

Sedation Safety

At CCH Sector Hospitals

*Learning package for
Registered Nurses
CSK17376*

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PREREQUISITES FOR SUCCESSFULLY UNDERTAKING THE SEDATION SAFETY MODULE

1. All participants must be registered nurses with at least 6 months post qualification experience.
2. Each participant must work in an area where there is a clinical need for this skill.
3. Participants must be accredited to administer intravenous medications.
4. Participants must be currently accredited in basic or, where applicable, advanced life support.

The module is a mixture of reading material and self-directed learning activities. The activities relate theoretical concepts to real life situations that you may encounter in your clinical practice. By working through the activities you will have the opportunity to consolidate your understanding of sedation safety, and related concepts such as patient assessment and monitoring which will improve your nursing practice.

Completion of this module will aid you in your clinical decision making in the workplace. If you need further assistance please seek out your Clinical Nurse Educator /Specialist, Clinical Nurse Consultant or Nurse Unit Manager.

DISCLAIMER

The contents of this package relate to the nursing care of adult patients only.

AIMS /EXPECTED LEARNING OUTCOMES

This learning module aims to enhance the clinical knowledge base and decision-making skills of registered nurses. This package aims to develop their management of the person who is undergoing a procedure either in a ward, speciality unit or dept utilising sedation (sometimes referred to as procedural sedation or 'conscious sedation').

On successful completion of this module, the registered nurse will be able to¹:

- Identify what equipment, staffing and venue is required before commencement of the procedure;
- Safely administer intravenous sedation agents under the direct supervision of the proceduralist
- Identify the resources and documentation required for a procedural/ conscious sedation.
- Understand the definitions of the "sedation periods" and criteria to discharge a patient home or to the care of an alternate staff member.

On completion of each section, reconsider the learning objectives¹.

Have you met these?

Do you need to review the information again or undertake more extensive reading around this subject before continuing on with the next section?

Do you need to gain greater clarity by discussing this material with colleagues?

Once you are satisfied you have a sound knowledge, move onto the next section. Once you have completed the package meet with your NUM /CNC/CNE to ensure this is documented into pathlore course code CSK17376.

INTRODUCTION / BACKGROUND

A 2004 report in the United Kingdom (UK) by the National Confidential Enquiry into Patient Outcome and Death (NCEPOD), "Scoping our Practice"², found that there had been 1,818 deaths after therapeutic gastro intestinal endoscopic procedures. NCEPOD advisors judged that the sedation given was inappropriate in 14% of cases, usually because an overdose of medications had been administered.

In the UK this has led to several recommendations that sedation and monitoring practices in endoscopy units should be audited and reviewed. It has been identified that there should be national guidelines on the frequency and method of the recording of vital signs during the endoscopy and clear protocols for the administration of sedation should be available.

In the United States of America over the last 15 years, it has become widely known that the administration of sedatives and analgesics for performance of procedures is a significant independent risk factor for morbidity and mortality both inside and outside the operating room³. Consequently, the Joint Commission for Accreditation of Healthcare Organizations (JCAHO) has recognized that inconsistent standards of care adversely affect patient safety and released the 'comparable care mandate' i.e. that there must be no decrease in the care delivered to patients during their entire continuum of care within the hospital.

In Australia the standards concerning administration of sedation are the Australian and New Zealand College of Anaesthetists (ANZCA) PS9: '*Guidelines on Sedation and/or Analgesia for Diagnostic and Interventional Medical or Surgical Procedures*'.⁴

Sedation safety is a growing contemporary health care issue in Australia. During the last decade there has been a movement of many patient procedures from the operating room to ambulatory care settings, -called the

“out-patient revolution”. Registered Nurses are finding their role expanding as the emphasis on minimally invasive procedures increases.

In the contemporary workplace Registered Nurses can be required to administer intravenous sedation for unpleasant procedures in a wide range of clinical areas. This is often with varying degrees of training in sedation. Intravenous sedation is potentially hazardous, as there is always the potential for patients to slip into deeper sedation than planned therefore it is important that is performed as safely as possible.

SEDATION SAFETY AS A CONTEMPORARY HEALTH CARE ISSUE

Ω ACTIVITY 1

Read some of the recent articles:

- 1) Anon. Nurse administered sedation: Oversedation is common, study shows. Nursing 2009 January, p.19
- 2) Berlin, L. Malpractice Issues in Radiology Sedation and Analgesia in MR Imaging AJR: 177, August 2001, pp 293-296.
- 3) Clinical Excellence Commission (2009) Clinical Focus Report From Review of RCAs and/or IIMS Data. Sedation /excess sedation as an adverse outcome.
- 4) NHS. Midazolam. NHS Rapid Response Reports. December 2008

NURSING SCOPE OF PRACTICE IN SEDATION

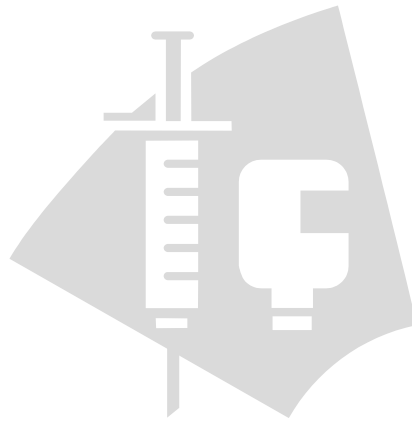
Registered Nurses administering intravenous sedation for procedures are considered to do so under the direct supervision of the proceduralist. The Registered Nurse administers only non-anaesthetic inducing medication's for conscious sedation, unless they work in CCH critical care areas and have undertaken specialist accreditation.⁵

The Registered Nurse who is deemed independent in competency based assessment or demonstrates recognition of prior learning / experience of monitoring patients (in a critical care environment such as ICU /HDU/CCU, ED or theatres) who have undergone sedation can assist the medical officer in the sedation procedure. Assistance can be given by performing the monitor role or as an assistant to either the proceduralist or to the clinician (nursing or medical) attending the monitor role.

The sole monitoring of sedated patient is considered beyond the scope of practice of the endorsed enrolled nurse. There are several reasons for this: the extent of their educational preparation, the acuity of the sedated person, the amount of clinical judgement/ the level of technical skill required in sedation monitoring, the degree of registered nurse direction and supervision available, and the legislation in NSW which does not allow the enrolled nurse to administer schedule 8 medications.

It is recognised, however, that at times emergency procedures are in the patient's best interests. In this context the level of nurse required to assist / monitor and will need to be achieved with the best possible mix of staff available at the time.

SOME EXAMPLE INDICATIONS FOR CONSCIOUS / PROCEDURAL SEDATION AT CCH HOSPITALS



Radiology

Insertion of Portocath / Haemaglide /
Hickmans
Nephrostomies
Biliary work
Some angios / angioplasties
Embolizations
Stenting
Adrenal Vein Sampling
Insertion of IVC Filters
Some Biopsies under CT guidance
MRI outpatients (claustrophobic)
Patients with severe pain whilst having
a procedure

Cardiology

Cardiac stenting (intra procedure)
Transoesophageal
Echocardiogram (TOE) (out patient
and in-patient)

Respiratory

Pleural biopsy
ICC insertion- mostly midazolam
and doses can vary from 2.5mg up
to whatever is required used in
combination with varying doses of
morphine

ED

R/O foreign body
Relocation of dislocated limbs.
Closed reduction of fractures
Cardioversion

Miscellaneous

Liver biopsy

WHAT IS CONSCIOUS /PROCEDURAL SEDATION?

Conscious Sedation (sometimes referred to as 'Procedural or Moderate Sedation/Analgesia") has been defined as: "A drug-induced depression of consciousness during which patients respond purposefully to verbal commands, either alone or accompanied by light tactile stimulation. No interventions are required to maintain a patent airway and spontaneous ventilation is adequate. Cardiovascular function is usually maintained"⁶.

ENVIRONMENT FOR SEDATION

The staff and equipment to initiate rescue measures should be immediately available due to the unpredictable nature of sedation and individual responses to it, a deeper level of sedation should always be anticipated. The location, in which the patient is having the procedure and sedation, must be appropriately sized to allow for resuscitation if needed, and **must** be equipped with the following ⁴:

- Adequate lighting and floor space to be appropriate for resuscitation if needed
- An adequate oxygen supply with suitable devices for means of delivering oxygen to a spontaneously breathing patient
- Functional suction supply and suction equipment
- Pulse oximeter with audible alarms
- Non invasive Blood pressure monitor
- A means of summoning hospitals rapid response team by phoning 77 (excluding emergency depts)
- Emergency electricity supply

And **must** have:

- Drugs for the reversal of benzodiazepines and opioids
- Ready access to an ECG Monitor
- Ready access to a hospital standard resuscitation trolley with a defibrillator and a positive pressure breathing device

The following **should** be available within the facility ⁴:

- End tidal carbon dioxide monitoring (capnography)

Ω ACTIVITY 2

- 1) **Read:** Australian and New Zealand College of Anaesthetists PS9: *'Guidelines on Sedation and/or Analgesia for Diagnostic and Interventional Medical or Surgical Procedures.* Then complete the table below:

SUGGESTED EQUIPMENT FOR PROCEDURAL SEDATION AND ANALGESIA	
EQUIPMENT	RATIONALE
High-flow oxygen source	
Suction source with large-bore catheters	
Advanced airway-management equipment	
Intravenous access equipment	
Pulse oximeter	
Blood pressure cuff	
Resuscitation drugs	
Reversal agents (appropriate to drugs being used*)	
Adequate staff for monitoring and documentation	How many staff?
Electrocardiography	
Capnography	

Table 1. Suggested equipment for sedation procedures

- 2) You are required to assist with a sedation procedure in your ward. Noting the equipment required above outline your actions.

STAFFING FOR SEDATION

The ANZCA PS9 describes a minimum standard for staffing during sedation assisted invasive procedures. Having now read the document, please reflect and complete the questions in the activity below.

Ω ACTIVITY 3

1) When administering procedural sedation how many appropriately trained staff should be present?

2) Define each staff member's role.

3) Describe your actions if you were on duty and a non urgent sedation procedure was about to be undertaken without the minimum number of staff required:

4) After the procedure is over, how long do you have to monitor the sedated patient?

PRE-SEDATION: PATIENT ASSESSMENT

Patients must be assessed by the medical officer as to whether they are suitable to receive intravenous sedation. Sedation should be avoided or used with extreme

caution if the patient cannot lie flat or if the patient is breathless at rest. The medical officer as part of the patient assessment will consider the following factors in the pre-procedure period ^(4,6,7):

SEDATION RISK FACTORS:	
Advanced age	<ul style="list-style-type: none"> • Sedation in the elderly involves additional hazards compared with sedation in younger adults. • A good history of the patient's functionality is required in order to make an accurate assessment of risk. • A reduced dosage of sedative drugs is recommended.
Airway	<ul style="list-style-type: none"> • Mouth opening < 2 finger breadths • Bull neck • Receding chin • Buck teeth
Adequate Fasting As a guide:	<ul style="list-style-type: none"> • Food within the last six hours • Clear fluids with the last four hours <p><i>N.B. please refer to unit based protocols for fasting instructions</i></p>
Cardiovascular	<ul style="list-style-type: none"> • Unstable angina • Symptomatic heart failure • Aortic Stenosis • Haemodynamically unstable
Gastrointestinal	<ul style="list-style-type: none"> • Significant gastro-oesophageal reflux • Morbid obesity
Medication / Allergy risks	<ul style="list-style-type: none"> • Known drug allergy • Previous adverse reaction to sedation /anaesthesia • List of medications taken- including herbs or alternative medications
Respiratory	<ul style="list-style-type: none"> • Unable to maintain SaO₂>95% with O₂ 6lts via face mask prior to sedation • Unable to lie flat (on one pillow) • Upper airway obstruction
Renal	<ul style="list-style-type: none"> • Renal impairment sufficient to interfere with drug clearance

Table 2. Sedation risk factors⁷

Based on the information gained in the initial patient assessment the American Society of Anaesthesiology (ASA) patient classification status⁷ (table 3) is often used

as a guide by medical officers as to whether patient's should have sedation by a proceduralist or whether an anaesthetist should be present.

ASA Classification of Patient	Comments	Medical Description
P 1	No known systemic disease A normal healthy patient	May have conscious sedation without other consultation
P 2	Mild or well-controlled systemic disease	
P 3	Multiple or moderate controlled systemic disease(s)	
P 4	Poorly controlled systemic diseases(s) that is a constant threat to life	Mandatory involvement of anaesthesiology department
P 5	Moribund patient who is not expected to survive without the operation	
E	Patient requires emergency procedure	

*Table 3. American Society of Anaesthesiology patient classification status*⁸

PHYSICAL ASSESSMENT- WHOSE ROLE IS IT ANYWAY?⁹

Nurses are extending their skill set to include those that were once the domain of doctors. These new skills tend to be used mostly by advanced practice registered nurses. One such skill is physical assessment. Historically it has been viewed as part of the doctor's role. With the advancement of nursing roles, it has been argued that physical assessment has become a key nursing skill. Nurses deliver holistic care, based on assessment. This assessment is incomplete, if a detailed physical assessment is not attended.

In conjunction with routine health assessment, it also could be said that, within the current climate of advancing nursing practice, the acquisition of this skill is important for all registered nurses. Good assessment skills are integral to clinical decision making and problem solving

Ω ACTIVITY 4

1. **Read:** Docherty, B. (2002) Cardiorespiratory physical assessment for the acutely ill: Part 1. British Journal of Nursing.
2. **Read:** Docherty B. (2002) Cardiorespiratory physical assessment for the acutely ill: Part 2. British Journal of Nursing.

FOCUSSED PATIENT ASSESSMENT: AIRWAY



Fig.1. Risky airway?

Airway obstruction is a major concern because it is perhaps the chief cause of respiratory adverse events that occur during sedation. Identification of patients who are likely to suffer airway obstruction is an essential part of the pre-procedure care.

Mask-ventilation is a primary rescue action when serious, life-threatening airway obstruction or respiratory depression is encountered. Across the literature, few studies evaluate factors contributing to difficult mask-ventilation. However, several risk factors for predicting difficult mask ventilation have been identified. ¹⁰:

These include,¹⁰

- High body mass index (BMI) ($> 26 \text{ kg/m}^2$);
- Presence of a beard;
- Lack of teeth;
- Age older than 55 years
- History of snoring

The patient undergoing conscious sedation should have a thorough airway assessment focusing on,¹⁰:

- airway class
- mouth opening
- thyromental distance (distance from chin to thyroid)
- range of motion of the neck

Analysing all of these factors will enable an assessment as to whether it is safe to continue with conscious / procedural sedation.

Airway Class,¹⁰

There are considered to be four classes of airway. Assessment of which class the patient belongs to is by use of the Mallampatti examination.

Mallampatti classes

Class I = visualization of the soft palate, fauces, uvula, anterior and posterior pillars.

Class II = visualization of the soft palate, fauces and uvula.

Class III = visualization of the soft palate and the base of the uvula.

Class IV = soft palate is not visible at all.

To perform the Mallampatti examination, the provider has the patient sit facing the examiner and asks the patient to open the mouth as wide as possible. The patient is

classified as Mallampati class I if you can see down to the tonsillar pillars, class II if the examiner can visualize just the full uvula, class III if only the soft palate can be seen, and class IV if the hard palate is all that is visualized.

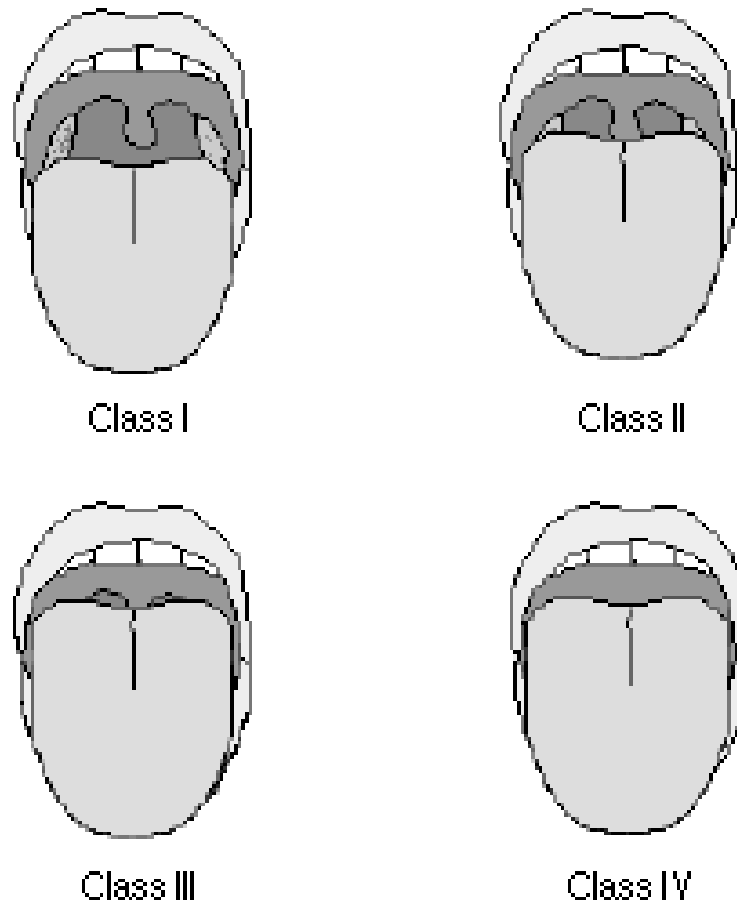


Fig.2.Mallampati classification¹¹:

The picture illustrates the Mallampati Classification of airways. In a class one airway the entire uvula and tonsillar pillars are seen. This individual should be easy to mask ventilate or to intubate with a laryngoscope and endotracheal tube. In a Mallampati Class Three airway none of the uvula or tonsillar pillars are seen. This individual may hard to mask ventilate, and quite difficult to intubate. This examination (which classifies the relative size of the tongue in the mouth) may be used as a trigger for referring a patient for “expert” sedation¹⁰:

Thyromental distance



Fig.2 .Thyromental distance

Image courtesy of Ann Willemssen-Dunlap¹²:

This image is representative of an extremely short thyromental distance. This finding may indicate possible difficulty establishing a satisfactory mask seal, and potential difficulty in tracheal intubation.

Ω ACTIVITY 5

Read: Pace, N. (2008). Sedating the Patient with Underlying Sleep Apnoea. *Journal Radiological Nursing*; 27:107-111

Read: Hayes, B.D, Klein-Schwartz, W. & Barrueto, F. (2007). Polypharmacy and the Geriatric Patient- section 6- sedative drugs. *Clinics in Geriatric Medicine*, 371–390

CONSENT /TIME OUT

Prior to the administration of medications, usual processes for consent and time out will need to be undertaken unless the procedure is an emergency.

For further information on time out, please refer to:

CCH procedure: **Correct Patient, Correct Procedure and Correct Site Procedure**

Available on the CCLHD intranet site.

MEDICATIONS USED IN SEDATION PROCEDURES:

The medications used during sedation typically have additional beneficial effects, as important as sedation. These actions include the following:¹³

- Anxiolysis - Relief of trepidation / agitation with minimal alteration of sensorium
- Amnesia - Lapse in memory for a period of time
- Analgesia - Relief of pain without an altered sensorium

Sedatives typically have more than one of these actions, although one action may be dominant¹³. The ideal sedative would exhibit all of the above qualities; as most do not, it is common practice to co administer medications with different qualities to compensate for any shortcomings.

An example is midazolam which is primarily an anxiolytic with some amnestic qualities and fentanyl primarily an analgesic¹³. When drugs are used together, decreasing the dose of each respective drug is important, as the medications may act synergistically and this will decrease the incidence of side effects.

It is recommended that you familiarise yourself with the prescribing information available for sedation medications used in your area.

COMMON MEDICATIONS USED FOR SEDATION PROCEDURES AT CCH

Ω ACTIVITY 6

Read relevant sections in the MIMS and complete the blanks in the common sedation medication table:

COMMON SEDATION MEDICATIONS¹⁴

MEDICATION NAME	DOSING GUIDELINE	TYPE OF AGENT	ONSET, PEAK EFFECT, AND DURATION OF ACTION	ADVERSE DRUG REACTIONS	REVERSAL(if applicable)
Midazolam			Onset: 1- 3 min Peak Effect: 5 -7 min Duration of Action: 20 - 30 min		
Lignocaine spray					
Naloxone					

Table 4. Common sedation medications

MEDICATION NAME	DOSING GUIDELINE	TYPE OF AGENT	ONSET, PEAK EFFECT, AND DURATION OF ACTION	ADVERSE DRUG REACTIONS	REVERSAL (if applicable)
Fentanyl		Opiate			
Propofol					Nil- Adverse effects must be treated until the drug is metabolized
Ketamine				Emergence CNS reactions including vivid dreams, hallucinations, and delirium; hypertension, tachycardia; increased ICP; tonic clonic movements; respiratory depression.	

MEDICATION NAME	DOSING GUIDELINE	TYPE OF AGENT	ONSET, PEAK EFFECT, AND DURATION OF ACTION	ADVERSE DRUG REACTIONS	REVERSAL(if applicable)
Flumazenil					
Nitrous oxide		Inhalation agent			

SAFE MEDICATION USE-PRACTICE POINTS

Drugs administered for conscious sedation should allow a patient to be calm, comfortable, and cooperative.

- Clinical endpoints for conscious sedation may include a respiratory rate of 10-12 in an adult and a slurring of speech.
- A drug should be allowed to exert its full effect before administering additional doses or another drug.
- When combining opioids and sedatives, administer the opioids first to ensure the patient receives analgesia prior to painful stimulation.

(Reproduced with permission courtesy of Ann Willemsen-Dunlap)¹²

REMEMBER WHAT YOU ARE TRYING TO ACHIEVE:

- Analgesia
- Amnesia
- Cooperation
- Maintenance of all protective reflexes
- Safety

CLINICAL MONITORING

Patients receiving procedural sedation require continuous monitoring and assessment throughout the procedure and the recovery phase. The patient must have supplemental oxygen in place both during the procedure and in the post procedure phase ⁴. Oxygen saturations should be as close as possible to 100% throughout the procedure.

Ω ACTIVITY 7

Read: CCH Guideline: Sedation (Conscious): Nursing Role for adult patients that undergoing procedures that utilise conscious sedation in CCH hospitals. ¹⁵:

1. Document below the minimum requirement of monitoring is for sedation procedures at CCH hospitals.

2. What other types of monitoring may be considered for higher risk patients for example with known cardiovascular or respiratory disease.

3. List some of the advantages and disadvantages of using a sedation scale such as AVPU.

ASSESSMENT OF CONSCIOUS LEVEL:

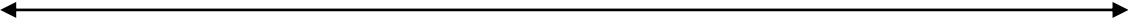
Conscious Sedation Scale	Deep Sedation	General Anaesthesia
 <p>Due to the unpredictable nature of sedation and individual responses to it a deeper level of sedation should always be anticipated</p>		
<ul style="list-style-type: none"> • Alert • Relaxed • Restful • Drowsy • Appropriate response to Voice commands • Protective reflexes present • Occasional vocalisation • Pulse change <10% • SaO₂ change <5% 	<ul style="list-style-type: none"> • Not easily roused- • Partial loss of protective reflexes • Partial or complete inability to protect airway (< GCS 9) • No or little purposeful response to Pain, stimuli or commands 	<ul style="list-style-type: none"> • Unresponsive • Controlled unconsciousness • Loss of protective reflexes • No response to physical stimuli or verbal command

Table 5. Sedation continuum¹⁷

Ω ACTIVITY 8

CASE STUDY¹⁸:

Mr Smith was transferred to the ward from recovery with PCA (Morphine) in situ. The ward staff were advised on handover that the patient had required an additional bolus dose of morphine in recovery. During initial observations after transfer the patient was found to have a respiratory rate of 8/minute, and was not responding to voice commands. The patient was reviewed by medical staff and required four bolus doses of Naloxone. As the respiratory rate still did not improve (noted to be 5), an anaesthetist was called to review patient. The patient required one to- one care.

1. At What stage of the sedation continuum is Mr Smith, what is the rationale for your assessment?

DOCUMENTATION STANDARDS

The clinical record should include the names of staff performing sedation and/or analgesia, with documentation of the history, examination and investigation findings. A written record of the dosages of drugs and the timing of their administration must be kept as a part of the patient's records, on their medication chart,^{4,15} including the inspired concentrations of inhalation sedation agents and oxygen and the duration of administration shall be documented⁸. Ideally any sedation activity should be accompanied by a time-based record that includes the name, route, site, time, dosage, and patient effect of administered sedation drugs. Adverse events shall be documented.

Such entries should be made as near the time of administration of the drugs as possible. This record should also note the regular readings from the monitored variables, including those in the recovery phase.^{4,15}

The timeliness of documentation will be dependent upon the client /situation. When client acuity, complexity and variability are high, such as in sedation procedures, documentation will be more frequent than when clients are less acute, less complex and/or less variable. Graphically, this is shown as follows:



Fig4. Frequency of documentation¹⁹

Ω ACTIVITY 9

Read: Fitzgerald, L/ (2008). Risk Management: Day surgery sedation and analgesia.
The Medical Group of Australia October 2008 Bulletin.

Ω ACTIVITY 10

Case study¹⁷

You have been sent to work in the endoscopy suite for the day. You are looking after a 79 year-old patient who was admitted for bronchoscopy. Two mg. Midazolam has been administered intravenously. The patient became “like a rag doll” after administration. His Oxygen saturation’s dropped rapidly after the procedure commenced, recorded as 80% for five minutes before dropping to 74%. Oxygen was administered 15 litres by nasal cannula. The doctors (VMO & Registrar) were advised of oxygen saturations throughout. The patient was noted to be poorly saturated and unresponsive at the time the scope was removed. You apply a face mask immediately and put out the rapid response call.

Review the nursing documentation below from the medical record.

12/12/2009 Nursing: Patient admitted for endoscopy. Pre-Medication administered as charted by doctor. Patient became unresponsive during procedure, dr informed. Rapid response call activated. RN Jones.

Consider for example whether assessment of sedation level and vital signs are documented adequately.

RECOVERY FROM SEDATION

Place patient in an appropriate "recovery" position- for some patients this may be lying on left lateral and for others they may be better sitting up, seek advice from proceduralist if unsure.

Oxygenation levels and respiratory rates should be monitored until patients are considered fully recovered from the sedation, (minimum of one hour) but monitoring / close observation may need to continue for up to 2 hrs if the patient is elderly, received reversal agents or the patient is slow to recover from the sedation agents⁸.

The 'Sedation Period' is considered over when the patient meets the following criteria⁷:

- AVPU has returned to pre procedure level
- Observations are "Between the Flag's or within the patient's altered Calling Criteria
- Fasting status- Unit based protocols will need to be followed for patients who have received local anaesthetic spray to their larynx and / or pharynx to facilitate their procedure.

DISCHARGE INSTRUCTIONS

Discharge of the patient should be authorised by the practitioner who administered the drugs, or another appropriately qualified practitioner with appropriate discharge documentation and medical follow up information as required¹⁴. The patient being discharged should be discharged into the care of a responsible adult; to whom both verbal and written instructions should be given, including advice about eating and drinking, pain relief, and resumption of normal activities, as well as about making legally-binding decisions, driving, or operating machinery^{4,15,20}

Ω ACTIVITY 11

Mrs Jones has had a transoesophageal echocardiogram in the Cardiology outpatients dept. She had local anaesthetic spray to her larynx and pharynx as part

of the procedure and intravenous midazolam. She has now been assessed as ready for discharge.

1. What should Mrs Jones and her carer be advised prior to leaving the unit?

ESCALATION / THE DETERIORATING PATIENT.

The staff member monitoring will need to be aware of the potential for re-sedation after the procedure as the stimulus of procedural discomfort /pain and anxiety are removed ⁽⁹⁾.

If the patient has abnormal vital signs, altered mental status, or impaired respiratory effort, they will need a longer stay in the recovery area, close observation, medical review and, if necessary, inpatient admission (patients in group 1 above)The monitoring clinician should continue to monitor for as long as necessary without duress.

If the patient has not met the above criteria, continue to reassess and monitor the patient in the "recovery" lateral position and keep the patient nil orally.

If a monitoring clinician is seriously concerned about the patient they should request a clinical review or if necessary a rapid response call should be made. ^(11,12)

CLINICAL HANDOVER

A handover to the clinician (nursing and / or medical) taking over the care of the patient must take place, which should include ⁽¹³⁾:

- Patient name (check against patient ID band) as per CCLHD [Patient Identification Procedure](#) ⁽¹⁵⁾
- Type of procedure and name of proceduralist
- Significant medical history e.g.allergies

- Types of medications administered (dosage, route and time)- including any unexpected responses to medications
- Vital sign observations- Intra and post procedure- any significant deviations
- Neurological/ conscious level status e.g. AVPU ⁽¹⁾
- Dressing or drain sites (if applicable)
- Fluid- intake and output-fasting status
- Complications

**Observations must continue on return to the ward for as long as clinically indicated.*

TROUBLESHOOTING

Ω ACTIVITY 12

Please complete the nursing actions in the table below:

TROUBLESHOOTING GUIDE		
CLINICAL SCENARIO	VARIABLES	NURSING ACTION
Low blood pressure	Sedation related- medication side effect	
Prolonged or excessive sedation post procedure	Sedation related- this is a high risk time after the stimulus of the procedure is over.	
Respiratory depression e.g. respiratory rate less than 12 during procedure	Over sedation	
Not enough staff available to assist with procedure	Procedure is non urgent	
Patient aggression	Paradoxical reaction to the midazolam	
Equipment failure- O2 sats machine not working	Intra-procedure	
Pain	Intra-procedure	
Persistent low oxygen saturations	Intra procedure	
Day case procedure has no way to get home	Patient wants to drive self home	
Failed cannula	Intra procedure	

Table. 7. Sedation troubleshooting

Ω ACTIVITY 13

Reflective Practice

- Consider where you may use sedation /analgesia to improve care for your patients
- Who would you involve in sedation procedures?
- How could you get further help or advice on sedation procedures?

CONCLUSION

Congratulations on completing this self-directed learning package and evaluation. We trust that this has been a valuable learning experience for you and that it provides you with confidence in providing competent nursing care for those patients receiving procedural/ conscious sedation.

Expectations are that having completed this package and achieving a satisfactory assessment you will maintain a competent standard of nursing practice for yourself and continually review the standard of nursing practice in your unit /ward. Reassessment is by way of ongoing peer review, literature review and reflection on your own practice.

Records will be kept in your Division database.

PRACTICAL ASSESSMENT ADVANCED AIRWAY MANAGEMENT

Airway management forms a vital aspect of nursing practice in the administration and management of sedation. Registered Nurses may wish to arrange to spend some time in the Anaesthesia /Recovery areas to complement their newly gained theoretical knowledge of procedural / conscious sedation.

Recognition of prior learning is available to nursing staff with demonstrated experience in advanced airway management.

GOAL:

To develop airway management skills in order to provide competent nursing care during administration of intravenous sedation²¹.

INTENDED OUTCOMES:

At the completion of this session it is anticipated that the participant will be able to:

- Explain the mechanism of airway management
- Identify Guedel airway and select correct size
- Give a rationale for the use of Guedel airway / nasopharyngeal airway
- Assist with airway management eg. using a resuscitator bag or mouth to mask procedure
- Demonstrate an effective seal using a mask
- Completed CCH Perioperative Services: airway management competency

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