

Acute Pain Management of Adults in the Post Anaesthetic Care Unit:

Intravenous Opioid Pain Protocol Learning Package

Participant Name:

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Section One

Introduction:

The most widely recognised definition of pain is that of the International Association for the Study of Pain: ‘an unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage’(IASP, 2011). There is simpler, alternative working definition of pain, devised by McCaffery (1968) that remains the gold standard in pain assessment today: **"pain is what the experiencing person says it is, existing whenever they says it does."**

Pain continues to be one of the most prevalent reasons for patients to seek medical attention and an anticipated complication of surgical intervention (Colwell, 2018). The importance of treating pain adequately cannot be underestimated. Early and effective management of postoperative pain is important for many reasons, including the minimisation of discomfort, promotion of optimal recovery, and the facilitation of early mobilisation. Properly treated pain can also reduce the incidence of pain related complications, including pulmonary deteriorations (e.g atelectasis), psychological distress and the transition of acute pain to chronic pain syndromes (Colwell, 2018)

In the Post Anaesthetic Care Unit (PACU) environment, one of the major focuses and responsibilities of nursing care is the immediate acute pain management of postoperative patients (ACORN, 2020). In order to provide optimal patient care, it is essential that the PACU nurse has the necessary knowledge, skills and attitudes to administer pain relief in a safe and timely manner. The PACU nurse must use the analgesic resources available to provide effective and evidence based methods of pain relief (ACORN, 2020).

It is important to note that opioids are considered schedule 8 drugs according to the ‘Poisons and Therapeutic Goods Act’ (2012); therefore all drugs prepared and administered for pain protocol must be done so in accordance with the ‘Medication Handling’ (2022) policy directive, and in accordance with the local clinical business rules in your facility.

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Purpose:

The purpose of this learning package is to provide nurses working in PACU areas across the South Eastern Sydney Local Health District (SESLHD) with the theory and knowledge necessary to inform their practice of administering intravenous opioid pain protocol. Using evidence based principles, these resources will provide essential information about this advanced skill and seek to provide nurses with the tools necessary to provide safe, effective and patient centered care in a timely manner. Assessment of learning will be made through a quiz and assessment of practice using a checklist and modified Bondy scale.

Aim:

The aim of this learning package is to support safe nursing practice in the administration of intravenous opioids in the PACU environment. This resource seeks to enhance nurse's knowledge and practice relating to pain and safe pain assessment and management to surgical patients in the immediate postoperative time frame.

Learning outcome statements:

Upon completion of this learning package, the PACU nurse should be able to:

1. Describe pain assessment and the methods used to measure the pain of both communicative and non-communicative and non-English speaking background (NESB) patients.
2. Discuss the four opioids (fentanyl, HYDRomorphone (Dilaudid), morphine and oxycodone) used for pain protocol in terms of their onset, peak and duration of effect.
3. Describe the side effects and complications of opioids.
4. Describe the management of severe respiratory depression and sedation, and the management of such complications.

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5. State the action of naloxone, its indication(s) and its administration according to respiratory depression, post-operative nausea and vomiting (PONV) and pruritus.
6. Describe how the patient's age, pain assessment and vital signs influence opioid dosage.
7. Demonstrate the safe preparation, administration, titration and discarding of opioids in accordance with the pain protocol

Resources:

ACORN (2020). Nursing Role: Postanaesthesia Recovery (PAR) Nurse. Adelaide.

McCaffery, M. (1968). *Nursing practice theories related to cognition, bodily pain and man-environment interactions*, Los Angeles, University of California.

Colwell, AC (2018). *Pain Management*. In J. Odom-Forren (ed.) *Drain's Perianaesthesia Nursing: A critical care approach* (7th ed.). Elsevier.

Schug SA, Scott DA., Mott JF., Halliwell R, Palmer GM., Alcock M; APM:SE Working Group of the Australian and New Zealand College of Anaesthetists and Faculty of Pain Medicine (2020). *Acute Pain Management: Scientific Evidence* (5th edition), ANZCA and FPM, Melbourne.

South Eastern Sydney Local Health District. (2022). *Acute Pain Management in the Post Anaesthetic Care Unit: Fentanyl, HYDROMORPHONE, Morphine & Oxycodone* [SESLHDPR501].

Acknowledgments:

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Section Two

Definitions:

- **Aliquot:** Measured part of a whole volume
- **Multimodal Analgesia:** combining drugs with different underlying mechanisms of action, with the intention of using lower doses of each, and reducing the risk of adverse effects.
- **SESLHD:** South Eastern Sydney Local Health District
- **Therapeutic ratio:** refers to the relationship between toxic and therapeutic doses. It is important in clinical practice because it determines how safe (or toxic) a drug is.
- **Titration:** Opioid titration refers to the adjustment of the dosage of an opioid, according to effect, respiratory rate and sedation score; given in small amounts at a time.

Pain Assessment:

Pain assessment is an essential and specialised skill of nurses in the PACU environment. Having the skills, knowledge and attitudes necessary to monitor, observe and make meaning of behaviors indicative of pain and discomfort is an important part of providing patient centered care (ACORN 2020).

Recommended tools for measurement of pain intensity in are verbal numerical rating scale (VNRS) and Verbal Descriptor Scale (VDS). The VNRS requires the nurse to ask the patient to score their pain intensity on the scale of 0 to 10, where 0 represents no pain and 10 represents worst pain you can imagine (Schug et al., 2022). The VDS may be useful for patients who find VNRS difficult to use. Ask the patient to describe their pain intensity using words: No pain, mild, moderate, severe, excruciating or worst pain you can imagine (Schug et al., 2022).

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It is well recognised that patient self-reporting is the gold standard in pain assessment (Schug et al, 2020). This is especially relevant to patients who are conscious, are verbally expressive, and have ‘precise understanding’. However, when a patient is unable to communicate their pain through verbal numerical and descriptor scales, they are at a higher risk of having under treated pain (Colwell, 2018). There are observational tools available to assess pain in such patients including, Pain assessment in Advanced Dementia (PAINAD) and the Abbey Pain Scale. These observational tools may be relevant to assessing a patient’s pain in the context of sedation, critical illness, and cognitive impairment (Luo & Min, 2017).

The above mentioned pain measurement tools are provided below and are available on Between the Flags (BTF) observation chart in electronic Medical Records (eMR). They can also be accessed in the iView. Please refer to your local pain assessment guidelines for further information.

It is important to note that the above pain assessment tools provide the PACU Nurse with a unidimensional pain score, which is only a single aspect of assessing a patient’s pain. Opioid analgesia should be carefully titrated in combination with the patient’s pain score and based on an assessment of how the pain is affecting the patient’s physical function. ANZCA (2022, *appendix 2, p. 2*) suggests the Functional Activity Scale, presented in the table below:

A	No limitation: the patient is able to undertake the activity** without limitation due to pain
B	Mild limitation: the patient is able to undertake the activity but experiences moderate to severe pain
C	Severe limitation: the patient is unable to complete the activity due to pain
<p>* Adapted from Scott DA & McDonald WM (2008) Assessment, Measurement and History. In: <i>Textbook of Clinical Pain Management: Acute Pain 2e</i>. Macintyre PE, Rowbotham D and Walker S (eds). London, Hodder Arnold.</p> <p>** Activity assessed is relevant activity related to the cause of the ‘new’ acute pain – e.g. ability to take deep breaths and cough after abdominal surgery or injury, or to flex knee after knee surgery</p>	

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Providing Effective Pain Management

All patients have the basic right to receive adequate amounts of pain relief. Using the appropriate pain scales for the individual patient allows for optimal and the most successful management of pain in all patients regardless of their ability to express themselves verbally. Colwell (2018, p. 439) refers to a hierarchy of pain measures, presented in the table below.

1	<p>Attempt to obtain the patients self-report:</p> <ul style="list-style-type: none"> • Single most reliable indicator for pain • Do not assume that verbally inexpressive or cognitively impaired patients cannot self-report pain. The Verbal descriptor Scale or FACES Pain Scale-Revised • Rely upon this wherever possible
2	<p>Consider pathological conditions that may cause pain or exposure:</p> <ul style="list-style-type: none"> • Are you expecting the patient to have pain? • Have they been exposed to a painful procedure? • Is a painful stimulus present (e.g. from surgery, procedure)?
3	<p>Observe for Behavioral Indicators:</p> <ul style="list-style-type: none"> • Assess facial expressions, crying, restlessness, changes in activity, vocalisation which may indicate presence of pain • A behavioral score is not the same as a pain intensity score, which can only be assessed if the patient is able to articulate it • A patient’s caregiver or individual who is familiar with the patient may be able to provide insight as to the severity of the patient’s pain based on behaviours
4	<p>Assess physiological Indicators:</p> <ul style="list-style-type: none"> • This includes vital observations such as blood pressure, heart rate, respiration rate and temperature • They are the least sensitive indicators for pain, and may be within normal parameters in the presence of severe pain

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5	<ul style="list-style-type: none"> Consider these in conjunction with a holistic assessment utilising above measures
	<p>Conduct analgesic trial:</p> <ul style="list-style-type: none"> Involves administration of low dose opioid to confirm the presence of pain and establish basis for a management plan Used as a last resort

In addition to the severity of pain, other factors influencing the pain must be assessed to inform the nurse of the true nature of the discomfort. These factors should include:

- Location:* is the pain in relation to a surgical intervention or located in an alternate site? (*ie, is the pain related to something else? Previous and ongoing injury?*)
- Quality:* how does the pain feel? (*Burning, aching, stabbing, etc.*)
- Onset and duration:* *Constant, intermittent, when did it start?*
- Aggravating and relieving factors:* *Does the pain worsen on movement? Positional?*
- Patient expectations:* It is important to ensure that the expectations of pain and its management are discussed and explained to the patient. *It is unlikely to relieve pain completely following surgical intervention; rather the goal should be to ease pain to a manageable level that allows for movement, deep breathing and coughing.*
- Other information:* Consider other factors including cultural, past medical history and past experiences with pain. *Patients suffering from chronic pain syndromes may require higher doses of opiates, and expectations of pain score may need to be adjusted (ie, medications used for acute pain management may not alleviate chronic pain symptoms).*

(Colwell, 2018).

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Reassessment of Pain:

Pain assessment is an ongoing evaluation of patient comfort and therefore must be performed at regular intervals depending on the stability of their levels of pain (Schug et al. 2020). For example, while titrating pain protocol in the PACU, pain assessments and reassessments must be frequent and ongoing as long as the opioids are being administered intravenously (e.g. no more than five minutes after the intravenous dose). When optimal pain control is achieved, pain assessments can be reduced to regular intervals ranging from two to four hourly and as deemed necessary thereafter. (Colwell, 2018).

Pain Protocol Drugs and Preparation

'The witness to a Schedule 8 medication transaction must be a person who is fully familiar with Schedule 8 medication handling and recording procedures. This would include a registered nurse or registered midwife, an authorised prescriber, a registered pharmacist, and any other person authorised by the registered nurse/midwife in charge of the patient care area to complete this task, such as an enrolled nurse without notation.'

Witnessing occurs at the following steps:

- Removal of the medication from the Schedule 8 medication storage Unit and the recording in the Schedule 8 drug register,
- Preparation of the medication (as applicable), such as drawing up into a syringe, and labelling, transfer to the patient and first dose administration ^{1 and 6}
- Discarding and rendering as unusable any unused portion of the medication and recorded in the Schedule 8 drug register.
- Subsequent aliquot administration as per pain protocol flow chart during the immediate post-operative period in the Post Anaesthetic Care Unit, unless accessing a second person to check the dose would result in a delay detrimental to patient care (PD2022_032)

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In many sites in the SESLHD, there are four opioid preparations used for the administration of intravenous opioid pain protocol. Each drug will be summarized in the table below.

<u>Drug</u>	<u>Onset</u>	<u>Peak</u>	<u>Duration</u>	<u>Preparation</u> (Final concentration 1 mg/mL)
Morphine: High incidence of nausea and vomiting, use with caution in those with significant renal impairment, as it is almost completely (90%) excreted by the kidneys, and leaves active metabolites that can prolong effect.	5-10 min	15-30 min	3-4 hours	Dilute the 10 mg/mL ampoule with 9 mL of 0.9% Sodium Chloride
Fentanyl: Rapid onset and clearance; appropriate for use in those with renal impairment.	3-5 min	10-15 min	2 hours	Dilute the 100 microg/2 mL ampoule with 8 mL of 0.9% Sodium Chloride
HYDROMorphone (Dilaudid®): synthetic derivative of morphine; active/toxic metabolites can accumulate in renal impairment. Recommended lower doses to be administered, carefully titrating and monitoring for adverse effects. Alternatively, oxycodone or fentanyl could be selected.	5 min	10-20 min	3-4 hours	Dilute the 2 mg/mL ampoule with 9 mL of 0.9% Sodium Chloride
Oxycodone: synthetic opioid, similar effects to morphine. Use with caution in those with significant renal impairment, as it is excreted by the kidneys.	5-10 min	15-30 min	3-4 hours	Dilute the 10 mg/mL ampoule with 9 mL of 0.9% Sodium Chloride

(Colwell, 2018; Australian Medicines Handbook, 2022)

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Discard

- The syringe containing intravenous pain protocol must be discarded **60 minutes** after the preparation to main stability and sterility
- Medication discard must be witnessed and signed by two authorised persons, and documented in the Schedule 8 Drug Register

Safe Opioid Titration and Monitoring

Pain protocol is an ongoing process of evaluation and observation while administering intravenous opioids. Opioids are given in intermittent bolus doses that are titrated on the basis of the response from each previous dose given. The goal of titration is to provide the smallest dose of analgesia necessary to achieve satisfactory pain relief, while minimising adverse effects (Colwell, 2018).

In accordance with the SESLHD procedure, 'Acute Pain Management in the Post Anaesthetic Care Unit: Fentanyl, HYDROMorphone (Dilaudid), Morphine and Oxycodone' (2023), it is recommended that intravenous opioid bolus dosing occurs between three and five minutely in order to achieve optimal pain relief. This allows the drug time to reach its peak effect before further doses are administered and minimises the risk of adverse effects including over sedation, respiratory depression and nausea and vomiting (Colwell, 2018).

Refer to the table below, for dose administration guidelines as per the SESLHD Procedure: Post anesthetic care unit (PACU) Opioid Pain Protocol for Adults (SESHLD 2016).

Please note: not all drug preparations are used in all sites in the SESLHD. Please refer to local guidelines for approved preparations at your site.

Refer to "SESLHD Procedure. Acute Pain Management in the Post Anaesthetic Care Unit: Fentanyl, HYDROMorphone, Morphine & Oxycodone" flowchart for frequency of dosing.

Frequent and ongoing patient monitoring and observation is essential to provide safe administration of intravenous opioids. Due to the profound effects of opioids on the central

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nervous system (CNS), and their narrow **therapeutic ratio**, it is critical to monitor their effects at intervals that reflect the peak effects of the drugs administered. Therefore, in between doses of opioids administered, the PACU nurse **must** monitor and assess the patient’s **sedation score, respiration rate and pain score**. This allows the nurse to evaluate the efficacy of analgesia, while monitoring for adverse effects including respiratory depression and narcotisation (Schug et al. 2020). See below for a reference to sedation score used in reference to pain protocol:

Sedation Score	
3	Difficult to rouse or unresponsive
2	Constantly drowsy, unable to stay awake
1	Easy to rouse
0	Wide awake

ACI NSW Standardised Pain Charts

Please note: in the PACU, the Modified Aldrette Consciousness Score differs from the Sedation Score system used in the NSW Pain Management charts. The statewide pain management charts use a 0-3 scale, where 0 is fully awake and 3 is unrousable. To maintain consistency across clinical care destinations, 0-3 Sedation Score is assessed and utilised when administering pain protocol.

Patients who are experiencing moderate to severe postoperative pain are all entitled to receive adequate and safe amounts of analgesia. However, there are patients who should not be administered opioid analgesics; such patients include those with:

- 1. High sedation score (≥ 2), constantly drowsy, unable to stay awake.**
- 2. Low respiratory rate (< 10).**
- 3. Low pain score (≤ 3).**

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4. Those with *true* allergies to opioid medications (uncommon).

In these situations, the addition of non-opioid analgesics is an appropriate and safe method to manage postoperative pain. **Adjunctive pain relief** medications have an opioid sparing effect; that is, they reduce the amount of opioids necessary to achieve satisfactory pain relief. Multimodal analgesia is the use of one or more classes of medications which target different receptors along the pain pathway (Schwenk & Mariano, 2018). By using a **multimodal approach** to pain management, the clinician can significantly reduce the incidence of adverse effects associated with opioid use, including postoperative nausea and vomiting, severe respiratory depression and narcotisation (Schug et al. 2020). Adjunctive medications commonly used are Paracetamol, Non-Steroidal Anti Inflammatory Drugs (NSAIDs) i.e. Ibuprofen and Tramadol (SESHLD 2022).

Possible Side Effects of Opioid Medications

Respiratory System	Respiratory depression
Central Nervous System	Sedation, nausea and vomiting, miosis (constriction of the pupils), euphoria, dysphoria, muscle rigidity
Cardiovascular System	Vasodilation, bradycardia, myocardial depression, hypotension (rare)
Genitourinary System	Urinary retention
Gastrointestinal System	Delayed gastric emptying, constipation, spasm of the sphincter of Oddi
Integumentary System	Pruritus – possibly more common with morphine
Allergy	A “true allergy” is uncommon.

(Colwell, 2018).

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Possible Complications of IV Opioid Administration

Complications	Management
Sedation	<p>Monitor regularly as per protocol. Sedation score ≥ 2 = cease pain protocol, give oxygen. Notify Anaesthetist. Naloxone ready to administer.</p>
Respiratory depression	<p>Respiratory rate < 10 = caution. Cease pain protocol. Give high flow oxygen. Assess sedation score, monitor patient closely.</p> <p>Respiratory rate < 5 = Cease pain protocol. Give oxygen. Seek assistance; notify Anaesthetist immediately. Monitor patient. Naloxone ready to administer. Stay with patient.</p> <p>Apnoea - patient requires reminding/stimulating to take a breath; naloxone ready to administer.</p>
Pruritus	<p>Does not always require treatment. If severe notify anaesthetist, change to another opioid. Antihistamines should be avoided due to their sedative effects. Naloxone may be given in low dose but may reverse analgesia.</p>
Nausea and vomiting	<p>Most common side effect. Minimise movement. Administer antiemetic as prescribed (change if ineffective). Notify anaesthetist if unrelieved.</p>

(Colwell, 2018).

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Opioid Antagonists

Naloxone: is indicated for the complete or partial reversal of opioid induced respiratory depression. The goal of naloxone administration is to reverse the respiratory depression while preserving the analgesic properties.

- Generally titrated to effect beginning with 100 to 200 microg doses (as prescribed by treating medical officer).
- Onset of action is 1 to 2 minutes and dosing is recommended to be repeated at 2 to 5 minutes if adequate reversal has not been achieved (up to 400 microg).
- The half-life of naloxone is less than that of the opioids it acts upon, therefore, multiple dose administrations may be necessary to fully reverse the effects on the respiratory center.
- If respiratory depression is not adequately reversed by naloxone administration, other causes of sedation and respiratory depression must be considered (i.e. benzodiazepines, inadequate reversal of muscle relaxants—naloxone does not reverse these drugs).
- Rapid reversal from opioid induced sedation and respiratory depression may cause hypertension, tachycardia, nausea and vomiting and severe pain.
- Naloxone administration in individuals with physical opioid dependence must be performed with caution. Complete reversal of opioids may result in symptoms of acute withdrawal in these types of patients (Odom- Forren 2013).

Naloxone is a pure opioid agonist; therefore can also be used in small doses (40 microg) to reverse other side effects of opioids including nausea and vomiting, and pruritus without reducing the effect of the analgesic properties (Colwell, 2018).

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Monitoring Post Naloxone Administration

Following the administration of naloxone (for opioid induced respiratory depression), and subsequent stabilisation of the patient, the patient must be monitored on an ongoing basis for two to three hours and until their respiratory rate is consistently above 10 breaths per minute prior to discharge from recovery. Observations must include sedation score, respiratory rate, and pain score.

Documentation of the events and treatments must be recorded in the patient's notes or SurgiNet (in AdHoc, and events section). In addition, the administration of naloxone must be documented in the NIMC (national inpatient medication chart) or MAR (medication administration record).

Ongoing Pain Management

After achieving adequate pain control using pain protocol (pain score ≤ 3), the patient must remain in PACU for 20 minutes after the last dose of the opioid. If a second syringe has been administered (any or all of the syringe), the patient must remain in the PACU for 30 minutes after the last dose (SESLHD, 2022). It is at this time that ongoing analgesic requirements must be considered. Due to the nature of intravenous opioids (rapid onset, short duration), it is essential to provide ongoing pain management using a multimodal method of treatment (ANZCA, 2022).

The concept of multimodal analgesia refers to the use of several types of analgesia that target different pain pathways and with various modes of action (Schug et al. 2015). It is imperative that a considered approach to manage post-operative pain be employed, with consideration given to both short and long acting analgesia, and both opioid and non-opioid treatments; this method has been shown to have an opioid sparing effect on patients undergoing pain management (Schug et al. 2015; ANZCA 2022).

Ongoing pain medications require a valid prescription from a Medical Officer.

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Section Three

SESLHD Pain Protocol Nursing Assessment (Questionnaire)

1) Define Pain:

2) Name four complications that may occur if severe pain is not relieved in a timely manner.

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7) Describe the pharmacological properties of each of the four opioid medications

Drug	Onset	Peak	Duration
Morphine:	5-10 min	15-30 min	3-4 hours
Fentanyl:	3-5 min	10-15 min	2 hours
HYDROMorphone (Dilaudid):	5 min	10-20 min	3-4 hours
Oxycodone:	5-10 min	15-30 min	3-4 hours

8) In which patient population might you see Fentanyl prescribed in favour of Morphine and Why?

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9) What bolus dose (in mL) would you give:

Morphine or Fentanyl:

- a) A patient ≥ 70 yrs with a pain score 1-3:
- b) A patient ≥ 70 yrs with a pain score 4:
- c) A patient ≥ 70 yrs with a pain score 5-7:
- d) A patient ≥ 70 yrs with a pain score 8-10:
- e) A patient < 70 yrs with a pain score 1-3:
- f) A patient < 70 yrs with a pain score 4:
- g) A patient < 70 yrs with a pain score 5-7:
- h) A patient < 70 yrs with a pain score 8-10:

HYDROMORPHONE or Oxycodone

- i) A patient ≥ 70 yrs with a pain score 1-3:
- j) A patient ≥ 70 yrs with a pain score 4:
- k) A patient ≥ 70 yrs with a pain score 5-10:
- l) A patient < 70 yrs with a pain score 1-3:
- m) A patient < 70 yrs with a pain score 4:
- n) A patient < 70 yrs with a pain score 5-10:

10) A 30 year old patient has a pain score of 7/10 a respiratory rate of 26, a heart rate of 120 bpm and a blood pressure of 160/90.

a) What bolus (mL) of pain protocol would you administer every 3- 5 minutes and when would you stop IV administration?

b) How often would you assess these patients and what would observations would you perform and record?

11) What is the maximum dose recommended on the Pain Protocol?

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12) Name four common side effects of opioids and how you would manage them:

Complications	Management

13) Answer the following questions relating to Naloxone:

- a) When would you administer Naloxone?

- b) Describe the action of naloxone

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14) For how long should you continue to monitor the patient who has had Naloxone and why?

15) For how long should a patient remain in the PACU following the termination of IV Pain Protocol?

16) An elderly patient you are caring for post operatively has known cognitive impairment. What pain assessment tool would you employ to assess this patient's pain?

17) What criteria must be met prior to discharge from PACU?

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18) According to the hierarchy of pain measures, what are the most sensitive indicators of pain?

19) According to the hierarchy of pain measures, what are the least sensitive indicators of pain?

20) You are the PACU Nurse caring for a 19 year old female patient post operatively. You have administered 8 mg of IV oxycodone and the patient has become difficult to rouse with a respiratory rate of 4. Outline your immediate actions:

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SESLHD - Clinical Competency Assessment 2016

CORE SKILL – Pain Assessment and Management (Pain Protocol)

ACORN Competency Standards	Performance Criteria	Method			* Ratings				
		O	Q	Sim	1	2	3	4	N/A
1. Legislation/ Policy	Utilizes all patient observation data according to protocol Ensures valid medication order Checks drug according to protocol Records drug in register								
4. Assessment	Introduces self to patient, assesses and responds to needs in a timely manner								
	Assesses patient's severity of pain using verbal description, numerical rating scale or Abbey pain scale.								
3. Safe environment	Selects and wears appropriate personal protective equipment (PPE)								
	Provides rationale for patients who are not suitable for pain protocol management.								
	States side effects of chosen opioid								
	Removes equipment from patient area and manages disposal or unused medication according to local policy								
6. Implementation	States principles regarding handling of S8 medications.								
	States the onset time, peak and duration of opioid given								
	Verifies intraoperative analgesia given								
	Confirms drug, dose and expiry date								
	Confirms any patient allergies								
	Performs Hand Hygiene at the 5 points								
	Prepares and Labels Medication for administration accordingly								
	Cleans cannula/port with alcohol swab and allows to air dry								
	Confirms patency of IV cannula prior to medication administration								
	Confirms compatibility of fluid in progress with opioid medication to be administered.								
	Demonstrates occlusion of flow of fluid in tubing above level of access port.								
	Administers correct bolus dose of opioid according to Decision Chart								
Ensures cannula is flushed following each administration of medication									

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	Ensures patency of IV fluid line is re-established								
	Maintains sterility of syringe in between bolus doses given								
	Discards and documents any unused medication appropriately								
8. Evaluation	Performs ongoing monitoring of patient's physiological and emotional responses before, during and after pain protocol administration								
	Observe IV site and patient for adverse reactions								
	Reports to Anaesthetist if complications arise or if pain is unrelieved								
	Recognises signs and symptoms of an adverse event and describes actions taken								
	Ensure patient pain score is < 3 prior to ceasing pain protocol								
	States recommended timeframe for patients' to remain in PACU post cessation of Pain Protocol								
7. Documentation/ Communication	Documents nursing care according to local policy								

METHOD OF ASSESSMENT

O = Observation of performance **Q** = Questioning to elicit knowledge of criteria

***RATINGS:**

- 1. INDEPENDENT:** Performs independently and consistently, requiring little or no guidance or direction. Is time efficient. Does not require the presence of a preceptor.
- 2. SUPERVISED:** Performs with developing confidence, requiring minimal guidance and direction. Time management is not yet efficient. Requires assistance and information in some areas of practice. Preceptor presence required occasionally.
- 3. DEVELOPING:** Performs with frequent verbal and visual cues from preceptor, requiring moderate guidance and direction. Time is required to perform skills adequately. Constant preceptor presence is required.
- 4. DEPENDENT:** Dependent on preceptor, requiring maximal guidance and direction at all times.

Competent: the participant achieved of a Rating of 4 for all relevant criteria during assessment.

Overall Result: **Competent** **Not Yet Competent**

If Not Yet Competent, re-assessment is recommended within _____ days, or _____ weeks and only after provision is made for the following:

additional theory **additional instruction** **additional clinical practice**

Participant's Name and Signature:

Assessor's Name and Signature:

Date:

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References:

- ACORN (2020). Nursing Role: Postanaesthesia Recovery (PAR) Nurse. Adelaide.
- Australian and New Zealand College of Anaesthetists. (2022). *Position statement on acute pain management* [PS41(G)]. <https://www.anzca.edu.au/getattachment/558316c5-ea93-457c-b51f-d57556b0ffa7/PS41-Guideline-on-acute-pain-management>
- Australian College of Peri-Anaesthesia Nurses (ACPAN). (2021). *Professional Standards*.
- Australian Medicines Handbook (2022). Naloxone
<https://amhonline.amh.net.au.acs.hcn.com.au/chapters/antidotes-antivenoms/antidotes/naloxone>
- Australian Medicines Handbook. (2022). *Hydromorphone*.
<https://amhonline.amh.net.au.acs.hcn.com.au/chapters/analgesics/drugs-pain-relief/opioid-analgesics/hydromorphone>
- Colwell, AC (2018). *Pain Management*. In J. Odom-Forren (ed.) *Drain's Perianaesthesia Nursing: A critical care approach* (7th ed.). Elsevier.
- Luo, J. & Min, S. (2017). Postoperative pain management in the post anaesthesia care unit: an update. *Journal of Pain Research*, 2017(10), 2687-98. Doi: 10.2147/JPR.S142889.
- ANZCA/FPM 2022. PS41(G) Position statement on acute pain management.
<https://www.anzca.edu.au/getattachment/558316c5-ea93-457c-b51f-d57556b0ffa7/PS41-Guideline-on-acute-pain-management>
- NSW Ministry of Health. (2022). *Medication Handling* [PD2022_032].
- NSW Ministry of Health. (2012). Poisons and Therapeutic Goods Act 1966 No 31.
- Schug SA, Scott DA, Mott JF, Halliwell R, Palmer GM, Alcock M; APM:SE Working Group of the Australian and New Zealand College of Anaesthetists and Faculty of Pain Medicine (2020), *Acute Pain Management: Scientific Evidence* (5th edition), ANZCA and FPM, Melbourne.
- South Eastern Sydney Local Health District. (2023). *Acute Pain Management in the Post Anaesthetic Care Unit: Fentanyl, HYDROMorphone, Morphine & Oxycodone* [SESLHDPR501].