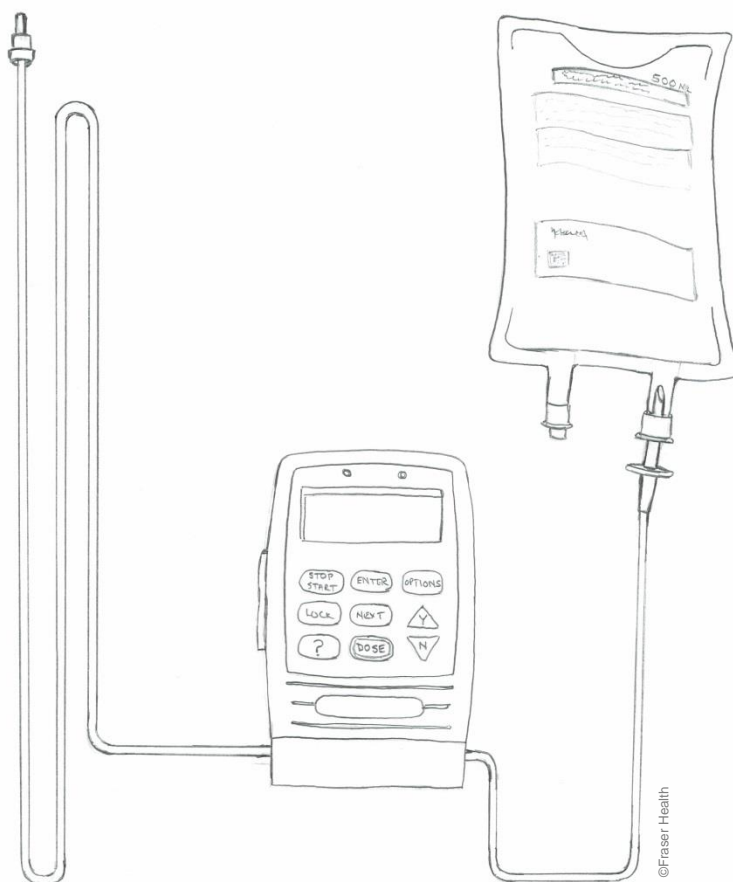


How to Give Medication Through Your Central Venous Catheter

Valved central venous catheter (CVC)

With CADD Pump in **Intermittent** with **Keep Vein Open** Mode



Community IV Program

This booklet belongs to: _____

See Page 22 for your pump settings.

This book goes together with your **Introductory Book** on the Fraser Health Community IV Program.

This book has more information to help you care for your IV system and contact information if you need to speak to a nurse about your IV system.

Always keep your 'client information' materials close by so you can follow the steps and for easy reference.

A nurse will go through this information with you and show you how to take care of your Central Venous Catheter (CVC).

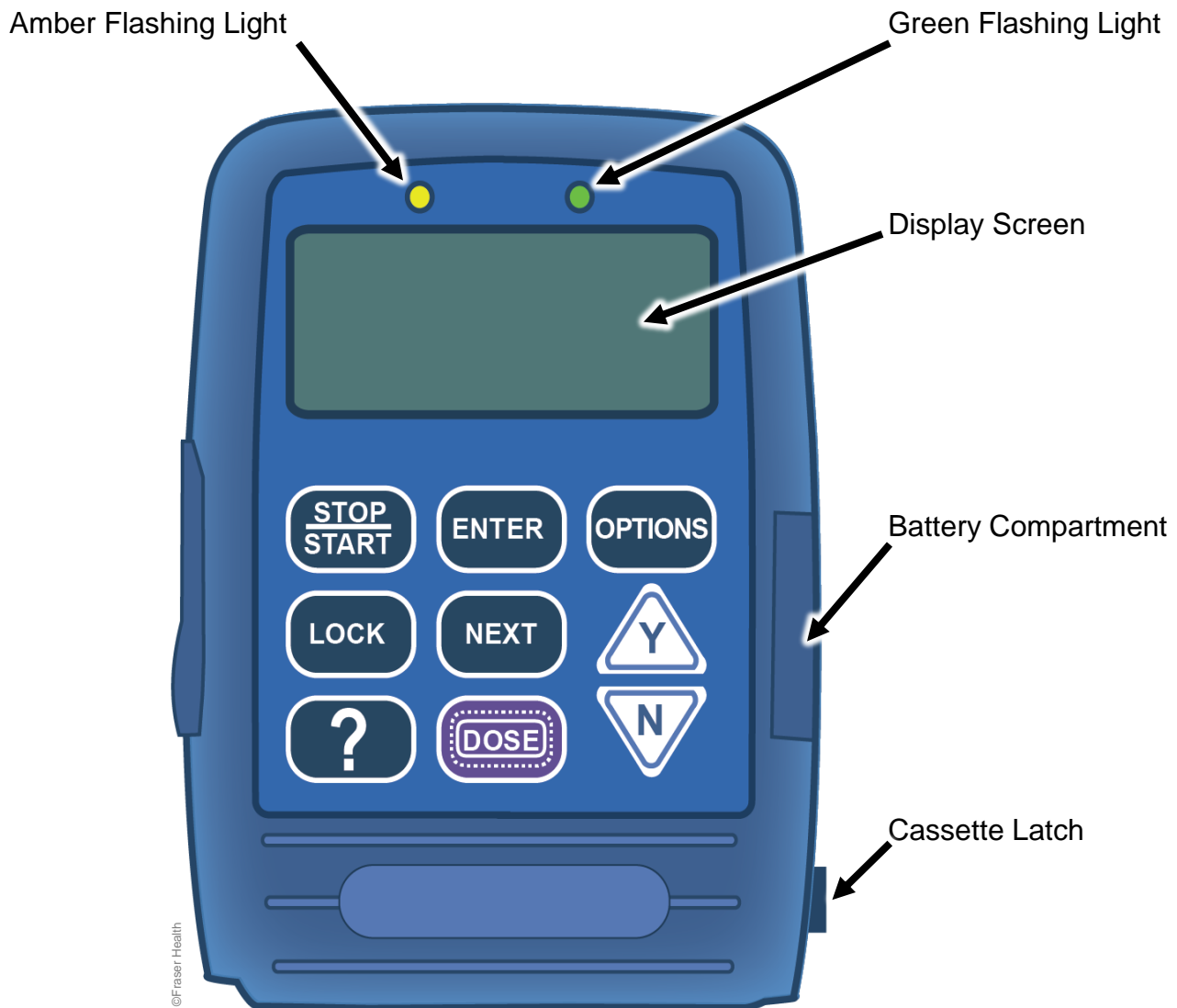
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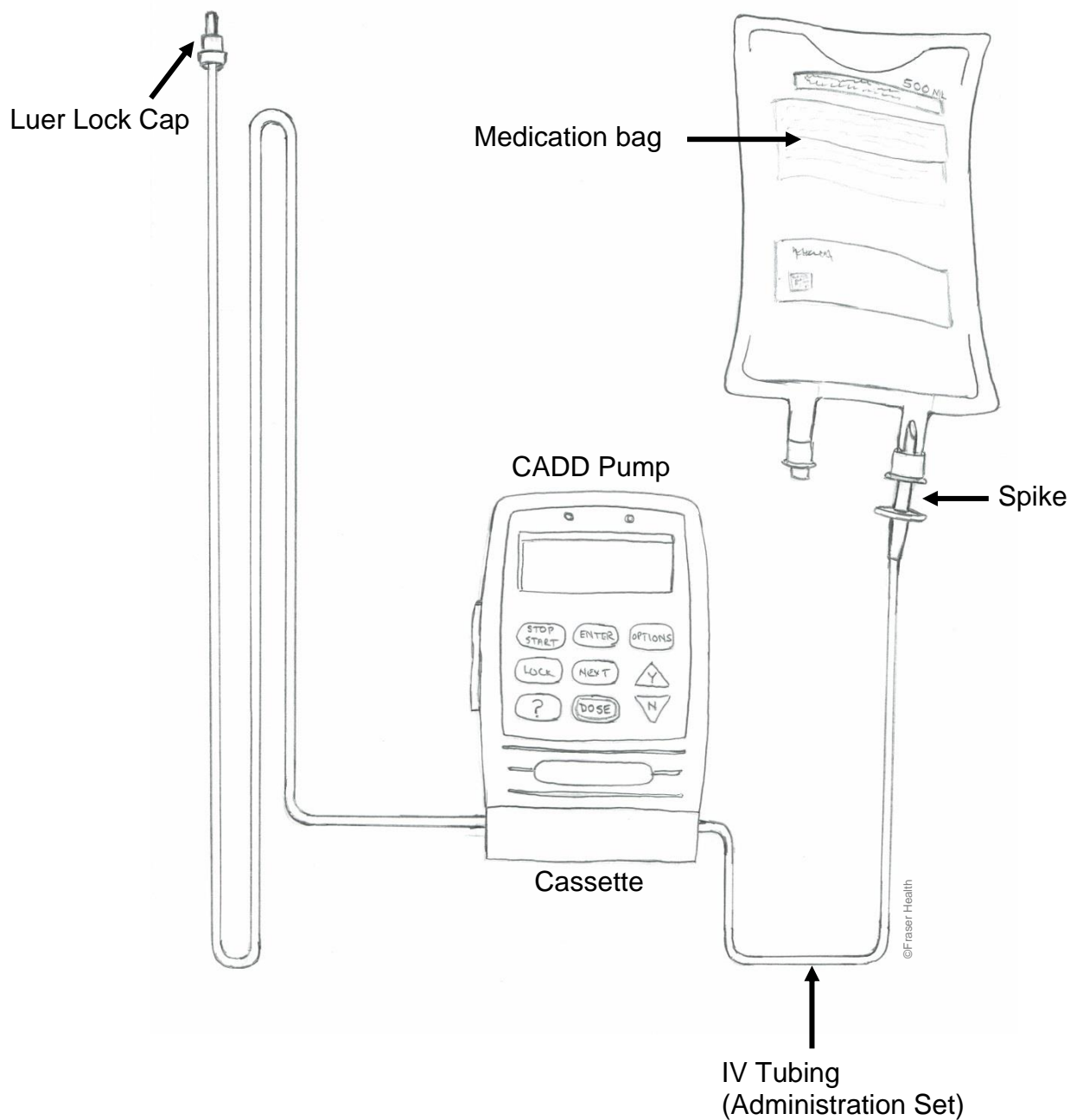
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About your Pump



About your CADD Pump Administration Set and IV Medication Bag Set-up



Every Day

Get yourself ready

1. Prepare a clean work area.
2. Clean your hands with soap and water or alcohol based hand sanitizer.



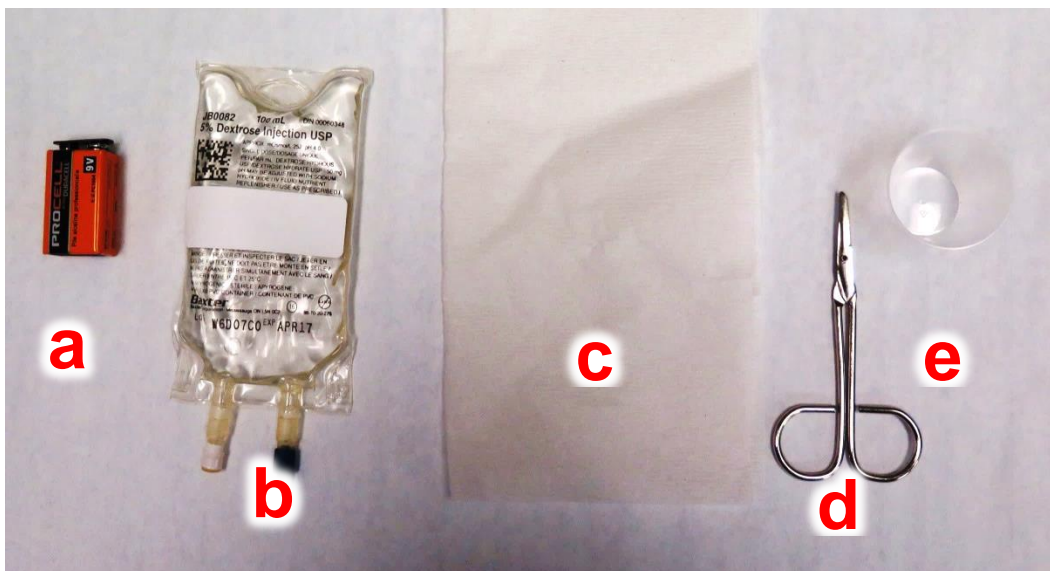
Clean work area and hands help prevent infection

3. Check your CVC site and dressing.

If it is red, puffy, painful, or draining, call your nurse.
The nurse will instruct you as to what to do next.

4. Gather your supplies:

- | | |
|-------------------|-----------------------------|
| a. 9 volt battery | d. scissors (for Flex bags) |
| b. medication bag | e. small plastic 30 mL cup |
| c. paper towel | |



5. Check the label on the medication bag for:
 - ✓ Your name
 - ✓ Correct drug
 - ✓ Correct amount and/or dose
6. Check the expiry date.
7. Squeeze the medication bag gently to check for leaks.

Note

Do not use the bag if it is:

- cloudy
- leaking
- discoloured
- expired

Do not use if bag has floating particles in it.
Contact the nurse or pharmacy.

Change the 9 volt battery

8. If the screen is dark, press **NEXT** on the front of the pump.

The pump needs to be in **KVO** phase.

The **Res Vol** (reservoir volume) should be a low number of millilitres (ml).

Screen lights up

xxx	INT	6240D	xxx
		KVO	
Res Vol		### ml	
Press NEXT to advance			

9. Press **STOP START** to stop the pump.

Stop the Pump?

Press Y or N

10. Press **Y**

11. Press the button on the battery door and slide the battery door forward and off.

12. Remove the used battery

13. Remove the black tab off the new battery.

14. Match the + and – symbols on the battery with those on the side of the pump.

You know the battery is in correctly when the pump beeps.

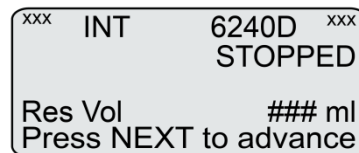
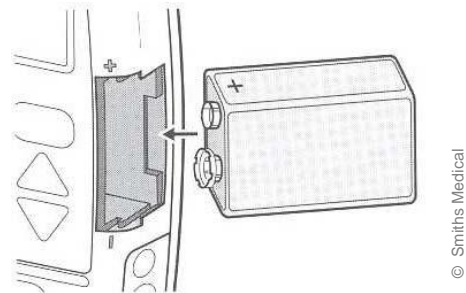
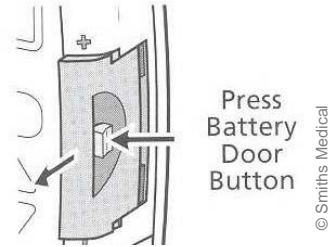
15. Slide the battery door back on.

The pump automatically does a 'self-test'.

During the self-test, each screen appears briefly and the pump beeps once as it moves from screen to screen.

Self-test takes about 1 minute.

When self-test is complete, pump is **STOPPED**.



Change the medication bag

16. Close the clamp on the Administration Set.



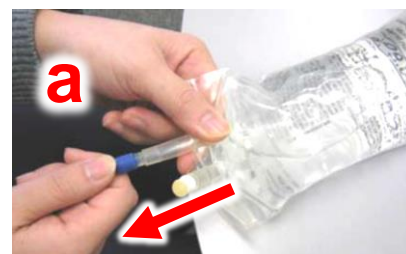
17. Remove the protective cover (usually blue) from the port of the new medication bag. How the cover comes off depends on the type of bag.

Either

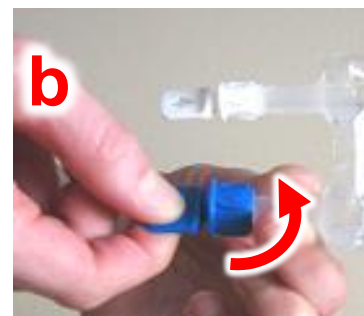
- a. Pull cover straight off.

or

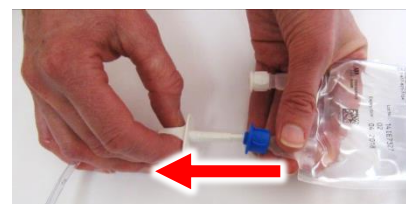
- b. Hold above the blue port of the medication bag with one hand.
Twist off the bottom part of blue port with the other hand.



Make sure the opening does not touch anything



18. Take the spike out of the used medication bag.

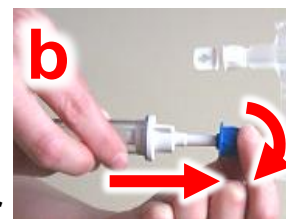


Make sure the spike end does not touch anything

19. Insert the spike into the new medication bag port using a push and twisting motion.



or





20. Open the clamp on the Administration Set.








Reset Reservoir Volume and millilitres

Note

The **following steps must be done in order** for the pump to deliver your medication for the next 24 hours.

- | | |
|---|--|
| <p>21. Press </p> | <p>Pump screen says</p> <p>Reservoir Volume
ml</p> |
| <p>22. Press  to reset to _____ mLs.</p> | <p>Reset Reservoir
Volume to ### ml?

Press Y or N</p> |
| <p>23. Press </p> | <p>Reservoir Volume
ml

<Resetting></p> |
| <p>24. Press  until you see this screen.</p> | <p>Milliliters Given
ml
Since (date/time)
Press ENTER to clear</p> |
| <p>25. Press  to clear the number of millilitres given back to 00.0.</p> | <p>Milliliters Given
ml
Since (date/time)
<Clearing></p> |
| <p>26. Press </p> | <p>xxx INT 6240D xxx
STOPPED
Res Vol ### ml
Press NEXT to advance</p> |
| <p>27. Press </p> | <p>Start the Pump?

Press Y or N</p> |
| | <p>Starting Pump...</p> |

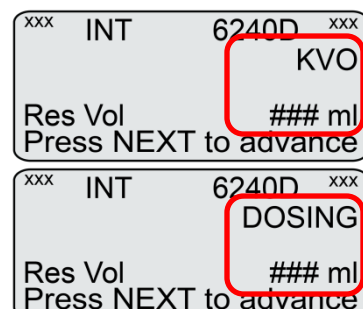
The pump automatically goes through 'Automatic Review'. During the automatic review, each screen appears briefly and the pump beeps once as it moves from screen to screen.

28. Look for the green light on the upper right of the pump.

The green light blinks every 3 seconds. This means the pump is running.

On the screen, the **Res Vol** (reservoir volume) number counts down:

- In **KVO** phase, this number counts down very slowly
- In **DOSING** phase, this number counts down quickly.



You know your pump is working when you hear the pump motor turning. You hear the pump motor occasionally when in **KVO** phase. You hear the pump motor regularly when in **DOSING** phase.

Measure what is left in used bag

29. Measure the amount of fluid left in the used medication bag.
(Pull the spike out of the used bag. If the bag does not drain on its own, use your scissors to cut the port off where the spike entered the bag.)
30. Drain the remaining amount of fluid into the small plastic 30 mL cup.
31. Pour the fluid out onto paper towel.
32. Keep track of the total number of millilitres you emptied. Write the total number of millilitres (mLs) left in the bag on page 9 of your 'Introductory Book' – Medication Sheet.
33. Throw the wet paper towel, used Administration Set, and empty medication bag into the garbage.



Do not throw the fluid down the sink or toilet. This keeps the medication out of the water system.

Note

Show your entries in your 'Introductory Book' to your nurse each week.

Your CADD pump settings might need adjusting if the bag consistently has no fluid in it at all or has **more than**:

- 25 mLs left from a 250 mL medication bag **or**
- 50 mLs left from a 500 mL medication bag

34. Pack up your pump and new medication bag into the belt or hip pack. Double-check to see if the green light is flashing to make sure you remembered to start the pump.

Every Third Day

Get yourself ready

1. Prepare a clean work area.
2. Clean your hands with soap and water or alcohol based hand sanitizer.
3. Check your CVC site and dressing.

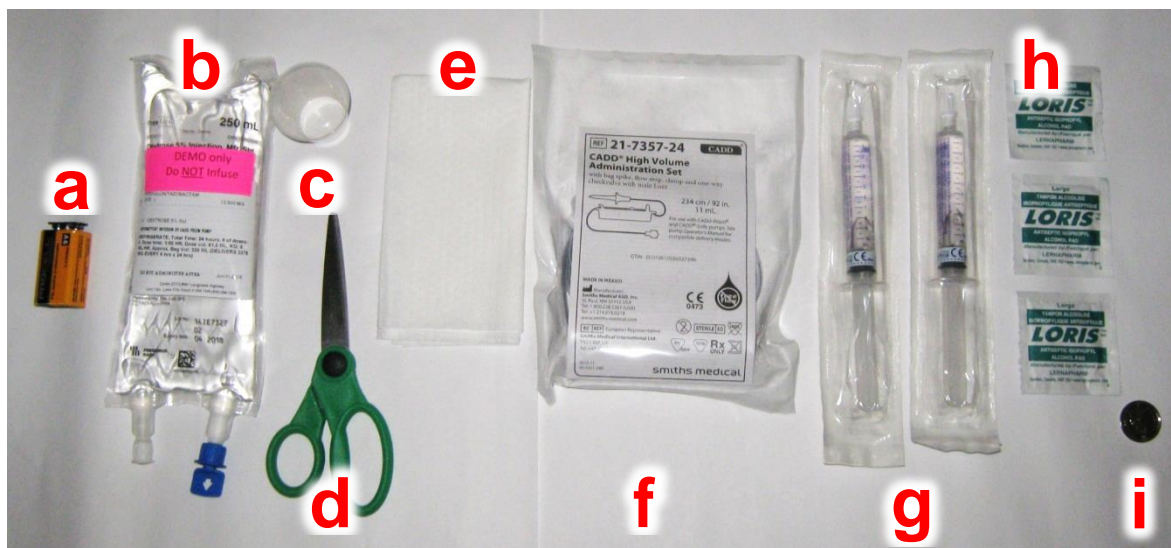


Clean work area and hands help prevent infection

If it is red, puffy, painful, or draining, call your nurse.
The nurse will instruct you as to what to do next.

4. Gather your supplies:

- | | |
|----------------------------|--------------------------------|
| a. 9 volt battery | f. CADD Administration Set |
| b. medication bag | g. 2 prefilled saline syringes |
| c. small plastic 30 mL cup | h. 3 alcohol swabs |
| d. scissors (for Flex bag) | i. a coin (25 cent) |
| e. paper towel | |



5. Check the label on the medication bag for:
 - ✓ Your name
 - ✓ Correct drug
 - ✓ Correct amount and/or dose
6. Check the expiry date.
7. Squeeze the medication bag gently to check for leaks.

Note

Do not use the bag if it is:

- cloudy
- leaking
- discoloured
- expired

Do not use if bag has floating particles in it.

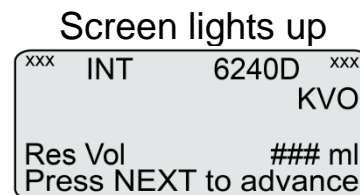
Contact the nurse or pharmacy.

Change the 9 volt battery

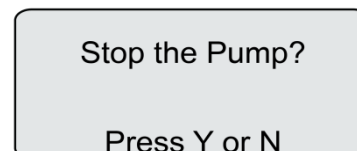
8. If the screen is dark, press **NEXT** on the front of the pump.

The pump needs to be in **KVO** phase.

The **Res Vol** (reservoir volume) should be a low number of millilitres (ml).



9. Press **STOP START** to stop the pump.



10. Press **Y**

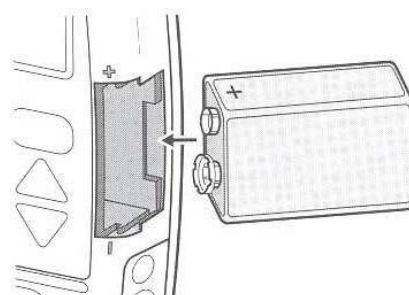
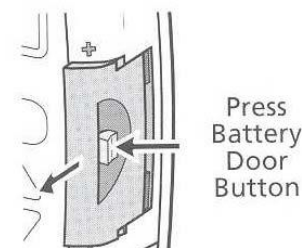
11. Press the button on the battery door and slide the battery door forward and off.

12. Remove the used battery

13. Remove the black tab off the new battery.

14. Match the + and – symbols on the battery with those on the side of the pump.

You know the battery is in correctly when the pump beeps.



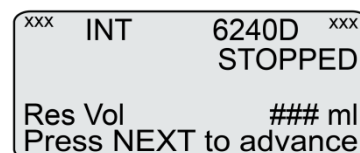
15. Slide the battery door back on.

The pump automatically does a 'self-test'.

During the self-test, each screen appears briefly and the pump beeps once as it moves from screen to screen.

Self-test takes about 1 minute.

When self-test is complete, pump is **STOPPED**.



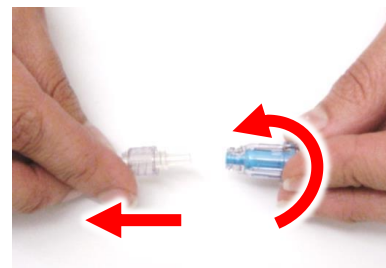
Change the Administration Set and medication bag

16. Close the clamp on the Administration Set.



17. To disconnect the Max Zero Connector from the Administration Set:

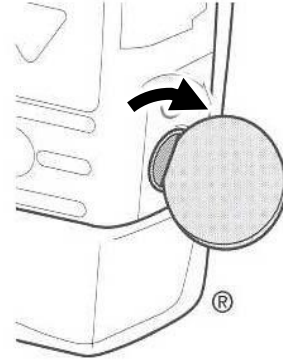
- Firmly hold the Max Zero Connector.
- Untwist and pull the Administration Set connector from the Max Zero Connector.



'Blue stays with you'

18. To unlock the pump cassette:

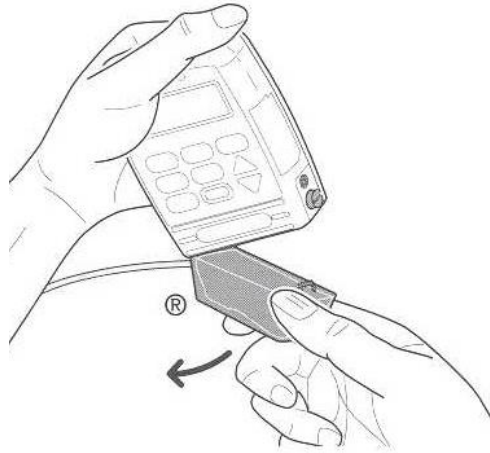
- Put the coin into the slot on the right side of the pump
- Turn the coin clockwise to release the latching button.



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19. Remove the pump cassette from the bottom of the pump.

Set aside for now.



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20. Take the Administration Set out of the package.

21. Remove the paper wrapper.

22. Straighten the tubing while holding both ends.

23. Close the clamp on the new Administration Set.



24. Remove the protective cover (usually blue) from the port of the new medication bag. How the cover comes off depends on the type of bag.

Either

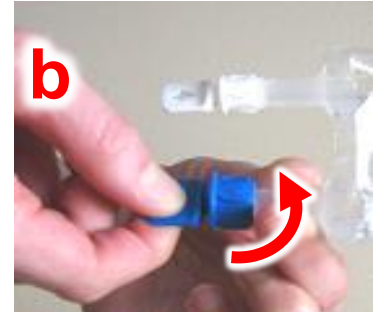
a. Pull cover straight off.

or

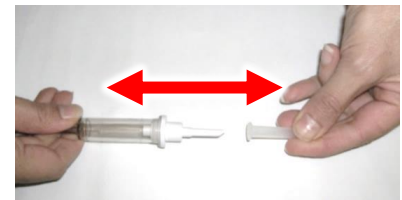
b. Hold above the blue port of the medication bag with one hand. Twist off the bottom part of blue port with the other hand.



Make sure the opening does not touch anything



25. Take the cover off the spike of the new Administration Set.

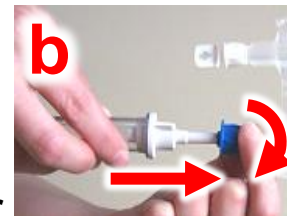


Make sure the end does not touch anything

26. Insert the spike into the new medication bag port using a push and twisting motion.



or



27. Remove the blue clip from the cassette part of the new Administration Set by pulling and lifting it off.

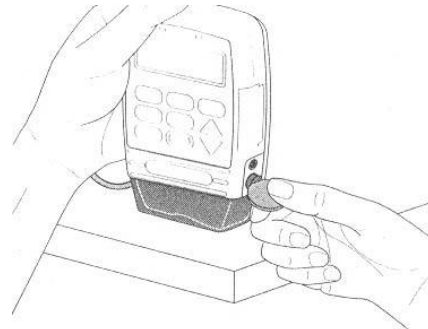


28. Insert the cassette hooks into the hinge pins on the bottom of the pump.

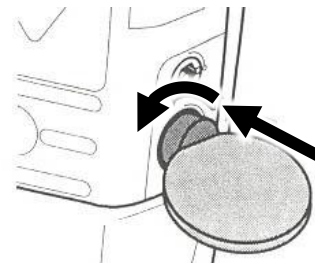


29. To lock the pump cassette:

- Place the pump and cassette on a firm surface.
- Press down on the top of the pump with one hand.
- With the other hand, put the coin into the slot on the right side of the pump.
- Push in and turn the coin counter-clockwise to lock the latching button.

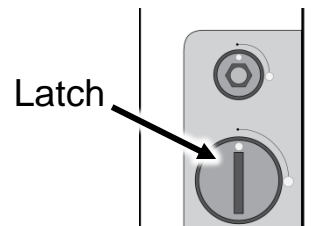


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Make sure you have turned the latching button as far left as possible. The latching button slot must line up exactly with the solid dot.



Note: If the button is not turned far enough to the left, the cassette will not be firmly attached to the pump and it will not operate. The pump beeps and the screen says 'Cassette not attached'.

If this happens, remove the cassette and reattach. Try to lock again.

The pump will beep and the screen tells you that the new cassette and Administration Set is attached correctly.

High Volume Admin set
latched.
Upstream Sensor ON.
Press NEXT to continue

Reset Reservoir Volume Prime the Administration Set

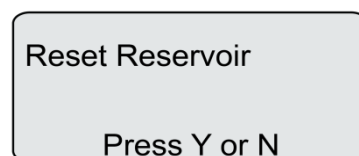
Note

The **following steps must be done in order** for the pump to deliver your medication for the next 24 hours.

30. Open the clamp on the Administration Set.



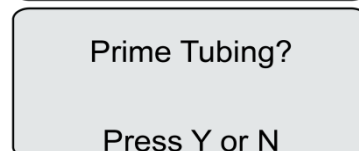
31. Press **NEXT**



32. Press **Y** to reset to ____ mLs.



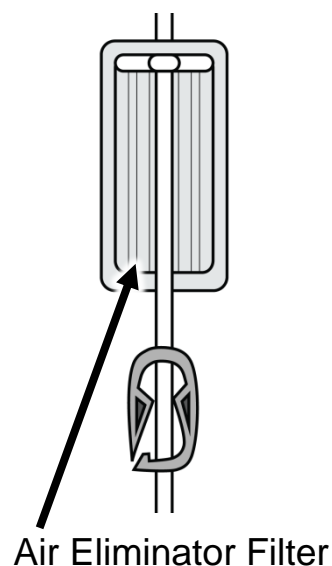
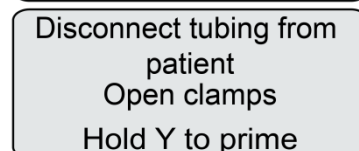
33. Press **Y** to prime the tubing.




34. Press and **hold** **Y** down with one hand.

Only if the Administration Set has an Air Eliminator Filter:


- Hold the rectangle-shaped tubing filter upright in the other hand. Have ribbed side facing you and tubing with clamp below the filter.
- Watch as fluid fills this filter. Once filled, hold the Luer Lock end of the Administrations set.



If you stop holding  at any time, the pump asks if you want to continue.


Continue Priming?
Press Y or N

Press and hold  until tubing is filled.


35. Stop pressing  when you see a drop of fluid at the Luer Lock end of the Administration Set.

Note: Leave the protective cap on.


36. Press  to exit the priming mode.

37. Press  until you see this screen.

Milliliters Given
ml
Since (date/time)
Press ENTER to clear

38. Press  to clear the number of millilitres given back to 00.0 mL.

Milliliters Given
ml
Since (date/time)
<Clearing>

39. Press  to start the pump.

Start the Pump?
Press Y or N

40. Press 

Prepare to flush CVC

41. Open one syringe package and remove the syringe.

42. Hold the syringe with the tip up.

43. Push up on the plunger until you hear a popping sound.



44. Slightly loosen the white cap but **do not remove the cap.**



45. Push the plunger until you see a drop of fluid at the tip.

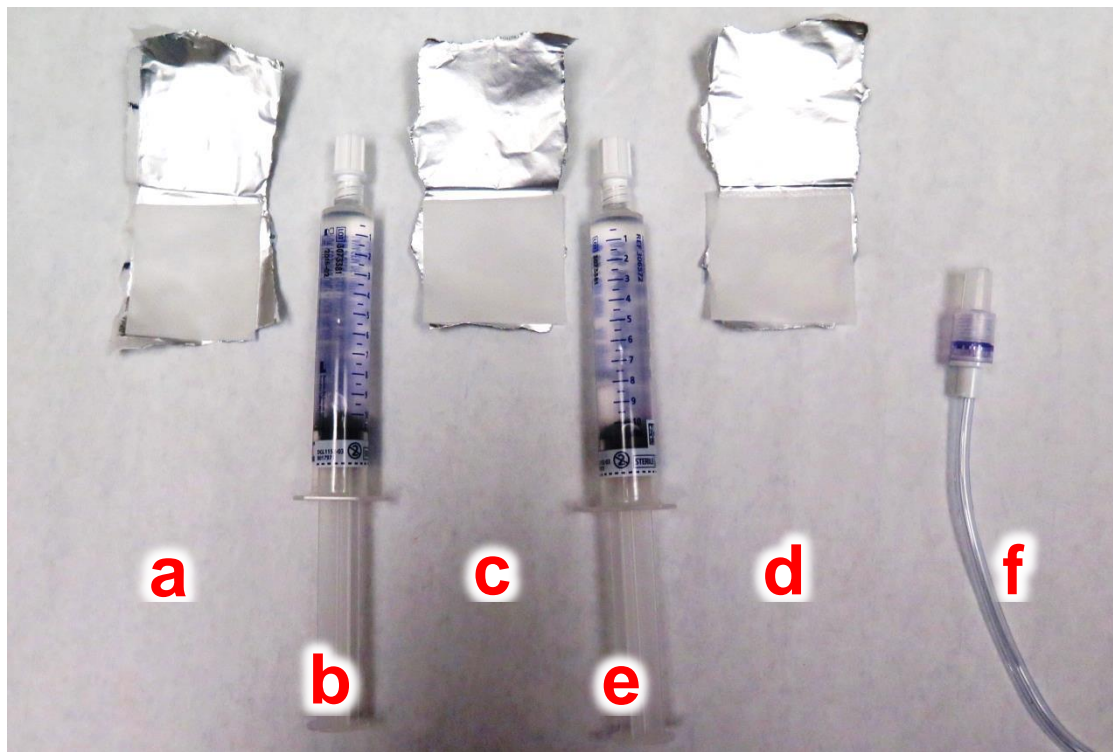


46. Tighten the white cap.

47. Repeat steps 41 to 46 for the second syringe.

48. Prepare remaining supplies, placing each item in order of use:

- a. alcohol swab opened on 3 sides
- b. saline syringe
- c. alcohol swab opened on 3 sides
- d. saline syringe
- e. alcohol swab opened on 3 sides
- f. Luer Lock end of Administration Set

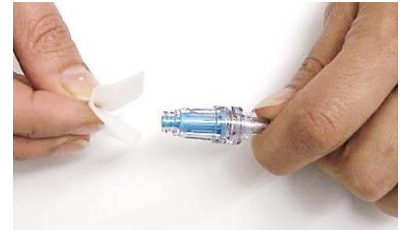


49. Pull the Luer Lock end of the Administration Set up under your top (shirt/blouse) from the waist.

If you have a PICC (peripherally inserted central catheter), pass the end of the Administration Set down the sleeve of your top to your PICC.

Flush your CVC

50. To clean the end of the Max Zero Connector on the end of your CVC:
 - Firmly hold the Max Zero Connector with one hand.
 - Clean the Max Zero Connector with an alcohol swab for thirty (30) seconds.
 - Let it dry.



Cleaning with an alcohol swab helps prevents infection in the blood.

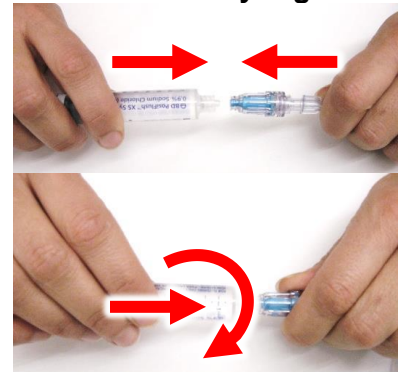
Make sure nothing touches the cleaned end

51. Remove the cap from the end of the syringe.



Make sure nothing touches the end of the syringe.

52. To connect the syringe to the Max Zero Connector:
 - Firmly hold the Max Zero Connector.
 - Gently push and twist the syringe clockwise into the centre of the Max Zero Connector.

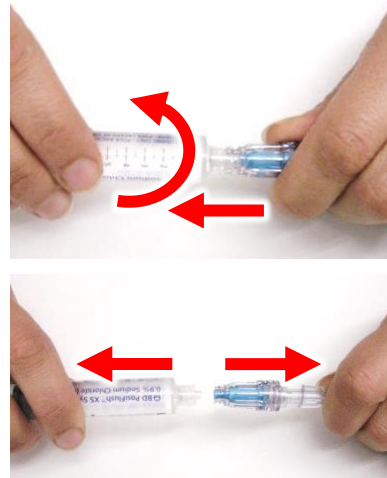


53. Push the plunger with a 'push/pause motion' until you have flushed with 10mLs of saline.

A push/pause motion allows the saline to flush your CVC and helps prevent it from plugging.

54. To remove the syringe:

- Firmly hold the Max Zero Connector.
- Remove the syringe from the Max Zero Connector by twisting counter-clockwise until the syringe separates from the Max Zero Connector.



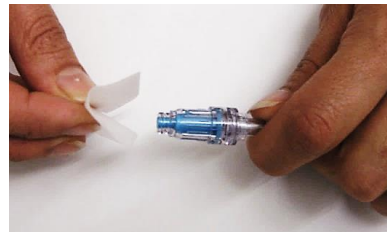
'Blue stays with you'

55. Repeat steps 50 to 54 with the second syringe.

Connect the Administration Set to CVC

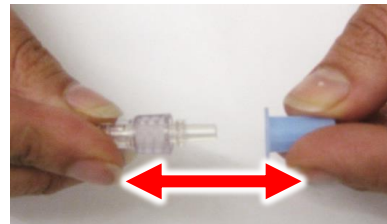
56. To clean the Max Zero Connector on the end of your CVC:

- Firmly hold the Max Zero Connector with one hand.
- Clean the Max Zero Connector with an alcohol swab for thirty (30) seconds.
- Let it dry.



Make sure nothing touches the cleaned end.

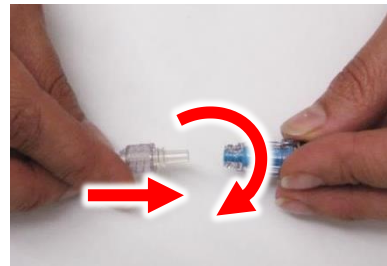
57. Remove the protective cap off the Luer lock end of the Administration Set



Make sure nothing touches the open end.

58. To connect the Administration Set to the Max Zero Connector:

- Firmly hold the Max Zero Connector.
- Push and twist the end of the Administration Set clockwise into the centre of the Max Zero Connector.



Start the pump

59. Press 

60. Press 

Start the Pump?

Press Y or N

The pump automatically goes through 'Automatic Review'.

During the automatic review, each screen appears briefly and the pump beeps once as it moves from screen to screen.

<Automatic Review>

Reservoir Volume: _____ mL

Dose Volume: _____ mL

Dose Duration: _____ minutes

Dose Cycle: _____ hours _____ minutes

KVO Rate: _____ mL/hr

Next Dose Start Time: (changes)

Dose Rate: _____ mL/hr

Millilitres given: _____ mL

Lock Level: LL1

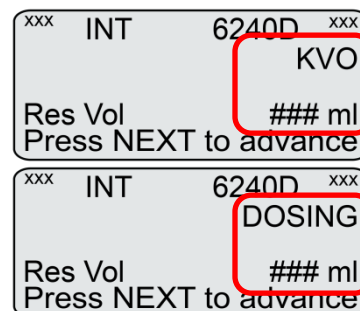
Time and Date: (changes)

61. Look for the green light on the upper right of the pump.

The green light blinks every 3 seconds. This means the pump is running.

On the screen, the **Res Vol** (reservoir volume) number counts down:

- When in **KVO**, this number counts down very slowly
- When **DOSING**, this number counts down quickly.



Measure what is left in used bag

63. Measure the amount of fluid left in the used medication bag.
(Pull the spike out of the used bag. If the bag does not drain on its own, use your scissors to cut the port off where the spike entered the bag.)
64. Drain the remaining amount of fluid into the small plastic 30 mL cup.
65. Pour the fluid out onto paper towel.
66. Keep track of the total number of millilitres you emptied. Write the total number of millilitres (mLs) left in the bag on page 9 of your 'Introductory Book' – Medication Sheet.
67. Throw the wet paper towel, used Administration Set, and empty medication bag into the garbage.



Do not throw the fluid down the sink or toilet. This keeps the medication out of the water system

Note

Show your entries in your 'Introductory Book' to your nurse each week.

Your CADD pump settings might need adjusting if the bag consistently has no fluid in it at all or has **more than**:

- 25 mLs left from a 250 mL medication bag **or**
- 50 mLs left from a 500 mL medication bag

68. Pack up your pump and new medication bag into the fanny pack.
Double-check to see if the green light is flashing to make sure you remembered to start the pump.

Troubleshooting CVC

Problem	What you should do
Fluid or blood is leaking from the insertion site of your CVC	Stop activities that pull or hit the extension tubing. Contact a nurse as soon as possible.
Leaking at the connections	Tighten all of the connections.
Not able to flush or you have difficulty flushing the CVC with saline	Make sure there are no kinks in tubing. Continue to try the 'push/pause motion' about 5 to 10 more times. Do not force the plunger. If it is still difficult to flush, contact a nurse.

Troubleshooting Alarms and Messages

Problem	Take this action...
<div>9 volt Battery Low</div> <div>Press NEXT to continue</div> <p>3 fast beeps every 5 minutes Amber and Green light flashing every 3 seconds</p>	Change the 9 volt battery.
<div>9 volt Battery Depleted</div> <div>Install good battery</div> <p>2-tone alarm sounds Amber light is on Green light no longer flashing</p>	Change the 9 volt battery.

(blank display)
or
(random characters)

2-tone alarm sounds
Amber light is on
Green light no longer flashing

Change the 9 volt battery.

Cassette Damaged
Free flow may occur
Clamp Tubing
Press NEXT to silence

Close the clamp on the Administration Set.
Replace with a new Administration Set and cassette

High Pressure

Pump stopped

2-tone alarm sounds
Amber light is on
Green light no longer flashing

Press the **STOP START** to stop the pump and temporarily silence the alarm. (Alarm sounds again every 2 minutes until high pressure is gone.)

Check the clamp. Make sure it is open.

Check for kinks in the tubing. Gently straighten tubing.

If you have a PICC, change the position of your arm.

Once you have removed the cause of the alarm, restart the pump.

Upstream Occlusion

Press STOP to silence

2-tone alarm sounds
Amber light is on
Green light no longer flashing

Delivery Stopped

Press the **STOP START** to stop the pump and temporarily silence the alarm. (Alarm sounds again every 2 minutes until medication fluid flows again.)

Check for kinks in tubing between pump and medication bag.

After the problem is fixed, press **NEXT** to restart the pump.

Reservoir Volume
Low
Press NEXT to continue

2 fast beeps every 5 minutes
Amber and Green light flashing
every 3 seconds

Put on a new medication bag and reset the Reservoir (go to pages 7 to 8).

If there is air in the tubing **or** if the tubing needs changing today, go to pages 12 to 15 to change the tubing.

Reservoir Volume
is zero
Press NEXT to continue

2 fast beeps every 2 seconds
Amber light is on
Green light no longer flashing

Press the **NEXT** to temporarily silence the alarm.

Ask yourself:

- Did you just change the battery and medication bag? Maybe you forgot to reset the Reservoir Volume. (go to pages 7 to 8)
- Is your medication bag empty? Put on a new medication bag and reset the Reservoir Volume (go to pages 7 to 8).

Error Detected
E (error code)

There is a problem with the pump.

Close the clamp on the Administration Set.
Take out pump battery.

Contact your nurse or Pharmacy for help
(See your 'Introductory Book').





Remember

If you have any questions, write your questions down and ask your nurse on your next visit.




Quick Steps

Every Day







1. Wash your hands and get ready
 - Gather your supplies
2. Change 9 volt battery
3. Change medication bag
4. Reset Reservoir Volume and Millilitres given

- Press 
- Press 
- Press 
- Press  until the screen says




Milliliters Given
 ### ml
 Since (date/time)
 Press ENTER to clear

- Press 
5. Start the pump
 - Press 
 - Press 
 - Pump will go through Automatic Program review and end with KVO on the screen
 6. Measure and record the amount of fluid in used medication bag

Every third Day

1. Wash your hands and get ready.
 - Gather your supplies
2. Change 9 volt battery\
3. Change Administration Set and medication bag, then reset Reservoir Volume, Prime tubing and reset Millilitres given.
 - Remove used Administration Set from Max Zero Connector and remove cassette from pump.
 - Put new Administration Set and medication bag together.
 - Attach the new cassette to pump.
 - Press 
 - Press 
 - Press 
 - Press and HOLD  until you see a drop of fluid at the end of the tubing.
 - Press  to end priming.
 - Press  until the screen says

Milliliters Given
 ### ml
 Since (date/time)
 Press ENTER to clear

- Press 
4. Bring end of Administration Set up under your top at waist (and down sleeve, if you have a PICC).
 5. Clean the Max Zero Connector and flush with Saline Syringes.
 6. Clean the Max Zero Connector again and attach Administration Set.
 7. Start pump
 - Press 
 - Press 
 8. Measure and record the amount of fluid in used medication bag.



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This information does not replace the advice given to you by your healthcare provider.

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