Epidural / Spinal Analgesia Management Policy

1. Background

1.1. Overarching principle

To deliver safe, effective epidural and spinal analgesia.

This policy is to be used alongside the following documents, the:

- WA Health system MP 0086/18 Recognising and Responding to Acute Deterioration Policy
- WA Health system MP 0131/20 High Risk Medication Policy
- WA Health system Guidelines for Managing Specific High Risk Medications Relevant to the Organisation
- WACHS Clinical Escalation of Acute Physiological Deterioration Including Medical Emergency Response Policy
- WACHS High Risk Medications Procedure
- WACHS Maternity and Newborn Care Guidelines – Endorsed for Use in Clinical Practice Policy (see inserted links throughout)
- WACHS Medication Administration Policy
- Australian Commission on Safety and Quality in Health Care (ACSQHC) National Standard for User-applied Labelling of Injectable Medicines, Fluids and Lines

1.2. Safety and quality

Use of pre-mixed local anaesthetic and opioid epidural medications should be maximised ensuring no additions /dilutions are made to pre-mixed solutions. This should[1]:

- minimise the likelihood of drugs errors
- reduce confusion between the different types and strengths of epidural medication solutions
- reduce the need for complex drug calculations
- improve consistency for staff
- assist with minimising contamination by decreasing the potential number of key parts and sites (in relation to the maintenance of asepsis).

1.3. Documentation

The MR170.2 WACHS Epidural/Spinal Prescription and Additional Observation Chart is to be used.

1.3.1 Vital signs (including pain scores) are recorded on the MR140A WACHS Adult Observation and Response Chart (A-ORC), MR140B WACHS

[1] United Kingdom, National Health Service National Patient Safety Agency Alert 21 - Safer practice with epidural injections and infusions, July 2007.

Maternal Observation and Response Chart (M-ORC) or Partogram as appropriate.
Additional epidural /spinal specific observations (including insertion site inspections, dermatomes and Bromage score) should be recorded on the MR170.2

1.3.2 Any modifications to the response criteria outlined in the MR140A WACHS Adult Observation and Response Chart (A-ORC) and MR140B WACHS Maternal Observation and Response Chart (M-ORC) must be made accordance with the WA Health Recognising and Responding to Acute Deterioration Guideline [Section 8] and the WACHS Clinical Escalation of Acute Physiological Deterioration Including Medical Emergency Response Policy.

1.3.3 Where the Partogram is in use, a clear monitoring plan is to be documented in the MR55A WACHS Integrated Progress Notes.

1.3.4 Specific nursing/midwifery management for the treatment of problems with epidural therapy are to be clearly documented on the MR55A WACHS Integrated Progress Notes and must include the:

- Actions taken
- Ongoing monitoring requirements
- Instructions for further escalation of care.

2. Policy Statement

2.1. Endorsement of the King Edward Memorial Hospital (KEMH) anaesthetic and pain medicine clinical practice guidelines for labour and post-operative analgesia and management for WACHS clinical practice**.**

WACHS clinicians are to follow the endorsed maternity and newborn care guidelines of KEMH as set out in this policy, unless otherwise stated. Additional WACHS specific information is referred to where relevant.

Where sites do not have an Acute Pain Service (APS), all references to contacting the Acute Pain Service within KEMH guidelines, will instead mean contacting the primary treating anaesthetic doctor.

WACHS acknowledges that the language within the KEMH epidural clinical guidelines is obstetric focused. Where the KEMH guidelines refer to female patients this is to include males, unless the guideline refers to intrapartum/postpartum women.

2.2. Indications for epidural therapy

- Provision of analgesia in labour and anaesthesia for Caesarean Section
- As an alternative or adjunct to general anaesthesia
- Provision of postoperative analgesia – including, but not limited to, Caesarean section, major abdominal, orthopaedic, urological and gynaecological surgery
- Provision of analgesia for pain resulting from acute trauma e.g. limb amputation
- Back pain / sciatica management.

2.3. Advantages of Epidural analgesia

- More effective post-operative analgesia[1,2]:
  - For all types of surgery, epidural analgesia provides better postoperative pain relief compared with parenteral (including PCIA) opioid administration
  - After Caesarean section utilising epidural anaesthesia, epidural opioids are more effective than intermittent injections of parenteral opioids
  - Earlier mobilisation and associated benefits such as less risk of DVT, atelectasis, pneumonia, earlier discharge[1,3]
- Lower dosages and less supplementation with systemic opioids/ analgesics[4,2]:
  - Less sedation
  - Reduced infant drug transfer rates in lactating women[5]
  - Less nausea and vomiting
  - Single-dose epidural morphine (particularly a slow-release formulation) or intrathecal morphine reduced post Caesarean section analgesic requirements[6]
- Improved patient satisfaction with pain management, particularly when patient controlled methods are used[4]
- Intermittent epidural boluses for labour analgesia result in less use of local anaesthetic and higher maternal satisfaction when compared to continuous epidural infusions[11,12]

Related evidence from the Australian and New Zealand College of Anaesthetists (ANZCA) Acute Pain Management: Scientific Evidence fifth edition 2020 is summarised here:

- Intrathecal morphine and fentanyl prolong spinal local anaesthetic block, with fentanyl being associated with fewer adverse effects (Level I evidence)
- Lower concentrations of local anaesthetics (<0.1% Bupivacaine and < 0.17% Ropivicaine) in labour result in a shorter second stage of labour, fewer assisted vaginal births, greater ambulation and less urinary retention than higher concentrations (Level I).
- There is no significant difference between use of Bupivacaine and Ropivacaine for epidural analgesia in labour for any outcome (Level I).
- In labour epidural analgesia, adrenaline (5 mcg/mL) added to low-dose bupivacaine infusions decreased pain scores and resulted in longer duration of action, with no change in labour duration (Level II).

2.4. Complications / risks of Epidural Therapy[7,10,16]

- Fetal bradycardia
- Failed/partial/patchy block (12%)
- Hypotension (5 – 10%)
- Accidental dural puncture (1:100)
- Postdural puncture headache (60 – 80% all punctures)
- Local anaesthetic toxicity (1: 2500)
- High block (1:2500 with1:5500 requiring treatment)

- Inadvertent subarachnoid injection
- Neurological or spinal cord injury (Obstetric 1:25000, non-Obstetric 1:3600)
- Epidural haematoma (Obstetric 1:168000, non-Obstetric 1:26000); higher with inappropriate LMWH regimes
- Epidural abscess (Obstetric 1:145000)
- Persistent neurological injury (Obstetric 1:240000), transient (1:6700)
- For additional risks and complications refer to Section 2.9

NOTE: Hot packs are **not** to be used for patients receiving epidural/spinal analgesia.

2.5. Contraindications

As per:

- Epidural Analgesia in Labour
- Insertion of an Epidural Catheter

2.6. Methods of Delivery

2.6.1. The accepted methods of epidural therapy delivery used within WACHS include:

- Patient Controlled Epidural Analgesia (PCEA) / Intermittent Epidural bolus (IEB) +/- continuous infusion
- intermittent top-up injection
- continuous infusion (CEI) +/- clinician bolus
- single dose injection i.e. analgesia for prolapsed disc.

2.6.2. Epidural infusions and PCEA must be delivered via a dedicated epidural delivery device, which is locked to avoid reprogramming or tampering. Additional safeguards include:

- Operation in accordance with manufacturer's instructions for device use
- Standardised device across site and / or region
- Standardised configuration of pumps across site and / or region
- Use of devices purchased from the HCNS 328612 Electro Medical Equipment contract only
- The giving sets for PCEA pumps must have anti-siphon, anti-reflux valves.

Relevant information is also included in the WACHS Human Error and Patient Safety (HEAPS) Directive – Safe Administration of Epidural Analgesia November 2013

2.7. Safe Labelling and Identification of Medications Intended for Epidural Administration

2.7.1. Epidural tubing and IV tubing are currently inter-connectable (Luer locks) to both epidural filters and IV cannulae. There are known cases of inadvertent connection of epidural lines to IV lines and vice versa resulting in medication errors and patient associated sequelae.

2.7.2. The International Standards Organisation has approved ISO 80369-6:2016, which relates to small bore connectors specific for neuraxial applications. Australian manufacturers will be introducing these in 2016 however in the interim, to reduce the likelihood of this risk, all anaesthetic, nursing and midwifery staff are to ensure:

2.7.2.a The use of dedicated yellow coloured epidural pain management pumps, lines and medication cassettes. Yellow specifically indicates epidural use only

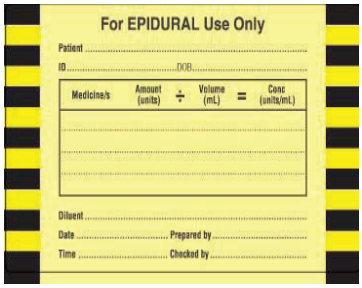
2.7.2.b That all epidural lines and medications are appropriately labelled with yellow/black hatched labels indicating epidural/spinal use as per the (ACSQHC) National Standard for User-applied Labelling of Injectable Medicines, Fluids and Lines (see Table 1 below)

2.7.2.c Two (2) epidural competent nursing/midwifery staff to check and connect the infusion/PCEA to the epidural; where there are not two (2) nursing/midwifery staff available, the anaesthetic doctor is to provide the second staff member check

2.7.2.d All epidural drugs administered independently by doctors (e.g. in theatre or labour ward) must be checked appropriately and recorded on the Anaesthetic Record (MR number varies across WACHS) or the MR170.2 WACHS Epidural/Spinal Prescription and Additional Observation Chart.

2.7.3 The epidural infusion bag/syringe/medication cassette must be changed every 24 hours.

2.7.4 The epidural infusion line must be changed every 72 hours and a new line change label attached.

TABLE 1 - EPIDURAL LABELS			
Syringes (and small bags with additives) 60mm x 50mm	158735G		**Ensure bag contents, batch number and expiry date are visible when label applied**
Bags with Additives (and large syringes) 100mm x 60mm	158729Y		
Line Label / Route	158741P		**Attach label closest to the patient end of epidural line**

2.8. Insertion of Epidural Catheter

2.8.1 Managed in accordance with: Insertion of Epidural Catheter.

2.8.2 Written consent is to be obtained prior to insertion, where possible using the WACHS MR30D Consent to Anaesthesia – General or Regional.

2.8.3 **Alcoholic skin preparation solutions are neurotoxic**. Cases have been reported where clear coloured alcoholic skin preparation solutions have been inadvertently injected into the epidural space resulting in permanent neurological injury.

Actions known to avoid this error are outlined in a New South Wales Health Safety Notice 010/10 Correct identification of medication and solutions for Epidural analgesia and anaesthesia (25 August 2010) as below:

- Skin preparation must be completed prior to any medication preparation. **In WACHS:** Chlorhexidine 0.5% in ethanol 70% (tinted dark red/pink) sterile swab stick applicators are used and not decanted solutions into containers.
- After skin preparation, the applicator swab sticks used must be removed from the sterile set-up prior to proceeding with medication preparation.
- Only the prescriber can select, prepare, administer and record the epidural or spinal drug administered.

2.9. Common Problems, Side Effects and Complications

2.9.1 Managed in accordance with KEMH:

- Management of common problems - includes disconnected/leaking filter, leaking site, catheter occlusion, poor analgesia, dressing lifting and medical devices not re-filling
- Epidural and spinal - side effects - includes itch, nausea, shivering, back ache and post-dural puncture headache.
- Epidural complications - includes hypotension (*see additional info under 2.8.2 below)*, local anaesthetic toxicity (*see additional info under 2.8.2 below*), high block, inadvertent subarachnoid opioid, epidural haematoma (minimum timing of anti-coagulants in relation to epidural removal), neurologic and spinal damage and infection
- Accidental dural puncture – (includes epidural blood patch)

Treatment of side effects associated with epidural opioids is managed as per Post-operative pain - includes drowsiness, nausea and vomiting, pruritus, urinary retention, respiratory depression and inadequate analgesia.

2.9.2 Additional WACHS specific information:

- To minimise the risk of epidural haematoma, all patients having an epidural/spinal are to have a documented VTE risk assessment completed to determine whether thromboprophylaxis is indicated. See further info under Epidural Catheter Removal below.
- Management of severe local anaesthetic toxicity will be as per the Royal Australian and New Zealand College of Anaesthetists endorsed guidelines from the Association of Anaesthetists in Great Britain and Ireland:
- Safety guideline - Management of severe local anaesthetic toxicity; Accompanying notes - Management of severe local anaesthetic toxicity
- In managing inadequate analgesia with infusions, follow the KEMH inadequate analgesia steps. If inadequate analgesia is still an issue, refer to Appendix A: Infusion Management for cascading analgesia treatment,

or the MR170.2 WACHS Epidural/Spinal Prescription and Additional Observation Chart

- The process of managing hypotension in WACHS varies from the KEMH guideline due to onsite anaesthetic/Acute Pain Service (APS) availability.

2.10. Intrathecal (Spinal) Morphine Management

2.10.1 Managed in accordance with KEMH Postoperative Management: Anaesthetics Clinical Practice Guideline and the WACHS MR 170.3 Epidural / Spinal Morphine record

2.10.2 **Additional WACHS specific information:**

- Oxygen is routinely required **for all non-obstetric patients** initially for 24hours until reviewed by the anaesthetist. Oxygen for **obstetric patients** is only required by order of anaesthetist.
- It is recommended that non-obstetric patients are closely observed in a multi-patient room nearest to the nurses' station.
- Additionally, apply a stamp/sticker notation: *"Intrathecal Morphine was administered on __/__/__ at __am/pm. Dose ____mcg. Monitor for sedation and respiratory depression for 24 hours"* to the once only section of the Hospital Medication Chart.

2.11. Epidural infusion and PCEA Management

As per Appendix A: WACHS Epidural Infusion and PCEA management guideline.

2.12. Epidural / Spinal Observations

2.12.1 Observation requirements are summarised on the rear of the MR170.2 WACHS Epidural/Spinal Prescription and Additional Observation Chart

2.12.2 These observations are guided by the following KEMH guidelines:

- Epidural top-up procedure
- Checking of dermatomes:
  - **Additional dermatome observations for WACHS:** to include routine dermatome assessment 2 hourly while local anaesthetic in use.
  - Each site should make available a laminated, coloured dermatome reference chart in relevant clinical areas. A dermatome chart is available from the Epidural Management Program learning resources, accessed via MyLearning
- Assessment of motor function
- Intrathecal morphine (refer to 2.10.1)

2.13. Bladder Management

2.13.1 Managed in accordance with KEMH:

- Intrapartum - 1st stage of labour (care in labour section – maternal observations)
- Intrapartum and postpartum – Bladder management
- Intrathecal morphine (refer to 2.10.1)

2.13.2 **Additional WACHS specific information for non-obstetric patients:**

- All surgical patients require an IDC post-operatively whilst the epidural is insitu
- The IDC should be removed as per site based procedures, dependent on the type of surgery.
- For non-obstetric/non-surgical patients where care differs from the KEMH guidelines, these must be documented on the MR55A WACHS Integrated Progress Notes

2.14. Epidural Catheter Removal

2.14.1 Managed in accordance with KEMH Epidural Catheter Removal

2.14.2 Additional WACHS specific information:

- Removal instructions are to be documented by the anaesthetist.
- Additional thrombo prophylaxis considerations[2]:
  - Where the anaesthetic doctor requires a longer removal delay, this is to be clearly documented on the MR170.2 WACHS Epidural/Spinal Prescription and Additional Observation Chart

2.15. Guidelines for Ambulation

Managed in accordance with KEMH: Assessment of motor function

2.16. Medications Used for Epidural/Spinal Analgesia/Anaesthesia

2.16.1 Managed in accordance with the common regimes outlined in KEMH Administration of epidural therapy

2.16.2 Additional WACHS specific Information:

- In addition to the drugs outlined in the KEMH guidelines, medications used in WACHS (for all modes of delivery) may also include Ropivicaine 1mg/ml and 2mg/ml strengths +/- either fentanyl 2mcg/ml or 4mcg/ml.

3. Definitions

CEI	Continuous Epidural Infusion
DVT	Deep vein thrombosis
IDC	Indwelling catheter
IEB	Intermittent Epidural boluses
ISO	International Standards Organisation
HCNS	Health Corporate Network
L&D	Learning and Development

[2] National Health and Medical Research Council. 2009. **Clinical practice guideline for the prevention of venous thromboembolism (deep vein thrombosis and pulmonary embolism) in patients admitted to Australian hospitals**. Melbourne.

LMWH	Low Molecular Weight Heparin
NMBA	Nursing and Midwifery Board of Australia
PCEA	Patient controlled epidural analgesia
PCIA	Patient controlled intravenous analgesia
TKVO	To keep the vein open
VTE	Venous thrombo-embolism

4. Roles and Responsibilities

4.1. Regional Medical Directors and Regional Nurse Directors

Are responsible for ensuring that all clinical staff caring for patients with epidural/spinal therapy have access to and work within this policy

4.2. Responsibilities of Nursing/Midwifery Staff / Anaesthetic Doctor

4.2.1 Clinical Handover: when first assuming care of the patient post-insertion (in recovery/birthing suite/ward or at each shift changeover), nursing/midwifery staff must:

- Perform and document baseline observations including dermatomes, pain, Bromage and sedation scores (escalation should occur if indicated)
- Check the medication prescription orders are correct and legible
- Check the pump settings, prescription orders and infusion bag/ cassette/ syringe are as prescribed
- Check epidural connection site is correct
- Check the epidural catheter is securely anchored
- Check correct labelling is in situ (refer to 2.7 Safe labelling)
- Check a record of the clinical handover is documented on the MR170.2.

4.2.2 Managed in accordance with KEMH: Administration of epidural therapy

- **Additional WACHS specific information:**
  - Delegation of care to Enrolled Nurses (ENs) under direct supervision of an epidural competent RN and who have achieved the specified professional development requirements (refer to 4.2.8), may carry out the nursing care /observations of non-obstetric patients receiving epidural/spinal therapy with the exception of:
    - During and immediately post insertion.
    - Set-up, connection, programming and cessation of epidural infusion devices.
    - Administering and/or documenting epidural medications by any method.

4.2.3 The responsibilities of Anaesthetic doctors are in accordance with Australian and New Zealand College of Anaesthetists 2021 Guidelines for the safe administration of injectable drugs in anaesthesia (PG51)

4.2.4 The treating anaesthetic doctor must clearly prescribe the epidural medication, including options /parameters to deliver cascading analgesia requirements for RN/Midwife administration to ensure adequate patient analgesia – this includes parameters for clinician bolus, infusion rate increases and top-ups (including for break through pain).

4.2.5 The treating anaesthetic doctor must ensure that treatment, monitoring parameters and care are documented as per Section 1.3 of this policy.

4.2.6 The treating anaesthetic doctor is responsible for documenting the fluid bolus amount in relation to the treatment of hypotension on the MR176 WACHS IV Fluid treatment chart.

4.2.7 The treating anaesthetist is to remain immediately available (within maximum 30 minutes) for the duration of the epidural/spinal medication therapy and provide another primary anaesthetic contact in the event of their absence or change of availability. Appropriate clinical handover is to occur between outgoing and oncoming anaesthetic doctors.

4.2.8 **Professional Development Requirements for Nurses and Midwives**

4.2.8.a Initial successful completion of an approved theoretical assessment (or application for recognised prior learning), and

4.2.8.b Initial successful completion of the approved practical skills assessments relevant to the context of practice for the nurse/midwife's role and site of employment (or recognised prior learning), then

4.2.8.c Ongoing self-assessment of recency of practice in epidural/spinal management is to be evidenced by completion of the declaration package (via MyLearning) annually.

4.2.8.d Annual recertification is not required unless a professional practice deficit is identified by either the nurse/midwife, a peer /colleague or the manager.

- NMBA Nursing practice decision flowchart
- NMBA Midwifery practice decision flowchart

4.2.8.e A 'Recognition of Prior Learning' process is available for staff who can provide evidence of current competence to their line manager.

4.2.8.f Resources to support achievement of the Epidural / Spinal / Management competencies are available via MyLearning.

All Staff are required to work within policies and guidelines to make sure that WACHS is a safe, equitable and positive place to be.

5. Compliance

Failure to comply with this policy may constitute a breach of the WA Health Code of Conduct (Code). The Code is part of the Integrity Policy Framework issued pursuant to section 26 of the *Health Services Act 2016* (HSA) and is binding on all WACHS staff which for this purpose includes trainees, students, volunteers,

researchers, contractors for service (including all visiting health professionals and agency staff) and persons delivering training or education within WACHS.

WACHS staff are reminded that compliance with all policies is mandatory.

6. Records Management

Health Record Management Policy

7. Evaluation

Evaluation of effectiveness of this policy is to include regular clinical audits.

8. Standards

National Safety and Quality Health Service Standards -
Clinical Governance Standard: 1.7, 1.23 and 1.27
Medication Safety Standard: 4.13 and 4.15
Communicating for Safety Standard: 6.9
Recognising and Responding to Acute Deterioration Standard: 8.4-8.6

Australian Commission on Safety and Quality in Health Care – National Standard for User-applied Labelling of Injectable Medicines Fluids and Lines.

9. Legislation

Medicines and Poisons Act 2014 (Perth, Western Australia Government)
Medicines and Poisons Regulations 2016 (Perth, Western Australia Government)

10. References

1. Nishimori M, Low JHS, Zheng H, Ballantyne JC. *Epidural pain relief versus systemic opioid-based pain relief for abdominal aortic surgery*. Cochrane Database of Systematic Reviews 2012, Issue 7. Art. No.: CD005059. DOI: 10.1002/14651858.CD005059.pub3
2. Anim-Somuah M, Smyth RMD, Jones L. *Epidural versus non-epidural or no analgesia in labour*. Cochrane Database of Systematic Reviews 2011, Issue 12. Art. No.: CD000331. DOI: 10.1002/14651858.CD000331.pub3
3. Popping, DM; Zahn, PK; Van Aken, HK; Dasch, B; Boche, R; Pogatzki-Zahn, EM. *Effectiveness and safety of postoperative pain management: a survey of 18 925 consecutive patients between 1998 and 2006 (2nd revision*): a database analysis of prospectively raised data *Br. J. Anaesth. (2008) 101 (6): 832-840.*
4. Jørgensen H, Wetterslev J, Møiniche S, Dahl JB. *Epidural local anaesthetics versus opioid-based analgesic regimens for postoperative gastrointestinal paralysis, PONV and pain after abdominal surgery*. Cochrane Database of Systematic Reviews 2001, Issue 1. Art. No.: CD001893. DOI: 10.1002/14651858.CD001893

5. Montgomery, A and T Hale, *The Academy of Breastfeeding Medicine Protocol #15*, Analgesia and Anaesthesia for the Breastfeeding mother, Breastfeeding Medicine, Vol 1(4) 2006.
6. Girgin, NK; Gurbet, A; Turker, G; Aksu, H and Gulhan, N. *Intrathecal morphine in anesthesia for cesarean delivery: dose-response relationship for combinations of low-dose intrathecal morphine and spinal bupivacaine*. Journal of clinical anesthesia, 2008, 20(3), 180
7. United Kingdom, National Health Service National Patient Safety Agency Alert 21 - Safer practice with epidural injections and infusions, July 2007.
8. National Health and Medical Research Council. 2009. Clinical practice guideline for the prevention of venous thromboembolism (deep vein thrombosis and pulmonary embolism) in patients admitted to Australian hospitals. Melbourne.
9. Rawal, N; *Epidural Techniques for Post-op Pain: Gold Standard No more?* Regional Anesthesia Pain Medicine 2012;37: 310Y317
10. Australian and New Zealand College of Anaesthetists (ANZCA) Acute Pain Management: Scientific Evidence 5th edition 2020.
11. George, R.B et all; *Intermittent Epidural Bolus Compared with Continuous Epidural Infusions for Labour Analgesia: A Systematic Review and Meta-Analysis.* International Anaesthesia Research Society January 2013, Vol 16 (1),DOI: 10.1213/ANE.0b013e3182713b26
12. Wong, C.A. et all; *The Effect of Manipulation of the Programmed Intermittent Bolus Time Interval and Injection Volume on Total Drug Use for Labour Epidural Analgesia: A Randomized Controlled Trial,* International Anaesthesia Research Society, April 2011, Vol122(4) DOI: 10.1213/ANE.0b013e31820e7c2f

11. Related Forms

MR140A WACHS Adult Observation and Response Chart (A-ORC)
MR140B WACHS Maternal Observation and Response Chart (M-ORC)
MR170.2 WACHS Epidural/Spinal Prescription and Additional Observation Chart.
MR170.3 WACHS Epidural/Spinal Morphine Record
MR176 WACHS IV Fluid treatment chart
MR30D Consent to Anaesthesia – General or Regional
MR55A WACHS Integrated Progress Notes

12. Related Policy Documents

KEMH Labour and Post-Operative Analgesia Clinical Practice Guideline
KEMH Postoperative Management: Anaesthetics Clinical Practice Guideline
WACHS Clinical Escalation of Acute Physiological Deterioration Including Medical Emergency Response Policy
WACHS High Risk Medications Procedure
WACHS Maternity and Newborn Care Guidelines – Endorsed for Use in Clinical Practice Policy
WACHS Medication Administration Policy

13. Related WA Health System Policies

MP 0131/20 High Risk Medication Policy
MP 0086/18 Recognising and Responding to Acute Deterioration Policy
OD 0657/16 WA Health Consent to Treatment Policy
WA Health Guidelines for Managing Specific High Risk Medications Relevant to the Organisation

14. Policy Framework

Clinical Governance, Safety and Quality

15. Appendix

Appendix A: WACHS Epidural Infusion and PCEA Management

This document can be made available in alternative formats on request for a person with a disability

Contact:	Coordinator of Midwifery (K. Reynolds)		
Directorate:	Nursing & Midwifery Services	**EDRMS Record #**	ED-CO-13-76113
Version:	3.00	**Date Published:**	18 January 2022

APPENDIX A: WACHS Epidural Infusion and PCEA Management

1. PROCEDURAL

1.1 No additional opioid or sedative drugs are to be given to the patient unless prescribed by the anaesthetist.

1.2 Nurses and midwives may only interrupt an infusion line:

- **1.2.1** during bag, cassette and syringe changes
- **1.2.2** in the case of there being air in the line distal to the pump
- **1.2.3** for the purposes of administering an intermittent top-up as prescribed by the anaesthetist.

1.3 Aseptic technique is to be used for preparation of mixtures and handling of lines, catheters, filters and all other key parts/sites for epidural therapy.

1.4 Preparation, checking and administration of medications are in accordance with the WACHS Medication Administration Policy.

1.5 Complete all pre and post commencement observations and documentation as per MR170.2 WACHS Epidural/Spinal Prescription and Additional Observation Chart.

2. CONTINOUS INFUSION PROCEDURE

2.1 Preparation

The epidural competent RN/Midwife is to:

- **2.1.1** verify the documented orders are complete
- **2.1.2** for epidural infusion containing local anaesthetic - ensure intravenous infusion is in progress
- **2.1.3** for opioid only infusions - ensure intravenous access patent
- **2.1.4** check the epidural catheter site, catheter placement and filter is intact.

2.2 Setup of Infusion

The epidural competent RN/ Midwife is to:

- **2.2.1** assemble appropriate equipment (including PCEA hand piece if applicable)
- **2.2.2** select appropriate commercially premixed solution or prepare the solution appropriately
- **2.2.3** set up and program the pump according to the pump's manufacturer guidelines
- **2.2.4** confirm negative aspiration from epidural catheter prior to connection
- **2.2.5** connect infusion line appropriately.

2.3 Commencement of Infusion

The epidural competent RN/ Midwife is to:

- **2.3.1** check the order for commencement
- **2.3.2** confirm correct infusion has been prepared, appropriate labelling is in place and correct injection site is being used
- **2.3.3** ensure anaesthetist has given the test and initial therapeutic doses

2.3.4 complete pre-commencement observations and ensure they are within acceptable parameters (and escalate if indicated)

2.3.5 confirm pump program and commence infusion

2.4 Changing of Infusion Bag/Cassette/Syringe

The epidural competent RN/ Midwife is to:

2.4.1 select pre-mix solution or prepare solution appropriately (and remove air from the bag prn) or select the appropriate commercially prepared solution.

2.4.2 check the medication(s), bag/cassette/syringe, dose, volume and labelling

2.4.3 remove the empty bag/cassette/syringe and connect the new bag/cassette/syringe

2.4.4 adjust the reservoir volume of pump and recommence the infusion

2.5 Administration of Clinician Bolus

The epidural competent RN/ Midwife is to:

2.5.1 inform the patient of the procedure

2.5.2 perform required observations and ensure they are within acceptable parameters (and escalate if indicated)

2.5.3 check bag/cassette/syringe, medication, dose and volume

2.5.4 program bolus dose into pump

2.5.5 administer the bolus, and must remain with patient while bolus infuses

2.5.6 if required, program post-bolus rate increase into the pump

2.5.7 monitor observations, the analgesic effect and assess pain scores to determine the need for further bolus/rate increase (as charted)

2.5.8 when considering the need for further bolus/rate change (if ordered), check the filter is connected, line is intact, catheter placement is correct and for any leaking at the insertion site **prior** to administration of further bolus/rate changes

2.5.9 contact the anaesthetist if inadequate analgesia persists following two consecutive clinician bolus doses.

3. PATIENT CONTROLLED EPIDURAL ANALGESIA (PCEA) [+/- continuous infusion] PROCEDURE

The epidural competent RN/ Midwife is to:

3.1.1 ensure that the appropriate equipment is available and has been prepared according to manufacturer's instructions

3.1.2 verify the order for commencement, drug, dose, lockout and volume of PCEA medication

3.1.3 confirm correct PCEA medication has been prepared, appropriate labelling is in place and correct injection site is being used

3.1.4 aspirate to ensure no blood/CSF in epidural catheter

3.1.5 ensure connection is carried out as per section 2.6.2.c

3.1.6 ensure anaesthetist has given the test and initial therapeutic doses

3.1.7 inform the patient of the procedure and provide appropriate education

3.1.8 complete pre-commencement observations and ensure they are within acceptable parameters

3.1.9 commence PCEA (+/- continuous infusion).