Patient Controlled Analgesia – 2021

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

    - 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:
    - Patient admitted to new unit
    - At change of shift
    - 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
    - Prior to sedation, pre-op if possible
    - Teach to take enough analgesic to relieve pain
    - Take before pain severe
    - Teach that device prevents overdose
    - Emphasize to patient and family that medication infusion button is to be controlled **only** by the patient
- Monitor respiratory rate
    - Primary effect of analgesia is respiratory depression
- Monitor IV site
    - Leaking, redness, swelling, warmth, site irritation, connections secure
- Assess effectiveness of PCA relief
    - 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
    - Continuous pulse ox
    - 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
    - naloxone (Narcan)
    - Oxygen therapy
- Itching
    - nalbuphine (Nubain)
- Nausea
    - metoclopramide (Reglan)
    - 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:
    - Pain score

- Respiratory rate & sedation score
  - Continuous pulse ox for 24 hours
  - O2 @ 3L/min x 24 hours to keep O2 sats >92%
- Side effects
- Insertion site
  - Dressing/catheter intact
- Extremity motor/sensory evaluation
- Urinary retention

Nursing Management of Epidural

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

PCEA

- Bupivicaine
  - Medication in PCEA bag
  - Causes nerve block
  - No feeling in feet and legs

- *Maintain strict bedrest until 4 hours after bupivicaine 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

Be kind, for everyone you meet is fighting a hard battle.
--Plato