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Pain Medicine: Lidocaine Infusion for Analgesia in Malignant and Chronic Non-Malignant Pain, 10771

Policy/Procedure

PURPOSE:

The policy facilitates patient safety by providing a standardized approach to patients who receive lidocaine infusions for analgesia, in either an ICU, ambulatory infusion center or palliative care setting at Seattle Children's.

POLICY:

The following content describes the safe administration of lidocaine continuous IV infusion to reduce the intensity of discomfort in the setting of malignant or chronic non-malignant pain.

PROCEDURE:

I. Lidocaine Infusions for Chronic Pain:

A. General Considerations:

1. Chronic pain medicine physician will assume overall responsibility for the patient selection and order initiation of lidocaine infusions for analgesia.
2. Communication:
 - a. MD: MD handoff communication will be initiated by the chronic pain medicine physician to the intensive care provider for infusions in ICU.
 - b. The Ambulatory Infusion Center team, including the assigned RN on the day of infusion, will escalate questions or issues directly to the ordering chronic pain physician.
3. The ordering Pain Medicine physician must be in the hospital and available to respond to questions or issues in a timely manner for the duration of the infusion.
4. The first infusion for an individual patient must be administered in the ICU. Subsequent infusions may be administered in the Ambulatory Infusion Center, if well tolerated.

B. Patient Selection or Scheduling:

1. A patient with chronic non-malignant pain or malignant pain:
 - a. Patients are followed by a Pain Medicine Clinic provider and have been evaluated within the last three months.
 - b. Patients must be managed in the ICU or Ambulatory Infusion Center for the duration of the infusion.
 - c. Patients must be scheduled in advance for admission to the ICU or on the Pain Medicine schedule for Ambulatory Infusion Center.
 - d. Patients will have stable IV access in place or initiated for the duration of the infusion.
 - e. Patients will require continuous coverage by the ordering Pain Medicine physician for the duration of the infusion and until the patient has been discharged from the ICU or Ambulatory Infusion Center.
- C. Site of care selection:
 1. Intensive Care Unit:
 - a. Patients receiving their initial infusion of lidocaine for analgesia.
 - b. Patients who previously displayed an adverse reaction to infusion of lidocaine or are physiologically unstable.
 2. Ambulatory Infusion Center:
 - a. Patients who previously received their initial infusion of lidocaine for analgesia and remained physiologically stable during infusion.
 - b. Staff available that can execute and facilitate these orders include RNs who have completed their ambulatory infusion orientation and infusion RN skills checklist.
 3. Alternate Patient Care Units:
 - a. May be considered for patients who previously received their initial infusion of lidocaine for analgesia and remained physiologically stable during infusion.
 - b. Each patient case will be considered in a clinical decision-making discussion involving primary service, Ambulatory Infusion Center leadership, Pain Medicine, and Pharmacy.
 - i. This discernment will assess current patient clinical acuity, risk/benefit of infusion during current admission, and availability of ambulatory infusion center RN.
 - c. If patient is determined to be eligible for an inpatient acute care infusion by the team named above, the patient's infusion will be scheduled with the Ambulatory Infusion Center based on staffing availability.
 - d. The infusion center RN will initiate administration of the lidocaine infusion at the inpatient bedside and monitor for the duration of the infusion and ordered post monitoring period.
 - e. The assigned inpatient acute care RN will maintain responsibility for the overall assessment and care of the patient.
- D. Prescribing Requirements:
 1. Orders should be entered using the CIS PowerPlan **Lidocaine Infusion for Chronic Pain Plan** as soon as the ICU admission or appointment in the Ambulatory Infusion Center is scheduled, so the pharmacy can prepare the medication in advance.

2. Lidocaine infusions will be ordered according to the standard concentration.
3. Dose range is typically 17- 85 mcg/kg/min.
4. The dose may be started at any range, depending on the etiology and severity of the pain, and other medications being utilized.
 - a. Other medication may include a dose of IV magnesium as prescribed by the Chronic Pain Medicine physician.
5. The dose is not titrated unless there are undesirable effects, in which case the infusion rate is decreased by order of the chronic pain medicine physician.

E. Administration:

1. The lidocaine infusion will be administered for up to 6 hours.
2. Infusions will not be administered more frequently than one time per week.
3. Lidocaine infusions may be administered with other continuous medication or fluid infusions after confirmation of compatibility by the usual nursing practice for medication management.
4. No bolus (fluid or medication) may be administered/piggybacked into this line (to avoid concurrent bolusing of lidocaine).
5. Lidocaine infusions will be administered via IV infusion pump and programmed using the drug library for standard concentration. Infusions running greater than 10 mL/hr may be placed on a large volume pump using the drug library for standard concentration.

F. Monitoring:

1. Patients will be on continuous ECG, respiratory, and SaO₂ monitoring.
2. Vital signs, including BP, will be recorded initially, every 30 minutes x 2, then every hour.
 - a. An additional set of vital signs will be performed and recorded at discharge.
3. Pain scores will be documented at initiation, every 30 minutes x 2, then every hour during the infusion.
4. Side effect profile will be documented on the Lidocaine Infusion Assessment in the CIS Special Procedure Band every 30 minutes x 2, then every hour during the infusion
5. RN will report changes in vital signs/assessments from baseline, as well as evidence of side effects (described below), to the ordering physician, and ICU attending in that site of care, as this may indicate developing toxicity.
6. Side Effects:
 - a. Early signs of toxicity may include:
 - i. Numbness and tingling
 - ii. Metallic taste
 - iii. Ringing in the ears
 - iv. Dizziness
 - v. Nausea/vomiting
 - vi. Tremor
 - vii. Dysarthria, slurred speech, ataxia, agitation, change in sensorium

- viii. Vision changes, nystagmus
 - ix. BP (hypotension) /HR changes (cardiac dysrhythmia)
 - b. Severe side effects of particular concern in the administration of lidocaine:
 - i. ECG changes (cardiac dysrhythmia, cardiac arrest)
 - ii. Convulsions
 - iii. Significant tinnitus
 - iv. Perioral numbness
 - v. Headache (new onset).
 - vi. Change in level of consciousness or hallucinations.
 - vii. Significant nausea and vomiting.
 - viii. Anaphylaxis
 - c. In the event severe side effects are noted, the infusion should be held, plasma levels assessed, and the ordering physician and ICU attending in that site of care should be notified.
 - i. The infusion should be held until symptoms resolve.
 - ii. A plasma lidocaine level should be obtained as soon as possible after the infusion is held.
 - iii. After resolution of symptoms the infusion may be reinstated at a lower dose at the discretion of the ordering pain medicine physician and ICU attending in that site of care.
- 7. Discharge:
 - a. The patient will remain monitored in the ICU or ambulatory infusion center for 30-60 minutes per order after the infusion is completed or discontinued.
 - b. A set of vital signs, including pain score, will be performed and recorded just prior to discharge

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Attachments:

No Attachments

Approval Signatures

Step Description	Approver	Date
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	Bonnie Fryzlewicz: Vice President, Patient Care and Chief Nursing Off	2/22/2019
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