SESLHD PROCEDURE

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FUNCTIONAL GROUP(S)	Medicine
KEY TERMS	HYDROmorphone
SUMMARY	The aim of this procedure is to ensure the safe prescribing, storage and administration of the different formulations and strengths of HYDROmorphone across all SESLHD acute care facilities.

Feedback about this document can be sent to SESLHD-Policy@health.nsw.gov.au

Management of HYDROmorphone in Adult Inpatients in SESLHD Acute Care Facilities

SESLHDPR/669

1. POLICY STATEMENT

HYDROmorphone is a potent opioid analgesic used to treat moderate to severe acute or chronic pain. **HYDROmorphone is 5 to 7 times more potent than morphine**. Due to its high potency, incorrect or inappropriate dosing carries a very high risk of adverse patient outcomes. Deaths due to errors in HYDROmorphone prescribing and administration have occurred internationally and in Australia, including within South Eastern Sydney Local Health District (SESLHD) facilities.

NSW Ministry of Health Policy Directive PD2020_045 – High-Risk Medicines Management includes a specific HYDROmorphone Standard which sets out the minimum actions required by NSW Health facilities to prevent errors.

2. BACKGROUND

Incidents involving HYDROmorphone occur for a number of reasons, including:

- Inadvertent administration of HYDROmorphone instead of morphine
- Dose calculation errors with injectable HYDROmorphone
- Lack of awareness of the differences between oral and parenteral dosing schedules
- Inappropriate dosing when converting to HYDROmorphone from other opioids
- Confusion between the various strengths and formulations of HYDROmorphone (see table below).

The following HYDROmorphone products are available in SESLHD:

Brand name	Form	Strengths available in SESLHD facilities
Dilaudid®	Injection	2mg/1mL
Dilaudid - HP®	Injection	10mg/1mL
Dilaudid®	Immediate release tablet	2mg 4mg 8mg
Jurnista®	Modified release (MR) tablet	4mg 8mg 16mg 32mg 64mg

Note: HYDROmorphone (Dilaudid) oral liquid has been discontinued in Australia and is no longer available for use.

Patient safety must be the core priority of all staff involved in the management of HYDROmorphone. The aim of this procedure is to ensure the safe prescribing, storage and administration of the different formulations and strengths of HYDROmorphone.

3. DEFINITIONS

Authorised specialist:

A person authorised to recommend the initiation of HYDROmorphone, being either:

a. A Senior Medical Officer in Palliative Care, Renal Medicine, Pain Medicine, Medical Oncology, Anaesthetics, Intensive Care Medicine, Emergency Medicine or Geriatric Medicine, or

b. A Medical Registrar, Advanced Trainee or Nurse Practitioner working in the following specialities: Palliative Care, Renal Supportive Care or Pain Management.

Authorised prescriber:

A person authorised to write a HYDROmorphone order or prescription. This may be a registrar or consultant from any discipline, or a nurse practitioner specialising in Palliative Care, Renal Supportive Care or Pain Management.

Opioid naïve:

Patients NOT currently taking/receiving an opioid medicine, and those patients with risk factors for opioid related adverse effects

Opioid tolerant:

Patients currently taking/receiving an opioid medicine.

4. RESPONSIBILITIES

4.1 All Medical Officers (plus Authorised Specialists and Authorised Prescribers from other disciplines) will:

- Understand and implement the principles of safe use of HYDROmorphone. This includes understanding and adhering to the prescribing requirements, dosing, contraindications, precautions and monitoring as set out in this procedure
- Consider patient specific factors such as age, renal function, hepatic function, other medications (including current and past opioid use) and comorbidities when prescribing HYDROmorphone
- Include patients and their carers in the decision to prescribe HYDROmorphone and provide written and verbal information on treatment as appropriate
- Review the patient regularly for efficacy of treatment and/or adverse effects
- Include an overview/update about HYDROmorphone treatment at transfers of care, for example Emergency Department (ED) to ward, ward to ICU
- Escalate any adverse events occurring to patients receiving HYDROmorphone.

4.2 Registered Nurses (RN) / Registered Midwives (RM) will:

- Include an overview/update about HYDROmorphone treatment during clinical handover (high risk medicine alert)
- Understand and implement the principles of safe use of HYDROmorphone as set out in this procedure, including confirming that the prescribing requirements have been met before administering HYDROmorphone (see section 5.5)

- Ensure patients receiving HYDROmorphone are monitored for efficacy of treatments and/or adverse effects (see section 5.6)
- Escalate any adverse events occurring to patients receiving HYDROmorphone (see section 5.7)
- Monitor stocks of HYDROmorphone products on the ward and notify pharmacy for removal or destruction of unused products as required.

4.3 Enrolled Nurses (ENs) will:

- Include an overview/update about HYDROmorphone treatment during clinical handover (high risk medicine alert)
- Understand and implement the principles of safe use of HYDROmorphone as set out in this procedure
- ENs without a notation who have completed the board approved additional units of study for administration of medicines can provide a second-person check and witness the administration of HYDROmorphone
- Ensure patients receiving HYDROmorphone are monitored for efficacy of treatment and adverse effects (see section 5.6)
- Practice in accordance with SESLHDPD/160 Medication: Administration by Enrolled Nurses.

4.4 Pharmacists will:

- Understand and implement the principles of safe use HYDROmorphone as set out in this procedure
- Check newly commenced, amended existing or recharted HYDROmorphone orders where appropriate (see section 5.4.4)
- Prioritise patients receiving HYDROmorphone for medication review as part of normal clinical pharmacy service provision
- Provide advice on appropriate use of HYDROmorphone to the clinical team as required
- Assist with appropriate patient/carer education regarding HYDROmorphone
- Report any adverse events occurring to patients receiving HYDROmorphone
- Perform regular reviews of ward Schedule 8 (S8) drug storage units to ensure that unused products are not stocked and promptly remove unwanted hydromorphone products upon request.

4.5 Nursing/Midwifery Unit Managers will:

- Ensure HYDROmorphone is stored in their ward/area in accordance with the requirements of this procedure (section 5.8)
- Implement processes to ensure S8 drug storage units are checked on a weekly basis for HYDROmorphone products that are no longer required
- Support nursing/midwifery staff to escalate concerns with the safe management of HYDROmorphone as required.

4.6 SESLHD Facilities will:

- Implement and monitor completion of mandatory education for medical, nursing and pharmacy staff in relation to the use of HYDROmorphone
- Audit and review clinical practice in relation to HYDROmorphone in their facility
- Review in detail any adverse clinical outcome of HYDROmorphone

- Establish a clinical governance structure to ensure safe use of HYDROmorphone, in accordance with NSW Ministry of Health Policy Directive PD2020_045 – High-Risk Medicines Management.

5. PROCEDURE

5.1 Contraindications to HYDROmorphone use

HYDROmorphone is contraindicated in the following clinical scenarios:

- Patients with known hypersensitivity to HYDROmorphone
- Respiratory depression with hypoxia or hypercapnia where resuscitative equipment is not immediately available
- Status asthmaticus
- Concurrent or recent use of a Monoamine Oxidase Inhibitor (MAOI) e.g. phenelzine, tranylcypromine (within 14 days)
- Pregnancy (category C).

5.2 Precautions

HYDROmorphone is 5 to 7 times more potent than morphine. This means that the dose prescribed should be at least 5 times less than an equivalent dose of morphine. There is an increased risk of adverse events if incorrect or inappropriate doses are used.

Use of HYDROmorphone in opioid-naïve patients is hazardous. There are rare occasions where HYDROmorphone would be considered the most appropriate analgesic for an opioid-naïve patient. The low doses required for safe initiation of therapy cannot be administered with the available oral formulations of HYDROmorphone. Initiation of oral therapy should occur only in opioid-tolerant patients.

HYDROmorphone must only be used in patients for whom other opioid medicines are ineffective, inappropriate or not tolerated. Prior to use of HYDROmorphone, rule out all other analgesic options (e.g. non-opioid analgesia, other opioids or other modes of analgesia) and optimise use of adjuvant analgesia (multi-modal analgesia).

Clinical response to HYDROmorphone may vary considerably from patient to patient. HYDROmorphone should be dosed cautiously and titrated gradually according to response.

HYDROmorphone (and other opioids) should be used with caution in the following circumstances:

- Renal or hepatic impairment and the elderly (see table below).
- Impaired respiratory function, for example: restrictive/obstructive airways disease (e.g. asthma, COPD), risk of airway obstruction (e.g. sleep apnoea), other conditions associated with hypoxia/ hypercapnia (see table below)
- Patients with ileus or bowel obstruction (note: use of HYDROmorphone in palliative patients with malignant bowel obstruction is accepted practice).
- Recent head injury, raised intracranial pressure, decreased level of consciousness or coma
- Uncorrected endocrine abnormalities; hypothyroidism or adrenocortical insufficiency, acute alcoholism, myasthenia gravis, central nervous system (CNS) depression
- Epilepsy or a recognised risk for seizure, e.g. head injury, metabolic disorders, alcohol and drug withdrawal, CNS infections

- Hypotension or shock
- Phaeochromocytoma

The following table shows factors known to increase sensitivity to the effects of HYDROmorphone. Note that the combination of multiple precautions, including those listed above (e.g. elderly patient with COPD and renal impairment), may significantly compound the associated risks.

Precautionary Factor	Issues and Risks
Age > 65 years old	Suitability of HYDROmorphone must be carefully considered. Very low (i.e. 25-50% of usual adult dose) initiation doses are recommended, with slow titration to effect.
Renal Impairment	Start with lower doses, titrate dose carefully and monitor closely for signs of respiratory depression. Accumulation of toxic metabolites may cause neurotoxicity, including features of encephalopathy and hallucinations. Consider alternatives such as fentanyl or oxycodone if available routes are appropriate.
Hepatic Impairment	Dose reductions are recommended for moderate hepatic impairment. HYDROmorphone use in patients with severe hepatic impairment has not been well-established and should be avoided.
Impaired Respiratory Function	Due to its potency there is an increased risk of respiratory depression with HYDROmorphone compared with other opioids. Use with caution, start with low doses and monitor closely.
Complete or Relative Opioid-Naivety	As a potent opioid with significant dose-response variability, use of HYDROmorphone in opioid-naïve patients carries a high degree of risk. There are few occasions where HYDROmorphone would be considered the most appropriate analgesic for an opioid-naïve patient. Mandatory maximum initiation doses for opioid naïve or relatively opioid naïve patients are provided in section 4.4.2.

In all of the above circumstances, **specific advice on dosing and monitoring** should be sought from the team or specialist who recommend use of HYDROmorphone (see section 5.4.1) and clearly documented before prescribing.

5.3 Drug Interactions

- Other CNS depressants, e.g. benzodiazepines, pregabalin, gabapentin: avoid if possible or use with caution ensuring each drug is at the lowest effective dose, and monitor closely.
- Monoamine Oxidase Inhibitors (MAOI) e.g. phenelzine, tranylcypromine: avoid with concurrent or recent use (within 14 days).

5.4 Prescribing

5.4.1 Restrictions on prescribing of HYDROmorphone

HYDROmorphone must only be used in patients for whom other opioid medicines are inappropriate or not tolerated. Consider alternative analgesic options such as other opioids or modes of analgesia prior to use of HYDROmorphone. Multi-modal analgesia may reduce opioid requirements.

Commencement of HYDROmorphone for a specific patient must only be on the advice of an Authorised Specialist, being one of the following:

a. A Senior Medical Officer in Pain Medicine, Renal Medicine, Medical Oncology, Anaesthetics, Intensive Care Medicine, Emergency Medicine or Geriatric Medicine, or

b. A Medical Registrar, Advanced Trainee or Nurse Practitioner working in the following specialities: Palliative Care, Renal Supportive Care or Pain Management.

After-hours, the relevant on-call Authorised Specialist should be consulted for advice. **In the exceptional circumstance where expert advice cannot be obtained, one or more doses of an alternative opioid must be used until specialist review can occur.**

All new HYDROmorphone orders must be written by an Authorised Prescriber. This includes both newly initiated treatment and where the patient is admitted on HYDROmorphone.

Adjustments to existing orders and re-writing of charts may be made by a Junior Medical Officer (JMO) (below registrar level), but must be checked by either an Authorised Specialist, Authorised Prescriber or Registered Pharmacist.

HYDROmorphone must not be prescribed simultaneously with any other opioid except in the following instances:

i) When prescribed for PRN use for breakthrough pain with another opioid prescribed regularly
ii) When short acting HYDROmorphone is prescribed with a transdermal patch as part of a titration process or during initiation phase whilst awaiting steady state of the transdermal preparation.
iii) Where a patient is receiving opioids as part of an opioid treatment program. Advice from the Drug & Alcohol service should be sought to develop an analgesic plan that is appropriate and safe.

5.4.2 Dosing

5.4.2.1 Initiating HYDROmorphone

In opioid naïve patients, those with risk factors for toxicity (see section 5.2) or those receiving other medications that can potentiate the effects of HYDROmorphone, appropriate adult starting doses are as follows:

- **Subcutaneous route:** 0.25mg up to every 4 hours (to a maximum of 1.5mg in 24 hours)
- **Oral route:** Not suitable for initiation in opioid naïve patients or those with risk factors for toxicity:
  - **The smallest available immediate release tablet is 2mg (equivalent to approx. 10mg oral morphine). This is inappropriate and unsafe as an initiation dose.**

- **Modified release formulations (Jurnista®) must never be prescribed when initiating oral HYDROmorphone**

- **IV route** – For dosing in the post-operative Recovery Unit setting refer to SESLHDPR501 - Acute Pain Management in the Post Anaesthetic Care Unit: Intravenous Opioid Pain Protocol for Adults Fentanyl, HYDROmorphone, Morphine and Oxycodone.

  IV dosing in other settings (e.g. ICU) must be guided by local protocols

- **Via PCA** – refer to local PCA guidelines

Fixed Interval Variable Dose (FIVD) regimens must not be used for HYDROmorphone.

Once a patient's response to the initial doses of HYDROmorphone has been assessed, the dose may be carefully titrated according to analgesic need in consultation with the relevant specialist.

5.4.2.2 Converting to HYDROmorphone from another opioid

Use of the Opioid Calculator Application by the Australian and New Zealand College of Anaesthetists (ANZCA) Faculty of Pain Medicine is recommended to estimate the dose equivalency between the current opioid and HYDROmorphone. The ANZCA calculator is appropriate for use in both opioid-naïve and opioid-tolerant patients.

In Oncology and Palliative Care settings other opioid conversion tools may be used, for example the eviQ opioid conversion calculator or locally-approved opioid conversion guidelines.

When using an opioid conversion calculator it is important to note that incomplete cross-tolerance and inter-patient variability can be significant. **When converting from a different opioid to HYDROmorphone a dose reduction of 25% to 50% should be applied to the suggested ('converted') dose of HYDROmorphone**, and the dose titrated thereafter according to analgesic need.

The smallest available immediate release HYDROmorphone tablet is 2mg. Do not round calculation up to achieve a 2mg dose. An alternative opioid must be used if doses lower than 2mg are calculated.

5.4.2.3 Patients admitted on HYDROmorphone

The formulation, dose, route and frequency used by the patient must be confirmed with the patient and another reliable source (e.g. patient's GP, community pharmacist or medication list) prior to prescribing.

Patients admitted via an Emergency Department (ED) should have treatment reviewed by an ED Specialist or the senior ED registrar/team leader at the earliest opportunity. Where concerns about the appropriateness of treatment are identified, the patient should be referred to a relevant speciality for consultation or review within an appropriate timeframe.

Patients admitted via other areas should be referred to an Authorised Specialist at the earliest opportunity for advice on appropriate management.

5.4.3 Documentation Requirements

All orders for HYDROmorphone must include:

i. Drug, including both generic and trade (brand) name
ii. Dose, route and frequency
iii. Maximum daily dose for PRN orders
iv. Indication

Handwritten orders must be legible and clear and include the full name of the prescriber.

Each individual order should be for one route only; there must never be more than one route on each individual HYDROmorphone order.

Both the generic and trade names must be included in the order to distinguish between the modified-release and immediate-release formulations. If a modified-release (MR) formulation is intended this must be indicated by ticking the MR box on the medication chart or selecting a MR formulation in an electronic system.

Additional documentation requirements depend on the reason for writing the medication order and are detailed below (5.4.3.1 to 5.4.3.4).

5.4.3.1 Patients admitted on HYDROmorphone
After confirmation with the patient and a second information source, the formulation, dose, route and frequency taken by the patient and details of information source must be documented in the medical record before prescribing.

5.4.3.2 Newly initiating HYDROmorphone
When newly initiating HYDROmorphone the following must be clearly documented in the medical record in addition to prescribing on the medication chart:

i. Drug and formulation, including both generic and trade name
ii. Dose, route and frequency
iii. Maximum daily dose as mg/24 hours for PRN orders
iv. Indication
v. Name and designation of the specialist who has recommended initiation of HYDROmorphone (where this is different from the person documenting)
vi. If switching from another opioid, the PREVIOUS drug, formulation, dose and route and the mathematical rationalisation of the dose conversion.

5.4.3.3 Adjusting a HYDROmorphone order
When adjusting an order for HYDROmorphone (e.g. increasing the dose, changing the route), the previous order should be discontinued and a new medication order must be prescribed.

The following must be clearly documented in the medical record, in addition to prescribing on the medication chart:

i. Current formulation, dose, route, frequency and maximum dose for PRN orders
ii. New formulation, dose, route and frequency and maximum dose for PRN orders
iii. Indication
iv. Reason for change.

5.4.3.4 Re-charting a HYDROmorphone order
Care should be taken when re-charting an order for HYDROmorphone (at the same, dose, route and frequency), to ensure all details are transferred correctly to the new medication chart. No documentation in the medical record is required.

5.4.4 Checking Requirements

All HYDROmorphone orders (including adjustments to and re-charting of existing orders), must be checked by a second person prior to administration:

Type of order	Persons able to prescribe	Persons able to check
New order (includes patients admitted on HYDROmorphone)	Authorised Prescriber	• Any Medical Officer • An Authorised Specialist • A Registered Pharmacist
Adjusting or re-charting existing orders	Authorised Prescriber	• Any Medical Officer • An Authorised Specialist • A Registered Pharmacist
	JMO (below registrar level)	• Any Authorised Prescriber or Authorised Specialist • A Registered Pharmacist

The person checking must:

1. Document their name on the medication order*, AND
2. Document a progress note in the medical record which confirms the order has been checked and includes their name, designation and signature.**

**in Cerner eMR the "order comments" section should be used; in eRIC the "comments" section should be used; on paper medication charts the name should be printed clearly and legibly.*

*** in Cerner eMR this can be achieved by adding an addendum to an existing progress note. In eRIC a new progress note should be documented.*

5.4.4.1 Responsibility of Prescriber and Person Checking

The prescriber is responsible for ensuring that the HYDROmorphone order is safe and appropriate to the clinical context of the individual patient. The prescriber is also responsible for ensuring that all documentation requirements outlined in section 5.4.3 have been met.

The person checking the order is responsible for the following:

- Confirming that the prescribed HYDROmorphone order is safe and appropriate in the clinical context of the individual patient
- Where changes to a previously charted HYDROmorphone regimen are involved, confirming that these changes are intentional, appropriate and justified
- Where dose calculations or conversions are involved, confirming both the accuracy of the calculations and the applicability of the references used to the clinical context of the individual patient.

5.5 Administration

Perform a full set of vital sign observations immediately prior to any dose administration (excluding patients on an End of Life Care Plan (EOLCP)). Refer to section 5.7 for management of results outside of normal ranges.

When administering the first dose from a new HYDROmorphone order (including newly prescribed, adjusted or re-charted orders), the following must be confirmed by the person administering, together with the witness to administration:

1. The medication order includes the name of the person who has checked the order, AND
2. The name and signature of the checker in the progress notes matches the name documented on the medication order.

For subsequent doses, the person administering and the witness to administration must ensure that the medication order includes the name of the person who has checked the order.

If these documentation requirements are not met, the dose should not be administered.

Before each administration confirm that the order details are complete (including dose, route, frequency brand and maximum daily dose for PRN orders). Always check that the order appears appropriate for the individual patient, with reference to the patient's medical record.

Any identified issues must be raised immediately with the prescriber. If a satisfactory resolution is not met, concerns should be escalated to the Nursing/ Midwifery Unit Manager or After Hours Nurse Manager.

A second person check, including witnessing of the administration, is mandatory as per NSW Ministry of Health Policy Directive PD2013_043 - Medication Handling in NSW Public Health Facilities. Both parties must individually and independently check and confirm the correct drug, dosage, route, frequency and formulation before each administration.

5.6 Monitoring

The frequency and type of monitoring will be determined by the individual circumstances. For example:

- in patients on long-term stable therapy routine observations may be sufficient;
- patients on an EOLCP may be excluded from monitoring;
- patients with risk factors for adverse effects (see section 5.2) or patients taking other medications which may potentiate the sedation and respiratory depressant effects of HYDROmorphone (e.g. benzodiazepines, antipsychotics etc.) may require increased monitoring.

The Attending Medical Officer and/or Specialist team should specify in the progress notes the specific monitoring requirements for the individual patient.

For all other patients, the following is a guide:

Mode of administration	Perform and Record	Frequency
Oral	Sedation score, respiratory rate, pain score	One hour after initial dose (or dose increase) then every four hours if dosing continues
Subcutaneous (intermittent dosing)	Sedation score, respiratory rate, pain score	30 minutes after initial dose (or dose increase) then every four hours if dosing continues
Continuous subcutaneous infusion (CSCI) (Palliative Care)	Sedation score, respiratory rate, pain score and as per CSCI Monitoring Chart	30 minutes after initiation of the infusion (or dose increase) then every four hours
Post Anaesthetic Care Unit (Pain Protocol)	Sedation score, respiratory rate, BP, pain score	Every 3 to 5 mins while on protocol
Patient Controlled Analgesia (PCA)	Sedation score, respiratory rate, pain score	Every hour for six hours then every two hours for the duration of the PCA

The patient must also be observed the patient for other side effects, e.g. light headedness, visual disturbances, tinnitus, constipation, pruritis, nausea, vomiting. Refer to medical team for review if necessary.

5.7 Management of Complications

Ensure naloxone is available wherever HYDROmorphone is used.

For the deteriorating patient activate the Between the Flags (BTF) rapid response system as per SESLHDPR/283 - Deteriorating Patients - Clinical Emergency Response System for the Management of Adult and Maternity Inpatients and local facility Clinical Emergency Response System (CERS) business rules.

Complication	Management
Respiratory Depression	If Respiratory Rate 6 to 10 breaths per minute and/or SpO2 < 90% • Cease administration of all opioids and arrange specialist review as soon as possible • Give oxygen via mask and support airway if necessary • Monitor oxygen saturation • Assess sedation level and if possible encourage patient to breathe deeply • Follow Yellow Zone escalation procedure (clinical review) If Respiratory Rate ≤ 5 • Cease administration of all opioids and arrange specialist review as soon as possible

	• Give oxygen at 10L/min via Hudson mask and support airway if necessary • Activate a CODE BLUE call • Give IV naloxone as prescribed* • Commence ventilatory assistance if required
Increased Sedation	Sedation Score 2 (constantly drowsy or unable to stay awake) • Cease administration of all opioids and arrange specialist review as soon as possible • Give oxygen and monitor oxygen saturation • Check respiratory rate frequently • Follow Yellow Zone escalation procedure (clinical review) Sedation Score 3 (difficult to rouse) • Cease administration of all opioids. • Give oxygen • Check respiratory rate • Activate a Rapid Response call • Give naloxone as prescribed* Sedation Score 3 (unresponsive) • Cease administration of all opioids. • Give oxygen • Check respiratory rate • Activate a CODE BLUE call • Give naloxone as prescribed* • Commence ventilatory assistance if required
Urinary Retention	Contact the patient's attending medical team
Nausea	Ensure anti-emetics are prescribed for PRN use and offered as frequently as the PRN order permits. If one antiemetic does not work, proceed to alternative and request medical review If patient requires more than 2 doses of antiemetic in 24 hours consider ordering regularly. Identify if the patient is hypotensive (systolic BP <90mmHg or as adjusted on the Alterations to Calling Criteria on the Electronic Observation Chart (BTF) in eMR) and check fluid balance.
Pruritus (itch)	DO NOT use sedating antihistamines Consider alternative opioid If persistent, seek specialist advice
Constipation	Prophylactic aperients are recommended in most cases. Contact attending medical team if aperients are not prescribed. If bowels not opened for >48 hours aperients should be reviewed.

** Refer to local protocols for prescribing and administration of naloxone*

In the event of complications when using modified release preparations, further advice should be sought from an Authorised Specialist. The long half-life of the drug may necessitate increased monitoring and extended treatment e.g. naloxone infusion.

In patients who have an EOLCP in place, complications should be managed in accordance with their individualised plan. CPR or CERS calls may not be appropriate. The Medical Emergency Treatment Limitation Section on the reverse side of the Resuscitation Plan form should be completed with specific instructions for the management of any opioid-related complications.

5.8 Storage of HYDROmorphone

HYDROmorphone products must be supplied to clinical areas from pharmacy in an orange bag with clear labelling to distinguish them from morphine products. They must remain in this bag throughout storage in the clinical area.

HYDROmorphone must be stored separately from morphine products, for example in a separate safe or on a different shelf. Where possible, clear shelf labelling should be applied utilising tall-man lettering.

HYDROmorphone products must only be stocked in clinical areas where they are in regular use. Where practicable, HYDROmorphone should be supplied from pharmacy on an individual patient basis and the patient's medication chart clinically reviewed by a pharmacist prior to supply.

A list of areas permitted to stock HYDROmorphone 10mg/mL injection must be kept at each site. Review of storage areas should be undertaken on a six-monthly basis. Where the 10mg/mL injection is required for a specific patient outside of these areas, clear labelling and education strategies must be in place to mitigate the risk of product selection error.

HYDROmorphone products dispensed for a specific patient must not be used for another patient (exceptions may be made after hours at the discretion of the After Hours Nurse Manager and/or the on-call pharmacist.)

Where current or imminent need for a dispensed product cannot be demonstrated, the supply should be removed from the clinical area at the earliest opportunity. All medication safes should be checked at least once per week by the NUM/MUM (or their delegate) to identify any stock of HYDROmorphone that is not in use and pharmacy notified promptly for its removal.

The 50mg/mL injection must not be stocked in SESLHD facilities. Where high doses are required, manufactured pre-filled syringes must be used.

5.9 Medication Review

Pharmacists should prioritise patients prescribed HYDROmorphone for clinical review during business hours. Within each SESLHD facility, mechanisms should be in place to assist pharmacists with identification of these patients.

When clinically reviewing a HYDROmorphone order, the pharmacist is responsible for ensuring the appropriateness of the drug, formulation, dose, route and frequency in the context of the individual patient's clinical parameters. The pharmacist should also ensure that all prescribing requirements (under section 5.4) have been met.

Once satisfied with the order, the pharmacist should either:

1. electronically verify the order, or
2. initial the pharmacy section on a paper chart.

5.10 Staff Education

All nursing, pharmacy and medical staff must undertake the HETI eLearning module 'Safe Use of HYDROmorphone' which can be accessed via HETI My Health Learning (Course Code 199776392).

5.11 Patient Information

Patients and/or their carers should be provided with education and written information regarding HYDROmorphone appropriate to their level of understanding. The SESLHD HYDROmorphone discharge medication leaflet available from Stream Solutions (NHSIS1091 Oral HYDROmorphone) is recommended for use for most patients. Consumer Medicines Information for the relevant product(s) should also be provided if considered appropriate.

Sydney Health Care Interpreter Services should be utilised for education of patients and/or carers who are not fluent in English (Tel: 95150030). For patients who are deaf, Auslan interpreters should be used (Tel: 1300 287526).

The patient's family and/or carer should be advised to alert the patient's nurse or a medical officer if they have any concerns regarding the patient's clinical condition.

6. DOCUMENTATION

Medication Chart: depending on the route of administration, HYDROmorphone is to be prescribed on an approved paper or electronic medication chart, pain management chart or fluid chart.
Medical Record
Observation charts
Relevant clinical pathways

7. AUDIT

HYDROmorphone prescribing audits to be completed annually and results reported to the facility Safe Use of Medicines Committee and the SESLHD Quality Use of Medicines Committee
Continual monitoring and review of IMS+ notifications

8. REFERENCES

NSW Ministry of Health Policy Directive PD2013_043 - Medication Handling in NSW Public Health Facilities

NSW Ministry of Health Policy Directive PD2020_045 – High-Risk Medicines Management

SESLHDPR/283 - Deteriorating Patients - Clinical Emergency Response System for the Management of Adult and Maternity Inpatients

Therapeutic Guidelines Limited (Pain and Analgesia) Published 2012, eTG August 2020 Edition

Therapeutic Guidelines Limited (Palliative Care) Published July 2016, eTG August 2020 Edition

Australian Medicines handbook Pty Ltd – HYDROmorphone, last modified July 2020

NSW Health Safety Alert number 001/17 – HYDROmorphone: High-risk medicine, 2017

NSW Health Safety Alert 004/17 HYDROmorphone (high-risk medicine): Changes to Dilaudid® injectable preparations, 2017

9. REVISION AND APPROVAL HISTORY

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June 2020	0.1	Katie Hargreaves
3 July 2020	0.2	Feedback from Working Party incorporated
23 July 2020	0.3	Feedback from Working party and other specialists incorporated
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21 August 2020	0.5	Feedback from Working party and other specialists incorporated
4 December 2020	0.6	Feedback from district-wide consultation discussed with Working Party and incorporated where agreed.
January 2021	DRAFT	Final version approved by Executive Sponsor. Processed by Executive Services for tabling at Quality Use of Medicines Committee and Clinical and Quality Council for approval to publish.
February 2021	0.7	Approval deferred by QUM Committee due to notification of discontinuation of HYDROmorphone oral liquid. Changes made in discussion with working group to reflect discontinuation of product. To be tabled at March Quality Use of Medicines Committee.
March 2021	0.7	Approved at Quality Use of Medicines Committee. To be tabled at Clinical and Quality Council for approval.
May 2021	0.7	Approved at Clinical and Quality Council.

APPENDIX 1: HYDROmorphone Prescribing Flowchart

Is the HYDROmorphone order NEW, CONTINUING or BEING ADJUSTED?

NEW medication

HYDROmorphone is being commenced as a NEW medication for this patient

Commencement must be on the advice of one of the following:

- A Medical Registrar, Advanced Trainee or Nurse Practitioner working in either Palliative Care, Renal Supportive Care or Pain Management
- A Staff Specialist in Renal Medicine, Medical Oncology, Anaesthetics, Critical Care, Emergency Medicine or Aged Care

NOTE: After hours the relevant on-call specialist should be consulted for advice. If expert advice is not available, one or more doses of an alternative opioid should be used until specialist review can occur.

Any **registrar, Senior Medical Officer or authorised Nurse Practitioner** may chart in accordance with documentation requirements below.

CONTINUING

The patient has been admitted to hospital taking HYDROmorphone.

The HYDROmorphone regimen which has been prescribed prior to admission to hospital must be confirmed with the patient/carer and at least ONE other reliable information source (e.g. GP, community pharmacy, up-to-date medication list).

The formulation, dose, route and frequency taken by the patient and details of the information sources must be documented in the medical record.

Any **registrar, Senior Medical Officer or authorised Nurse Practitioner** may chart in accordance with documentation requirements below.

ADJUSTMENT or RE-CHARTING of an existing regimen

HYDROmorphone is not new for this patient, but the regimen (dose, route or frequency) is being changed, or an existing order is being re-written.

Any Medical Officer or authorised Nurse Practitioner may chart in accordance with documentation requirements below.

CHECK REQUIRED!

All HYDROmorphone orders must be checked by either another Medical Officer, Registered Pharmacist or a Nurse Practitioner specialising in Palliative Care, Renal Supportive Care or Pain Medicine. Where two Medical Officers are prescribing and checking, at least one must be a registrar or above.

NOTE: the person checking should document their name on the medication order AND enter a progress note.

HYDROmorphone Documentation Requirements

The following must be included in the medication order and documented in the medical record:

- Generic AND Trade name of medication
- Dose, frequency and route – each order must be for ONE route only
- Maximum daily dose (in mg/24 hours) for PRN orders
- Indication for use (e.g. post-op pain, cancer pain, SOB)

The following must be documented in the medical record:

- Name of specialist who has provided advice on HYDROmorphone use (where appropriate)
- If switching from another opioid, the PREVIOUS drug, formulation, dose and route, and the mathematical rationalisation of the conversion.
- When adjusting a HYDROmorphone order – the old and new regimens and reasons for change.

For further details refer to SESLHDPR669 – Management of HYDROmorphone in Adult Inpatients in SESLHD Acute Care Facilities