Welcome to New Employee Orientation
ANESTHESIOLOGISTS

Nine anesthesiologists with specialized interest in acute pain management

- Primary duties during pain week
  - Nerve block
  - Epidural
  - Blood patch
  - Other specialized procedures on request (i.e. lumbar puncture, central line)

- When not assigned to Pain Service:
  - OR, Cath Lab, Endo and L&D
ANESTHESIOLOGIST CONTACT INFORMATION

- Pain Service 212-2522
  - Available Mon-Fri 6:00- 4:30pm, after hours page 1st call anesthesiologist
  - After hours call 212-3155 and ask for 1st call anesthesiologist.
ACUTE PAIN SERVICE NURSES

- Assist pain anesthesiologist with procedures
- Round and follow up on epidural & perineural catheter patients
- Teach new employee orientation
- Annual epidural pump skills check-off
Acute Pain Service RN

- Available Monday thru Friday 0600 to 1630
- Not available on weekends or holidays unless a procedure is scheduled
- Pain service clinic is located in the middle of Ambulatory Surgery Unit (ASU).
- Office 2-2522 (Please leave detailed message, we check our messages frequently)
- Spectralink 2-3400
PAIN ASSESSMENT and PAIN SCALE
ACUTE PAIN

Pain from a recent surgery, injury, or medical illness are examples of acute pain.

In many cases, this pain can be managed immediately and will usually get better in just a short time.
CHRONIC PAIN

Often defined as any pain lasting more than 12 weeks. The pain can last months or years after the source of pain is gone.
Components of Assessment

- Pain
  - Location (s)
  - Frequency  (constant, intermittent)
  - Quality  (aching, burning, sharp)
  - Pain Rate  (intensity, pain scale)
  - Duration  (when worse, when better, if predictable)

- Effects of pain on the person’s function
  - Alleviating factors
  - Aggravating factors
  - Effects on function  (ADL’s, ect)

- Pain Relief

- Expectations and goals
  - Function and quality of life goals
<table>
<thead>
<tr>
<th>Presence Of Pain</th>
<th>Pain Body Location - Side</th>
<th>Pain Body Location - Orientation</th>
<th>Pain Body Location</th>
<th>Pain Radiation to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response to Pain Intervention</td>
<td>(POSS) Pasero Opioid-Induced</td>
<td>Richmond Agitation-Sedation</td>
<td>Preop fr...</td>
<td>Pre-adm...</td>
</tr>
<tr>
<td>10/31/17</td>
<td>11/1/17</td>
<td>1216</td>
<td>0800</td>
<td></td>
</tr>
</tbody>
</table>

**Pain/Comfort**

- Presence Of Pain
- Response to Pain Intervention
- (POSS) Pasero Opioid-Induced
- Richmond Agitation-Sedation

**Preferred Pain Scale**

- Preferred Scale: numbe...

**Pain Body Location - Side**

- Pain Body Location - Orientation
- Pain Body Location
- Pain Radiation to
- Pain Frequency
- Pain Quality
- Associated Signs/Symptoms
- Pain Rating (0-10): Rest
- Pain Rating (0-10): Activity

**Word Pain Rating:**

- Rest: 2

**Nonverbal Indicators Of Pain**

- Pain Onset
- Pain Duration
- Factors That Aggravate Pain
- Factors That Relieve Pain
- Pain Management Interventions

**Additional Pain Site**
PAIN REASSESSMENT DOCUMENTATION

- Oral Pain Medication 60 minutes
- IV Pain Medication 30 minutes
Pain Scales

- NUMBER
- WORD
- WONG-Baker Face
Pain Scales

- rFLACC (revised face, legs, arms, cry, consolability)
- Pain Assessment in Advance Dementia
- Critical Care Pain Observation Tool
- OB Pain
- Chest Pain
PERIPHERAL NERVE BLOCK
COMMON NERVE BLOCKS

- Femoral ~ knee
- Adductor Canal ~ knee
- Fascial Iliaca ~ hip
- Transversus Abdominis Plan ~ hysterectomy
- Sciatic ~ foot and ankle
- Saphenous ~ foot and ankle
- Interscalene ~ shoulder
- Supraclavicular ~ arm
- Axillary ~ wrist
- Pectoral ~ breast surgery
POTENTIAL BENEFITS

- Less anesthesia
- Decreased IV and oral pain medication
- Fewer side effects: Nausea, Constipation, Drowsiness
- Earlier mobilization
- Participate in physical therapy day of surgery
- Faster recovery
- Earlier discharge
POTENTIAL COMPLICATIONS

- Infection
- Vascular puncture/Bleeding/Hematoma
- Nerve injury
- Falls
- Shortness of breath
BUPIVACAINE TOXICITY

- Metallic Taste
- Lightheadedness
- Dizziness
- Visual and Auditory Disturbances
- Disorientation
- Drowsiness
- Seizures
- Cardiac Arrhythmia
MANAGING TOXICITY

- Contact ~ pain service, PEAT, if necessary call code
- Intralipid 20% and treatment checklist
  - Give 1.5 ml/kg intravenously over 1 minute
- Manage airway
- Basic and Advance Cardiac Life Support
ON-Q PAIN BALL
WHAT IS THE ON-Q?

- The On-Q is a disposable pump filled with a local anesthetic such as Bupivacaine or Ropivacaine
- The local anesthetic blocks the pain in the area of the surgery
- With On-Q the patient should need less IV and PO pain medication
- The On-Q pump is connected to a catheter placed by a surgeon or a pain anesthesiologist
ON-Q PAIN RELIEF SYSTEM

- FIXED FLOW RATE
  - 4, 5, 10 mL/hour
  - Incision – placed by surgeon in OR

- SELECT-A-FLOW
  - 2 to 14 mL/hour
  - Nerve block catheter – placed by Pain Service
ON-Q Pump with Select-A-Flow

The pump will have a patient medication label, an LDA entry, and be documented in the patient’s eMAR.
Continuous Wound Infiltration

Soaker Catheter
ON-Q Key Points

- Keep **CLAMP OPEN** unless directed otherwise by physician
- Tubing **NOT KINKED**
- Filter **NOT TAPED OR COVERED**
- **Flow restrictor** placed/secured on patient’s skin
- Check the **RATE** if controlled by **Select-A-Flow**
- Variable rate controller –
  - Keep at room temperature
  - Skin contact is not necessary
  - Wear outside patient’s clothing
  - Place on top of bed covers
  - Contact with cold therapy decreases the flow rate
ON-Q PATIENT MONITORING

- Assess and document
  - Patient’s pain
  - Vital signs and respiratory effort
  - Extremity pale, discolored, or cool to touch
  - Perineural catheter dressing site
    - Clean and dry
    - Moderate drainage from catheter site may occur
    - Reinforce dressing and notify Pain Service
    - Do NOT attempt to change occlusive dressing as this will dislodge catheter
- Avoid patient injury due to numbness around surgical area/site
  - Cold, hot, or hard surfaces
CLOSE THE CLAMP and NOTIFY PHYSICIAN

- Increase in pain
- Fever, chills, sweats
- Bowel or bladder changes
- Difficulty breathing
- Redness, warmth, discharge, excessive bleeding
- Pain, swelling, or large bruise at catheter site
- Symptoms of local anesthetic toxicity
Commonly Asked Questions

- **How can I tell that the pump is infusing?**
  - Infusion may not be evident for more than 24 hours after surgery. Over time, the outside bag will loosen and begin to crease. As the medication is delivered, the pump balloon will gradually become smaller.

- **When is the infusion complete?**
  - Infusion is complete when the delivery time has passed and/or the pump is no longer inflated. A hard tube will be present in the middle of the pump. The infusion will typically last for 2 to 5 days, depending on the size and volume of the pump.

- **Can the pump be refilled?**
  - No. The pump is for single use only and is disposable.
Discontinuing On-Q Catheter
(Fixed Flow Restrictor and Select-A-Flow)

- Obtain a physician’s order.
- Remove the dressing.
- Grasp catheter close to the skin and with a steady motion gently pull catheter from the site.
- Catheter should not be sutured in and should be easy to remove and not painful.
- After removal, check the distal end of catheter for black marking to ensure the entire catheter was removed.
CAUTIONS:

- If resistance is encountered
  - STOP
  - Wait 30 to 60 minutes and try again. Patient’s body movements may relieve the catheter to allow easier removal.
- If catheter is still difficult to remove call the MD.
- Do not cut or forcefully remove catheter.
- Do not apply additional tension if catheter begins to stretch.
EPIDURALS
EPIDURAL

- Provides post operative pain relief by injecting of anesthetic medication in the fatty tissue (epidural space) that surrounds the nerve roots as they exit the spine.
- Most common types of Surgeries:
  - Abdominal Surgery
  - Thoracic Surgery
  - Rib Fracture
  - Nephrectomy
  - Frostbite ~ increased perfusion
Pain Service MD Responsibilities

- Administering the initial dose of analgesia.
- Writing all opioid and sedation orders.
- Changes & modification of epidural infusion.
- Treating side effects & complications.
- Changing catheter site dressing if needed.
- Manipulation or removal of the catheter.
Nursing Responsibilities

- Maintaining neuraxial infusion, hang a bag - order a bag, and document.
- Assess the dressing and catheter.
- Monitor level of sedation, respiratory status, effectiveness of analgesia & side effects.
- Labeling neuraxial catheter, tubing, door room and head of bed appropriately.
- Patient & Family education.
- Neuraxial tubing change every 72 hours with reservoir bag.
- Continuous pulse oximeter and neuraxial emergency supplies (ambu bag and mask)
- Document the dermatomes.
CATHETER MEASUREMENTS

5 cm

10 cm

11 cm

12 cm

15 cm

20 cm
POTENTIAL BENEFITS

- Less Anesthesia
- Decreased pulmonary complications
  - Increased Incentive Spirometer
    - Surgery
    - Rib Fractures
- Decreased Mechanical Ventilation
- Reduces post operative ileus
- Earlier ambulation
- Earlier discharge from hospital
POTENTIAL COMPLICATIONS

- Unsuccessful catheter placement
- Intraspinal catheter migration
- Dural puncture, spinal headache
- Possible loss of extremity motor function
- Urinary retention (lumbar placement)
- Back pain (at site of needle insertion)
- Hypotension - Most often occurs as a result of hypovolemia
- Intraspinal catheter migration
- Risk of inadvertent injection of neurotoxic agents into the cerebrospinal fluid.
- Neurologic complication from trauma to tissue
  - Infection, abscess, hematoma, s/s cord compression
  - Check for changes in bowel, bladder function, weakness and mobility
Sapphire Pumps
AFTER HOURS AND WEEKENDS...

- Contact the Shift Coordinator x22584
- Shift Coordinator will bring an epidural pump and set-up supplies from PACU
  - Epidural tubing
  - StatLock extension
  - Epidural StatLock
  - Epidural medication tubing labels
  - Epidural signs x2
  - 3mL syringe
SAPPHIRE KEY POINTS

Administration cassette

- Close the Anti-Free Flow Valve prior to spiking
- Attach epidural tubing extension for StatLock
- Prime tubing manually past the cassette
- Approximate priming volume 7mL
- Inserting administration cassette into pump
- Removing administration cassette from pump

Set the VTBI to 50mL less than bag volume

10 minute warning before VTBI is complete

Next epidural bag available
Programming
Epidural “Show All Details”

5 mL PCEA bolus
30 minute lockout
10 mL/hr continuous
Rx: New Order

6 mL PCEA bolus
30 minute lockout
12 mL/hr continuous
Clinician Bolus

Nursing Communication

Administer 2mL Clinician Bolus via the epidural infusion pump. Routine, ONE TIME First occurrence Today at 0729

Starting: 11/21/2014 Today 0729
First Occurrence: Today 0729
Scheduled Times: Hide Schedule

Comments (F6):
Administer 2mL Clinician Bolus via the epidural infusion pump.
First an example of how the bolus looks in Epic.

<table>
<thead>
<tr>
<th>Time</th>
<th>Drug Description</th>
<th>Rate</th>
<th>IV Type</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>0800</td>
<td>Electrolytes in water (PLASMALYTE-148/NORMOSOL-R) infusion</td>
<td>100 mL/hr</td>
<td>Intravenous</td>
<td>CONTINUOUS</td>
</tr>
<tr>
<td></td>
<td>0835 New Bag</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0700</td>
<td>(MARCAINE) 0.1% in sodium chloride 0.9% 250 mL</td>
<td>14 mL/hr</td>
<td>Epidural</td>
<td>CONTINUOUS</td>
</tr>
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</tr>
</tbody>
</table>

Alter 8 mL bolus with rate change.

Administration Warning: Patient was not scanned
- Scan patient barcode now or select the MAR action and action.

Action: Bolus from Bag
Override reason:

Accept | Cancel
8mL clinician bolus given per acute pain anesthesiologist
8mL clinician bolus given per acute pain anesthesiologist

Request cosign by:

EXAMPLE
Cosign Request

Administrations with Cosign Requests

Alicia Kilgore, RN
bupivacaine (PP) (MARCAINE) 0.1 % in sodium chloride 0.9% 250 mL
Status Discontinued
Line: Epidural Catheter 08/07/17 1320
Action: New Bag
Rate: 10 mL/hr
Requested Cosigner: Stephanie A Randall, RN

[Cosign]
Transistion

Turn off the epidural pump at 0600 and give oral pain medication.

*Remember to chart “stopped” on MAR*
PCA
Alaris PCA
Nursing Responsibilities

- PCAs are ordered in a order set.
- Nursing will follow the monitoring, treatment and notification parameters indicated with in the specified order set.
- Patient receives continuous capnography monitoring.
- Two qualified personnel must independently verify person, drug, dose parameters, route and appropriate CCA.
- IV fluids must be run.
- Remain at bedside until the loading dose is complete.
- Vital signs, pain, sedation levels, infusion site, IPI level.
- Reassess pain relief, side effects
- Document assessment, shift totals and shift hand-off.
- Unless otherwise specified by prescriber, enteral pain medications are not started until the PCA has been stopped or will be stopped within the next two hours.
Monitoring based on orders:

**PCA Management**
Until Completed  Complete

**Process Instructions:**

**GENERAL**
- Assess vital signs, pain level, and sedation level Q30 min X 2, then Q1H X 2, then Q2H upon initiation of PCA and with any dose adjustments
- Assess and document pain every 2 hours while awake
- If pain level is rated as acceptable by patient for 24 hours, assess and document pain every 4 hours
- Monitor ETCO2 or continuous pulse oximetry per facility routine
- If no IV fluid ordered, infuse NS at 25 mL/hr

**NOTIFICATION**
While patient on PCA, notify the provider for the following unless otherwise indicated:

- Temperature less than 35 or greater than 39.4
- SBP less than 85 or greater than 200
- DBP less than 35 or greater than 110
- HR less than 45 or greater than 130
- RR less than 10 or greater than 28
- Urinary output less than 30 mL/hr for four hours
- If needs 02 >4 Lpm NC to maintain pulse ox >92% or intensification of respiratory support (NC to face mask)

**Question:** D/C PCA when taking oral analgesics? **Answer:** Yes
### Vitals

<table>
<thead>
<tr>
<th>Temp</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pulse</td>
<td></td>
</tr>
<tr>
<td>Resp</td>
<td></td>
</tr>
<tr>
<td>BP</td>
<td></td>
</tr>
<tr>
<td>SpO2</td>
<td></td>
</tr>
<tr>
<td>ETCO2</td>
<td></td>
</tr>
<tr>
<td>O2 Device</td>
<td></td>
</tr>
<tr>
<td>Oxygen Concentration (%)</td>
<td></td>
</tr>
<tr>
<td>Flow (L/min)</td>
<td></td>
</tr>
</tbody>
</table>

### morphine 5 mg/mL PCA syringe

| Loading Dose (mg) |                  |
|PCA Dose (mg)      |                  |
| Lockout Interval (min) |            |
| Continuous Rate (mg/hr) |              |
| Max Dose per 1 hour |                |
| Max Dose per 4 hour |                 |
| # of Doses Given   |                  |
| Number of Attempts |                  |
| Shift Total (mg)   |                  |
| Volume Infused (ml) |                 |
| Sedation Level     |                  |
| Respiratory Effort |                  |

### Admission (Current) from 6/19/2017 in...

- 3/21/19: 1237
- 6/17/19: 1000

### Pain/Comfort/Sleep

- Presence Of Pain: denies pain/discomfort
- Response to Pain Intervention
- (POSS) Pasero Opioid-Induced
- Richmond Agitation-Sedation
- Preferred Pain Scale
- Sleep/Rest/Relaxation
- Fever Reduction/Comfort
- Additional Pain Site
- Additional Documentation
CCA = Clinical Care Area

- Adult LESS than 65 and NO risk of sleep apnea
  - PCA only
- Adult over 65 years old or history of sleep apnea
  - PCA only
- Opiate Tolerant – Continuous rate with PCA
- Palliative Care - high rates (end of life)
# PCA Pump Programming Guide

Review this guide before setting up a PCA

<table>
<thead>
<tr>
<th>Order in MAR</th>
<th>Meaning</th>
<th>Programming</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loading Dose (mg): 0.6</td>
<td>This is a one-time dose to be administered the very first time the PCA is hooked up. Think of it as a one-time bolus.</td>
<td>LOADING Dose: ___ mg</td>
</tr>
<tr>
<td>Starting PCA Dose (mg): 0.6</td>
<td>This is a range order for the Patient-Controlled aspect of the pump. This refers to the amount of medication delivered each time the patient pushes their PCA button. Always start with the &quot;starting PCA dose&quot;.</td>
<td></td>
</tr>
<tr>
<td>Incremental Increase PCA Dose (mg): 0.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum PCA Dose (mg): 1.2</td>
<td>If the patient's pain is not controlled, you can &quot;incrementally increase&quot; by 0.2 mg in this case. i.e. PCA started with 0.6 mg + 0.2 mg increase for pain = 0.8 mg.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>If the patient continues to be in pain, you can continue to increase the PCA by 0.2 mg (in this case) until you reach the &quot;Maximum PCA Dose&quot; of 1.2 mg.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>If the patient’s pain is still uncontrolled with the maximum dose, notify the LIIP.</td>
<td></td>
</tr>
<tr>
<td>Lockout Interval (min): 6</td>
<td>This is the amount of time allowed between each PCA dose. A dose will only be administered every 6 minutes in this case.</td>
<td>LOCKOUT INTERVAL: 06 minutes</td>
</tr>
<tr>
<td>Continuous Rate (mg/hr): 0.8</td>
<td>Think of this as a basal rate. This is the amount of medication that will be given per hour in addition to the PCA doses the patient is administering.</td>
<td>CONT Dose: 0.8 mg/ hr</td>
</tr>
<tr>
<td>One Hour Limit (mg): 10.6</td>
<td>This is the maximum amount of medication that the pump will allow the patient to receive. PCA doses administered + Loading Dose + Continuous Rate = One Hour Limit (mg)</td>
<td>MAX LIMIT: 10.6 mg/ 1 h</td>
</tr>
</tbody>
</table>

Refer to "IV Patient Controlled Analgesia" policy for the most updated PAMC standards.

Savannah Courtright & April Hough

Created June 2020
PCA Programming Tip-sheet

Document programmed dosage and any dose changes in the Comment section of the MAR Administration.

Document programmed dosage and any rate changes in Intake/Output Flowsheet under the Medication’s row.


Refer to “IV Patient Controlled Analgesia” policy for the most updated PAMC standards.
Patient Controlled Analgesia

- PCA only

Admin Instructions:
**for adult patients LESS than 65 years old and NO risk of sleep apnea**

Order Questions/Answers

- Loading Dose (mg): 0
- Starting PCA Dose (mg): 0.2
- Incremental Increase PCA Dose (mg): 0.1
- Maximum PCA Dose (mg): 0.4
- Lockout Interval (min): 10
- One Hour Limit (mg): 3
Patient Controlled Analgesia

- Continuous rate with a PCA

- Loading Dose (mg): 0.4
- Starting PCA Dosing (mg): 0.4
- Incremental Increase PCA Dose (mg): 0.4
- Maximum PCA Dose (mg): 0.8
- Lockout Interval (min): 10
- Continuous Rate (mg/hr): 0.2
- One Hour Limit (mg): 5
WELCOME to PROVIDENCE!!!