Patient Controlled Analgesia

POLICY: The Pain Management Service of the Department of Anesthesiology will assume overall responsibility for the initiation of all Patient Controlled Analgesia (PCA) infusers. The General Surgery Department may assume responsibility for initiating and managing PCA on non-complicated patients over the age of 10 years on their service.

PURPOSE: This system allows a patient to safely self administer small pre-set doses of a prescribed analgesic or other drug through an IV line.

PROCEDURE:

I. Equipment:
   A. Baxter PCA II pump from Central Service.
   B. PCA administration set from OmniCell.
   C. IV set.
   D. Opioid syringe from Pharmacy.
   E. Pump key.
   F. IV solution as ordered.
   G. Pulse oximeter.

II. Patient Selection:
   A. Apply the following criteria when selecting patients to utilize the PCA infuser:
      1. Eligibility:
         a. Children and adolescents, over the age of 10 (ages 5-9 evaluated by Pain Management Service for appropriateness of this specific therapy).
         b. Patients in need of parenteral analgesic treatment of post-operative pain, pain from progression of cancer or side effects of disease or chemotherapy, trauma patients with clear sensorium, sickle cell pain episodes.
         c. Mentally alert patients who can understand and follow instructions and procedures.
         d. Ability to press button. (Note: An adapter [cheek switch] available through Speech Therapy for patients with manual dexterity issues.)

III. General Procedure:
   A. Explain PCA infuser pump to the patient and family. This will be initiated by anesthesia pre-operatively, reinforced by the PACU staff, and continued by floor nursing staff caring for the patient. Reinforce that the patient is The Only person who pushes the PCA button.
   B. Provide patient with PCA instructions guide pre-operatively or at time of PCA initiation.
C. The nurse teaches the patient and family about his/her medication: description, action, effects, and possible side effects. Reinforce that analgesics make pain manageable – it may not take the pain away completely.

D. Pain Management Service or General Surgeons for non-complicated patients > 10 years old write standard PCA orders.

IV. Load and Program Pump:
A. To increase safe practice around the use of PCAs, a double check of pump settings and medication orders is now required when a new syringe is loaded into the PCA system and with subsequent dosage changes. This double check can be performed by RN:RN or RN:LPN or RN:MD. The double check will be documented in the MAR:
   a. Open security door.
   b. Connect PCA administration set to opioid syringe and injector assembly.
   c. Purge system of air manually.
   d. Load syringe into PCA infuser, turn pump ON.
   e. The maintenance IV solution must be piggybacked into the PCA administration set. This is necessary because the backcheck valve is in the PCA administration set, preventing backflow of the opioid into the maintenance IV solution.
   f. Press clear to erase old history and enter the new prescription.
   g. Select operating mode. Choices include:
      i. PCA mode
      ii. PCA/Basal mode
      iii. Continuous mode.
   h. Select units of administration (usually milligrams). Because the PCA pump cannot be programmed in micrograms, fentanyl is programmed and documented in mLs.
   i. Program drug concentration.
   j. If applicable to the orders, program PCA Dose.
   k. If applicable to the orders, program Delay (lockout interval) to desired time between allowable doses.
   l. If applicable to the orders, program Basal Rate (continuous dose).
   m. Program 1 hour limit.
   n. Press Enter if all settings are confirmed.
   o. Press Start to begin therapy.
   p. Double check integrity of entire PCA system (cracks in syringe or tubing, secure connections, properly adjusted plunger, etc.)
   q. Close and lock security door.
   r. Patient (Only) initiates delivery (within pre-set limits) by pressing and releasing patient control button.

B. Evaluate patient for respiratory status (rate and depth), sedation level, side effects, and pain severity q 2 hours x 12 hours, then q 4 hours thereafter. Use age appropriate pain scale for pain intensity rating (See Clinical P&P, General Pain Management).

C. Patients will be placed and maintained on pulse oximeter until PCA is discontinued. Saturations are to be recorded q 4 hours.
D. RN/LPN will record amount of medication taken q 4 hours on the MAR sheet. In the ICU, this documentation will be recorded on the Non-IV MAR.

E. Nurse-administered boluses are administered through the PCA pump. RN/LPN will record these additional bolus opiates on the MAR sheet with the time of administration.

F. RN will evaluate the 24-hour trend of medication use and the pain scores to determine the effectiveness of analgesic regimen.

G. Document amount of opioid used q 4 hours on the MAR by pressing History on the pump to read the amount delivered to patient over the past 4 hours. Clear shift total by pressing Clear while it is displayed on the screen. Review and confirm that programming is accurate and press Start to resume therapy.

H. The RN/LPN frequently checks with the patient observing his/her administration of medication.

I. Monitor IV site as per standard.

J. At the beginning of each shift, check the pump to determine accuracy of medication administration programming.

K. Change medication syringe every 24 hours if prepared in pharmacy and every 72 hours if the syringe comes prepared from the manufacturer.

L. Change tubing every 72 hours.

M. For infusing substances that are not compatible, contact the Pain Management Service for the following orders:
   1. Stopping the PCA.
   2. Alternative analgesic regime during the infusion.

N. If patient is no longer capable of administering his/her medications, the RN notifies Pain Management Service to make recommendations.

O. Discontinuation of PCA infusion system:
   1. An order from the Pain Management Service (or General Surgery Service, if applicable) is required for discontinuation of PCA infuser.
   2. Medication remaining in syringe will be discarded in the presence of another licensed nurse and recorded in the OmniCell. Please refer to Clinical P&P, Controlled Drugs: Record Keeping of Infusions and PCA Products.
   3. PCA infuser will be returned to Central Supply.

P. PCA infuser pumps with mechanical problems will be sent to Bioengineering for evaluation. Submit QA report as per standard. Notify the Pain Management Service for further follow up.

Q. For patient education, documentation of pain intensity and clinical consultation, please refer to Clinical P&P, General Pain Management.
Clinical Policy/Procedure: Patient Controlled Analgesia

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BARRIER TECHNIQUES:

CLASS II GLOVES R EYE A MASK A GOWN A

Additional Key Words: Narcotic, Opiate, Pain Management, Pain Scale, Pain Score, Patient Safety, PCA, Pharmacologic Modalities