Pediatric Patient Controlled Analgesia (PCA)

Consider a PCA

1. Certain conditions:
   - Known condition to cause severe pain: sickle cell pain crisis, pancreatitis, renal calculi, Crohn's or UC flare, complicated appendicitis
   - Pain is episodic, and/or has a quick onset
   - Post-operative
2. Intermittent IVP dosing is not sufficient
   - Medication is not lasting until next dose is due
   - Medication is associated with sleepiness
   - Patient is requiring ATC IV opioids
3. It would benefit the patient to have some control

Benefits

1. Quick onset- works quicker than po. Saves the time it takes for patient to request the prn medication, have the nurse obtain it, verify, double check it and administer
2. Helpful for spasmodic pain that has a quick onset (ie Crohn's flare- by the time the prn medication is administered and kicked in the pain may have passed)
3. Less peaks and valleys and more steady stream

Common Safety Features

1. Hourly dose limits
2. Patient initiated demand dose: if patient too sleepy/sedated to press button they cannot over sedate themselves
3. PCA may be ordered as:
   - Demand Dose only
   - Demand Dose + Basal
   - ***Cannot*** be ordered as Basal rate only
4. ETCO2 monitoring for patients considered high-risk: obese, abdominal surgery, sleep apnea. ETCO2 module must be ordered in conjunction with PCA

Other Important Considerations

1. Patient must be developmentally appropriate to utilize demand dose correctly. Youngest age is typically 5 years old. Physician or APC must evaluate patient to determine if patient able to understand the concept.
2. AACA (RN or parent as proxy): used very rarely, requires PACT consult outside of ICU
   - RN as proxy can be managed by:
     - PACT team
     - PICU/PCICU
   - Parent/guardian as proxy can be managed by:
     - ***Requires*** PACT consult

Continue Pain Regimen While Awaiting PCA

- If available, continue PRN opioid dosing until PCA is set up
- If PRN is not on the MAR consider a one-time dose of IVP opioid and continue to reassess
- Once PCA set up, discontinue all other PO and IVP opioids

Pediatric Patient Controlled Analgesia (PCA)

Dosing Guidelines for Opiate Naïve Patients		
Morphine		
< 20 kg • Basal: 0.01-0.02 mg/kg/hr • Demand: 0.01-0.02 mg/kg q 8-10 min • 1 hour limit: 0.01-0.07 mg/kg	**20 -45 kg** • Basal: 0.01-0.02 mg/kg/hr • Demand: 0.01-0.02 mg/kg q 8-10 min • 1 hour limit: 0.01-0.07 mg/kg	**> 45kg** • Basal: 0.3-0.5 mg/hr • Demand: 0.3-0.5 mg q 8-10 min • 1 hour limit: 0.01-0.07 mg/kg
Dilaudid		
< 20 kg • Basal: 1-2 mcg/kg/hr • Demand: 1-2 mcg/kg q 8-10 min • 1 hour limit: 4-7 mcg/kg	**20 -45 kg** • Basal: 0.001-0.002 mg/kg/hr • Demand: 0.001-0.002 mg/kg q 8-10 min • 1 hour limit: 0.01 mg/kg	**> 45kg** • Basal: 0.1-0.2 mg/hr • Demand: 0.1-0.2 mg q 8-10 min • 1 hour limit: 0.01 mg/kg
Fentanyl		
< 20 kg • Basal: 0.1-0.2 mcg/kg/hr • Demand: 0.1-0.2 mcg/kg q 6-8 min • 1 hour limit: 0.1-0.4 mcg/kg	**20 -45 kg** • Basal: 0.1-0.2 mcg/kg/hr • Demand: 0.1-0.2 mcg/kg q 6-8 min • 1 hour limit: 0.1-0.4 mcg/kg	**> 45kg** • Basal: 5-8 mcg/hr • Demand: 5-8 mcg q 6-8 min • 1 hour limit: 0.1-0.4 mcg/kg