Great Ormond Street Hospital for Children NHS Foundation Trust

Written by: Dr Mike Sury
Approved by: Drugs & Therapeutics
Date Created: Feb 2009
Date of Review: Dec 2009, Dec 2011, Feb 2012, Sept 2012, Mar 2014, Apr 2019
Reviewed By: Dr M Sury, J Cope (until 2014)
Reviewed By: Amanda Cerullo, Dr Grant Stuart (Apr 2019)
Date for next review: April 2020
Version: 7
Replaces Version: 6

RADIOLOGY NURSE LED SEDATION POLICY
(MRI, CT and Nuclear Medicine)

All sedation required for a radiological procedure will be carried out in the radiology department.

Responsibility and Safety

The assessment of the patient is the responsibility of the sedation nurse practitioner who prescribes the sedation. Excessive sedation, respiratory depression, low blood pressure and low pulse rate can occur and children must be nursed in an area where skilled personnel, monitoring and equipment are available to manage these until further assistance arrives.

Contra-indications

Patients should not be sedated if they have any of the following:

- Current history of airway obstruction or apnoea.
- Active current respiratory tract issues that are different from baseline (pneumonia, exacerbation of asthma, bronchitis, respiratory failure)
- Active uncontrolled gastro-oesophageal reflux or vomiting.
- Hypersensitivity to the active substance or to any of the excipients.
- Patients with significantly impaired ventricular function or cardiovascular instability (arrhythmias, advanced heart block (Grade 2 or 3) and abnormal cardiac anatomy).
- Patients on Digoxin.
- Uncontrolled hypertension.
- Acute cerebrovascular conditions (Moya-Moya disease, new onset stroke, risk or cerebrovascular bleeds).
- Raised intracranial pressure.
- Uncontrolled grand mal seizures.
- Severe renal or hepatic failure.

Patient Preparation

All patients must:

- Have been assessed over the phone by a sedation nurse practitioner before being deemed suitable for sedation.
- Be admitted onto EPIC on day of admission.
- Be weighed and heighted.

- Have local anaesthetic cream applied (if required).
- Be fasted: 4 hours for food/milk, 2 hours for clear fluids/breast milk.
- Have baseline observations recorded (including blood pressure).
- A metal check completed by the radiographers (for MRI only).
- Clerking completed by a qualified sedation nurse practitioner.
- Written consent completed by a qualified sedation nurse practitioner.

IV Access

Local anaesthetic cream should be applied to all patients where ever possible.

Vessel health and preservation framework tool should be followed and all intravenous access obtained should be documented on EPIC.

General Protocol

• Children < 5 kg:	For scan lasting < 60 minutes - Feed & wrap
• Cooperative children of any age:	May be persuaded to lie still without sedation or GA - please seek assistance of the play specialist (Bleep 0395)
• Uncooperative children of any age:	If no contra-indications to sedation will require sedation
• Uncooperative children of any age:	If there are contra-indications to sedation will require a GA

Sedation Medications

• For 5 – 12 kg children having < 60 minutes scan:	Chloral Hydrate 50 – 100 mg/kg (to maximum of 1.5 grams orally)
Consider **Intravenous 'Top-Up'** if Chloral Hydrate ineffective **after 45 – 60 mins**	
IV Midazolam: (PGD for further details)	100 microgram/kg slowly in increments (total dose must not exceed 300 microgram/kg or 10 mg
IV Flumazenil **(for reversal of Midazolam):** (PGD for further details)	10 – 20 microgram/kg over 15 seconds, in 2 doses if required
• For > 10 kg children having < 45 minutes scan without contrast:	Dexmedetomidine Intranasal 4 microgram/kg (to maximum of 200 microgram)
• For > 10 kg children having scan with contrast or > 45 minutes scan without contrast:	Dexmedetomidine Intravenous Loading dose of 3 microgram/kg over 10 minutes then 2 microgram/kg/hour as a continuous infusion until the end of scan A repeat loading dose may be required in the event of poor quality sedation
• For **anxious children** > 10 kg having scan with contrast or > 45 minutes scan without contrast:	Dexmedetomidine Intranasal 3 microgram/kg (to maximum of 200 microgram) Insert cannula once asleep followed by 2 microgram/kg/hour continuous infusion until the end of scan A repeat loading dose may be required in

the event of poor quality sedation

Keys for medicine storage

The keys for the medicine cupboards must be kept by the nurse in charge

Checking

The medicine for sedation must be double checked in accordance with the Medicines Administration Policy.

Care of the sedated patient

- Once the sedation is started the patient must have a nurse in the room or just outside the room at all times.
- Once the patient is asleep continuous monitoring should commence and observations recorded every 5 minutes (pulse, saturations, respirations and CO2 for all sedation patients and additional blood pressure monitoring for Dexmedetomidine patients).
- A nurse will remain in the scanner with the patient throughout the length of the scan.
- The patient will remain in recovery until they have had something to eat and drink and older children are able to mobilise safely for journey home.
- Observations must be stable before discharge.
- Discharge paperwork discussed and given to parents. Safety netting advice given.

Escalation process

Unable to obtain cannulation

1. Call IV access team Bleep 0082.
2. Discuss with local anaesthetist in the area.
3. Discuss with consultant in Charge (CIC).
4. Cancel case and rebook for general anaesthetic.

Clinical concerns regarding the patient

1. Discuss with CSP's.
2. Discuss with local anaesthetist in the area.
3. Discuss with the anaesthetic consultant in charge (CIC).

Immediate concerns for the safety of the patient

1. Resus call Bleep 2222.
2. Discuss with the anaesthetic consultant in charge (CIC).

Audit and Record Keeping

- A full history of events must be documented on to EPIC for each patient.
- All audits sheets must be completed for each patient.
- EPIC updated with all medications given and the effectiveness of sedation.