UHL *Insertion of catheter(s)for a continuous local anaesthetic infusion.* Standard Operating Procedure (LocSSIPs)

Change Description	**Reason for Change**
☐ Change in format	☐ Trust requirement

APPROVERS	**POSITION**	**NAME**
Person Responsible for Procedure:	Surgeons /Anaesthetists	Various depending on speciality
SOP Owner:	In Patient Operational Group	Dr Libby Jonck
Sub-group Lead:	Nurse Specialist	Angela Roberts

Introduction and Background:

This LocSSIP covers operating theatres and anaesthetic rooms where a catheter is inserted for the purpose of running a continuous infusion of local anaesthetic. The catheter is usually inserted under direct vision at the end of the operating procedure by the surgeon in theatre. Procedure types are: colorectal surgery, any abdominal surgery, following limb amputation, thoracic or upper GI surgery when epidural placement has failed or is contraindicated, occasionally following orthopaedic surgery. The placement of a catheter is also used by specially trained anaesthetists using ultra sound to place a catheter along the femoral nerve for the management of pain following fracture to the neck of femur when surgery is delayed due to comorbidities.

Examples of where a continuous local anaesthetic can be used:

- Sciatic nerve infusion following amputation / surgery
- Brachial plexus
- Cervical plexus
- Lumbar plexus
- Paravertebral infusion
- Rectus sheath infusion
- Erector spinae plane infusion
- For some chronic pain conditions to aid physiotherapy i.e. Complex Regional Pain Syndrome. (CRPS)

The advantages of a continuous local anaesthetic infusion

a) The potential to achieve excellent analgesia with minimal side effects

b) Can be opioid sparing when used in conjunction with IV PCA Morphine

c) Can be used as part of an enhanced recovery package to enable earlier mobilisation
d) Unlikely to cause sedation, respiratory depression or nausea

Contraindications for using a continuous local anaesthetic infusion.

a) Any patient that is known to be allergic to local anaesthetic.
b) Any patient that has any infection at the proposed site of the infusion
c) Any patient who has significant hypotension

If a patient cannot give informed consent the consultant will make a best treatment option and complete form 4

List management and scheduling:
N/A
Patient preparation:
Patients are informed at pre assessment of their options for pain management following surgery and written information given. The surgeon/anaesthetist will inform the patient prior to surgery if a catheter is likely to be inserted following their surgical procedure for the purpose of post-operative pain management
Workforce – staffing requirements:
Surgeons, anaesthetists and theatre team
Ward checklist, and ward to procedure room handover:
As per safer surgery checklist used for planned surgery
Procedural Verification of Site Marking:
N/A
Team Safety Briefing:
As per safer surgery checklist used for planned surgery
Sign In:
As per safer surgery checklist used for planned surgery
Time Out:
As per safer surgery checklist used for planned surgery
Performing the procedure:

Infusion catheters are inserted under aseptic conditions by suitably trained surgeons or anaesthetists.

Monitoring:

In Theatre recovery or ITU the CADD Solis infusion device containing local anaesthetic will be prepared and attached to the catheter inserted in theatre, by staff trained, assessed and competent to carry out this procedure. If a dosifuser is used this will be attached in theatre. From theatre recovery the patient may remain overnight or return to a ward.

Monitoring is recorded on the green local anaesthetic infusion chart designed by the inpatient pain service. Observations are recorded hourly for the first four hours and four hourly thereafter for the duration of the infusion.

If a programmable infusion device is used ie the CADD Solis a check of the pump programme is required to ensure the drugs are those prescribed , the infusion rate is running at the required rate, and the volume left in the cartridge. A visual check of the cartridge should also be made to ensure it contains the correct drug prescribed.

If a Dosifuser is used there are no programmable parts. However a visual check that the float is moving downwards needs to be made to signify the drugs are infusing, the label on the dosifuser will display the drug and strength this needs to be checked against the prescription. A check that the clamp on the line has been released to ensure infusion.

Any numbness in the patient's arms or legs will be recorded under the bromage section of the observation chart.

Prosthesis verification:

The Dosifuser local anaesthetic infusion device is purchased by pharmacy and delivered to the appropriate theatres to maintain minimum stock levels. (Leicester Royal Infirmary only). Catheters for delivering local anaesthetic are usually multi holed soaker catheters and are purchased by local procurement teams and kept in a designated area in theatres.

The batch number and any corresponding information should be documented in the patients' medical notes as part of the operation notes.

The surgeon/anaesthetist must document in the medical notes and on ORMIS that an infusion catheter or dosifuser has been inserted into the patient in theatre, also the location of the insertion and how many catheters were inserted.

This information must also be documented on the front sheet of the green local anaesthetic infusion document designed by the inpatient pain service.

Prevention of retained Foreign Objects:

As part of the theatre final checklist it must be recorded that the introducing needle if used is present.

When the dosifuser has run for 48 hours it will be empty and will need to be removed. The clear dressing is removed and the infusion catheter removed by gentle traction. A blue tip should be present on the end of the catheter signifying that the whole of the catheter has been removed.

If there is resistance and fear of the catheter snapping medical help should be sought.
If there is any suspicion that any catheter has been retained inside the patient an ultra sound can be taken as the catheters are identifiable under ultra sound.
The Cadd Solis infusion can run for a prolonged period of time if required.
When the infusion is no longer required the removal is the same procedure as above.
The person removing the infusion catheter if responsible for signing on the front sheet of the local anaesthetic document that the catheter(s) has been removed intact plus date and time

Radiography:

N/A

Sign Out:

As per safer surgery check list

Handover:

The handover to recovery staff or ITU will include the site and number of local anaesthetics infusion catheters if inserted.

Team Debrief:

As per operating list

Post-procedural aftercare:

In Theatre recovery or ITU the CADD Solis infusion device containing local anaesthetic will be prepared and attached to the catheter inserted in theatre, by staff trained, assessed and competent to carry out this procedure. If a dosifuser is used this will have been attached in theatre. From theatre recovery the patient may remain overnight or return to a ward.
Monitoring is recorded on the green local anaesthetic infusion chart designed by the inpatient pain service.
Observations are recorded hourly for the first four hours and four hourly thereafter for the duration of the infusion.
Observations include: pain score, function score, respiratory rate, blood pressure, pulse,
Check of the entry site looking for leakage or any sign of infection. Also to ensure that the entry site remains covered with a clear dressing.
If a programmable infusion device is used ie the CADD Solis a check of the pump programme is required to ensure the drugs are those prescribed , the infusion rate is running at the required rate, and the volume left in the cartridge. A visual check of the cartridge should also be made to ensure it contains the correct drug prescribed.
If a Dosifuser is used there are no programmable parts. However a visual check that the float is moving downwards needs to be made to signify the drugs are infusing, the label on the dosifuser will display the drug and strength this needs to be checked against the prescription. A check that the clamp on the line has been released to ensure infusion.
Any numbness in the patient's arms or legs will be recorded under the bromage section of the observation chart.

If any supplementary analgesia is required this will be recorded on the observation chart.
The infusion rate is recorded each time observations are performed with any rate increase or decrease written across the chart at the correct time and date. (Cadd Solis Only)
The total volume infused is recorded at the time the observations are being performed (Cadd Solis only)
The observation chart is signed by the person performing the observations.
When the dosifuser has run for 48 hours it will be empty and need to be removed. The clear dressing is removed and the infusion catheter removed by gentle traction. A blue tip should be present on the end of the catheter signifying that the whole of the catheter has been removed.
If there is resistance and fear of the catheter snapping medical help should be sought.
If there is any suspicion that any catheter has been retained inside the patient an ultra sound can be taken as the catheters are identifiable under ultra sound
The Cadd Solis infusion can run for a prolonged period of time if required.
When the infusion is no longer required the removal is the same procedure as above.
The person removing the infusion catheter if responsible for signing on the front sheet of the local anaesthetic document that the catheter(s) has been removed intact plus date and time

Discharge:

Discharge to the ward from ITU or recovery, staff will hand over the placement of the infusion catheter(s) show the ward the completed observations charts and ensure the front green sheet containing the signed site and number of catheters is attached. When completed the front copies of the green sheet are filed in the patients' medical notes and the carbonated back copies are retained by the inpatient pain team.

Governance and Audit:

Failure to complete the site and number of catheters inserted on the front green sheet of the local anaesthetic documentation or to sign to say the catheters have been removed will result in a datix being completed.
Patients are the responsibility of their medical team, however the inpatient pain nurses will review patients with a dosifuser or CADD Solis infusion on a daily basis, Monday to Friday checking to see appropriate documentation has been completed and nurses are compliant with the monitoring and recording of the observations. Patients with a local anaesthetic infusion over a weekend/bank holiday will be reviewed on the next working day and any documentation collected.

Training:

It is mandatory for surgical ward nurses to attend the Acute Pain Study Day where they will receive knowledge and training in how to care for patients with a local anaesthetic infusion.
An LCAT assessment is required by nurses to show understanding and competence when looking after a patient with a local anaesthetic infusion; this will be signed off by the inpatient pain nurses.
Catheters are inserted in theatre by suitably trained and competent consultants, who will train their registrars.

Documentation:

The green local anaesthetic front sheet and observation document is filed in the patients' medical notes on completion. A copy of these documents is retained by the inpatient pain nurses.
Audit is carried out by the inpatient pain nurses to ensure compliance with completion of each step of the documentation process and datix completed if there are any failings.

References to other standards, alerts and procedures:

National Safety Standards for Invasive Procedures, NHS England 2015:
https://www.england.nhs.uk/patientsafety/wp-content/uploads/sites/32/2015/09/natssips-safety-standards.pdf
UHL Safer Surgery Policy: B40/2010
Policy for the Management of Adult Patients with a continuous local anaesthetic infusion. Trust reference B14/2019

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