

# Patient Controlled Analgesia using the Alaris CareFusion® Pump and PCA Module

## Site Applicability

All VCH Acute Care Sites

## Practice Level

RN: Basic skill with additional education

- Review of Alaris CareFusion® Pump and PCA Module
- Completion of in-service and demonstration of utilization of Alaris CareFusion® Pump with unit educator or peer nurse

## Policy Statements

- An anesthesiologist's or PCA prescribing service order is required to initiate patient controlled analgesia (PCA). The initial PCA orders are written on the pre-printed orders sheet (PPOs) or PowerPlan (Cerner).
- When a patient has a PCA prescribed by the anesthesiologist or PCA prescribing service, no other opioid analgesics or CNS depressant medications are to be administered, except as ordered by PCA prescribing service.
  - NSAIDs ordered by the Surgeon are allowed.
    - **Exception:** Vancouver Acute requires POPS approval
- **Antiemetics, opioid analgesic, and HS sedation or anxiolytic medications** as prescribed by an anesthesiologist or PCA prescribing service can be administered until the PCA order is discontinued.
- Once PCA analgesia is discontinued, the surgeon's opioid analgesics and CNS depressant medications can be administered.
  - **Vancouver Acute:** POPS writes transfer orders for analgesics, antiemetics and CNS depressants and the MRP team will sign off on these to initiate the orders.
- The key to the PCA pump must be stored in a place with 'controlled access' when not in use. Sites/units must have a process in place to ensure all keys are accounted for at the end of each shift.
- Vancouver Acute- follow this guideline for Ketamine infusions that run via the Alaris PCA module
  - Ensure non-ported tubing is used for primary fluid infusion line attached to Ketamine tubing

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## Need to Know

### Goal of Treatment

- Through effective use of the PCA, the patient will experience minimal sedation and unwanted side effects, and will achieve appropriate analgesia.
- The patient will experience a pain level at rest or activity that is tolerable to them (usually less than 4 out of 10 on the Numeric Pain Rating Scale).
- Patient will receive teaching to be able to effectively use the PCA infusion pump.

### When Initiating the PCA

#### Patient:

- The patient must not have a known allergy to the prescribed opioids.
- Appropriate patients to receive treatment must:
  - Be oriented to person, place, and time.
  - Need to understand and demonstrate safe use of the PCA pump.
  - Physically able to manipulate the medication administration button.
- The patient will be the **only person** to press the PCA button to administer a dose.

#### Setup:

- The IV access site for administration via a PCA pump is maintained through a patent, continuous IV infusion through the Y connector port.
- A central venous catheter (CVC) or peripheral placed catheter may be used for administration of medication via the PCA pump.

#### Safety Check:

**Two RNs** are required to **independently double check** the drug and concentration, PCA pump settings against the physician orders, and the line attachment before use, with syringe changes, and/or when changes are made to the programming and upon admission or transfer to the inpatient unit.

- Subsequent to the above checks, RN must check PCA settings against written/electronic order and document settings in the Pain Assessment Record when the patient arrives on the unit and when there is a change of patient assignment.

#### Two RNs independently:

1. **Check** the PCA infusion programming against the PPO or PowerPlan and, if applicable, the PCA document.
2. **Verify** using the following parameters:
  - Correct: drug, concentration, and units
  - Correct: PCA dose, lockout time
3. The **RNs** document the verification of the PPO or PowerPlan and pump settings with each:
  - Pump set-up

- Program change
- Patient admission or transfer to inpatient unit
- For clinical guidance on how to complete an IDC, refer to [DST Independent Double Check of Medication](#).

Document VCH pump control number Cxxxxxx on PPO, Pain Flow Sheet, or PowerPlan, as per example below:



## Equipment and Supplies

- Alaris PCA Module
- PCA microbore tubing with anti-reflux valve
- Premixed analgesia – syringe (prepared and supplied by pharmacy)
- 3 mL syringe with 1 mL normal saline
- Primary IV bag (solution ordered must be compatible with analgesia)
- PPO or PowerPlan
- Parenteral Drug Therapeutic Manual (PDTM)
- Appropriate nursing documentation (See [Documentation](#) section)
- PCA pump key

### PCA Tubing Set Up:

Once PCA tubing is primed with medication ensure the bottom extension portion of the tubing is flushed with 3 mL of normal saline to remove air and excess drug from the line.

## Guideline

### Upon initiation of PCA, the monitoring standards for PCA apply:

- Patients are to be monitored as per below site specific standards (refer to Standard Monitoring section).
- Sedation Scale must be two (2) or less with the patient being occasionally drowsy but must be able to maintain contact and easy to rouse.

### Baseline Assessment:

Refer to the Parenteral Drug Therapeutic Manual (PDTM) for monitoring level.

### Standard Monitoring (Monitor and record SS, RR, BP, AND P):

**LGH and SGH:** refer to PCA Standard Monitoring in Cerner.

**Sechelt Hospital and Powell River General Hospital:** refer to PCA PPOs.

**Richmond:** refer to site specific PCA PPOs

**VA:** refer to CPD P-075 Pain Assessment and Documentation

### **Inadequate Pain Control:**

1. Ensure that patient is receiving supplementary non-opioid analgesics, as per prescriber's orders.
2. Following prescriber's orders, give bolus dose if applicable, increase PCA dose, and decrease lockout period as ordered and required.
  - If pain remains uncontrolled after administering clinician boluses and administering non-opioid analgesics, call the anesthesiologist or PCA prescribing service.

### **Transitioning from PCA to Oral Analgesia:**

1. Teach the patient about the process of transitioning from IV PCA to oral pain management.
2. Continue with acetaminophen and NSAIDs as prescribed.
3. To help determine required oral dosing. Refer to pharmacy equianalgesic chart. \*\*Recommend starting with one half of calculated opioid when changing route\*\*.
4. Reassess and titrate opioid doses as needed

### **Pump Malfunction or Broken and Requiring Repair:**

If you suspect that there is an over-infusion event and/or pump malfunction:

- a. Take emergency measures to minimize injury to, discomfort of, and threat to life of patients or staff.
- b. Take appropriate action to minimize damage to equipment and the environment.
- c. Sequester the device and any disposable product that may have been involved (e.g. IV sets), as well as their packaging materials.
  - Do not disconnect or change the relative physical positions of pump set up (i.e. keep all tubing in pump as is) except as absolutely necessary to avoid further harm or damage.
- d. Label pump "DO NOT USE".
- e. Call Biomedical Engineering to come pick up the equipment.

### **Patient Education:**

- For PCA pain modality to be effective, the patient needs to understand and demonstrate safe use of the Alaris PCA Module.
- The RN will ensure and document proper teaching and reinforcement of the PCA pump operation to the patient which includes:
  - how the drug is used in the PCA pump
  - use of the PCA hand control button
  - lockout times, and
  - Potential side effects that need to be reported to a RN.
- Reinforce that PCA is to be administered by the patient only.
- Provide PCA education to the patient, when not drowsy, and verify his/her understanding of the material.
- RN to document when teaching completed.
- If the patient has not received preoperative PCA analgesia teaching, RN to provide and document education.

## Documentation

Medication Administration Record (MAR/eMAR)  
PPO or PowerPlan  
Interactive View and I&O  
Pain Management or PCA document  
Perianesthesia Record (while in PACU)

## Related Documents

- Refer to [Infusion Pump Equipment resource page](#) for reference guides and links to Alaris LearningHub courses
- [Patient Education Pamphlet](#)
- [IV Therapy, Peripheral: Insertion, Care and Maintenance](#)

Vancouver Acute:

- [CPD P-075 Pain Assessment and Documentation](#)
- [Equianalgesic Opioid Dosing](#)

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