Intrathecal Pain Management in the Palliative Care Setting Procedure

1. Guiding Principles

The long-term intrathecal delivery of drugs is an established, evidence based therapy for the management of refractory spasticity and cancer pain[7] and is used with chronic non-malignant pain.

Intrathecal administration provides direct access into the cerebrospinal fluid for drugs acting at a spinal and/or supra spinal level.[7]

Full multidisciplinary assessment of the patient should be considered prior to use of this route of drug administration.[7]

Effective management of intrathecal therapy requires appropriate patient selection. Selection should include comprehensive, multidisciplinary assessment of symptoms, disease, psychological and social factors, current and previous treatments and other treatment options.[7]

Education of the patient increases their understanding of the potential benefits, risks and their responsibilities: the patient must be motivated to participate in the management plan, and consent to all aspects of the treatment.[7]

The treating physician or medical practitioner must be familiar and experienced with the therapy and device to be utilised.[7]

Continuing therapy requires regular assessment and documentation of efficacy, tailoring therapy to the individual, documenting and management of complications. Adequate arrangements for ongoing care should be in place.

Goals of Patient Care must be considered in the management of the intrathecal therapy, and management of complications and side effects for patients in the hospital environment.

Refer to the WACHS Goals of Patient Care (Adults) Guideline and the MR00H.1 State Goals of Patient Care Summary form. For community patients consideration should be given to any advance health directives/care planning in place.

2. Procedure

2.1 General Information

2.1.1 Legislative Requirements

It is a legal requirement that all disciplines that prescribe or administer medications comply with the *Medicines and Poisons Act 2014*, Medicines and Poisons Regulations

2016, *Pharmacy Act 2010,* WACHS Medication Administration Policy and WACHS High Risk Medication Procedure.

A valid prescription must exist before Schedule 4 and Schedule 8 medications are administered. Prescription for intrathecal pain management is written on the MR170i WACHS Intrathecal Therapy (Palliative) Prescription and Additional Observation Record once the patient is a WACHS patient.

2.1.2 Medical Requirements

Intrathecal catheters are inserted under strict aseptic technique in an operating theatre, by a chronic pain specialist/anaesthetist or another appropriately competent senior medical practitioner, either in WACHS facilities, or tertiary or private hospitals in the metropolitan area.

Medical staff from the Palliative Care Service provide orders for the medication(s) in the infusion, rate of infusion, bolus doses and lock out periods. These orders are documented on the MR170i WACHS Intrathecal Therapy (Palliative) Prescription and Additional Observation Record.

A decision by medical staff to alter the prescription in any way requires issuing of a new prescription on the MR170i WACHS Intrathecal Therapy (Palliative) Prescription and Additional Observation Record

2.1.3 Safety Information

Registered nurses (RN) must be aware that a patient will be more sensitive to the effects of drugs administered via the intrathecal route. **There are considerable differences between epidural and intrathecal dosing** e.g. the epidural to intrathecal ratio for Morphine is 10 to 1. The oral to intrathecal ratio for Morphine is 100 to 1.

Side effects of opioids given intrathecally:

- Respiratory depression
- Itching
- Nausea and vomiting
- Hypotension
- Sedation
- Urinary retention.

Side effects of local anaesthetics given intrathecally:

- Hypotension
- Leg weakness / numbness / paraesthesia
- Urinary retention.

Medication delivery

A Computerised Ambulatory Drug Delivery (CADD) pump is used to deliver intrathecal infusions in WACHS. These provide a controlled rate with either patient or clinician activated bolus doses. The devices are lockable both electronically and physically for dose safety.

Caution is required to prevent the CADD pump getting wet or accidentally dropped.

Two nurses are required in the hospital setting to program or adjust the CADD settings, one of whom is a RN experienced in the use and programming of the CADD pump.

If the patient is being managed in their own home, a single RN experienced in the use and programming of the CADD pump can set the program or adjust the settings.

Patient activated bolus doses
Patient activated Bolus doses may be given for unrelieved pain if prescribed on the MR170i WACHS Intrathecal Therapy (Palliative) Prescription and Additional Observation Record.

This may be activated by the patient themselves, or by a family member following RN guided education.

Review of patient activated bolus number and effectiveness for pain control should be undertaken at each clinical review and appropriate changes made if required.

Clinician bolus doses
Clinician Bolus doses may be given for unrelieved pain if prescribed on the MR170i WACHS Intrathecal Therapy (Palliative) Prescription and Additional Observation Record.

This may be given by a member of the Palliative Care Service or an appropriate member of the medical or nursing team (RN). Review of pain control should then be undertaken and appropriate changes made to re-establish control.

Local processes need to be in place after hours for pre-assessment, administration of the clinician bolus and for the post-assessment review.

Labelling of lines
The route of administration must be identified / labelled on all catheter/infusion lines. The labelling must comply with the ACSQHC National Standard for User Applied Labelling of Injectable Medicines Fluids and Lines.

The medication cassettes/bags are made in sterile conditions and provided by WACHS Regional Pharmacy Services (or regional pharmacy approved contracted services) only.

They do not require an intrathecal label as they have contents already printed on the bag and nothing is added to these post production.

Attending MRI
If the patient is required to leave the ward for a procedure, an escort (with intrathecal management experience) is essential.

A bolus dose of analgesia can be given prior to leaving the ward in anticipation of potential discomfort/pain from transfer from bed or the procedure itself. The pump should only be disconnected minutes before having an MRI.

Aseptic technique is to be maintained with disconnection and reconnection. Appropriate capping for ends of filter and administration set should accompany patient to allow disconnection/reconnection.

Document the planned disconnection/ reconnection in the healthcare record following the procedure.

2.1.4 Documentation

- Two WACHS forms are used for intrathecal pain management in the palliative care setting:
  - MR170i WACHS Intrathecal Therapy (Palliative) Prescription and Additional Observation Record, and
  - MR170i.1 WACHS Intrathecal Therapy (Palliative) Continuation Sheet
- The forms are used in both the hospital and community settings
- The continuation sheet is used when additional space is needed for the CADD pump observations and patient assessment items (page 2 and 3 of the MR170i Record)
- If the continuation sheet is in use, it must be kept together with the MR170i WACHS Intrathecal Therapy (Palliative) Prescription and Additional Observation Record at the bedside in the hospital setting or with the health record information in the community setting.

2.1.5 Patient/Family/Carers Education

Any patient being considered for Intrathecal Drug Delivery is to be given a hard copy of the WACHS patient/family/carer brochure "Palliative Care Intrathecal Infusion for Pain".

Patients/carers/family to receive education and written instructions (where available) on the following:

- How to take care of the pump and lines
- Who to call if the pump starts alarming
- How to store the spare medicine cassette/bag, pump's case and special pump key
- What to do if the pain isn't improving, and how/when to use the handpiece (if in use for patient activated bolus doses) to give themselves an extra dose of medicine
- Potential effects of the medication on the bladder and who to notify if not passed uring 4-6 hours post clinician activated bolus
- Site observation for dressing intact and for signs of infection – both catheter insertion site and tunnelled catheter exit site
- Disconnection of filter or line from catheter (e.g. if disconnection occurs, place clean dressing over patient end of catheter and refer to emergency contact details provided)
- How to scroll through pump to check reservoir volume of medication cassette/bag and when to advise the nurse that the cassette/bag needs changing
- How to change and store battery/s (if appropriate)
- Advice on when and how to contact the local community palliative care nurse or after hours emergency contact

2.1.6 Discharge

- Current prescription and orders for management of the intrathecal infusion are completed using MR170i WACHS Intrathecal Therapy (Palliative) Prescription and Additional Observation Record.

- Medication cassette/bag:
  - A spare medication cassette/bag to be available at all times and is available to take with patient on day of discharge.
  - Consider prescription needs if the patient is coming from a metropolitan site, as the current medication cassette/bag may be the only one provided. Prescription from a WACHS prescriber may need to be provided in order to obtain the spare cassette/bag prior to the patient coming to WACHS.
  - Local Palliative Care Service Teams are to be involved with discharge planning. The Palliative Care Service will liaise with the Patient / Carer regarding the plan for ongoing cassette/bag supply.
  - Approval for non-PBS supply from the regional pharmacy department and a prescription will be required. Liaison is required with the regional pharmacy department as part of early discharge planning
- The CADD case, key and spare medication cassette/bag must be transferred with the patient.

- Ensure the following has been provided:
  - required education (Refer to patient education section)
  - emergency contact details
  - any follow up outpatient or videoconferencing (VC) appointments and information
  - check patient/carer/family understanding of the above items before discharge.

2.2 Insertion of Intrathecal Catheter in WACHS Facilities

2.2.1 Medical Requirements

Consent will be obtained in accordance with the WA Health Consent to Treatment Policy using the WACHS MR30A Patient Consent to Treatment or Investigation. Insertion is undertaken in theatre.

- Anticoagulant therapy should be discussed with the specialist before the procedure takes place. The coagulation profile should be checked within 48 hours of the procedure.
- Intrathecal morphine may result in delayed respiratory depression for up to 24 hours post administration.
- Respiratory rate and consciousness levels must be monitored hourly for 24 hours after initial commencement following insertion (refer to post procedure nursing management).
- Consideration must be given to the patient's goals of care documentation/AHD and adjustments to care or monitoring based on the patient's needs and condition at the time documented.

2.2.2 Nursing Management

Pre procedure
Refer to WACHS Pre and Post Procedural Management Clinical Practice Standard

Post Procedure
The RN MUST contact the senior doctor in charge of the patient's intrathecal analgesia or their afterhours cover for urgent advice if the following occurs:

- Altered level of consciousness including drowsiness, euphoria, disorientation or hallucinations.
- Fever, neck stiffness, headache or photophobia.
- Pruritus, nausea or vomiting.
- Respiratory rate 9 or less per minute for adults (refer to age appropriate Observation and Response Chart [ORC] medical review parameters for paediatrics)
- Difficulty breathing, coughing or talking.
- Redness or swelling at the catheter or reservoir site or leaking of fluid from the site.
- Back pain or any impaired neurological function such as unexpected onset of leg weakness, loss of bladder and bowel control or other abnormalities of sensation.

Observations recorded on the ORC chart and the MR170i WACHS Intrathecal Therapy (Palliative) Prescription and Additional Observation Record (refer to section 2.3.2).

Ensure the patient has passed urine 4-6 hours post commencement of infusion. If the infusion dosage is increased it is recommended that bladder assessment or a bladder scan (if available) is performed 4-6hs after the rate increase. Patients may require an indwelling catheter post procedure (this may be temporary or permanent).

Note: once the patient is discharged to the community and they receive a clinician bolus, patient/carer education will need to be given regarding potential effects of the medication on the bladder and who to notify if not passed urine 4-6 hours post clinician bolus.

Patient to rest in bed for 4 hours post insertion and commencement of intrathecal infusion. Patient is to be supervised when getting out of bed for the first time post procedure.

Bromage score to be assessed and documented in the healthcare record. The score must be 2 or less to ambulate. Notify Senior Medical Officer (SMO) in charge of intrathecal management for score is 3 (if persistent) or above.

Refer to table on next page for Bromage Scores.

BROMAGE SCORE	LOWER LIMB FUNCTION	SIGNIFICANCE	NURSING ACTION
1	Sustain a straight leg raise	No motor block	May ambulate / sit out of bed
2	Can flex hip easily	Minimal motor block	May ambulate / sit out of bed with assistance
3	Can flex hip but weak and easily overcome	Moderate motor block	Bed rest + contact if persists
4	Can flex hip but can't sustain against gravity	Significant motor block	Contact SMO (if > 4 hrs post insertion)
5	Cannot flex hip	Profound motor block	Contact SMO (if > 4 hrs post insertion)

2.2.3 Post insertion procedure observations (in the hospital setting)

Vital signs – record:

- First 24 hours:
  - 1 hourly respiratory rate (RR), conscious state (CS) and pain score
  - 4 hourly pulse (P), blood pressure (BP) and temperature (T)
  - If asleep, only wake patient for pain scores with P, BP and T.
- Post-24 hours: If stable, observation frequency can be guided by the patient's care plan and Goals of Patient Care.
- Post clinician bolus: RR, CS, P, BP and pain score at 20mins, then at 60min

Medication delivered – record with vital signs:

- Reservoir volume
- Continuous infusion rate
- Number of patient delivered doses (if applicable)
- Number of patient attempts (if applicable)
- Clinician Bolus dose given (if applicable)
- Cumulative dose

Insertion site

Observe and document 4 hourly for 24hours, then 8 hourly:

- Erythema, warmth, tenderness
- Swelling at insertion site
- Exudate or purulent material
- Local rash
- Leakage at site

Escalate for review if any of the above present

Side effects/complications

Observe and document with insertion site observations:

- headache, neck ache/neck stiffness, visual disturbances with insertion site observations

- hypotension, respiratory depression or loss of consciousness (as per ORC parameters)

Escalate for review if any of the above present

2.3 Ongoing care of the Catheter

2.3.1 Medical Requirements

Sutures at insertion site are removed one week post insertion, unless otherwise directed by Anaesthetist or Palliative Care Specialist or SMO in charge of the patient's intrathecal analgesia.

2.3.2 Safety Information

Removal of intrathecal catheter is performed by a member of the Palliative Care Service, Anaesthetist or Palliative Care Specialist or SMO in charge of the patient's intrathecal analgesia.

Sutures at the tunnelled catheter exit site (abdomen – see Figure 1) remain insitu.

Review is needed if suture sites display signs of infection. At times sutures may need to be removed on medical advice.

2.3.3 Nursing Management

- Observations as per section 2.2.3 whilst in hospital. Once in the community observation frequency reduces to:
  - Once per community visit
  - Post clinician bolus – RR, CS, P, BP and pain score at 20mins
- Change dressings every 7 days or prn.
- Semi permeable transparent dressing (e.g. Opsite IV 3000™) to remain intact.
- Cover primary dressing with waterproof wound care dressing during showering to prevent incidental water exposure to insertion site.

2.4 Changing the Cassette/bag, line and Filter

Local processes to be in place for ensuring a prescription is available and for supplying new cassettes/bags to patient.

Patients are supplied with a spare replacement cassette/bag for home.

2.4.1 Safety Information

Aseptic technique is to be maintained at all times during procedures.

When changing the filter or the line attached to the cassette/bag, care must be taken to avoid the accidental disconnection of the intrathecal catheter from the yellow hub.

Ensure that the filter is free of air to avoid creation of an air lock, which may prevent infusion of fluids.

2.4.2 Nursing Management

- **Cassette/bag to be changed *before* residual volume reaches 20mls**
- Filters to be changed approximately every 30 days and to coincide with a cassette/bag change
- Printed on the cassette/bag is an expiry date that refers to the date by which the cassette/bag should be attached to the CADD pump (the expiry date is no longer relevant once connected to the CADD pump).
- The route of administration must be identified / labelled on all catheter/infusion lines (as per ACSQHC National Standard for User Applied Labelling of Injectable Medicines Fluids and Lines)

2.4.3 Procedural Information

Equipment

- Dressing Pack
- CADD key
- Sterile gloves
- Semi permeable transparent dressing (e.g. Opsite IV 3000™) x 2 (if required)
- Hydrocolloid dressing (if required)
- New medication cassette/bag and filter (if filter being changed)
- 2% Chlorhexidine 70% Alcohol large wipe/stick/solution
- Intrathecal line labels (refer to Section 2.1.3 Safety Information)

Pre Procedure

- Check patient ID, correct administration site and new cassette/bag with the current/new prescription appropriately
- Complete the intrathecal line label details (date and time)
- Offer the patient an opportunity to administer a bolus if needed
- Position the patient appropriately

Procedure

A. Prepare new pump settings against new prescription (if required)

1. Perform hand hygiene
2. Clean trolley/dressing tray area with pre-diluted detergent and water or detergent wipes
3. Gather all equipment
4. Perform hand hygiene
5. Stop the pump and clamp line
6. Unlock the pump as per manufacturer's instructions
7. Scroll through each setting as per prescription:
    - Reset reservoir Volume
    - Check continuous rate
    - Check demand dose
    - Check lockout
    - Clear doses given, doses attempted and air detector off.
8. Lock pump as per manufacturer's instructions
9. Pump will remain stopped until reconnected to patient and safe to start.

B. Change cassette/bag +/- filter

1. Perform hand hygiene
2. Open dressing pack and add equipment, open sterile equipment onto the sterile field using aseptic technique; Place sterile towel under patients existing line/filter site
3. Check site is clean and intact
4. Place new cassette/bag line on sterile towel
5. Perform hand hygiene and don sterile gloves
6. Disconnect tubing from filter and clean with 2% Chlorhexidine 70% Alcohol large wipe/stick/solution, must be allowed to air dry prior to moving to next step
7. **Filter change occurs at this point if due** (**If no filter change, move to step 8)**
   Filters are changed approximately every 30 days and **should always** coincide with a new cassette/bag change. Attach filter to end of the new line and prime the filter (as per the manufacturer's recommendations). Old filter to be removed prior to attaching new filter and line
8. Attach new line using aseptic technique
9. Using key unlock old cassette/bag from CADD and discard
10. Attach new cassette/bag and lock into place with key
11. Unclamp lines and start pump as per manufacturer's instructions.
12. Apply the intrathecal line labels
13. Remove sterile gloves and perform hand hygiene
14. Clean trolley/dressing tray area with pre-diluted detergent or use a detergent wipe
15. Dispose of waste appropriately (refer to WACHS Waste Management Policy)
16. Perform hand hygiene
17. Complete documentation for procedure on the MR170i

2.5 Dressings to Insertion / Exit Sites and Epidural Filter

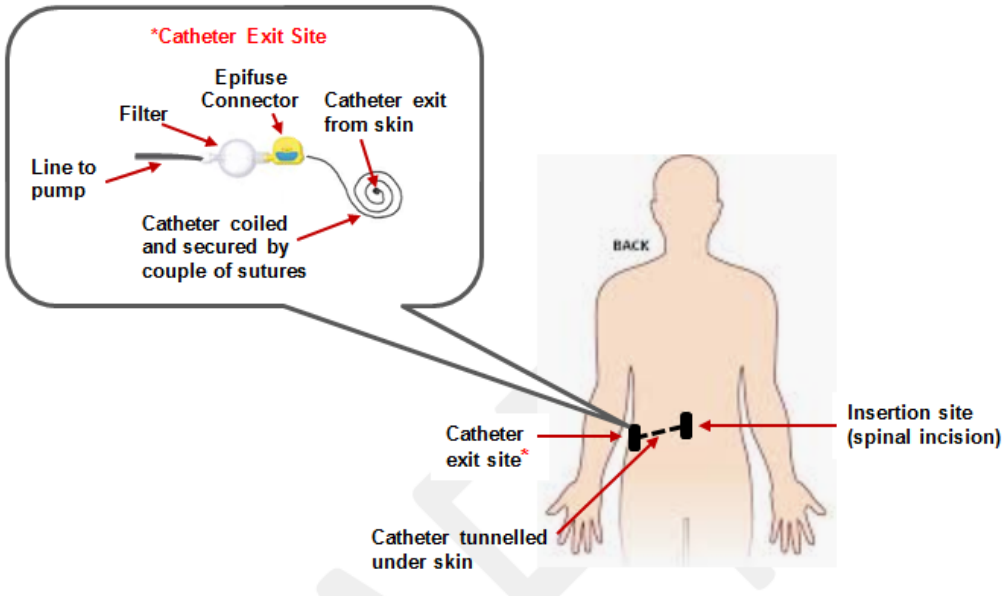

Figure 1: Diagram of relevant external points for intrathecal catheter

2.5.1 Nursing Management

- Inform Palliative Care Team/Specialist or SMO in charge of the patient's intrathecal analgesia if site inflamed or discharge
- Exit site suture remains insitu, not to be removed
- Exit site dressing change required every 7 days / PRN if indicated
- Catheter removal is at the direction of the Palliative Care Specialist or SMO in charge of the patient's intrathecal analgesia.

2.5.2 Procedural Information

Equipment

- Dressing Pack
- PPE including non-sterile gloves
- Semi permeable dressing (e.g. Opsite 3000™) x 2
- 2% Chlorhexidine 70% Alcohol large wipe/stick/solution
- Retention dressing (Fixomul™) as required
- Small duoderm (for under the filter as a barrier protecting the skin)

Insertion Site (Spinal Incision)

- Dressing remains intact for 24-48 hours post insertion, then remove.
- Observe for signs of redness/ infection, document appropriately and if signs of infection escalate for review
- If insertion site is inflamed or appears infected take swabs for M C & S and inform Palliative Care Team

Exit Site (Abdomen)

1. Perform hand hygiene
2. Clean trolley/dressing tray area with pre-diluted detergent and water or detergent wipes
3. Gather all equipment
4. Perform hand hygiene
5. Apply non-sterile gloves and any other relevant PPE
6. Remove semi permeable dressing, observe exit site for signs of infection
7. Remove gloves and perform hand hygiene
8. Cleanse site with chlorhexidine 2% in 70% alcohol large wipe/stick/solution and allow to dry
9. Apply small duoderm under the filter and secure filter with a semi permeable dressing
10. Cover the exit site with a semi permeable dressing using a aseptic technique *Optional - apply a border ('window') of retention dressing to secure as required
11. Clean trolley/dressing tray area with pre-diluted detergent or use a detergent wipe
12. Dispose of waste appropriately (refer to WACHS Waste Management Policy)
13. Perform hand hygiene
14. Complete documentation for procedure and observations of exit site

3. Definitions

CADD pump 	Computerised Ambulatory Drug Delivery pump
Intrathecal	Introduced into or occurring in the space under the arachnoid membrane of the brain or spinal cord.[13] Known as the 'intrathecal space'
Intrathecal medication administration	The introduction of a therapeutic substance into the cerebrospinal fluid by injection into the subarachnoid/intrathecal space of the spinal cord in order to bypass the blood-brain barrier[13]

4. Roles and Responsibilities

Medical Officers (MO) and Registered Nurses with the necessary knowledge and skills/training may:

a) Prescribe (MO only), check and administer medications via the intrathecal route
b) Access and de-access ports (if port being used to deliver intrathecal medication)

Registered Nurses or Medical Officers are to work within their scope of practice appropriate to their level of training and responsibility.

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 procedure 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* (WA) 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

Monitoring of compliance with this document is to be carried out regionally as indicated via clinical incident data.

8. Standards

National Safety and Quality Health Service Standards
Clinical Governance Standard: 1.27
Partnering with Consumers Standard: 2.6 and 2.7
Preventing and Controlling Healthcare-Associated Infection Standard: 3.9
Medication Safety Standard: 4.1, 4.3, 4.14 and 4.15
Comprehensive Care: 5.3
Recognising and Responding to Acute Deterioration Standard: 8.3

9. Legislation

Health Practitioner Regulation National Law (WA) Act 2010
Medicines and Poisons Act 2014 (WA)
Medicines and Poisons Regulations 2016 (WA)
Pharmacy Act 2010 (WA)

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11. Related Forms

MR00H.1 State Goals of Patient Care Summary
MR30A Patient Consent to Treatment or Investigation
MR170i WACHS Intrathecal Therapy (Palliative) Prescription and Additional Observation Record
MR170i.1 WACHS Intrathecal Therapy (Palliative) Continuation Sheet

12. Related Policy Documents

WACHS High Risk Medication Procedure
WACHS Patient Identification Policy
WACHS Medication Administration Policy
WACHS Palliative Care Intrathecal Infusion for Pain (patient/family/carer brochure)
WACHS Pre and Post Procedural Management Clinical Practice Standard
WACHS Waste Management Policy
Australian and New Zealand College of Anaesthetists (ANZCA) Acute Pain Management: Scientific Evidence fifth edition 2020

13. Related WA Health System Policies

MP 0131/20 High Risk Medication Policy
OD 0657/16 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. Appendices

Appendix 1: Troubleshooting a break in the line
Appendix 2: Port Access

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

Contact:	Program Manager Palliative Care		
Directorate:	Nursing & Midwifery Services	**EDRMS Record #**	ED-CO-20-83454
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Appendix 1: Troubleshooting a break in the line

Below is a guide to re-establishing connection of the intrathecal catheter in 3 potential situations.

Consider the need for a stat dose of antibiotics recommended to reduce the risk of infection post break in the line (seek advice from an Infectious Disease Specialist for further advice/information).

1. Disconnection at junction of filter and CADD administration set

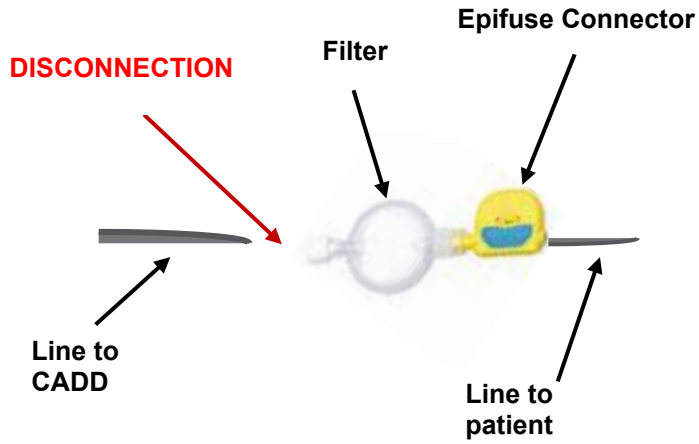

Figure 2: Disconnection at Junction of Filer and Pump administration set

Procedure:

- Ensure pump Is stopped - apply inline clamps proximal to cassette/bag
- Perform hand hygiene
- Maintain aseptic technique during procedure
- Disconnect old CADD Administration set from cassette/bag
- Leave current filter on and attach sterile red end cap
- Attach new CADD set and filter, then prime both
- Remove old filter and reconnect new set and filter to catheter
- Release clamps
- Recommence infusion
- Apply new intrathecal line labels
- Dispose of waste appropriately (refer to WACHS Waste Management Policy)
- Perform hand hygiene
- Document new reservoir volume and indicate filter change on the MR170i
- Document disconnection details and actions in the healthcare record
- Monitor patient for evidence of infection and escalate as indicated

2. Disconnection at junction of the Epifuse Connector and filter

a. If you witness the disconnection and neither connection is contaminated:

(Note: if witnessed and connections appear contaminated refer to section b)

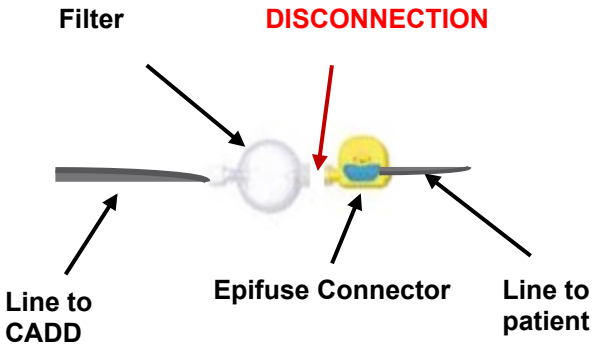

Figure 3: Disconnection at Junction of Epifuse connector and filter

Procedure:

- Ensure pump is stopped - apply inline clamps proximal to cassette/bag
- Perform hand hygiene
- Reconnect using aseptic technique
- Document incident in healthcare record and inform Palliative Care Team
- Observe patient for any evidence of infection and escalate as indicated

b. If disconnection is not witnessed, and sterility of either connection cannot be verified, then:

- Ensure pump is stopped - apply inline clamps proximal to cassette/bag
- Perform hand hygiene
- Maintain aseptic technique during procedure
- Open dressing pack, sterile gloves; add sterile filter, sterile Epifuse connector and sterile Luer lock syringe
- Apply hand gel and put on sterile gloves
- Using sterile gauze to maintain sterility of gloves, disconnect and discard old filter and attach new filter to CADD administration line
- Prime new filter and lay on edge of sterile field
- Insert sterile Luer lock syringe into hole on back of Epifuse triggering opening of the Epifuse
- Using same syringe open contaminated Epifuse releasing catheter
- Using sterile gauze to maintain sterility, remove catheter from contaminated Epifuse and insert into new Epifuse then close Epifuse device.
- Connect Epifuse to new primed filter
- Recommence infusion
- Dispose of waste appropriately (refer to WACHS Waste Management Policy)
- Perform hand hygiene

- Document new reservoir volume and indicate filter change on the MR170i
- Monitor patient for evidence of infection.
- Notify the Palliative Care Specialist or SMO in charge of the patient's intrathecal analgesia.

3. CADD administration set breakage / cut

Procedure:

- Ensure pump is stopped – apply inline clamp if available distal to break in line
- Perform hand hygiene
- Use aseptic technique throughout procedure
- Remove old CADD Administration Set from cassette/bag and attach new set
- Prime new CADD Administration Set
- Attach new primed line to current filter
- Recommence infusion
- Apply new intrathecal line labels
- Dispose of waste appropriately (refer to WACHS Waste Management Policy)
- Perform hand hygiene
- Document new reservoir volume and record of contents discarded on the MR170i
- Document in healthcare record details of incident and change of administration set
- Observe patient for evidence of infection and escalate as indicated

Appendix 2: Port Access

Safety Information

Only non-coring needles should be used with the implanted port (these are special needles that do not leave a hole in the reservoir of the port).

This allows the port to be accessed many times without damage.

Only use 10-mL or larger syringes. A smaller syringe may push too much pressure into the catheter and cause it to fracture.

Considerations

- Correctly accessing the port can be affected by factors such as: obesity, scar tissue, seroma, implant depth, patient position during refill, patient movement during refill, post implant patient weight changes, pump orientation in the pocket, and pump movement within the pocket (Prager, 2013).
- The Huber needle should be changed every 7 days as per manufacturer's instructions unless referrer or Medical Practitioner with governance of intrathecal provides written request to do otherwise.
- The length of the Huber needle should be such that the device sits comfortably on the patient's skin with only a small elevation. A needle that is protruding too far is at risk of accidental removal.
- The insertion site should be checked daily by the patient or carer and any pain, leakage, redness, or change to the needle or dressing should be reported to the nurse immediately.
- Nursing management of the cassette/bag and filter is per Section 2.4 Changing the cassette/bag and filter
- Care must be taken when placing pump and bag into carry bag to avoid damage.
- Offer patient a bolus dose pre-procedure as infusion may be stopped for up to 15 minutes during procedure.

Equipment

- New medication cassette/bag
- Sterile dressing pack
- 2% Chlorhexidine 70% Alcohol large wipe/stick/solution
- 20g or 22g Huber needle with extension set (with or without 'Y site')
- Sterile gloves (2 pairs)
- Epidural flat filter
- High moisture vapour transfer rate transparent film
- Antimicrobial hand gel
- Sharps container
- Hydrocolloid dressing (if required)
- Fixation sheet dressing
- Sodium chloride 0.9% for irrigation
- Intrathecal line labels
- Disposable rubbish bag

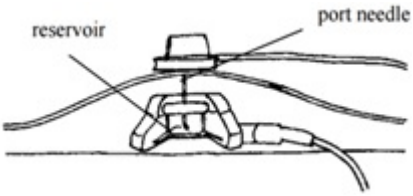

Figure 4: Reservoir and port needle[14]

Procedure

1. Perform hand hygiene.
2. Check intrathecal insertion site. Assess site and patient for signs of local and systemic infection:
    - Swelling, redness, heat or discharge at the access site.
    - Check vital signs and for any evidence of, headache or photophobia.
    - Escalate as per local process if any of these present.
    - If there are any signs of local infection contact the medical practitioner to review and prescribe antibiotics. **Do not re-needle** the port in the presence of infection.
    - For signs of systemic infection contact the medical practitioner and arrange for admission to hospital for management.
3. Check new medication cassette/bag against current medication order with a second nurse (second checker not required for single clinician visits in the community) – ensure within expiry date.
4. Complete the intrathecal line label information (date/time)
5. Inspect for precipitation and discolouration of the medication solution. If either of these is present, contact the pharmacy responsible for preparation as new medication will be required.
6. Check and document readings of pump on MR170i WACHS Intrathecal Therapy (Palliative) Prescription and Additional Observation Record
7. Attend hand hygiene.
8. Open dressing pack and set up sterile field.
9. Add 2% Chlorhexidine 70% Alcohol large wipe/stick/solution, sodium chloride for irrigation, filter, Huber needle and transparent film dressing onto sterile field.
10. Open sterile gloves on a clean flat surface close to sterile field.
11. Stop pump
12. Lay distal end of new cassette/bag onto outer aspect of sterile field.
13. Perform hand hygiene and put on sterile gloves.
14. Attach filter to Huber needle extension set and place back onto sterile field.
15. Using gauze swabs to protect sterility of gloved hands, pick up new tubing and remove end cap and discard this along with the gauze from that hand into rubbish bag
16. With this hand, pick up filter and Huber and connect filter to infusion tubing. Ensure sterile filter and Huber do not touch non sterile infusion tubing.
17. Hold Huber needle in one hand and with other hand, prime the filter and Huber needle as per manufacturer's instructions
18. Place the primed filter and Huber back onto sterile field. (Remember the infusion line is unsterile and remember where this tubing lay across your sterile field previously).
19. Remove dressing covering needle and filter and discard into rubbish bag
20. Stabilise port with non-dominant hand and with dominant hand remove needle and discard into sharps container.
21. Remove gloves and discard into rubbish bag.
22. Perform hand hygiene and put on new sterile gloves.
23. Cleanse site with sodium chloride and dry.
24. Swab port site with 2% Chlorhexidine 70% Alcohol large wipe/stick/solution in a back and forth motion with friction three times. **Allow to air dry completely**.
25. Pick up Huber needle in dominant hand and remove needle cover.

26. Stabilise port with non-dominant hand and insert needle as close as possible to the centre and at a 90 degree angle to the port. Advance the needle until back of port is felt (Figure 5).
27. Needle may be swivelled in port to obtain the best position for the patient, but do not wobble the needle from side to side within the port.
28. Cover the needle entry site with transparent dressing.
29. Ensure all connections are firm but not over tight.
30. **Do not** aspirate or flush.
31. Position filter onto hydrocolloid island dressing and secure with fixation sheet dressing.
32. Use additional fixation sheet to ensure dressing is secure and comfortable for patient.
33. Lock and restart pump.
34. Apply intrathecal line labels.
35. Remove gloves and discard into rubbish bag and dispose as per WACHS Waste Management Policy.
36. Perform hand hygiene.
37. Document new readings and dressing change on MR170i WACHS Intrathecal Therapy (Palliative) Prescription and Additional Observation Record.
38. Remain with patient until it has been demonstrated that the pump is administering infusion as per the current/new prescription.

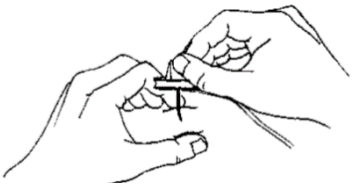

Figure 5: Inserting the Huber needle[14]