CADD Prizm Pump

Medication Administration

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CADD Prizm Pump Medication Administration

Course Objectives:

Upon completion of this course, students will:

1. Understand the advantages and disadvantages of medication administration using the CADD Prizm Pump.
2. Identify the equipment required for CADD Prizm Pump Medication Administration.
3. Be familiar with the parts of the CADD Prizm Pump
4. Know the step-by-step procedure of using a CADD Prizm Pump for Medication Administration.
5. Understand documentation required after administering medications using the CADD Prizm Pump.

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Introduction to CADD Pump Medication Administration

Ambulatory pumps, or continuous ambulatory delivery device pumps (CADD pumps), allow patients to infuse their medications without being restricted to a single location during the infusion. The pumps themselves do not contain medication—rather, a reconstituted or IV medication is attached to the pump to facilitate automatic drug delivery.

Ambulatory pumps allow for intermittent, continuous, and tapered infusions, which is why this method is commonly used with an array of medications (e.g., antimicrobials, TPN, and IV hydration).

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Advantages of CADD Pump Medication Administration

One of the major benefits of this delivery system is that these bags can infuse throughout a 24-hour period, which may ensure better compliance than single-dosing methods (e.g., elastomeric, IV push) that require multiple doses throughout the day.

Subsequently, this allows the patient the added flexibility to ambulate, leave the home, and increase independence and thus compliance.

As a prescriber, this method of delivery gives flexibility to either administer the medication as a continuous infusion (i.e., infuse the medication at a steady rate over a period of 24 hours) or program the pump to dispense so that each dose is delivered every 8 hours over a specific amount of time, which is ideal for extended-interval dosing.

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Disadvantages of CADD Pump Medication Administration

While ambulatory pumps are widely preferred by clinicians for specific medications, most patients do not enjoy the idea of carrying around a pump for their long-term antimicrobial infusions. Additionally, patients will sometimes run into pump alarm issues that may require nursing intervention, such as upstream and downstream occlusions.

Upstream occlusions are blockages that occur in the tubing before fluid has passed through the pump, usually due to a clamp that has been left closed or a kink in the tubing between the medication bag and the pump.

Downstream occlusions are blockages that occur in the tubing between the pump and the patient's catheter, also usually due to a closed clamp or a kink in the tubing. Occasionally, some pump issues may not be resolved via nursing intervention and will warrant a replacement pump, which may result in an interruption in therapy.

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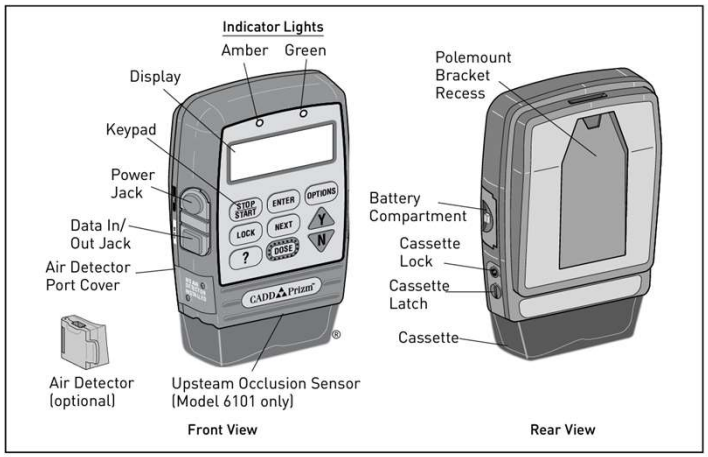
Parts of a CADD Prizm Pump



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CADD Prizm Pump Error Messages

Message	Action
9 volt battery depleted/ install good battery	Replace battery. The pump will not start with a depleted battery.
9 volt battery low	The battery is low but the pump is operable. Change the battery soon.
Air in line detected	Air has been detected in the tubing; the tubing may contain air bubbles, or the tubing may not be threaded through the air detector. Press the (NEXT) key to silence the alarm, then: • Make sure the tubing is threaded properly. • If the tubing contains air bubbles, close the clamp on the IV tubing and disconnect the tubing from your IV. Remove the tubing from the pump and "flick" the tubing with your finger to break up the bubbles.
Cassette not attached/ pump will not run	The pump will not start without a cassette attached. Attach the cassette and start the pump as directed.
Error detected/E (code)	A pump fault has occurred. Close the tubing clamp and turn off the pump. Call your pharmacy.
High pressure	The pump has detected high pressure which may be caused by a downstream blockage, kink in the tubing or a closed clamp on the tubing or IV. • Press the (Start/Stop) key to stop the pump and silence the alarm. Remove the obstruction and restart the pump by pressing the (Start/Stop) key.
Reservoir volume is zero	The reservoir volume has reached 0.0 mL which means that the medication has completely infused. Prepare to start a new medication bag as instructed.
Reservoir volume is low	The reservoir volume is low meaning it is almost time to change your medication bag. Prepare to install a new medication bag as instructed.

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CADD Prizm Pump Lock Levels

Lock levels are used to limit patient access to certain programming and operating functions, as follows:

- Lock Level 0 - pump program and keypad completely unlocked
- Lock Level 1 - limited access to pump program and keypad
- Lock Level 2 - minimal access to pump program, keypad is locked

Refer to your CADD pump manual for additional details.

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Changing CADD Prizm Pump Lock Levels

- Stop the pump if it is running by pressing the **"Stop/Start"** key, then pressing the **"Y"** key when prompted.
- Press the **"LOCK"** key, then select your desired lock level using the **"Y/N"** keys and press **"LOCK"** again.
- Input the correct code (call your pharmacy for additional information if needed) by holding the **"Y/N"** keys until the correct code displays.
- Press the **"LOCK"** key and the lock level will be changed.

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Supplies Necessary:

- Clean gloves
- Hand Sanitizer
- CADD Prizm pump
- IV tubing
- Flush syringes
- Medication bag
- Alcohol wipes
- Included key
- New battery (if indicated)



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Procedure

1. Gather supplies and prepare a clean work area
2. Inspect medication bag for:
   a) Correct name of patient
   b) Correct name and volume of medication
   c) Time required to warm medication to room temperature
   d) Use by date of medication
3. Change the battery:
   a) Press the white button on the battery door and slide the door toward you.
   b) Remove used battery and discard as instructed.
   c) Insert the battery, silver prong first. The pump will beep if it is done correctly.
   d) Slide the battery door back on.
   e) Let the pump power up; you will hear 6 beeps.

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Procedure (cont'd)

4. Wash hands
5. Prepare your flush syringes
   a) Prior to using syringe, push firmly on the thumb press with the tip cap still on, just until you feel the plunger move.
   b) Expel air and excess solution by twisting off tip cap and pushing plunger forward.
   c) Replace the syringe cap, being careful not to touch the tip of the syringe with your hand.
   d) Set aside syringe until you are ready to use it.
   e) Repeat for all flush syringes needed.
6. Prepare IV medication
   a) Remove IV tubing from its package.
   b) Remove the blue clip from the bottom of the cassette.
   c) Place the medication bag on a clean flat surface.

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Procedure (cont'd)

6. Prepare IV medication (cont'd)
   - d) Remove the tab from the medication bag.
   - e) Remove the cover from the spike of the tubing. Do not touch the end of the spike.
   - f) Spike the bag by pushing and twisting the end of the tubing into the bag port. Make sure the spike reaches the medication in the bag and be careful not to puncture the bag.
7. Connect the tubing to the pump
   - a) Remove the used tubing/cassette by unlocking the pump using the key provided and dispose of in trash container.
   - b) Insert the new cassette hooks into the pump's hinge pins.
   - c) Place pump with cassette on firm surface and push down on top of the pump.
   - d) Use the key provided to lock the new cassette to the pump.

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Procedure (cont'd)

8. Prime the IV tubing
   - a) Press the **"NEXT"** key.
   - b) When the screen reads **'Reset reservoir volume,'** press the **"Y"** key.
   - c) When **'Prime tubing'** appears on the screen, press the **"Y"** key.
   - d) When **'Disconnect tubing from patient and open clamps'** displays, press and hold the **"Y"** key until fluid drips from the end of the tubing.
   - e) When priming is complete and prompted to **'Continue priming?'** press the **"N"** key.
9. Flush the line with saline
   - a) Scrub the needleless connector on the IV catheter with an alcohol wipe for at least 15 seconds and allow to air dry.
   - b) Remove the protective cap from the saline flush syringe. Do not touch the syringe tip after removing the cap.

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Procedure (cont'd)

9. Flush the line with saline (cont'd)
   - c) Attach the saline flush syringe to the needleless connector.
   - d) Open the clamp on the IV catheter and/or IV extension set, if indicated.
   - e) Flush the IV catheter.
   - f) Remove and discard the saline flush syringe in a trash container.
10. Administer the Medication
   - a) When **'Do you want to start the pump?'** appears on the screen, press the **"N"** key.
   - b) Compare the pump program to the label on the medication bag by pressing the **"NEXT"** key through each pump program.
   - c) Scrub the needleless connector on the IV catheter with an alcohol wipe for at least 15 seconds and allow to air dry.
   - d) Remove the protective cap from the IV tubing.

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Procedure (cont'd)

10. Administer the Medication (cont'd)
   - e) Attach the IV tubing firmly to the needleless connector
   - f) Open all clamps on the IV tubing and the IV catheter.
   - g) Press the **"Start/Stop"** key.
   - h) Press the **"Y"** key when prompted to begin the infusion. You will know the pump is running when the green light is blinking.
11. Pausing an Infusion
   - a) The infusion can be paused by pressing the **"Start/Stop"** key.
   - b) To resume the infusion, press the **"Start/Stop"** key. The pump alarm will go off if it is not restarted within a few minutes.

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Procedure (cont'd)

12. When it is time to change the bag or stop the infusion:
    a) If the infusion is now complete, stop the pump by pressing the **"Start/Stop"** key.
    b) When the menu asks, **'Do you want to stop the pump?'**, press the **"Y"** key.
    c) Disconnect the IV tubing and discard all used supplies.
13. Flush the line with saline
    a) Scrub the needleless connector on the IV catheter with an alcohol wipe for at least 15 seconds and allow to air dry.
    b) Remove the protective cap from the saline flush syringe. Do not touch the syringe tip after removing the cap.
    c) Attach the saline flush syringe to the needleless connector.
    d) Flush the IV catheter.
    e) Close the clamp on the IV catheter and/or IV extension set unless heparin is indicated.
    f) Remove and discard of the saline flush.

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Procedure (cont'd)

14. If hooking up a new bag at this point, return to step #6 (omitting step #9)
15. Flush the IV line with Heparin
    a) Scrub the needleless connector on the IV catheter with an alcohol wipe for at least 15 seconds and allow to air dry.
    b) Remove the protective cap from the heparin flush syringe. Do not touch the syringe tip after removing the cap.
    c) Attach the heparin flush syringe to the needleless connector
    d) Open the clamp on the IV catheter and/or IV extension set.
    e) Flush the IV catheter
    f) Close the clamp on the IV catheter and/or IV extension set.
    g) Remove and discard of the heparin flush syringe.

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Proper documentation of the procedure should include the following:

- Date and time of pump initiation.
- Type and dosage of medication being administered.
- Infusion rate and any changes made during the administration.
- Volume and concentration of the medication solution.
- Pump alarms and responses.
- Inspection of the infusion site for signs of infection, redness, swelling, or other abnormalities, as well as any pain experienced by the patient.
- Document any education provided to the patient regarding the CADD pump, medication, and potential side effects.
- Confirmation of patient understanding and ability to manage the pump (if applicable).

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References

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