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Patient Controlled Analgesia for Palliative Clients using the CADD Prism Pump

Site Applicability

North Shore Home and Community Care

Practice Level

RN Advanced skill

- The RN will review skill with the Palliative Clinician or Clinical Educator and demonstrate competency prior to doing the skill independently.

Policy Statement

General

- A Physician's Order is required to initiate Patient Controlled Analgesia (PCA). This includes the rate of infusion and breakthrough dosing.
- A complete review of all medications and potentiating effects are considered.
- Medication is mixed by community pharmacy.
- Medication Kit with back-up orders are in the home

Safety

- The CADD pump will be initially programmed by **two qualified RNs**.
- **Two qualified RNs** will check the pump when any reprogramming is required.
- A double signature on the flow sheet is required following pump reprogramming.
- Risk Assessment:
 - determine appropriateness of CADD pump in the home setting (e.g. history of drug abuse)
 - ensure client will not disrupt subcutaneous or IV site and/or tubing

Need to Know

Goals of Treatment

- Pain Control: the "Patient Controlled Analgesia" (PCA) function of the CADD pump allows the client to receive a continuous rate of medication and to obtain a breakthrough dose when needed. The client/family can give a bolus dose as needed for symptom control which in effect, gives the client/family more of a sense of control.

Note: This is a **controlled** document for VCH internal use. Any documents appearing in paper form should always be checked against the electronic version prior to use. The electronic version is always the current version.

- Decrease risk of medication error: the client may have been previously receiving injections through a subcutaneous butterfly either by self-injection, or by a dedicated family member or care-giver. Decreasing this responsibility of family or care-givers to give the injections regularly will assist with decreasing their stress and anxiety.
- Continuous infusions via the subcutaneous route may be indicated in situations where:
 - pain levels are not well maintained, pain levels are rapidly changing
 - oral route is no longer feasible
 - Unconscious client
 - Confusional states
 - Swallowing difficulties
 - intractable nausea and vomiting
 - need for **continuous** subcutaneous pain control (not to be used for short term when intermittent subcutaneous via butterfly would suffice)
- The client and/or family (caregivers) are provided education regarding the function of the medication delivery and the CADD pump. They are given directions for trouble shooting problems with the pump and alternative methods of medication delivery in the case of pump failure. (see patient education).

Equipment and Supplies

- 2 Saf-T-Intima SC butterfly needles (1 for pump infusion and 1 for backup site)
- Alcohol swabs
- 2 Clear link caps
- 2 Small tegaderms
- CADD Pump and CADD Pump key/remote cord (received from 7W at LGH)
- CADD Pump battery and tubing (available from supply room)
- Medication bag from dedicated community pharmacy

Practice Guidelines

1. Assessment and Monitoring

- An understanding of the medication side effects and an understanding of the specific disease process must be taken into consideration while monitoring a client with a PCA. Assessment results may be indicative of either. It's important to note that all significant changes in the client's condition, regardless of etiology, must be reported to the physician.
- Client assessment including daily monitoring of CADD Prism and site (unless specific client circumstances indicate otherwise). Every visit, the RNs will:
 - Assess pain intensity using pain scale of 0 (no pain) to 10 (worst pain) or Baker-Wong Faces pain scale at rest and at activity
 - Assess level of consciousness
 - Assess for other possible side effects such as pruritus, nausea, vomiting, and/or urinary retention
 - Check insertion site for redness, swelling or leakage
 - Check site dressing
 - Check the pump parameters with each client assessment

2. Site Selection (IV or subcutaneous)

a) IV site:

- CADD PCA pumps are not to be used for peripheral IV infusion (e.g., over-the-needle catheter or midlines)
- CADD PCA can be used if a central IV line has already been established

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b) Subcutaneous Site:

- Client will have a 2nd primed butterfly site for the event of problems with the pump or site after hours
- Rotate sites
- Site selection
 - Avoid skin folds
 - Avoid sites near a joint
 - Avoid edematous or inflamed skin areas
 - Use sites that are easily accessible
 - Sites on the chest or abdomen are preferred
 - Consider supraclavicular site if client is restless or “picks” at site
- Sites should be changed Q 9 days or prn
- Assess sites each visit and document
- On going site assessment is important to ensure medication absorption. Change the site when you see the following:
 - Hardness, redness or swelling at the site
 - Leaking of medication
 - Dislodgement of cannula
 - Blood in the tubing

3. Initial set-up and/or reprogramming of the CADD

(Follow the step-by-step instructions in the Resource Manual for the CADD PCA Pump.)

Two qualified RNs will initially program the pump according to the physician's order and parameters set up by pharmacy. The following values will be programmed into the pump:

- Reservoir Volume
- Concentration of medication to be administered
- Continuous infusion rate calculated as mg/hr (some instances may necessitate ml/hr, but this is to be avoided if at all possible)
- Breakthrough dose in mg Q minutes. The physician's orders should indicate how often breakthrough doses may be given.
- Maximum amount of breakthrough medication per hour that can be allowed

Insertion of Subcutaneous Site:

- Assess for an appropriate site and insert the Saf-T-Intima SC as per protocol. Ensure needle is bevel up and insert at a 30 - 60° (for emaciated clients, a minimum of a 20° angle should be used)
- Stabilize the wings and remove the guide wire and needle
- Place the clear link cap on the end
- Secure with Tegaderm dressing
- Prime the CADD tubing as per the Resource Manual. It is not possible to prime the Saf-T-Intima SC needle prior to placement. When CADD tubing is fully primed connect to the clear link cap and continue to prime. Closely watch the fluid advance (approximately 0.30 ml) and stop when it has reached the insertion site.
- Label all butterfly sites with the date of insertion and the medication to be used. One site will be used per medication.

For an established Central Catheter IV Site:

- Ensure IV catheter is flushed with NS as per protocol
- Attach CADD Pump tubing to **needleless connector** on IV catheter

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- Flush IV catheter every time CADD tubing is changed as per protocol
- Change **needleless connector** and dressing q week and/or prn
- For an Implanted Vascular Access Device (IAD), change Huber needle q week
- For open-ended IV catheters, flush with heparin (1:100 units/ml) only when IV is discontinued
- Ensure CADD pump is in Lock Level 2 and begin infusion.
- Document on the CADD PCA Flow Sheet.

4. Back-up Orders

- The HCN will receive back up orders for the analgesic being infused in case there are issues with the pump and/or butterfly.
- The physician orders required will be for a q4h injectable with q1h prn for BT obtained from the medication kit.
- The medications will be preloaded in a syringe (enough for a 24 hour period) with each syringe labeled and dated.
- The client will have a spare primed butterfly site.

5. Daily Monitoring

- The CADD PCA and site should be monitored daily (unless specific client circumstances indicate otherwise)
- Follow the CADD PCA Resource Manual Instructions for:
 - Daily battery change
 - Medication Bag (q24–72 hr) and Tubing Change (q48-72hr)
 - Recording and/or resetting reservoir volume
 - Clearing dose counters and milligrams given
 - CADD tubing changes must be done in conjunction with bag change

Expected Client Outcome or Goal

Care Plan

- The client's care plan should indicate the specific client centered goal (or expected outcome) for symptom relief and interventions.
- The expected outcome will be assessed with each visit and changes to the care plan interventions changed as needed.

Client/Family Education

The RN has the responsibility to ensure the client and/or family and caregivers understands the purpose and function of the PCA infusion.

Teach client/family about pain control via PCA according to their learning needs, these include:

- an understanding of pain management
- client assessments to be done—when, what, and how often
- possible side effects and when to notify the nurse

Teach the client/family the basic function of the CADD pump including:

- alarms and messages (found in the Resource Manual for the CADD pump)
- how to change the battery

- how to use the PCA breakthrough dose for pain if needed

It is the nurse's responsibility to teach client/family how to inject through subcutaneous butterfly. In situations where there are problems with the pump and/or butterfly site and a nurse is not imminently available, a 24 hour supply of pre-filled syringes are left with the client. All syringes are labeled appropriately with medication type, concentration and amount, the preparation date, and RN's initials.

Documentation

CADD PCA Flow Sheet

- Document pain score, respiratory rate and side effects
- Pump parameters including infusion rate, reservoir volume, medication type, concentration and milligrams (or milliliters) given
- Site assessment
- Two qualified RN's to sign for when parameter are changed on the CADD Prizm
- Additional palliative assessments

Pre-Drawn Syringe Medication Record

- Record pre-drawn syringes as indicated on record

Progress Notes

- To include adverse events, interventions and outcomes

Care Plan

- Pre-printed care plans are available, but the overall plan should reflect the individual client. The pump parameters should be recorded and updated as necessary. Non-medicinal interventions should also be noted and evaluated.

Related Documents

- [Resource Manual for CADD Prizm PCA](#)
- [Community Palliative Care VCH Clinical Practice Guidelines](#)

References

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VCH Community Palliative Care Clinical Guidelines Practice Guidelines 2007.

Developed By

Lead: H&CC Clinical Nurse Educator
Team: Palliative Clinician

Endorsed By

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Approved for Posting By

Clinical Practice Improvement Leader – Coastal HSDA Professional Practice

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