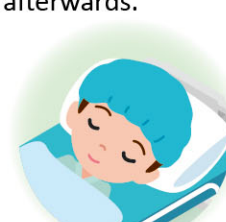
Before anaesthesia, **various monitors** will be attached to your child to keep him/her safe throughout the procedure.



Older children will have an **injection through an intravenous cannula** which can put them into a good sleep within a few seconds. **Younger children** will **breathe through a mask with anaesthetic gas** so that they will gradually fall asleep within 2-3 minutes. In this case, an intravenous cannula will be established afterwards.



When your child is anaesthetised (in a deep sleep), the anaesthetist will **stay with him/her at all times** and give drugs to keep him/her unaware, safe, and comfortable.



As soon as the operation is finished, the anaesthetic drugs will be stopped and your child will **wake up in a short period of time.**

What will be used to control my child's pain?

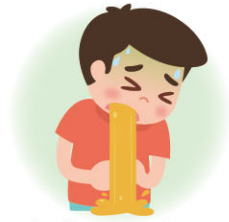
Your child will be given pain relief medications during operation and when necessary in the recovery room. The anaesthetist will discuss with you on pain management plan appropriate for your child.



Examples of **pain relief methods**:

- Oral drugs
- Rectal suppositories
- Intravenous drugs
- Local anaesthetic infiltration or regional blocks

Risk of general anaesthesia



In general, modern anaesthesia is **safe** and the risk of death directly due to anaesthesia in healthy children is **very low**. The surgical procedure **may incur certain risks** and your surgeons will discuss with you. The side effects and complications associated with general anaesthesia can be classified into the following groups: **very common, common, uncommon**, and **rare or very rare**.

Very common and common side effects (1 in 10 to 1 in 100)

- Nausea or vomiting
- Sore throat
- Airway obstruction
- Pain during injection of drugs
- Agitation, confusion or short term behavioral changes
- Breath holding (esp. neonates and preterm)

Uncommon side effects (1 in 1,000) and complications

- Aspiration of stomach contents or foreign matters into the lung
- Depressed breathing
- Difficulty breathing
- Dental injuries
- Failure to intubate

Rare or very rare complications (1 in 10,000 – 100,000)

- Damage to eyes
- Serious allergy to drugs
- Nerve injury
- Complications of invasive line insertion
- Awareness: being awake in surgery in certain high risk patients
- Risk of death from anaesthesia for healthy children having minor to intermediate elective procedures is less than 1:100,000

Would anaesthesia affect my child's development?

There may be concerns regarding anaesthetic exposure to your child's brain development. Recent human studies suggest that a single, brief exposure to **general anaesthesia is safe** to infants and toddlers' development, although we are still waiting for more researches to provide information on the effects of multiple and prolonged anaesthetic exposure on brain development in young children.

Since there are no or little alternatives to general anaesthesia for young children who need surgical procedures, we **should not withhold or delay necessary surgical procedures due to the concern of anaesthetic risk**. Moreover, untreated pain and stress during surgery is also potentially harmful to developing brains.

Vaccination

The current general practice is to **delay elective surgery for one week after vaccination with an inactive vaccine and three weeks after live attenuated vaccine**. This is to avoid post-vaccination symptoms causing diagnostic concern perioperatively. There are no contraindications to vaccination after surgery once the child is well and recovered from the procedure.

After anaesthesia...

- ! Your child may **feel confused and unsteady** after procedure. It can also affect his/her **judgement** so he/she **may not be able to think clearly**. This may last for up to 24 hours.
- ! Your child **should not be left unattended by an adult** in the next 24 hours.
- ! Your child can go home after recovery from sedation **with a responsible adult escort**.
- ! Have an adult **sit next to your child** during the ride home. Young child **may fall asleep with his head fall forward or aside** under the residual effect of the sedation. This may block his airway and affect his breathing.
- ! Some children **feel sick or may be sick** on the journey home. It is useful to be prepared!
- ! After your child is fully awake and alert, you may start **feeding with sips of water**. If there is no choking/ vomiting after 10-15 minutes, your child may try **low residue fluid** eg. fruit juice, then **regular diet**.
- ! Please **take the prescribed medication and the usual medicines as instructed**.
- ! Please **contact us** if you have any problems in the following 24 hours such as:
 - ⚡ Pain that is not controlled by painkillers
 - ⚡ Persistent severe vomiting which prevents you from getting enough fluids
 - ⚡ Breathing problems
 - ⚡ Your child turns blue or very pale
 - ⚡ You cannot wake up your child from sleep
- ! Some children do not sleep well after a stay in hospital. They may be clingy and worried about leaving you. **Their behaviour may be more difficult than before**. This will usually return to normal within three to four weeks.



What should my child NOT do?

For at least 24 hours after procedure, please **do not**:

- ✗ Participate in vigorous game or activities
- ✗ Climb heights
- ✗ Ride bicycle or operate any machinery
- ✗ Consume alcohol or sedatives



Please **accompany** with your child if possible to **prevent fall**.

Pain

Why treat pain?

Untreated pain can upset the normal functions of the body and can delay how the body repairs itself. It can also have an effect on your child's behaviour. It is important to **control postoperative pain**.

Pain Medications

Your child **should continue to take regular pain relief medicine as prescribed by your anaesthetist**, even if your child is comfortable initially. If you see your child is in pain, don't wait and give the pain medication as instructed. If you wait, it may take longer for the pain to go away.

Your child would need less frequent pain relief medicine gradually over the next few days.

Non pharmacological pain relief technique

- ✓ These strategies are **to be used with pain medication**, not instead of pain medication.
- ✓ Children should always have adequate information about their body, their illness or diagnosis and what is about to occur that may result in pain. **Explain** to your child the procedure undergone is important and the pain will become better. **Careful explanations** will help reduce anxiety and fear and will help them cope much better.
- ✓ Parents' or other primary caregivers should **stay with** the child
- ✓ **Diversion/ distraction**: play, fun, videos, computer games
- ✓ **Controlled breathing**: deep breathing, blowing bubbles/ candle/ pinwheel
- ✓ **Comforting touch**: cuddles, stroking, massage, holding, rocking, rubbing
- ✓ **Active Imagination**: Help your kid to use his/her imagination to create a safe place by focusing on pleasant thoughts. Encourage your kid to use as many senses as possible. (ie. what they see, hear, feel, smell and taste) eg. Imagine lying with a puppy, participating a favourite activity, flying on a magic carpet, etc
- ✓ **Relaxation**: deep breathing, music, relaxing muscle from head to toe



Exercises after back home

Breathing exercises



Toddlers



Lay your children down on their back and put a stuffed animal on their belly. When they breathe in, the stuffed toy **moves upward**. When they breathe out, the stuffed toy **moves downward**. This method teaches kids how to take big deep breaths while having some fun at the same time.



Blowing gently to create bubbles is a good way to be playful and breathe deeply.



Using a toy pinwheel: you can show your child that the slower that they exhale, the longer the pinwheel can spin. Children love to watch the colors spin around!



Larger kids



1. Place yourself in a quiet environment. Get into a **seated or standing position comfortably**.
2. **Place one hand on your stomach** to feel your breathing movement. Stomach should move out as you inhale, and move in as you exhale.
3. **Breathe in slowly** for roughly 4 seconds and then **gently breathe out** for 4 seconds.
4. **Imagine** your pain and tensions are being breathed away while you breathe out.

Muscle relaxation exercise

Sit/ lie down quietly, then **relax all your muscles**, or you may **slowly tense and release** different body parts in turn eg. arms, shoulders, toes, legs, back.



Inquiry

If you have any query concerning anaesthetic procedure after returning to home, you may **contact the following number:**

Pok Oi Hospital Day Ward service hour for enquiry	Monday - Friday	7:30am – 6:30pm
	Saturday Sunday or Public Holiday	Closed
Hotline: 2486 8280		
Related Wards service hour for enquiry	Monday – Friday	6:30pm – 7:30am
	Saturday Sunday or Public Holiday	24 hours
6N: 24868683 6C: 24868850 6S: 24868693 3S: 24868393 4S: 24868493		

Tin Shui Wai Hospital Day Ward service hour for enquiry	Monday - Friday	7:30am – 6:30pm
	Saturday Sunday or Public Holiday	Closed
Hotline: 3513 5280		
Related Wards service hour for enquiry	Monday - Friday	6:30pm-7:30am
	Saturday Sunday or Public Holiday	24 hours
Hotline: 3513 5690		

Alternatively please contact your **GP** or attend your **nearest A&E department**. Make sure you tell them about the procedure you have just done. We will phone contact you 1 day after surgery, should you have any problems feel free to ask us then as well.



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

1. Coordinating Committee in Anaesthesiology (2020) General Anaesthesia for Children v3.0; PILIC0290E
2. Coordinating Committee in Anaesthesiology (2020) Caring for a Child after Anaesthesia v1.0; PILIC0340E