Care of a Patient with an Intrathecal Infusion Clinical Guidelines

V3.0

November 2018
1. **Aim/Purpose of this Guideline.**

   To provide a guide to appropriate and safe administration of intrathecal infusions in appropriate clinical areas.

2. **The Guidance**

   2.1. Patients with intrathecal infusions are predominantly managed by the Pain Consultants and the Palliative Care Consultants in the hospice or community/outpatient setting.

   2.1.1 If a patient is admitted to hospital with an intrathecal infusion in situ the appropriate team should be informed promptly.

   2.1.2 Patients who require an intrathecal catheter to be inserted to enable opioids to be given by this route will be receiving regular opioids for chronic pain or terminal illness via an alternative route.

   2.1.3 Pre-insertion information should be given to the patients and consent obtained.

   2.1.4 The intrathecal catheter is inserted under strict aseptic conditions in the operating theatre, pain clinic or hospice.

   2.1.5 Resuscitation equipment must be available.

   2.1.6 All patients must have an intravenous cannula in case of adverse reactions, until patient is stabilised.

   2.1.7 Only appropriately trained staff may care for intrathecal infusions. Staff must have attained written and practical competence, maintaining competence by regular use of the skill and attending 3 yearly medical device training and clinical updates.

   2.1.8 The intrathecal infusion must be prescribed with clear instructions and infusion rate boundaries. **The rate must remain within the prescribed limit.**

   2.1.9 The intrathecal infusion rate may be changed by a registered nurse who has attained competency in the management of intrathecal infusions.

   2.1.10 Delays in reloading the infusion should be avoided so as to achieve constant analgesia.

   2.1.11 Converting oral or parenteral opioids to intrathecal opioids may lead to a patient experiencing withdrawal symptoms due to the significant reduction of opioid dosage. To prevent this patient’s may be prescribed small doses of oral or parenteral opioid as required.

   2.1.12 Naloxone should be prescribed.
2.2 Clinical observations.

2.2.1 Monitoring should be documented on the Royal Cornwall Hospitals NHS Trust NEWS chart – National Early Warning System. An analgesic assessment chart must also be implemented. (This only applies whilst patient is at RCHT, not at the hospices, who utilize their own documentation).

2.2.2 If infusion is commenced as in-patient at RCHT: Blood pressure, pulse and respiratory rate should be recorded every 15 minutes for 1 hour and then every 30 minutes for the next 2 hours. Respiratory rate, sedation and pain scores must be recorded hourly until 24 hours post insertion. The frequency of other observations may be reduced after 12 hours unless otherwise clinically indicated.

2.2.3 Respiratory rate and sedation scores should be recorded 2 hourly after the first 24 hours if stable and daily temperature recordings must be maintained. The responsible medical clinician will confirm when these may be reduced further for patient receiving long-term intrathecal analgesia.

2.2.4 Motor power and sensory observations should be recorded hourly for the first 2 hours then 4 hourly. The frequency of monitoring should increase if the rate of infusion is changed or clinically indicated. [Bromage Scores] The responsible medical clinician will confirm when these may be reduced further for patient receiving long-term intrathecal analgesia.

2.2.5 Observe for signs of local anaesthetic toxicity. These should be recorded, as above, and documented on the analgesia assessment chart.

2.2.6 If the rate or infusion prescription is altered then observations should be recorded every 30 minutes for a further hour to ensure patient’s condition is stable.

2.2.7 If a clinician bolus is given all observations should be recorded every 15 minutes for 1 hour. The clinician must remain until the patient is stable.

2.2.8 If no infusion commenced: Blood pressure, pulse, respiratory rate and pain score should be measured – every 15 minutes for 1 hour then hourly for the next 3 hours after implantation of catheter.

2.2.9 The patient can be nursed sitting up and should be mobilised with assistance unless contraindicated and following assessment of motor power and sensation to lower limbs.
2.3 **Care of the infusion:**

2.3.1 Sterility is paramount. A strict aseptic non touch technique must be used when drawing up the prescribed medications for infusion and changing syringes (or infusion bags where appropriate).

2.3.2 When using a T34 McKinley syringe driver Luer lock syringes must be used. The syringe and giving set must be clearly labeled as ‘intrathecal infusion’ and the giving set line must be dated. This is securely attached to the proximal filter.

2.3.4 When using a McKinley Bodyguard 545 pump a yellow microset giving set must be used and secured to the proximal filter (see below). The giving set must be labeled as 'intrathecal infusion' and dated.

2.3.5 Filters:

- A flat Portex filter is attached to the end of the intrathecal catheter during insertion. This is called the proximal filter – closest to the patient. There will be a further disc shaped filter at the syringe end of the line which is called the distal filter. When a T34 pump is used a short bionector extension set is required to connect the filter to the syringe.
- Minimal disturbance of the system is advised to reduce the risk of infection.
- The distal filter and short extension set should be changed on a weekly basis using an aseptic non touch technique.
- The proximal filter and giving set should be changed monthly when the patient is stabilized using an aseptic non touch technique.

2.3.6 Catheter disconnection policy.

The yellow infusion line should always be firmly connected. The most likely disconnection point is where the catheter enters the yellow clamp, as all the other connections are luer fittings.

If a disconnection should occur both ends should be cleansed with antiseptic solution and the tip of the line trimmed and reconnected using a strict aseptic non touch technique. The Pain team and/or the responsible clinician must be informed. **Do not remove the intrathecal catheter unless instructed by the patient’s consultant.**

2.3.7 Care of the dressings.

Intrathecal catheters are commonly tunnelled percutaneously with an exit site often on the abdominal/thoracic area. Tunnelling the catheter secures the line and should therefore enable the long-term effective management. The puncture sites should be observed closely and
heal in 5-7 days. If there are sutures these may be removed after this time.

The emerging tunnelled catheter is secured to the patient’s skin with two Portex ‘Lockit’ clips. These are self adhesive patches which clip onto the catheter by gripping it, preventing movement and migration. If the Lockits require changing this will involve disconnecting the catheter at the proximal filter and it is therefore recommended that the catheter is left secured and the Pain Team or anaesthetist contacted as soon as possible. Minimal disturbance of the catheter is advised to reduce the risk of infection. Any signs of infection ie: inflammation, swelling, tenderness or exudate must be reported to the responsible clinician.

2.4 Complications/side-effects

2.4.1 Inadequate analgesia.

If the analgesia is inadequate despite the infusion running at the maximum prescribed rate, the responsible clinician should be asked to review the patient as soon as possible. Give alternative prescribed “rescue” analgesia.

2.4.2 Respiratory depression.

- Intrathecal opioids can cause sedation and respiratory depression. This is usually gradual in onset and detectable as a slow respiratory rate in a sedated patient. Increasing levels of sedation are an earlier warning sign of this complication than a slow respiratory rate.
- The sedation score must be regularly measured on every patient having intrathecal opioids.
- If the respiratory rate is less than 8 and/or sedation score 3, stop infusion. Give oxygen and inform medical staff. Consider giving naloxone.
- If respiratory rate <5 and sedation score 3 give naloxone. Naloxone should be given IV in increments of 100mcg every 5 minutes.
- Draw up 400mcg (1ml) of naloxone and 3mls of sodium chloride 0.9% and give in 1ml increments. This should be given until respiratory rate >8 and sedation score <2. Observe pain and sedation scores closely. If not resolved after 0.4mg seek further medical advice.

2.4.3 Hypotension.

Moderate hypotension is a common side effect of intrathecal local anaesthetic. If the systolic blood pressure is less than 90mmHg or level indicated by the anaesthetist, follow the epidural guidelines and give 250mls IV fluid which should be prescribed in theatre.
according to algorithm. Increase frequency of observations. If no improvement, inform medical staff.

2.4.4 Motor Weakness and Sensory Loss.

- Monitoring of sensory and motor block is essential so that potentially serious complications can be detected early.
- There may be some degree of altered sensation due to the effect of intrathecal local anaesthetic. The patient should be encouraged to exercise their feet and ankles to aid circulation.
- If there is an increase in motor weakness this could be due to excessive intrathecal drug administration, the intrathecal catheter or the development of an abscess or haematoma.
- These symptoms may be accompanied by back pain. The patient must be reviewed urgently by the anaesthetist, Pain consultant or responsible clinician, and in this instance, the infusion stopped until the patient has been reviewed.

2.4.5 Nausea and Vomiting.

Intrathecal opioids can sometimes cause nausea and vomiting which should initially be treated in the usual way with anti-emetics. If it persists seek medical advice.

2.4.6 Pruritis.

Pruritis is occasionally a side effect of the opioid and can be treated with a low dose of Naloxone or by oral anti-histamines eg, Piriton.

2.4.7 Constipation

May be a problem and appropriate treatment should always be prescribed.

2.4.8 Urinary Retention.

Due to contracture of the sphincter at the exit of the bladder. This is caused by either the opioids and/or local anaesthetic. This would result in short term catheterisation.

2.4.9 Headache

Severe frontal/occipital headaches may indicate a leak of cerebro spinal fluid. It may be relieved by laying the patient flat in bed, simple analgesia and replacement of fluids either orally or intravenously. This should be reported to the responsible clinician.
2.4.10  Back Pain

Any complaint of persistent or increasing back pain particularly if it is referred to the legs must be taken seriously. This must be referred to the medical team urgently to exclude the possibility of spinal cord compression, haematoma or abscess formation.

2.4.11  Leaking Intrathecal.

Pad the catheter site and report to the responsible clinician. Continue running the infusion. **DO NOT REMOVE THE INTRATHECAL CATHETER.**

2.4.12  Pump occlusion

If the pump alarms ‘occluded’ this could indicate that there is undue pressure caused by a blockage. Firstly check for kinks in the catheter. If none are apparent then contact the responsible clinician or on call anaesthetist to check patency of the catheter.

2.4.13  Local anaesthetic toxicity

Any signs should be reported immediately to medical staff. **Signs of toxicity:**

- 1. Mild - restlessness/confusion
   light-headedness
   numbness of tongue and lips (lip smacking)
   tinnitus
   double vision, blurred vision

- 2. Moderate – heaviness of limbs
   muscular twitching
   convulsions

- 3. Severe – cardiac arrhythmias
   hypotension
   respiratory arrest
   cardiac arrest

2.4.14  Treatment of toxicity at RCHT:

If symptoms are mild (1);

- Stop local anaesthetic infusion and inform medical team
- Attach ECG and monitors
- Maintain oxygenation and BP
- Consult with Pain Team or on call anaesthetist
- Continue to observe closely
If symptoms are moderate or severe (2 or 3):

- Stop local anaesthetic infusion
- Attach ECG and monitors
- Phone for help immediately – fast bleep 4444 medical team/anaesthetist or cardiac arrest 2222
- Maintain airway and give high flow oxygen.
- Hypotension will be treated with IV fluids
- Intralipid rescue box available from both theatres/recovery, and Eden ward if General Theatre (Tower) is closed at night/weekends.
- Any problems should be documented in the patient records

2.5 Anticoagulation and intrathecals

2.5.1 If a patient is receiving Anticoagulation therapy the following should apply pre and post intrathecal insertion and removal.

2.5.2 Low Molecular Weight Heparin [LMWH]

- Insertion of intrathecal catheter should be at least 12 hours following last dose. Removal should 10-12 hours post last dose.
- Refer to RCHT Anticoagulation Policy


2.5.3 Heparin Infusion or other types of heparin – seek medical advice.

2.5.4 Rivaroxaban therapy should not to be commenced until intrathecal removed. If rivaroxaban has been given an intrathcal catheter is not to be removed earlier than 18 hours after the last administration of rivaroxaban. The next rivaroxaban dose is to be administered not earlier than 6 hours after the removal of the catheter.

2.6 Removal of catheter


2.6.2 When the infusion is no longer required and alternative analgesia proven to be successful, the catheter should be removed by trained staff that have undergone suitable training and witnessed assessment.
2.6.3 The intrathecal catheter should be removed 10-12 hours after the last heparin administration if low molecular weight heparin (LMWH), e.g. Dalteparin, is given. An aseptic non-touch technique must be used.

2.6.4 The catheter tip should be examined to ensure the catheter removed is complete. **The tip must be sent for micro-culture and sensitivity.** The nurse who has removed the catheter should then document this in the patient’s notes.

2.6.5 Any opiate left must be discarded into a denaturing kit and this should be witnessed and documented in the ward’s CD wastage book as per RCHT Controlled Drug Policy.

2.6.6 When removing a tunneled intrathecal line the catheter is not stitched in. It requires traction to remove it due to resistance against the skin.

2.6.7 On discontinuation, the pump should be cleaned and labeled according to hospital policy and returned to theatres or pump library for storage.

### 3. Monitoring compliance and effectiveness

<table>
<thead>
<tr>
<th>Element to be monitored</th>
<th>Adherence to guideline</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lead</strong></td>
<td>The Pain Team</td>
</tr>
<tr>
<td><strong>Tool</strong></td>
<td>All cases receiving intrathecal catheters are audited using detailed review of medical and nursing notes and the IT Audit Collection Form. See appendix 3.</td>
</tr>
<tr>
<td><strong>Frequency</strong></td>
<td>This data is collated and analysed, and are presented at a combined meeting of staff from the Pain Clinic and Palliative Care. These meetings are held on an annual basis.</td>
</tr>
<tr>
<td><strong>Reporting arrangements</strong></td>
<td>These meetings are minuted with required actions and timeframes noted. Issues requiring earlier management decisions are discussed and considered using email, telephone or personal discussion between pain and palliative consultants.</td>
</tr>
<tr>
<td><strong>Acting on recommendations and Lead(s)</strong></td>
<td>A joint meeting of pain and palliative consultants will undertake subsequent recommendations and action planning for any or all deficiencies and recommendations within reasonable timeframes set by this meeting. Required actions will be identified and completed in a</td>
</tr>
<tr>
<td>Change in practice and lessons to be shared</td>
<td>Required changes to practice will be identified and actioned within 12 months. A lead member of the team will be identified to take each change forward where appropriate. Lessons will be shared with all the relevant stakeholders</td>
</tr>
</tbody>
</table>

4. **Equality and Diversity**

4.1 This document complies with the Royal Cornwall Hospitals NHS Trust service Equality and Diversity statement which can be found in the 'Equality, Diversity & Human Rights Policy' or the Equality and Diversity website.

**4.2 Equality Impact Assessment**

The Initial Equality Impact Assessment Screening Form is at Appendix 2.
## Appendix 1. Governance Information

<table>
<thead>
<tr>
<th>Document Title</th>
<th>Nursing Care of a Patient with an Intrathecal Infusion Clinical Guideline V3.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date Issued/Approved:</td>
<td>13/10/2015</td>
</tr>
<tr>
<td>Date Valid From:</td>
<td>November 2018</td>
</tr>
<tr>
<td>Date Valid To:</td>
<td>November 2018</td>
</tr>
<tr>
<td>Contact details:</td>
<td>01872 252792</td>
</tr>
<tr>
<td>Brief summary of contents</td>
<td>Guidance for safe care and management of a patient with an indwelling intrathecal catheter.</td>
</tr>
<tr>
<td>Suggested Keywords:</td>
<td>Intrathecal. Intrathecal catheter.</td>
</tr>
<tr>
<td>Target Audience</td>
<td>RCHT</td>
</tr>
<tr>
<td>Executive Director responsible for Policy:</td>
<td>Medical director</td>
</tr>
<tr>
<td>Date revised:</td>
<td>August 2015</td>
</tr>
<tr>
<td>This document replaces (exact title of previous version):</td>
<td>Guideline for the care of a patient with an intrathecal infusion</td>
</tr>
<tr>
<td>Approval route (names of committees)/consultation:</td>
<td>Pain Department: Pain Consultants and Pain Specialist Nurses.</td>
</tr>
<tr>
<td>Divisional Manager confirming approval processes</td>
<td>Medical director</td>
</tr>
<tr>
<td>Name and Post Title of additional signatories</td>
<td>Dr Juan Graterol – department lead.</td>
</tr>
</tbody>
</table>
| Name and Signature of Divisional/Directorate Governance Lead confirming approval by specialty and divisional management meetings | {Original Copy Signed}  
Dr Keith Mitchell Pain department governance lead. |
<p>| Signature of Executive Director giving approval | {Original Copy Signed} |
| Publication Location (refer to Policy on Policies – Approvals and Ratification): | Internet &amp; Intranet | ✓ Intranet Only |</p>
<table>
<thead>
<tr>
<th>Document Library Folder/Sub Folder</th>
<th>Pain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training Need Identified?</td>
<td>Nurses need to have completed a self-directed learning pack and have been assessed as competent in the use of McKinley Body guard pump and management of intrathecal catheters.</td>
</tr>
</tbody>
</table>
## Version Control Table

<table>
<thead>
<tr>
<th>Date</th>
<th>Version No</th>
<th>Summary of Changes</th>
<th>Changes Made by (Name and Job Title)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 Jun 10</td>
<td>V1.0</td>
<td>Initial Issue</td>
<td>Andrew Rogers Corporate Records Manager</td>
</tr>
<tr>
<td>1 Feb 11</td>
<td>V2.0</td>
<td>Addition of Monitoring Compliance table.</td>
<td>Andrew Rogers Corporate Records Manager</td>
</tr>
<tr>
<td>15 Jan 12</td>
<td>V2.1</td>
<td>Governance information moved to an appendix. EIA updated. Governance information amended to align with format of</td>
<td>Andrew Rogers Corporate Records Manager</td>
</tr>
<tr>
<td>5 Aug 13</td>
<td>V2.2</td>
<td>Updated governance information table to include KCCG.</td>
<td>Andrew Rogers Corporate Records Manager</td>
</tr>
<tr>
<td>12 Oct 15</td>
<td>V2.3</td>
<td>Reorganisation of information to Trust format. Additional information regarding local anaesthetic toxicity and anticoagulation. Change to monitoring requirements. Additional Appendix and references.</td>
<td>Jayne Thomas. CNS</td>
</tr>
<tr>
<td>10 Oct 18</td>
<td>V3.0</td>
<td>No changes</td>
<td>Jayne Thomas. CNS</td>
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All or part of this document can be released under the Freedom of Information Act 2000

This document is to be retained for 10 years from the date of expiry.

This document is only valid on the day of printing

Controlled Document
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### Appendix 2. Initial Equality Impact Assessment Form

<table>
<thead>
<tr>
<th>Name of the strategy / policy / proposal / service function to be assessed</th>
<th>Guideline for the care of a patient with an intrathecal infusion V.3.0</th>
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</thead>
<tbody>
<tr>
<td>Directorate and service area: Theatre and Anaesthetics</td>
<td>Is this a new or existing Policy? Existing</td>
</tr>
<tr>
<td>Name of individual completing assessment: Jayne Thomas</td>
<td>Telephone: 01872252095</td>
</tr>
</tbody>
</table>

**1. Policy Aim**

Who is the strategy / policy / proposal / service function aimed at?

For the safe care of a patient with an intrathecal infusion for trained staff.

**2. Policy Objectives**

To provide guidance to deliver a high standard of care

**3. Policy – intended Outcomes**

Safe delivery of intrathecal analgesia.

**4. *How will you measure the outcome?**

The use of the audit form (appendix 3) and data reviewed annually.

**5. Who is intended to benefit from the policy?**

Patients and staff

**6a Who did you consult with**

<table>
<thead>
<tr>
<th>Workforce</th>
<th>Patients</th>
<th>Local groups</th>
<th>External organisations</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

**b). Please identify the groups who have been consulted about this procedure.**

Please record specific names of groups

Pain Consultant team and Acute pain meeting.

**What was the outcome of the consultation?**

No action required

### 7. The Impact

Please complete the following table.

Are there concerns that the policy **could** have differential impact on:

<table>
<thead>
<tr>
<th>Equality Strands</th>
<th>Yes</th>
<th>No</th>
<th>Rationale for Assessment / Existing Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
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</tr>
<tr>
<td><strong>Sex</strong> (male, female, trans-gender / gender reassignment)</td>
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<td></td>
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<tr>
<td><strong>Race / Ethnic communities /groups</strong></td>
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</tr>
</tbody>
</table>
Disability -
Learning disability, physical disability, sensory impairment and mental health problems

Religion / other beliefs

Marriage and civil partnership

Pregnancy and maternity

Sexual Orientation,
Bisexual, Gay, heterosexual, Lesbian

You will need to continue to a full Equality Impact Assessment if the following have been highlighted:
- You have ticked “Yes” in any column above and
- No consultation or evidence of there being consultation- this excludes any policies which have been identified as not requiring consultation. or
- Major service redesign or development

8. Please indicate if a full equality analysis is recommended.

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

9. If you are not recommending a Full Impact assessment please explain why.

This policy has already been assessed and updated information does not alter this assessment.

Signature of policy developer / lead manager /
Jayne Thomas Lead pain specialist nurse.

Date of completion and submission
October 2015

Names and signatures of members carrying out the Screening Assessment
1. Jayne Thomas

Keep one copy and send a copy to the Human Rights, Equality and Inclusion Lead,
c/o Royal Cornwall Hospitals NHS Trust, Human Resources Department, Knowledge Spa, Truro, Cornwall, TR1 3HD

A summary of the results will be published on the Trust’s web site.

Signed __ Jayne Thomas ____

Date ____ 13/10/2015_______

Care of a Patient with an Intrathecal Infusion Clinical Guidelines V3.0
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Appendix 3

INTRATHECAL CATHETER

AUDIT

Decision to insert IT catheter

Addressograph

Date / /20

Filled by (Name in capitals, and role): ______________________________

Primary disease: ______________________________

Metastatic disease site(s): ______________________________

Pain site(s) ______________________________

Prognosis: Months □ Weeks □ Days □

Reason for trial: Inadequate pain relief □ Intolerable side effect □

Current analgesics ______________________________

(24 hourly doses) ______________________________

__________________

Pain scores (0 – 10) Average: ____ Worst: ___

Patient centred goals/aims (with better pain control): Achieved? Date

a) Y N __________

b) Y N __________

c) Y N __________

Sedation score 0 1 2 3

Performance status (AKPS) _____ %

Phasing score □ Stable □ Unstable □ Deteriorating □ Dying

Comments / communications:

Insertion of IT Catheter

Date: / /
Filled by (Name in capitals, and role):

Procedure performed by

TS  AWM  KIM  RS  JFG  Other________________

Facility:

St Julia’s □  Mt Edgecumbe □  Pain Clinic □  Theatre □

X Ray □  Home □  Other _____________________

Level insertion: ______ / ______  X Ray  Y  N

Needle: 16G  18G  Tunnelled  Y  N

Catheter to skin: cm  Antibiotic Prophylaxis  Y  N

Catheter in space: cm  Catheter  Portex □  Other □

Tip level (if known) ____________

Early complications:

Failure □

Headache □

Bleeding □

Cord injury □

Comments / communications:
Weekly Review

Date        /        /  
Filled by (Name in capitals, and role):

Describe your impression of effect of IT catheter on patient’s quality of life:

<table>
<thead>
<tr>
<th>Worse (state by how much)</th>
<th>Patient</th>
<th>Relative</th>
<th>Health Professional</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Change</td>
<td></td>
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<tr>
<td>Almost the same</td>
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<tr>
<td>A little better</td>
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<tr>
<td>Somewhat better</td>
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<tr>
<td>Moderately better</td>
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<tr>
<td>Better, definitive</td>
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<tr>
<td>improvement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Great deal better</td>
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<td></td>
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</tbody>
</table>

Where is the Patient?  Home □ Hospice □ Hospital □ Other _________________

IT Regimen: (24 hourly doses)  Complications during titration?

Morphine  ___________  ___________  
Bupivacaine ___________  ___________  
Clonidine  ___________  ___________  
Other  ___________  ___________  

Pain scores (0 – 10)  Average: ____  Worst: ____

Sedation score  0  1  2  3

Performance status (AKPS)  ____ %

Phasing score  □ Stable  □ Unstable  □ Deteriorating  □ Dying

Other clinical events affecting scores:

_________________________________________________

Please remember to update patient’s goals on page 1!

Cessation of IT treatment
Date / / 

Filled by (Name in capitals, and role):

Reason for cessation:

Time at home? Y □   N □   Days_____   Weeks_____   Months _____

Date of death ____ / ____ / ________   Place of death ___________________

Describe your impression of effect of IT catheter on patient’s quality of life:

<table>
<thead>
<tr>
<th></th>
<th>Patient</th>
<th>Relative</th>
<th>Health Professional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worse (state by how much)</td>
<td></td>
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<td>No Change</td>
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</tr>
<tr>
<td>Better, definitive improvement</td>
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<tr>
<td>Great deal better</td>
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</tbody>
</table>

Did this treatment impact on patient’s length of life?  Y  N

How?

Complications during IT use

<table>
<thead>
<tr>
<th></th>
<th>Patient</th>
<th>Relative</th>
<th>Health Professional</th>
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</thead>
<tbody>
<tr>
<td>Site leakage</td>
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<tr>
<td>Catheter site infection</td>
<td></td>
<td></td>
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<tr>
<td>Opioid withdrawal</td>
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<tr>
<td>Catheter blocked</td>
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<tr>
<td>Encephalitis</td>
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<tr>
<td>Opioid toxicity</td>
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<tr>
<td>Pump problems</td>
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<tr>
<td>Meningitis</td>
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<td></td>
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<tr>
<td>Local, High block</td>
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<td></td>
<td></td>
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<tr>
<td>Urinary retention</td>
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<td></td>
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<tr>
<td>Bowel Incontinence</td>
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<td></td>
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<tr>
<td>Reduced mobility</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Patients</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impotence/reduced libido</td>
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</tbody>
</table>

Other □  □  □  □  □ Please explain:

Comments / communications:

Assessment Tools

Care of a Patient with an Intrathecal Infusion Clinical Guidelines V3.0
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Sedation score

<table>
<thead>
<tr>
<th>SEDATION</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Awake</td>
<td>0</td>
</tr>
<tr>
<td>Dozing Intern</td>
<td>1</td>
</tr>
<tr>
<td>Mostly sleepy</td>
<td>2</td>
</tr>
<tr>
<td>Diff to rouse</td>
<td>3</td>
</tr>
</tbody>
</table>

Performance status (AKPS)

100% Normal, no complaints, no evidence of disease
90% Able to carry on normal activity, minor signs or symptoms of disease
80% Normal activity with effort, some signs or symptoms of disease
70% Cares for self, but unable to carry on normal activity or to do active work
60% Able to care for most needs, but requires occasional assistance
50% Considerable assistance and frequent medical care required
40% In bed more than 50% of the time
30% Almost completely bed bound
20% Totally bed bound and requiring extensive nursing care by professionals and/or family
10% Comatose or barely rousable, unable to care for self, requires equivalent of institutional or hospital care, disease may be progressing rapidly

Phasing score (Palliative Care Outcome Collaboration):

- Stable
- Unstable
- Deteriorating
- Dying