

Procedural Sedation































Partner in

Why sedation?

- Allay anxiety
- Minimize pain and discomfort
- Patient satisfaction



Goal of procedural sedation and Analgesia

- Avoid the need for general anesthesia in selected patients who are unable to tolerate uncomfortable procedures
- Prevent anticipatory anxiety symptoms for those patients likely to require subsequent procedures
- Expedite conduct of procedures that are not particularly uncomfortable but that require the patient to move (e.g. MRI)
- Maximize patient's comfort while optimizing patient's safety



Pre-requisite knowledge

- Understanding the concept of sedation
- Indications for sedation
- Contra-indications for sedation
- Sedation protocol / guideline



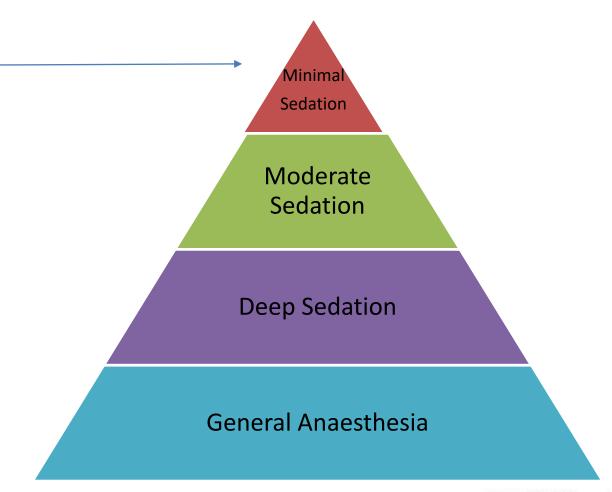
Minimal Sedation (Anxiolysis)

Responsiveness: Normal Response to verbal stimulation

Airway: Unaffected

Spontaneous Ventilation: Unaffected

Cardiovascular Function: Unaffected





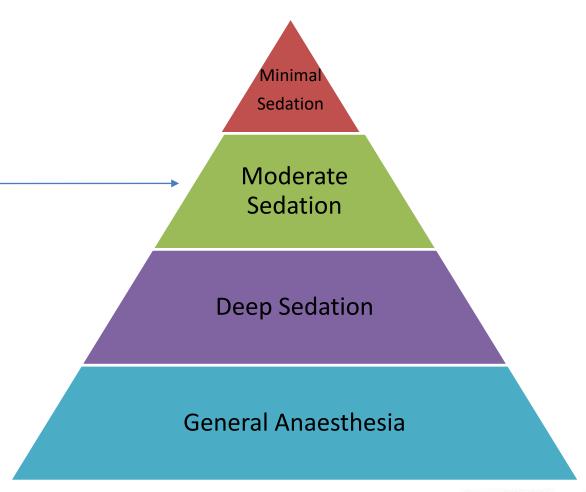
Moderate Sedation (Conscious Sedation)

Responsiveness: Purposeful response to verbal or tactile stimulation

Airway: No intervention required

Spontaneous Ventilation: Adequate

Cardiovascular Function: Usually maintained





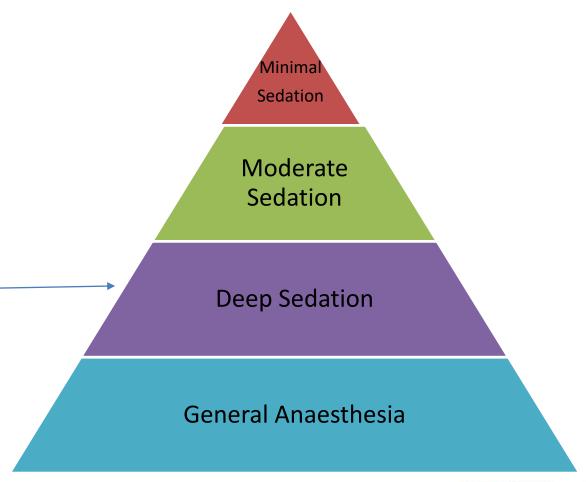
Deep Sedation / Analgesia

Responsiveness: Purposeful response after repeated or painful stimulation

Airway: Intervention may be required

Spontaneous Ventilation: May be inadequate

Cardiovascular Function: Usually maintained





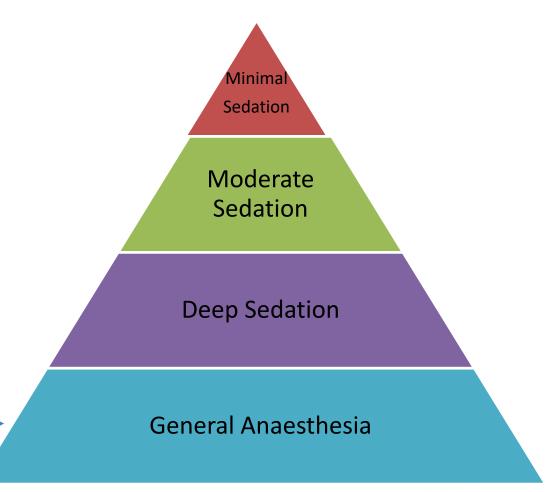
General Anaesthesia

Responsiveness: Unarousable even with painful stimulus

Airway: Intervention often required

Spontaneous Ventilation: Frequently inadequate

Cardiovascular Function: May be impaired





Patients at risk

- High risk group- Very old/ very young
- > Chronic respiratory, cardiovascular or neurological conditions
- Airway compromised such as current respiratory infection or history of upper airway obstruction, e.g. obstructive sleep apnea, Congenital history (e.g. Pierre Robin syndrome)
- Previous adverse sedation or anesthetic events
- Significant developmental delay











Moderate & deep sedation poses risks to patients and thus needs to be provided using clear definitions, policies, and procedures.

Title: Sedation For Diagnostic/Therapeutic Procedures by Non-Anaesthetists

P&P No: 65010-1250

Title: Nursing Care of Patient Undergoing Sedation for Diagnostic/Therapeutic

Procedures by Non-Anesthetists

WI No: 60110-6000

The physician responsible for the patient should be competent in anesthesia technique, appropriate monitoring, response to complications and use of reversal agents and be APLS certified

Doctors have to be sedation accredited to administer sedation drugs.

Nurses who assist the procedure must be certified competence.











Approved Dr List

The physician responsible for the sedation and APLS must be certified.





Approved Doctors List

KK WOMEN'S AND CHILDREN'S HOSPITAL LIST OF DOCTORS ACCREDITATED TO PERFORM MODERATE SEDATION

Division/Dept: Medicine / Paediatrics

(Senior Staff Registrar/Staff Registrar/Resident Physician)

S/N	MCR No.	Name of Doctors	Designation
1	M14039B	Tan Guan Hao	Senior Staff Registrar
2	M18395D	Khin Myo Yi	Resident Physician
3	M16799A	Joselyn Abalos Velasco	Resident Physician
4	M17060G	Mandac-Navata Maria Theresa Rivera	Resident Physician
5	M17771G	Riza Ogania Flores	Resident Physician
6	M17432G	Ruschelle De Vera	Resident Physician

Submitted by HOD/HOU/HOS:

Signature:	M
Name:	Dr Ng Yong Hong
Designation:	Head of Dept / Senior Consultant
Dept:	Paediatrics
Date:	23rd August 2018



Departments That Perform Sedation

Mild Sedation	Moderate Sedation
Aesthetic Centre CCRC CDU ENT Centre Clinic E Clinic L	CE All Pasediatric and Women ward CDT DDII KKH IVF Breast Centre Cardiac Lab



Nursing Responsibilities (Pre-procedure phase)

- Preparation of patient
- Explain procedure to patient/caregiver
- Patient must be fasted for a minimum of 3 hours
- Ensure consent is being taken by the doctor
- Pre-assessment must be done by doctor and documented in Procedural Sedation Note (SCM)
- Baseline parameters must be taken and recorded



Nursing Responsibilities (Pre-procedure phase)

- Preparation of patient
- Explain procedure to patient/caregiver (Issue Pain & Sedation Brochures)
- Patient must be fasted for a minimum of 3 hours
- Ensure consent is being taken by the doctor
- Pre-assessment must be done by doctor and documented in Procedural Sedation note (SCM)
- Baseline parameters & assessment (history or cough / flu / fever) must be taken and recorded



Nursing Responsibilities (Pre-procedure phase)

- > 2RNs
- Must check that the medication is ordered and prescribed correctly (on Downtime/Resuscitation Order form) according to the latest weight in the CLMM
- Ensure that the sedation assessment is done properly prior to commencement of procedure
- If oral sedation is ordered, ensure 5 rights of medication administration is adhered



Nursing Responsibilities (Intra-procedure Phase)

Use of Ketamine

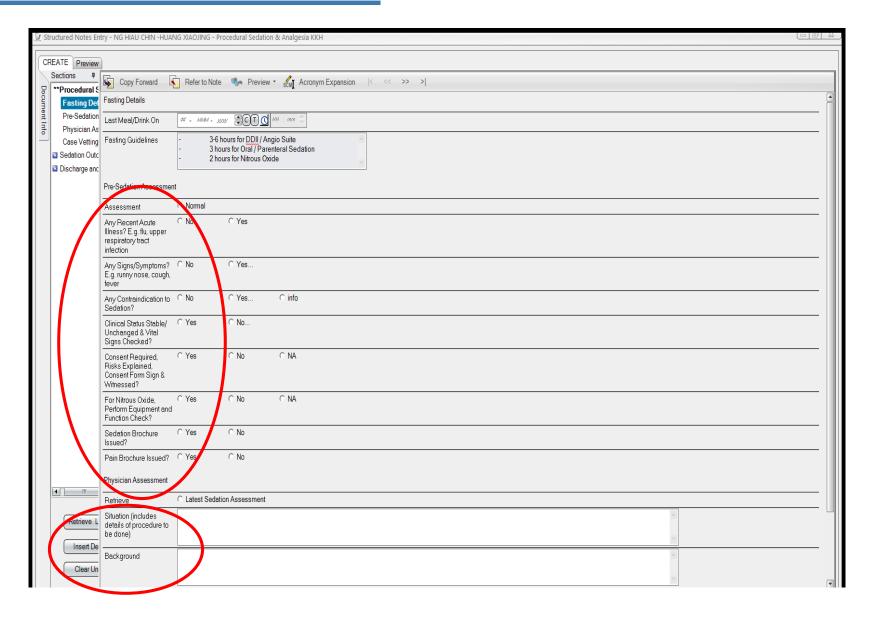
- Usage of Ketamine must be documented in the CD book
- Dose of Ketamine MUST be calculated by a doctor and counter checked with either a doctor or RN
- If Ketamine is ordered:
 - (IM) It must be given in the presence of a doctor
 - (IV) Must be administered by a doctor as slow bolus over 3-5 mins



				KK	H - Downtime	/ Resuscitation C	rder Form								
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Pre-sedation Assessment

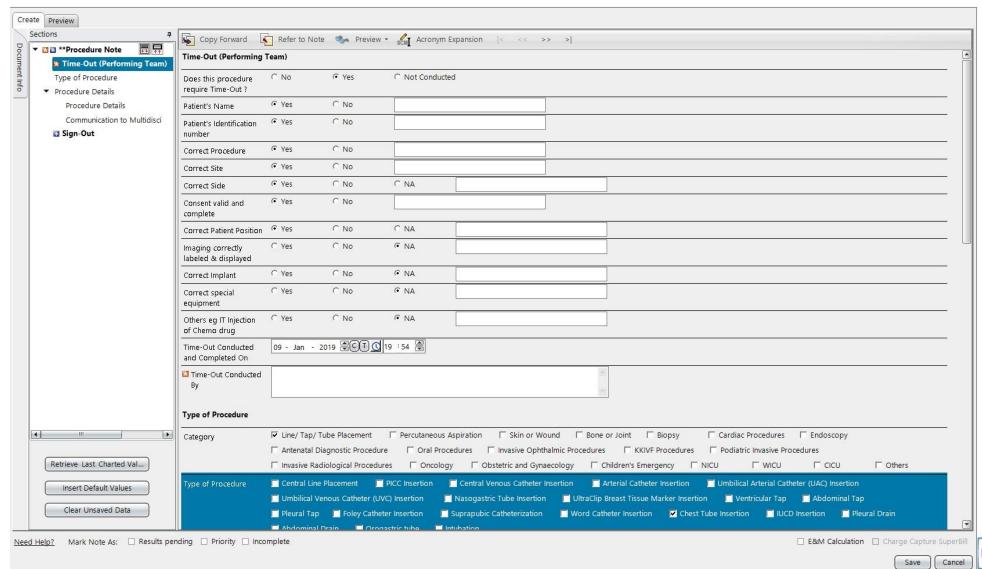






Nursing Responsibilities (Intra-procedure Phase)

Time-Out



Frequency of Monitoring

IV Medication

Monitor parameter before administration of medication.

Every 5 minutes after patient is sedated/during procedure

Every 15 minutes post procedure till patient meet discharge criteria



Nursing Responsibilities (Intra-procedure Phase)

- Monitor for any abnormal parameters, sedation score
- Observe patient's clinical status
- Respiratory distress
 - Cyanosis
 - Retractions
 - Grunting
 - Nasal flaring
- Comfort (Monitor pain score with FLACC score)
- Safety



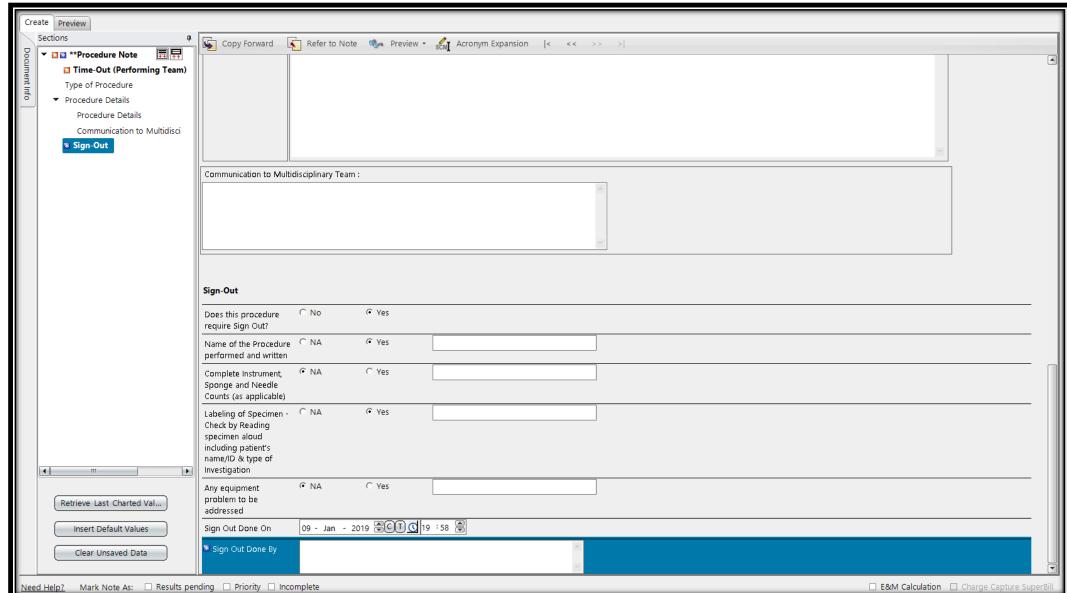
Vital signs (Intra-procedure Phase)

1. NUR Vital Signs KKH, From 06-Jan-2019 to 09-Jan-2019

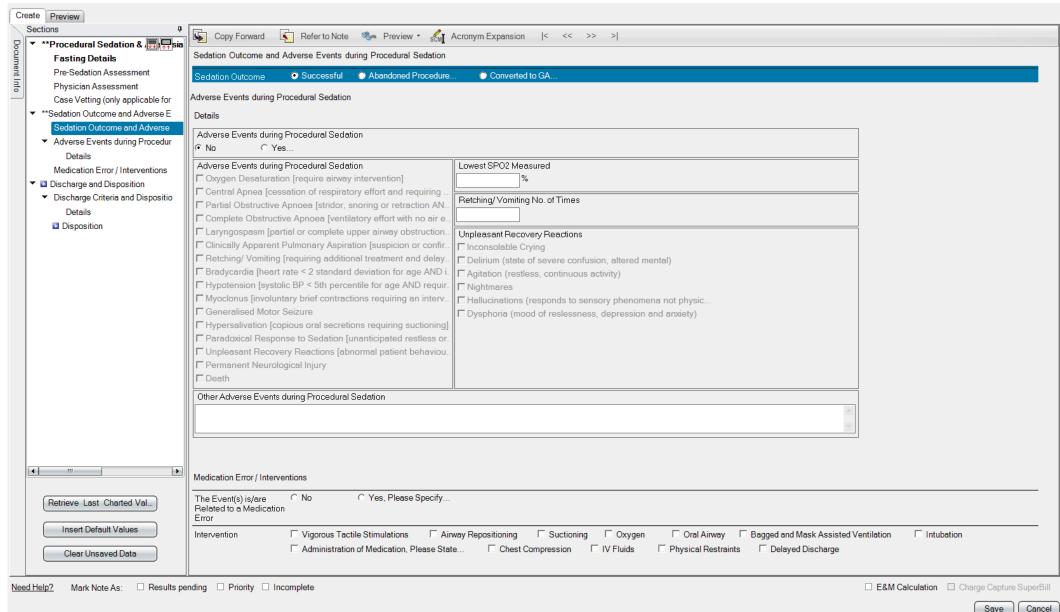
		07-Jan-2019	07-Jan-2019	07-Jan-2019	07-Jan-2019	07-Jan-2019
	•	22:12	22:17	22:23	22:34	23:40
		stat	LP started		Ip finished	
☐ Blood Pressure (NIBP)		1				
Systolic (mmHg)		95	88	71	80	88
Diastolic (mmHg)		44	72	45	54	37
Mean (mmHg)		57	76	51	60	48
Source						
☐ Heart Rate		Ť	Ť	1	1	
beats/min		154	172	180	180	121
Rhythm						
Pacing						
Respiration						
breaths/min		32	36	40	40	34
☐ FLACC-Pain Score (Set A)			С			
Any history/possibility of pain		Yes	Yes	Yes	Yes	Yes
Face		0	0	0	0	0
Legs		0	0	0	0	0
Activity		0	0	0	0	0
Cry		0	0	0	0	0
Consolability		0	0	0	0	0
Pain Score		0	0	0	0	0
Pain intervention (If pain score >= 4)						
Remarks						
Procedural Sedation Monitoring				С		
Pre/Intra/Post		Pre-Procedure	Intra-Procedure	Intra-Procedure	Post-Procedure (IV)	
Sedation Score			5=Spontaneously awal			
Airway		N=Normal	N=Normal	N=Normal	N=Normal	
Nitrous Oxide %						
N2O Flow Rate (L/m)						
ETCO2 (MRI) (mmHg)						



Sign Out



Sedation Outcome (Post-procedure)





Nursing Responsibilities (Post procedure)

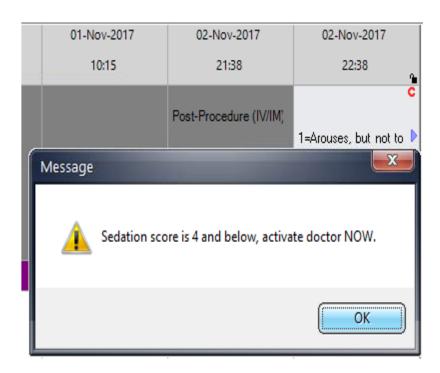
- Continue monitoring of patient until patient resumes his/her conscious state and meet the discharge criteria as indicated by the doctor.
- Indicate and document if any adverse events occurred
- Doctor to indicate discharge criteria and any special instruction
- If reversal agent has been given, monitoring must be continued for at least 2 hours.



Sedation Score

When Post-Procedure has been entered in the flowsheet, the system will alert the user if a Sedation Score of 4 or lower is documented:

- a) 60 mins post-procedure for IV/IM
- b) 90 mins post-procedure for oral



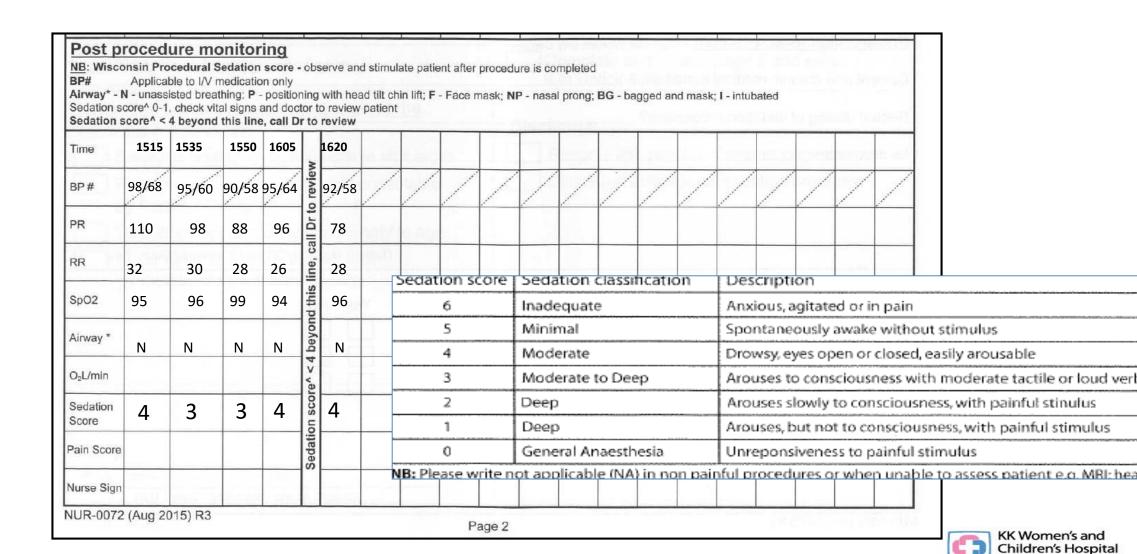


Wisconsin Procedural Sedation score

Wisconsin Procedural Sedation score	Sedation classification	Description	Actions for post procedure monitoring Attend to patient needs - eg pain		
6	Inadequate	Anxious, agitated or in pain			
5	Minimal	Spontaneously awake without stimulus	Drs/Nurses to review and discontinue from sedation monitoring/discharge home		
4	Moderate Drowsy, eyes open or closed, easily arousable				
3	Moderate to Deep	Arouses to consciousness with moderate tactile or loud verbal stimulus	monitor vital signs till meet discharge criteria		
2	Deep	Arouses slowly to consciousness, with painful stimulus	Dr to review beyond the bold line		
1	Deep	Arouses, but not to consciousness, with painful stimulus			
0	General Anaesthesia	Unresponsive to painful stimulus	Unarousable - inform Dr. stat even during procedure monitoring		



Post sedation monitoring - RN call Doctor to do discharge from sedation monitoring



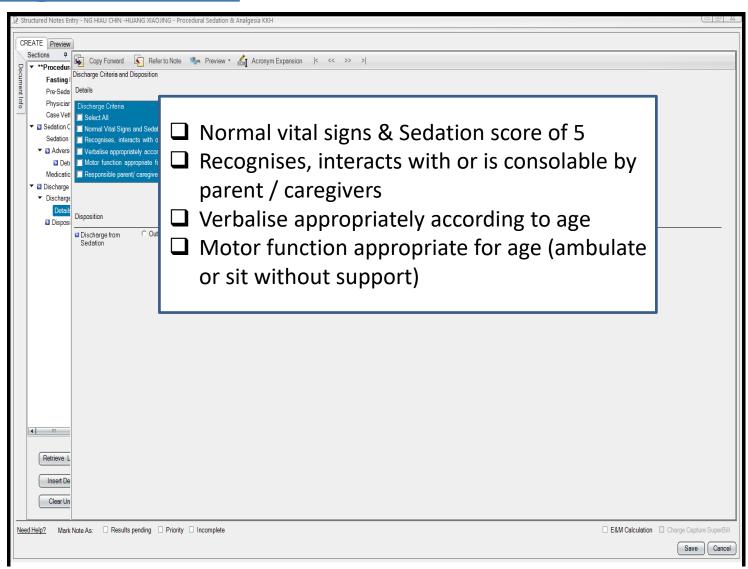
SingHealth

Nursing Responsibilities (Post procedure)

- When patient's parameters are stable
- Inform doctor to review patient and discharge from sedation
- Document event in the progress notes
- Charge in procedure charge form



Discharge Criteria





Nursing Responsibilities (Post procedure)

- For outpatient:
- Ensure a responsible adult is present to escort the patient home
- A post procedure instruction must be given to patient/caregiver



Case Discussion

Summary

- 1 year 7m old (Henoch-Schonlein purpura and Acute Upper Respiratory Tract Infection with Coronavirus and Rhinovirus).
- 2D Echo under PO chloral hydrate sedation and be accompanied by medical doctor was request by Cardio team.
- Verbal consent obtained by MO from parents
- Ward nurse asked HO to order oral sedation
- Child was served oral sedation prior to cardiac centre for 2D echo accompanied by nurse
- Post Echo child was well and no adverse effects from the sedation.



Learning Points

- Knowledge deficit in Procedural Sedation.
- Lapse of communication between nursing and medical team.



Oral Sedation

Oral Choral hydrate

- Commonly used oral sedative
- Usually given with water
- Takes about 30-60minutes for onset
- Common adverse effect includes: nausea, vomiting, diarrhea

Vitals monitoring

- Baseline parameter and 30mins after serving medication
- During Every 15mins at start and throughout the procedure
- Post procedure Every 30mins till discharge criteria are met



Frequency of Monitoring

Oral Medication

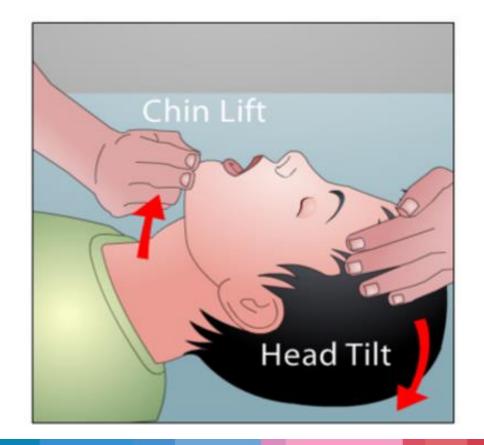
Monitor parameter before administration of medication, 30 minutes after medication (or earlier if patient shows signs of sedation)

Every 15 minutes during procedure, every 30 minutes post procedure till patient meet discharge criteria



Emergency

If patient deteriorate, inform doctor immediately and prepare for resuscitation





Emergency

- If patient deteriorates, inform doctor immediately and prepare for resuscitation
- STOP PROCEDURE IMMEDIATELY!
- Danger: Assess environment
- Response: Attempt to rouse the patient through verbal call, if unresponsive, apply tactile stimuli
- Shout: Activate code blue (5555)
- Assess: Head tilt chin lift, remove secretion
- Breathing: No breathing? Deliver O2 via facemask at 15L/min
- Circulation: No pulse? Start cardiac compression



Hard-Copy Forms



Sedation Brochure

Children who have undergone sedation should **NOT** be allowed to:

- Walk unsupervised for the next 4 hours after the procedure.
- Ride a bicycle, scooter, or skateboard the following day.
- Take any medication, which may cause drowsiness on the following day.
- Be placed in the car seat; the child may fall asleep, his/ her head flopping forward and causing the tongue to obstruct breathing.

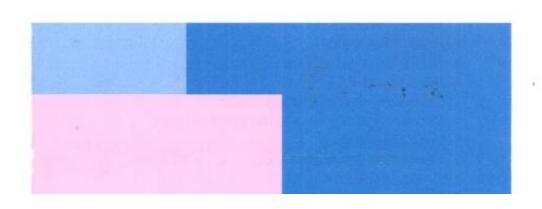
Parents should bring your child to the Children's Emergency if your child remains drowsy or feels unwell.

Useful information

- Outpatient appointment please arrive 45 minutes before the procedure time for the following:
 - 1. Registration
 - 2. Administration of sedation
- As consent may be required, a parent/ legal guardian should accompany the child for the procedure.
- Bring along your child's favourite toy/ pillow and adequate milk powder and diapers.



Procedural Sedation





Consent form



Reg No. 198904227G

CONSENT FOR PROCEDURE and/or PROCEDURAL SEDATION & ANALGESIA

a construction and the same law		
Affix Pa	atient's Sticky Label	
	*	Hayota basis
Part I - To Be Filled By Patient / Par	rent / Guardian	
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give consent to the procedure of		
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on *myself / child / ward named	(Name of patient)	
and if necessary, the administration of proce	dural sedation and analgesia for th	e procedure. The natur
ourpose and effects of the procedure and the	nature of the medicine to be admir	nistered for the procedur
sedation have been explained to me by Dr _	,	
understand that there are risks and complic	eations in the procedure.	
also consent to further or alternative measorocedure.	sures as may be found necessary	during the course of the
There are also risks in the administration of batient information leaflet on procedural sec		esia as outlined in the K
understand that these constitute general ris vary depending on his / her underlying med nature of the procedure being performed.		
confirm that I have had the opportunity to a	sk questions.	
also acknowledge that the procedure may assigned.	be performed by any particular i	medical practitioner / st
CONSENTING PERSON:		
Relationship: * Self / Parent / Guardian / Oth	ners (please specify):	win' lyr = r
Name & NRIC of Consenting Person	Signature	Date



Time Out



Patient's Sticky Label Version 3

TIME-OUT & SIGN-OUT FOR INVASIVE PROCEDURE

Dept/V	Vard Bed:	Date	:;					
	Out was NOT CONDUCTED due to: . Emergency or Life-Threatening situation	on		Note: 1. All members of the team must participate actively in the Time-Out. 2. Time-Out is held immediately before the start of the procedure. 3. Sign-Out is conducted after the procedure and before patient leaves the room.				
TIME-	OUT (Performing Team)							
Vatur	e of Procedure:							
	d the following information		Verifie	i i	Remarks			
		Yes	No	NA	Remarks			
1	Patient's name	Ш	Ш					
2	Patient's identification number				(1967.50)			
	Correct Procedure (Verified by Dr and against consent form)							
	Correct Site (Verified by Dr and against consent form)							
5	Correct Side (if applicable)					10.7		
6	Consent valid and complete				alculate models is a produced in all through the second se	eccionic =		
7	Correct Patient Position		$\overline{\Box}$					
	Imaging correctly labeled &displayed (Radfiographic images as needed)							
9	Correct implant							
10	Correct special equipment							
11	Others eg IT Injection of Chemo drugs							
	Out was Conducted and Completed on: cted by: Name / Signature / Date and	Time	Date		Time:h Name / Signature / Date an	rs: ad Time		
SIGN	-OUT (Sign-out must be completed b	oforo no	ationt l	caves th	e room) YES	NA		
	of the Procedure performed and written	elore pa	allent	eaves th	e room)	INA.		
	lete Instrument, Sponge and Needle Counts	(as appl	licable)					
Labeli	ng of Specimen - Check by Reading specimigation)		-	ng patient	's name/ ID & type of			
Any e	quipment problem to be addressed							
Sign-o	ut done by:							
	Name / Signature / Date at	nd Time			Name / Signature / Date a	and Time		



Sedation competency checklist

S/N	CRITERIA	COMPETENCY ASSESSMENT		
		1	2	
PRE -	PROCEDURE			
1.	Ensure that only RNs and ENs who had completed sedation			
2.	training and certified competent will assist in the procedure. Ensure that Procedural Sedation is carried out by doctors who			
	are accredited.			
3.	Check that Pre-sedation assessments are performed and documented into the Procedural Sedation Form.			
4.	Assess and record patient's condition e.g. any recent acute illness and last meal taken.			
5.	Monitor and record the baseline BP, PR, RR, SpO2 and airway of the patient.			
6.	Adhere to Workflow for Sedation Medication ordering for drugs requiring top up doses and PnP 60110–1016 "Guidelines on Safe Administration of Medication" and ensure that medication is prescribed in KKH_Downtime / Resuscitation Order Form (if Injection Ketamine/Morphine are used) / Outpatient Medication Record.			
7.	Adhere to PnP 63710–0540 "Handling and Documentation of Controlled Drugs" if Injection Ketamine/ morphine is used.			
	PROCEDURE			
8.	Perform continuous observation and monitoring of patient's airway patency, parameters, sedation score and any occurrence of adverse reactions as per sedation protocol.			
	PROCEDURE			
9.	Monitor patient's condition, vital signs and sedation score as per sedation protocol till patient meets the sedation discharge criteria.			
10.	Inform doctor to review patient if sedation score <4 after 1 hour post procedure			
11.	Place patient on lateral position to facilitate drainage of secretions, if patient is still drowsy.			
12.	Report any adverse event and activate code blue accordingly.			
13.	Doctor to review patient and sign off Discontinue sedation monitoring once patient meets the discharge criteria.			
14.	Resume feeds / diet when patient is arousable after sedation monitoring has been discontinued.			



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Procedural Sedation Form

Moderate Sedation Form.pdf



Moderate sedation Quiz

- See <u>attached</u> file
- You may refer to your preceptor / CI / content developer for the correct answer / discussion / clarification

- Content Developer
 - NC Kwek Choo PohWd 65
 - ANC Ong Seow chee Wd62



Thank you



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