



Procedural Sedation and Pain Relief

What is Procedural Sedation and Analgesia (PSA)?



PSA involves giving your child medication to reduce pain, anxiety and distress during a procedure where he/she is required to stay still. This is to ensure that he/she can receive the treatment they need as quickly and safely as possible. Sedation differs from general anaesthesia in that your child is awake enough to control his/her breathing.

Sedative medication can either be given orally, inhaled through the nose, through an intravenous line (often through a vein in the arm) or via an injection. The route and type of medication given depends on what your child needs.



Why does my child require sedation?

PSA helps the medical team to complete the necessary procedure safely and reduces distress for your child.

It is typically used for short procedures such as:

- Stitching of a cut
- Minor procedures
- Hearing assessments
- Dental extractions
- Eye examinations
- Invasive line insertions
- Removal of a foreign body
- Debridement and dressing of burns
- Imaging studies such as MRI, CT scans etc.
- Manipulation and reduction of a broken bone or dislocated joint
- Scope procedures (e.g. Bronchoscopy, Oesophago-Gastro-Duodenoscopy [OGD], and Colonoscopy)

What are the alternatives to sedation?

+ No sedation:

This option is suitable for older children who are able to cooperate and remain still throughout the procedure. Various distraction techniques, including videos, may be used to help keep the child calm. The use of video distraction depends on the type of procedure and the availability of resources. If the procedure is painful, local anaesthesia may be applied, inhaled, or injected to numb the relevant area.

+ General anaesthesia (GA):

This is more appropriate for longer procedures that require your child to be completely still. While under GA, your child will have no awareness and will need to have his breathing supported. GA can only be administered in the operating theatre by an anaesthetist. Should your child require GA, he would need to be admitted to the hospital.



What are the risks of sedation?

Procedural sedation is generally a very safe practice. Before sedation is administered, the medical team will enquire about your child's health and perform an assessment to determine if it is safe to proceed. The risks to your child depend on the type of sedation used and the presence of any pre-existing medical conditions.

Some possible side effects include:

- Involuntary movements
- Recovery agitation
- Decreased rate of breathing
- Nausea and vomiting
- Headaches
- Dizziness
- Changes in heart rate and blood pressure (rare)

Throughout the procedure, your child will be monitored closely and oxygen may be administered if necessary. After the procedure, your child may not remember the experience and this is normal. Side effects are usually minor and tend to go away shortly after.

There is a chance that your child may not be adequately sedated despite optimal doses of medication. In such a situation, the procedure may not be completed successfully. Your doctor will then discuss alternative plans for your child with you.



Preparing my child for sedation

+ Fasting before sedation

To help keep your child well hydrated, you may give plain water or clear juice up to 2 hours before the scheduled sedation time.

Fasting is required to reduce the risk of vomiting during sedation. Your child should fast for:

- 2 hours before the procedure if taking clear fluids (e.g. water, apple juice)
- 4 hours before the procedure if breastfed
- 6 hours before the procedure if taking formula milk and/or solids

The above fasting requirements apply to most planned sedation procedures.

Different instructions may be given for children undergoing sedation in Children's Emergency (CE).

+ For procedures at Children's Emergency (CE)

- Fast for at least 1 hour before the procedure
- A longer fasting period may be advised by the doctor for children at higher risk

+ Helping your child prepare for the procedure

- Stay calm and offer reassurance. Your calm presence can help your child feel safe and less anxious.
- Explain the procedure in simple and age-appropriate terms and answer your child's questions honestly.
- Bring a favourite comfort item, such as toy or blanket, if it helps your child feel more relaxed.

+ Support from the care team

Your doctor and/or nurse will explain everything you need to know before asking for your consent. Please share any concerns that you may have with them.

+ Being there for your child

Before the procedure, you may stay with your child until he/she falls asleep. You will also be allowed back with your child after the procedure, so that he/she sees you upon waking.

For children aged 5 years and above undergoing an MRI scan, a video distraction option may be available to help them complete the scan without sedation. Fasting and IV cannula insertion will still be required, and suitability will be assessed by the care team.



Caring for my child post-sedation

After the procedure

Your child may remain drowsy for a period of time after sedation. Recovery varies for each child and may take a few hours.

Your child will remain under the care of the admitting unit or procedure area until they are ready for discharge or transfer. Before discharge, your child should:

- Be awake and responsive
- Be able to drink fluids without vomiting
- Be medically stable
- Have returned to his/her usual level of alertness
- Be able to sit unassisted (if age-appropriate)
- Have no ongoing vomiting
- Have a caregiver who feels confident caring for him/her at home

Discharge and feeding

- Your child will be assessed to ensure they are able to tolerate clear fluids prior to discharge. After discharge, continue to encourage small amounts of fluids. If your child remains well and does not vomit, you may gradually resume their usual diet.

+ What to expect after sedation

Your child may experience some short-term effects for up to 24 hours after sedation, such as:

- Sleepiness
- Unsteadiness
- Short-term memory loss

+ Caring for your child at home

Parental supervision is important after discharge.
For the next 24 hours:

- Do not leave your child alone. Ensure all activities are supervised by a responsible adult.
- Allow your child plenty of rest.
- Avoid sports or vigorous activities.
- Accompany your child when walking, including going to the bathroom.
- Do not allow swimming or bathing without close adult supervision.

+ When to seek medical attention

Seek medical help if your child:

- Vomits repeatedly
- Becomes very agitated or unusually upset
- Has difficulty breathing
- Cannot be easily woken up



About the National University Centre for Women and Children

The National University Centre for Women and Children (NUWoC) empowers women, children, and families to lead healthier lives. It brings together the [Department of Obstetrics & Gynaecology \(O&G\)](#) and [Khoo Teck Puat – National University Children's Medical Institute \(KTP-NUCMI\)](#) at National University Hospital, working alongside [National University Polyclinics \(NUP\)](#) to strengthen continuity of care across the community.

Supported by the National University Health System (NUHS), NUWoC delivers comprehensive medical and surgical services across the life course – from pre-conception through maternal, child, adolescent, and women's health.

Through a generous gift from the Estate of Khoo Teck Puat, KTP-NUCMI has established an integrated outpatient facility offering medical, diagnostic, and rehabilitation services for children. NUWoC is Singapore's only public specialist centre providing paediatric kidney and liver transplant programmes.

For more information about us, visit www.nuh.com.sg/NUWoC

Children's Emergency (24-hr)

Location NUH Main Building, Zone F, Level 1

KTP-NUCMI

Location NUH Main Building, Zone E, Level 2 (Accessible via Kent Ridge Wing, Zone C, Level 2, Lift Lobby C)
Operating Hours 8.30am – 5.30pm (Mon to Fri), 8.30am – 12.30pm (Sat)
General Enquiry +65 6772 5736
Appointment Line +65 6908 2222
Email ktpnucmi_appt@nuhs.edu.sg

9a Viva-University Children's Cancer Centre

Location NUH Medical Centre, Zone B, Level 9
Operating Hours 8am – 5.30pm (Mon to Fri)
Appointment Line +65 6772 5030
Email cbccappt@nuhs.edu.sg

NUH Children's Urgent Care Clinic @ Bukit Panjang

Location Junction 10, #01-22
Operating Hours 9am – 11pm daily (including public holidays)
General Enquiry +65 6219 1538
Email childrenucc@nuhs.edu.sg

NUH Child Development Unit @ JMC

Location Jurong Medical Centre, Level 2
Operating Hours 8.30am – 5.30pm (Mon to Fri)
Appointment Line +65 6665 2530/2531
Email cdu@nuhs.edu.sg

NUH Child Development Unit @ Keat Hong

Location Keat Hong Community Club, #03-01
Operating Hours 8.30am – 5.30pm (Mon to Fri)
Appointment Line +65 6769 4537/4637
Email cdu@nuhs.edu.sg

Clinic A22 NUWoC Children's Clinic @ NTFGH

Location Ng Teng Fong General Hospital Tower A – NTFGH Clinics, Level 2
Operating Hours 8.30am – 5.30pm (Mon to Fri)
Appointment Line +65 6908 2222
Email appointment@nuhs.edu.sg

Paediatric Day Therapy

Location 5 Lower Kent Ridge Road, Main Building, Level 4
Operating Hours 8.30am – 5.30pm (Mon to Fri) excluding public holiday
Appointment Line +65 6772 7418/5339
Email paeds_daytherapy@nuhs.edu.sg

Our Patient Care Institutions

National University Hospital

Ng Teng Fong General Hospital

Alexandra Hospital

Tengah General and Community Hospital (upcoming)

Jurong Community Hospital

National University Polyclinics

Jurong Medical Centre

National University Cancer Institute, Singapore

National University Heart Centre, Singapore

National University Centre for Oral Health, Singapore

NUHS Diagnostics

NUHS Pharmacy



Scan the QR code for more information on our patient care institutions.



Scan the QR code for more information on NUWoC facilities

OneNUHS Hotline: (65) 6908 2222

OneNUHS General Enquiries: contactus@nuhs.edu.sg

OneNUHS Appointments: appointment@nuhs.edu.sg

www.nuhs.edu.sg

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Information is correct at time of printing [Aug 2026] and subject to revision without prior notice.