

# Patient Controlled Analgesia - 2022

PCA - Patient controlled analgesia

- Drug administered via intravenous route

PCEA – Patient controlled epidural analgesia

- Drug administered via catheter into epidural space around the spinal cord
  - Binds to nerve roots
  - Blocks sensory impulses
- PCA pump is reusable, battery operated pump that delivers dose of IV analgesia when patient presses button.
- With PCA, a dose of medication is given when the patient decides a dose is needed.

PCA therapy uses:

- post-operatively
- trauma
- terminally ill
- chronic disease pain
- labor & delivery

Candidates for PCA:

- Mentally alert
- Able to understand and comply with instructions

Contraindications for PCA:

- History of respiratory conditions
- History of drug abuse
- Psychiatric disorder
- Mentally confused

PCA ADVANTAGES

- Gives patient sense of control over pain
- Pain relief tailored to patient's size & tolerance
- Small doses of analgesic delivered at short intervals stabilize serum drug concentrations for improved pain relief
- Lower narcotic use compared to patients not on PCA
- Improved post op deep breathing, coughing, & ambulation; improved rest
- Patients don't have to depend on or wait for nurse for pain control
- Receives analgesia when needed at level needed

PCA

- Types of drug delivery
  - Basal dose (continuous infusion)
  - Patient demand dose
  - Basal + Demand dosing
- Opioid analgesia administered:
  - morphine
  - hydromorphone (Dilaudid)

Safety mechanisms in place

- Prevents patient from giving self overdose
  - Has lock-out time between doses-usually 6-15 minutes

- o When patient pushes button during lock-out, will not receive dose
- Settings on the delivery pumps (both PCA and PCEA) must be verified by TWO RNs when:
  - o Patient admitted to new unit
  - o At change of shift
  - o When pump settings or medications are changed
- When receiving PCA, all previous orders for opioids are discontinued.
- With PCEA, patient is to receive NO additional narcotics or sedation unless cleared by anesthesiology.
- PCA is drug delivery system that allows patient to safely administer pain medications when they need it
- **Others should never push button for patient**

#### Nursing Considerations

- Patient education on PCA
  - o Prior to sedation, pre-op if possible
  - o Teach to take enough analgesic to relieve pain
  - o Take before pain severe
  - o Teach that device prevents overdose
  - o Emphasize to patient and family that medication infusion button is to be controlled **only** by the patient
- Monitor respiratory rate
  - o Primary effect of analgesia is respiratory depression
- Monitor IV site
  - o Leaking, redness, swelling, warmth, site irritation, connections secure
- Assess effectiveness of PCA relief
  - o Uncontrolled pain needs to be reported to healthcare provider
    - May need to change dose or lock-out interval (how often the pt. can push the button)
    - May need to change drug

#### With PCA, patient assessments include:

- Vital signs
  - o Continuous pulse ox
  - o O2 @ 3L/min x 24 hours to keep O2 sats >92%
- Pain score
- Sedation score
- Side effects of medication

#### Side Effects of PCA:

- Respiratory depression
  - o naloxone (Narcan)
  - o Oxygen therapy
- Itching
  - o nalbuphine (Nubain)
- Nausea
  - o metoclopramide (Reglan)
  - o ondansetron (Zofran)
- Confusion (safety considerations)
- Sedation (notify provider – may need to alter dose)
- Constipation (laxatives)
- Treat symptoms (per protocol) or MD may order different drug

#### With PCEA, patient assessments include:

- o Pain score

- o Respiratory rate & sedation score
  - Continuous pulse ox for 24 hours
  - O<sub>2</sub> @ 3L/min x 24 hours to keep O<sub>2</sub> sats >92%
- o Side effects
- o Insertion site
  - Dressing/catheter intact
- o Extremity motor/sensory evaluation
- o Urinary retention

### **Nursing Management of Epidural**

- Maintain catheter placement
- Monitor for respiratory depression
- Prevent infection
- Maintain urinary and bowel function

### **PCEA**

- Bupivacaine
  - o Medication in PCEA bag
  - o Causes nerve block
  - o No feeling in feet and legs—Decreased sensation!
- *Maintain strict bedrest until 4 hours after bupivacaine is discontinued.*

### **PCA**

- Tubing changed every 96 hours
- Syringe changed when empty
- IV dressing changed prn

### **PCEA**

- Tubing NOT changed for life of epidural
- Epidural medication bags changed every 24 hours
- Dressing on PCEA is never to be removed.

### ➤ To make a smooth transition from PCA or PCEA to oral medications

- Give first oral dose prior to discontinuing PCA.
- Give increasing doses of oral drugs as PCA is tapered down
- Consistent pain relief assessment