Nurse Link
BY CAREPATHRX

IV MODES OF ADMINISTRATION

2023

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LEARNING GOALS

By the end of this module, nurse learners will be able to:

- Apply knowledge of home infusion therapy to daily nursing practice.
- Evaluate appropriate NurseLink resources for home infusion patients to promote effective learning to safely administer home infusion therapy.
- Apply NurseLink policies and procedures to daily nursing practice for home infusion patients.
- Apply best practice in all modes of administration when teaching and caring for home infusion patients.

PATIENT EDUCATION

1. Infection control, Aseptic Non-Touch Technique and hand hygiene
2. Educational material provided for the dispensed medication
3. Medication preparation and inspection
4. Supplies, equipment and proper technique (utilizing a hands-on and return demonstration method of teaching)
5. Setup, features, routine use, cleaning and troubleshooting infusion pump and supplies
6. Safe storage of medication (appropriate conditions of light and temperature) and supplies
7. Disposal of medications, supplies and equipment
8. How to contact the appropriate personnel during business hours, the availability of an answering system to receive calls during evenings, nights, weekends and holidays, and accessibility of a Registered Pharmacist 24 hours a day, 7 days a week

Access to Nurse Link

To login, follow the link below and click "*Login to Nurse Link*."

https://carepathrxllc.com/nurselink-welcome/

Password: email nursingsupport@homeinfusion.com

Be sure to bookmark this URL and save your password for future use.

NL Patient Site:
https://carepathrxllc.com/nurselink-patient/

Patient teaching Videos	Patient Written Instructions	Nursing P & P	Links to RN virtual training	Nurse Videos	Home Infusion Society links	CarepathRX in the News

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CarepathRx On Call

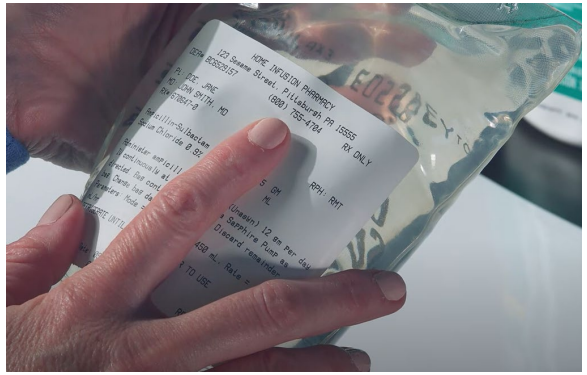
24 / 7 Access to the Clinical Pharmacy team

For after-hours, weekend and holiday support, troubleshooting, and delivery needs:

- CarepathRx Pharmacist
- Local pharmacy support varies by pharmacy.
- Dietitians

  1-877-ENTERAL
- Nurses
- Delivery

Contact the pharmacy by calling the phone number at the top of the medication label.



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- Remind patients pumps must be returned to the pharmacy when therapy is completed.
- Pumps are not disposable!

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Pump Returns

CarepathRx will contact the patient & arrange pump pick up by UPS.

- The pharmacy will print and deliver a UPS shipping label and a padded shipping box to the patient for pump return at end of therapy.
- The patient does not need to be home for the UPS driver to pick up the boxed pump.
- There is no fee to the patient for this service.

Nurses are NOT to remove pumps from patients' homes.

(exceptions may apply)

Contact CarepathRx for equipment return.

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TUBING CHANGES

Intermittent Infusions

- ❑ – Every 24 hours

Continuous Infusions

- ❑ – QOD (every other day)
- ❑ – Mondays, Wednesdays and Fridays
- ❑ – As directed

PCA

- ❑ – Weekly

Subcutaneous Administration Sets

- ❑ – As directed based on type of therapy

TPN

- ❑ – Daily with each dose

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IV Line Filters

An IV-line filter is a membrane in the tubing set designed to prevent particulates and air bubbles from being administered

Filters Components:

- Inlet allows fluid to enter the filter compartment
- Fluid then fills the vented side, allowing air to be removed
- Filter membrane becomes wet and prevents air and particulates to flow through the tubing. Works like a strainer
- Fluid flow to patient side for administration

Proper priming techniques allow the fluid to fill the air-vent side first, then saturating the membrane and before filling the patient side.

- Follow manufacturer's instructions for priming technique

Invert filter for priming. Arrow to point up during priming.

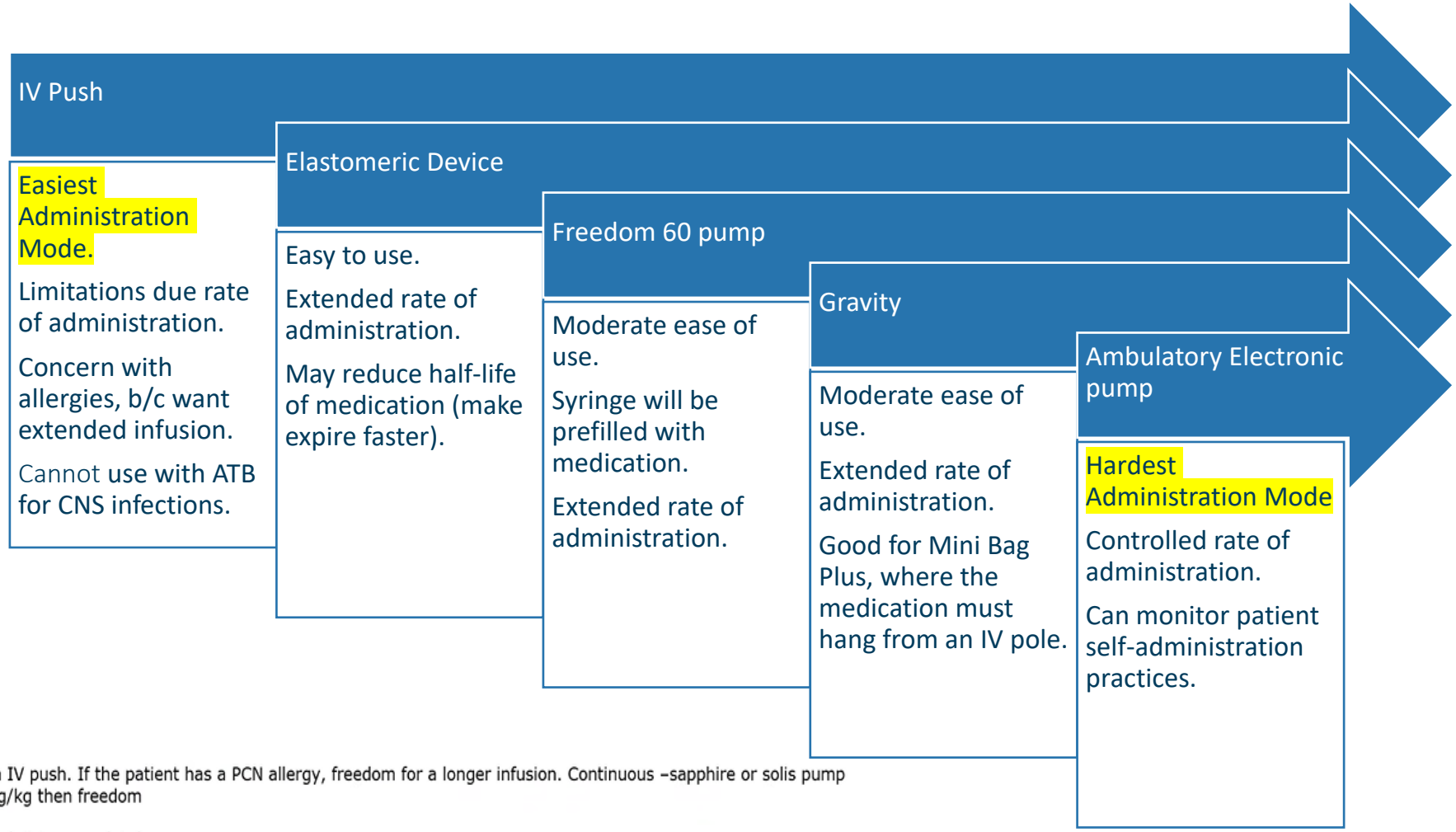
Common filter membrane sizes:

0.2 micron
- For medications compounded in the home.
- Most frequently used to filter particulates.

1.2 micron
- Usually for TPN lipids.
- Allows larger molecules to pass to the patient.

Do not invert filter for priming. Arrow to point up during priming.

Mode of Administration



Cefazolin/Cefepime/Rocephin 1gm or 2gm IV push. If the patient has a PCN allergy, freedom for a longer infusion. Continuous –sapphire or solis pump
Daptomycin IVP for doses < around 8.5mg/kg then freedom
Ertapenem Mini bag plus
Meropenem Mini bag plus, short BUD I think it is around 4 days.
piperacillin-tazobactam Freedom pump, May use Sapphire/Solis for intermittent with a daily bag change. EZ pump for continuous.
BUD

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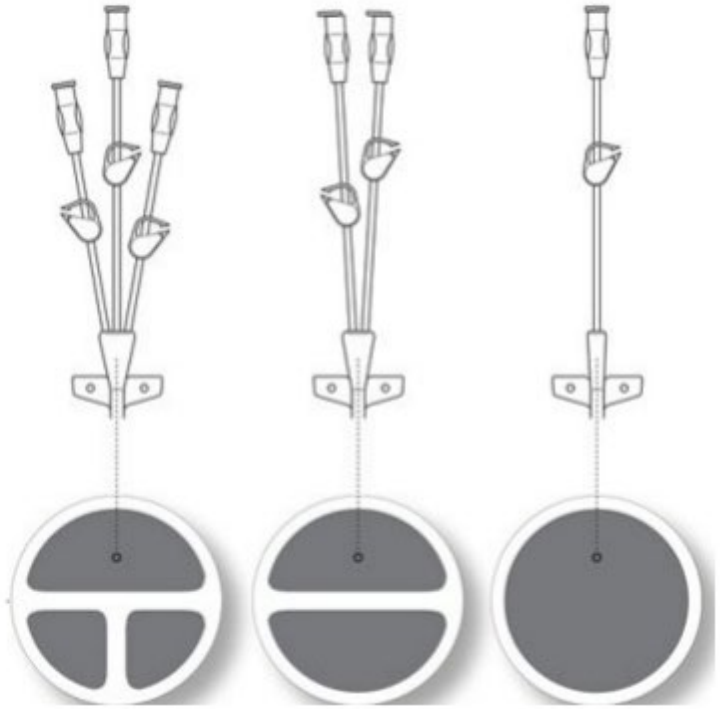
Catheter Lumens

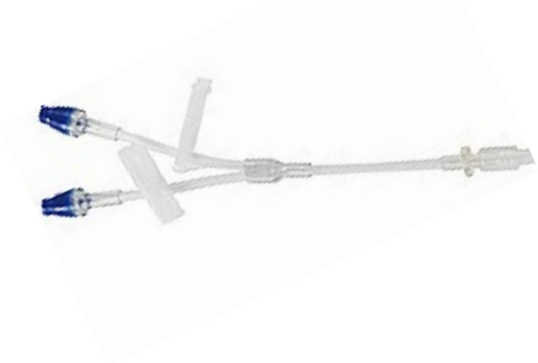
Each lumen is separate from access point to the opening in the vein.

Catheter lumens are individual access points for IV administration in the same catheter.

- From access point to the tip of the catheter, each lumen is separate from the other lumen(s).
- Infused medication does not mix with medications infused in another lumen until it enters the blood stream.
- Medication compatibility for infusion is not required when infused in separate lumens.



Y-sites



IV-line extension to provide a second access point to the IV catheter lumen

- Always confirm medication compatibility before use
- Pharmacist will verbally or in writing communicate y-site compatible medications
- Document pharmacist y-site recommendations with name of pharmacist

STOP

Y-sites & Lumens are different

Lumens

Catheter lumens are individual access points for IV administration in the same catheter

- From access point to tip of the catheter, each lumen is separate from the other lumen(s)
- Infused medication does not mix until it enters the blood stream
- Medication compatibility for infusion is not required when infused in separate lumens

IV Push

Easiest for the patient

Administer IV push medication at the rate specified in the prescribed order or as directed on the product label.

Follow with an appropriate volume of 0.9% sodium chloride flush at the same injection rate to ensure entire dose reaches the bloodstream and to prevent a bolus of medication.

Administer IV push medications through the injection port closest to the patient in an existing IV infusion to allow medication to reach the circulatory system as soon as possible.

Check compatibility of IVP medication with solutions or medications in primary continuous infusion, if present.

IV Push Patient Education Video Link:
https://youtu.be/r8qmUgftp-A?list=TLGGf--MaPtVXKgxODAxMjAyMw

Teaching Guide:
https://carepathrxllc.com/wp-content/uploads/2021/06/7.-IV-Push-Medication-Administration_Pre-Filled-Medication-Syringe.pdf

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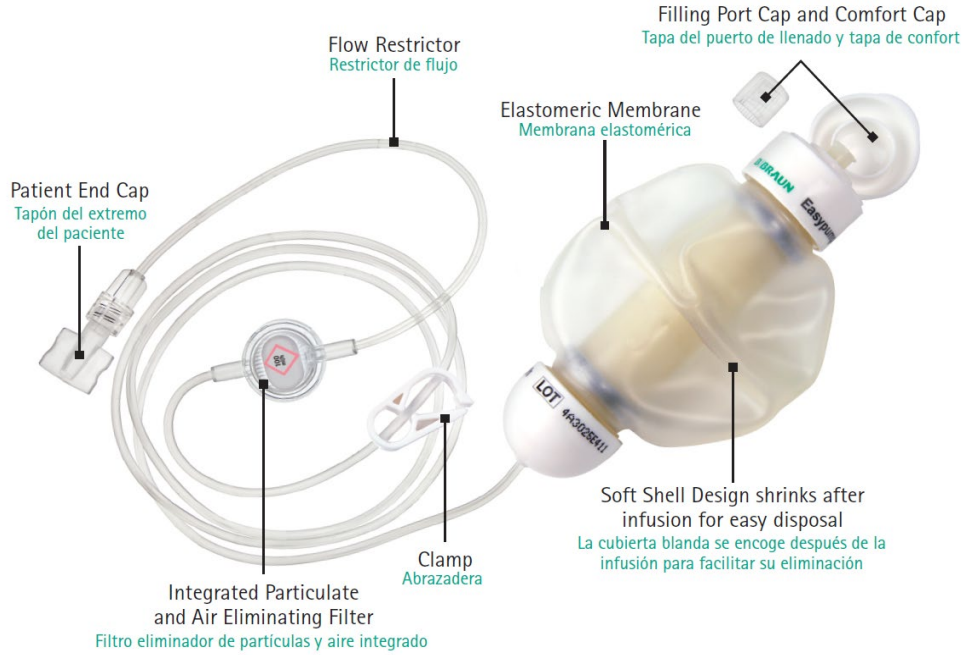
ELASTOMERIC DEVICE

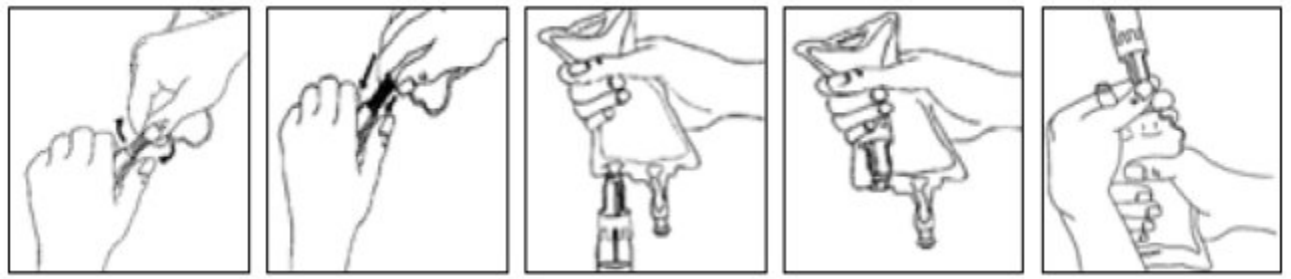
- Non-electronic pump that allows patients to remain ambulatory during infusions. Use pressure to infuse medication. The pressure is created by an elastomeric layer which is molded into the inside of the pump. When the device gets filled, the elastomeric layer becomes stretched. The elastic constriction then drives the liquid through the tubing.
- Rate of infusion is determined by the device selected.
- Primarily used for antibiotic administration.
- Easier to use for patients with dexterity issues.
- Allow medication to warm to room temperature for 6-12 hours, as noted on the Plan of Treatment.
- Calibrated to work at room temperature (69.4 – 76.6 degrees F).
  - May infuse too slow if cooler than 69.4F
  - May infuse too fast if warmer than 76.6 F
- Flow Restrictor is calibrated to work at 88F
  - Should have close contact with the patient's skin during infusion.
  - Calibrated to work at the level of the IV catheter
  - Do not hang or set on floor



IV Push Patient Education Video Link:
https://youtu.be/r8qmUgftp-A?list=TLGGf--MaPtVXKgxODAxMjAyMw
Teaching Guide:
https://carepathrxllc.com/wp-content/uploads/2021/06/7.-IV-Push-Medication-Administration_Pre-Filled-Medication-Syringe.pdf

In-Home Compounding System: Mini-Bag Plus, Vial-Mate & AddEASE

- **Always use with filtered tubing and hanging from a pole**
- **These compounding systems contain air in bags and cannot be placed on the pouch**
- **If on a pump, it will need to be pole mounted**
  - Partial dose given on a pump
- Usually given via gravity method
- Tubing change every 24 hours



Gravity Infusion

CONVERSION TABLE FOR 20 DROP PER ML TUBING ML/HR → DROPS/MINUTE	
ML/HOUR	DROPS/ MINUTE
30	10
45	15
60	20
75	25
90	30
99	33
105	35
114	38
120	40
126	42
135	45
144	48
150	50
165	55
180	60
195	65
210	70
225	75
240	80
250	83
255	85

Straight tubing set with IV bag hung from an IV pole.

Drip rate conversion tables on teaching guides.

Regular straight tubing set

Filtered straight tubing set

Drip rates can be found on patient teaching guides.

$$\text{IV Drip Rate} = (\text{Volume}/\text{Time}) \times \text{Drop Factor}$$

(gtt/min) (mL) (minutes) (gtt/mL)

CONVERSION TABLE FOR 10 DROP PER ML TUBING ML/HR → DROPS/MINUTE	
ML/HOUR	DROPS/ MINUTE
6	1
12	2
18	3
24	4
30	5
36	6
42	7
48	8
54	9
60	10
66	11
72	12
78	13
85	14
90	15
96	16
102	17
108	18
114	19
120	20
126	21
132	22
144	24
150	25
180	30
198	33
204	34
210	35
240	40
252	42

Reference Chart of Drops per Minute

For use with Flow Regulator or Gravity Infusion.

IV Tubing Drop Factor	Desired Hourly Rate: ML / HR															IV Tubing Drop Factor
	20	25	30	50	60	70	75	80	100	110	120	125	130	150	175	200	
10 DROP/ML	3	4	5	8	10	11	12	13	16	18	20	21	22	25	30	34	10 DROP/ML
15 DROP/ML	5	6	7	12	15	17	18	20	25	27	30	31	32	38	44	50	15 DROP/ML
20 DROP/ML	6	8	10	16	20	22	24	26	32	36	40	42	44	50	60	68	20 DROP/ML
60 DROP/ML	20	25	30	50	60	70	75	80	100	110	120	125	130	150	175	200	60 DROP/ML
IV Tubing Drop Factor	Drops Per Minute																IV Tubing Drop Factor

Patient Education Video Link:
https://youtu.be/YxP1e2QYf8U?list=TLGGnZlmPDEEE9sxODAxMjAyMw
Teaching Guide:
https://carepathrxllc.com/wp-content/uploads/2021/06/3.-Gravity-Administration-Procedure-20-gtts.pdf

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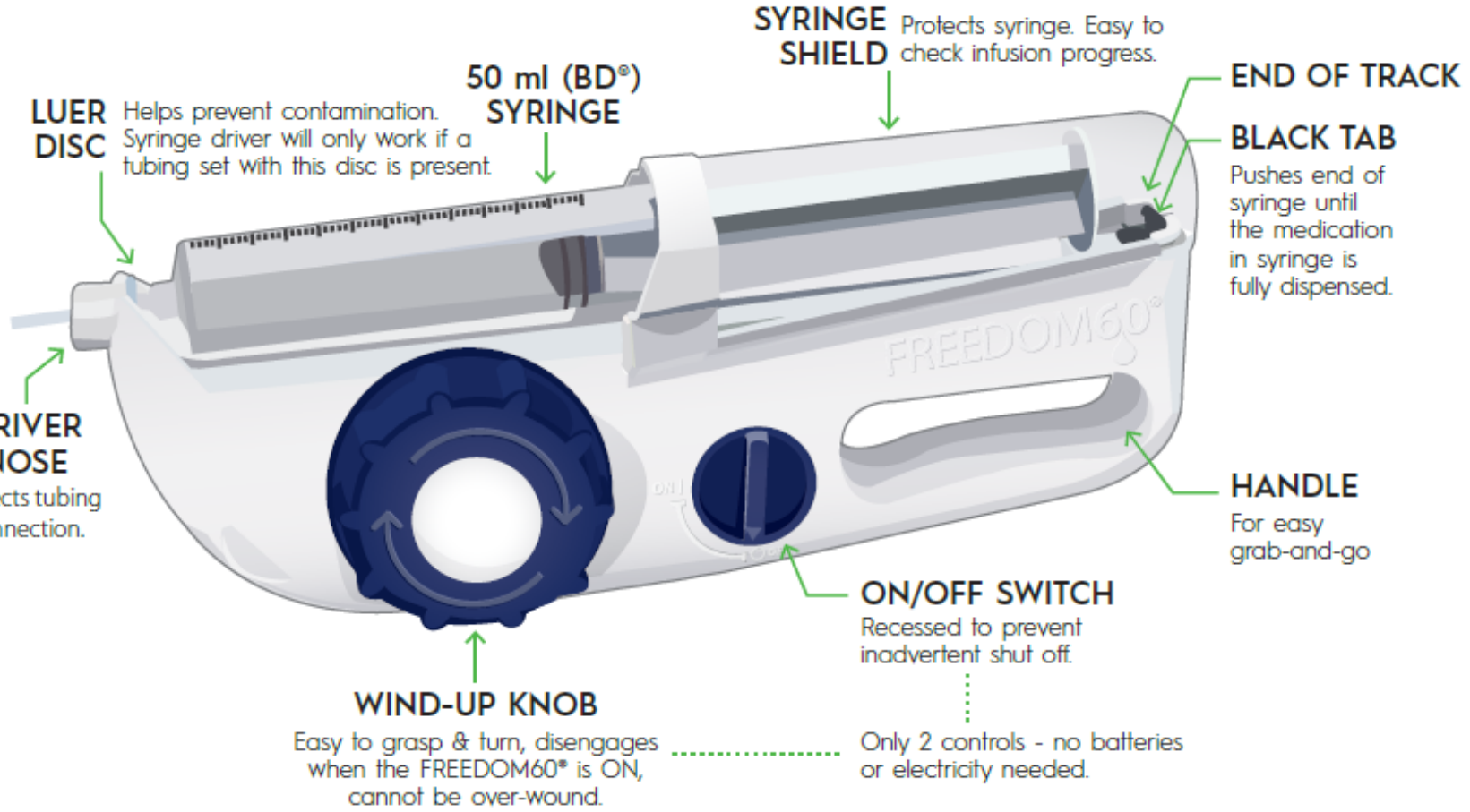
FREEDOM60®

Syringe Infusion System



Education Video:
https://youtu.be/jUpml_Bj2KE?list=TLGGDG9mK7XWyqswMTA1MjAyMw

Teaching Guide:
1.-Medication-Admin-via-Freedom-60-Pump.pdf (carepathrxllc.com)

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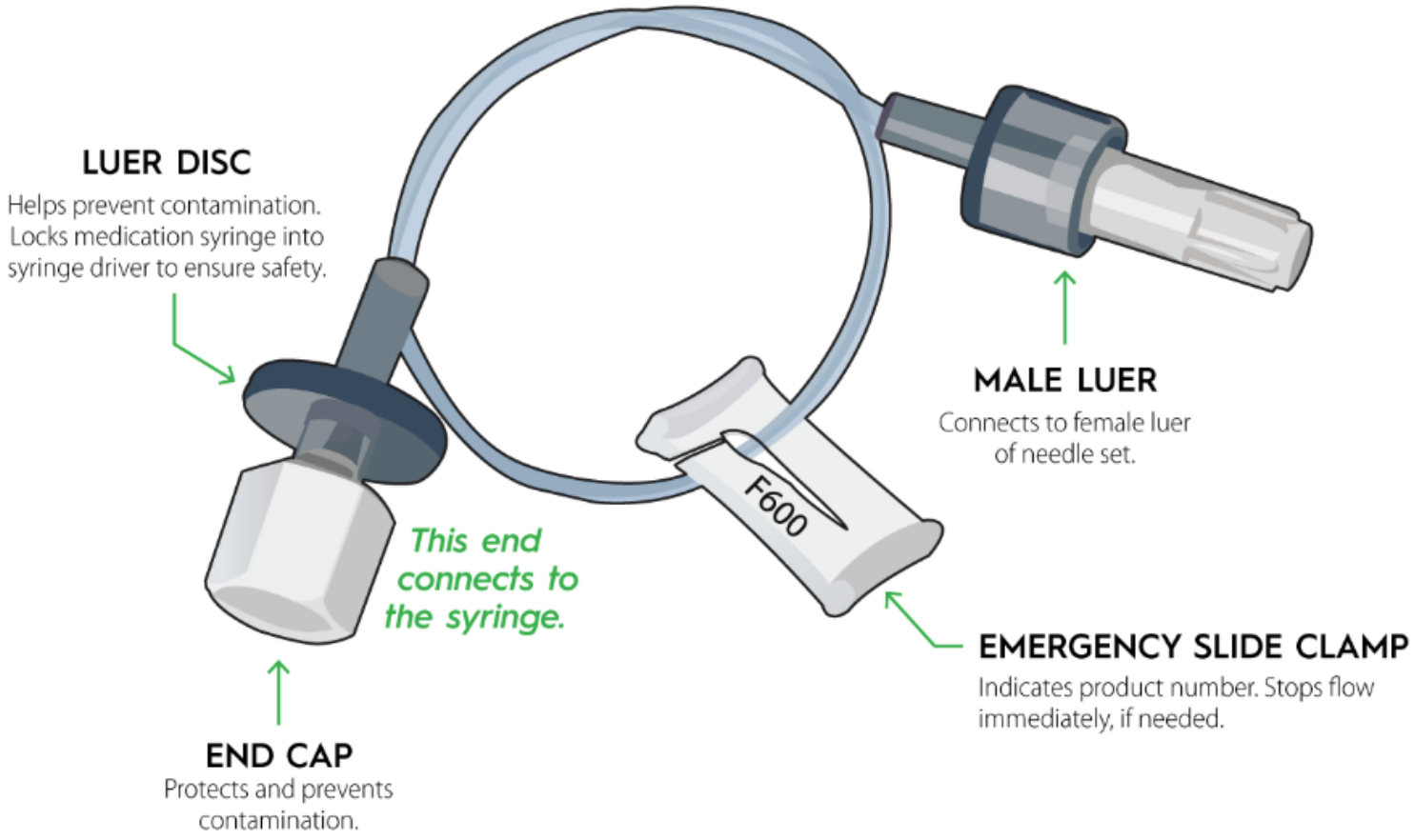
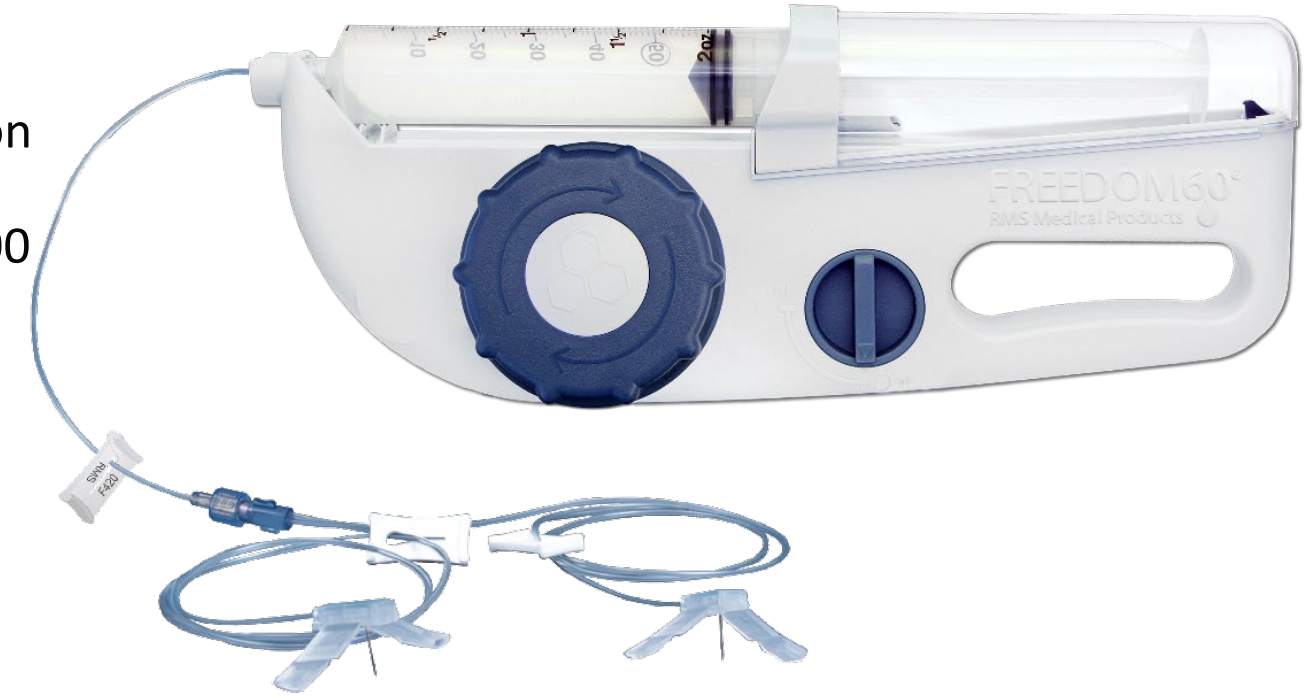
Freedom60 Pump Tubing



Freedom60 Pump

- Syringe pump provides medication over a controlled rate
- Most commonly used for antibiotics and SCIg.
- Rate is controlled by the viscosity of the medication and diameter of the tubing – identified on both packaging and tubing clamp. Sets from F0.5 - F2400 offer precise infusion rates for a variety of administration times (20 variations)
  - Example:
    - F30=30ml/hr
    - F60=60ml/hr
    - F900=900ml/hr
- **Disc on tubing secures the syringe into the pump**
  - Do not confuse with IV extension tubing
- Change tubing according to your organization's policy



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TO BEGIN INFUSION

Wind knob clockwise until the black tab is at the end of its track

Load syringe containing medication

Turn the Switch to To ON position

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TO END INFUSION

- ✓ When the syringe is completely empty and total dosage is administered, turn the SWITCH to OFF position.
- ✓ Wind the large knob until the black tab is at the end of its track.
- ✓ Push the syringe away from the DRIVER NOSE and remove syringe.

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SUBCUTANEOUS INFUSION THERAPY

Subcutaneous infusion therapy is a technique whereby fluids or medications are infused into the subcutaneous tissue via small gauge needles inserted into the abdomen, arms, back or thighs.

The subcutaneous route may be used to infuse isotonic solutions for treatment of dehydration, continuous opioid infusions for pain management, non-vesicant neoplastic agents, certain antibiotics, diuretics, antiemetics, immunoglobins, endocrine medications, gastrointestinal medications, monoclonal antibodies, and other therapies/medications as prescribed.

Subcutaneous infusion offers several advantages over intravenous infusion, including ease of administration, lower cost, and lack of potential serious complications.

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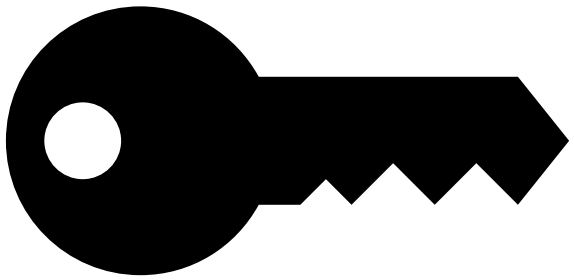
TROUBLESHOOTING FREEDOM 60 PUMP

Problem		Solution
Syringe will not load or remove from syringe driver		Make sure the syringe driver is in the OFF position and that the black tab is at the end of its track. If the black tab is not at the end of its track, fully wind the large knob clockwise and try again. • Verify that you are using the proper BD® 50 ml syringe.
Syringe will not stay inside in the syringe driver		Make sure you are using the proprietary Precision Flow Rate Tubing™ sets with the luer disc. • Make sure the luer disc end of the tubing has been connected to a BD® 50 ml syringe and that it is seated properly in the nose of the syringe driver.
No flow		Assure that the syringe driver is in the ON (–) position. • Make sure the slide clamp is unclamped, and has not been used for an extensive period of time. If the slide clamp is overused it can damage the tubing.
Slow flow		If a slide clamp is used for an extensive period of time, it can damage the tubing and affect the flow rate. Try using another tubing set and measure the flow. For 60ml/hr tubing, the syringe plunger should move 10ml in 10 minutes (1ml/min). For 120ml/hr tubing, the plunger should move 10ml in 5 minutes (2ml/min).
Flow may continue even when the syringe driver is turned OFF		This is a normal function of the driver. The syringe driver is designed to maintain pressure during and after the infusion to prevent blood/drug backflow. • To stop the flow turn the driver OFF and wind the large knob clockwise so the black tab moves away from the syringe. This will release pressure on the plunger. • You can also use the slide clamp. We recommend using the slide clamp to immediately stop the flow only in the case of an emergency. Overuse can damage the tubing.

FREEDOM 60 PUMP KEY POINTS



- Must be used with Freedom 60 Precision Tubing for rate control
- Change tubing according to organizational policy for intermittent infusions
- Change tubing for each new subcutaneous infusion
- Manually hold syringe in place until black tab reaches the plunger of the syringe

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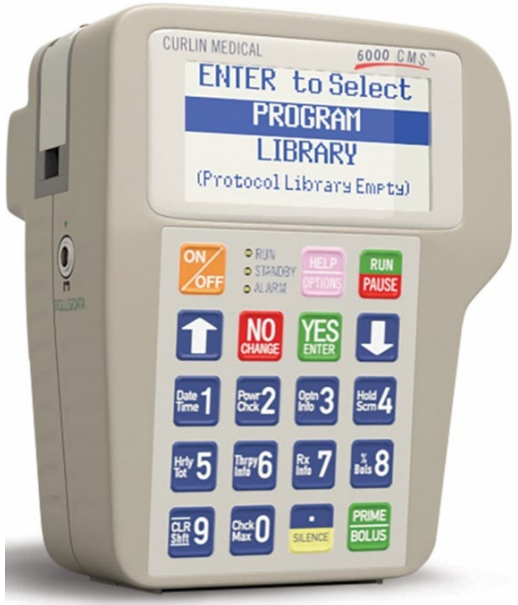

Electronic Ambulatory Infusion Pumps

Pump will arrive pre-programmed according to physician's orders and safe infusion practices.

Settings need to be checked against Plan of Treatment and Product label BEFORE starting infusion

If started as instructed the pumps will prompt the patient to prime, reset the Volume to be infused & start the pump

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CADD Solis

Education Video:
https://youtu.be/Sza7ucyQfTw?list=TLGGRtQCsMbpQ9wxODAxMjAyMw

Teaching Guide:
https://carepathrxllc.com/wp-content/uploads/2021/06/49.-CADD-Solis-Administration-Procedure-Intermittent-or-Continuous-Mode

DELIVERY MODES

- PCA Delivery Mode
- Continuous Delivery Mode
- Intermittent Delivery Mode
- Step Delivery Mode
- Taper Delivery Mode

CADD Solis Tubing and Cassettes

Low Volume Tubing	Low Volume Cassette	High Volume Tubing	Variety of Cassettes
0.1-250 ml/hr	0.1-250 ml/hr	250.1- 500 ml/hr	Low and High Volume

Tubing changes:

Intermittent Infusions – every 24 hours

Continuous Infusions – Mondays, Wednesdays and Fridays only – or every 48-72 hours.

PCA - weekly

Turing the Pump ON and Attaching the Cassette

Turn the pump on, press and hold the power switch.

- The pump carries out self-tests and sounds six beeps when the tests are complete
- MUST wait until self test is complete and home screen is displayed BEFORE attaching the cassette for pump to prompt the patient for each task

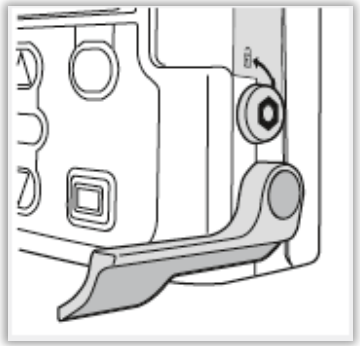
Clamp the tubing, make sure the cassette latch is unlocked and open the cassette latch to 90 degrees.

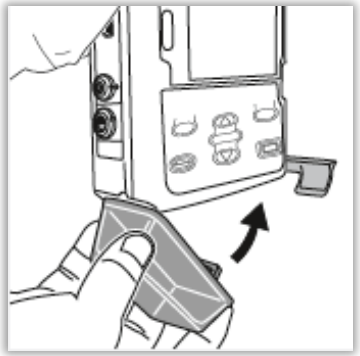
Insert the cassette hooks into the hinge pins on the bottom of the pump.

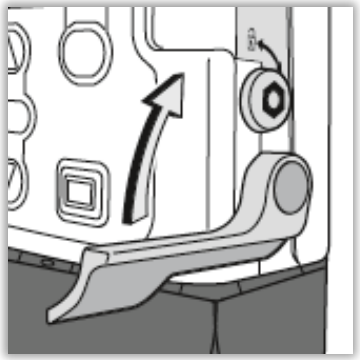
Without holding the cassette latch, push up on the cassette until it firmly clicks into place.

Lift the cassette latch up into the closed position.

Insert the pump key and turn it clockwise to lock the cassette.







CADD SOLIS PRIMING

Always prime on its side, with the lever side down to prevent “Air In Line” alarms

Champaign bubbles along the cassette will result in air in line alarms

- Manually priming/flicking the set will move the champaign bubbles
- Depressing the green tab will manually prime

Prime with LEVER SIDE DOWN

Starting the CADD Solis Pump

1. Press STOP/START.
   Pump displays Start Pump?

2. Press Yes.
   Pump displays Pump is Starting

3. Confirm:
   - Green light is blinking
   - Read running across the screen

4. The screen will go into power save mode

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Stopping the CADD Solis Pump

1. Press STOP/START.
   Pump displays Stop Pump?

2. Press Yes.
   Pump displays Pump is Stopping.

3. Clamp the tubing and disconnect from patient.

4. Unlock the cassette latch and remove cassette.

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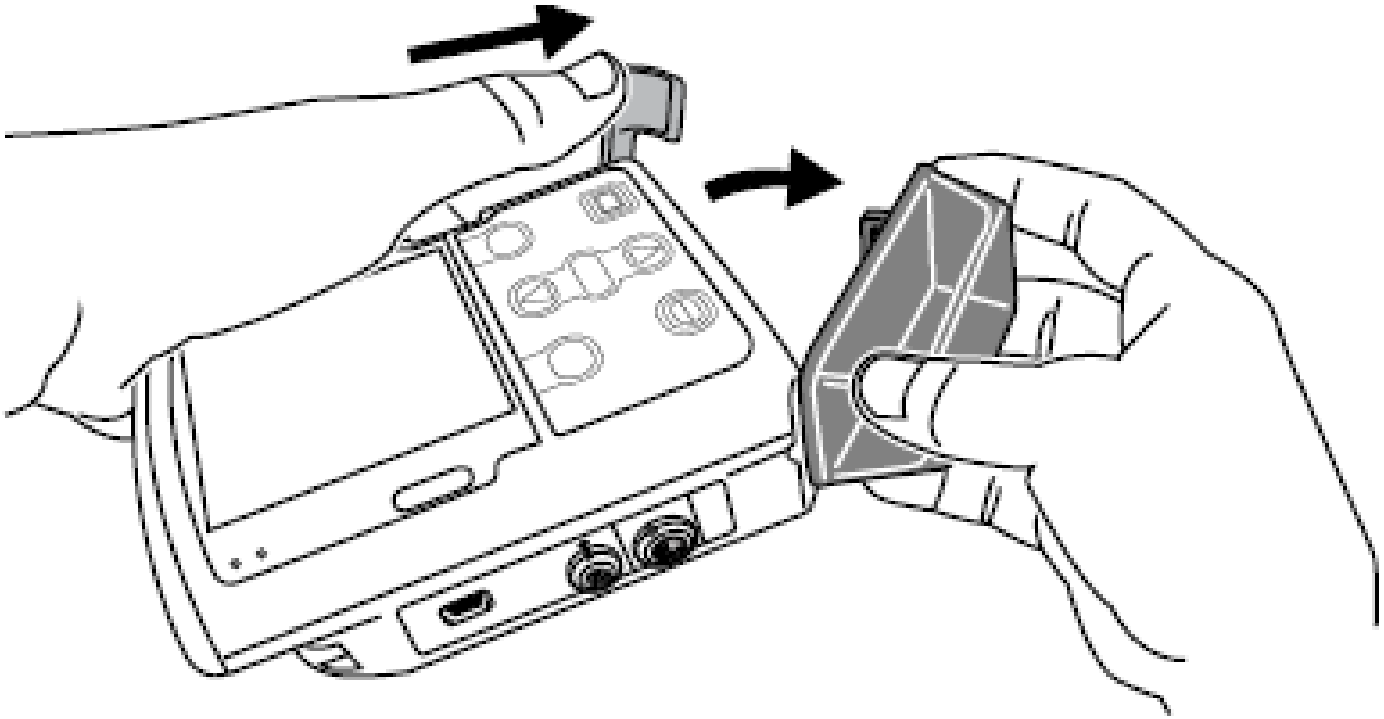
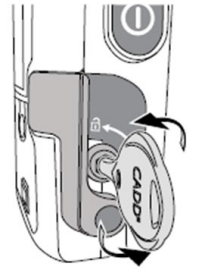
REMOVING THE CASSETTE



Make sure the pump is stopped before removing the cassette

Close the tubing clamp

Push down on the cassette latch until cassette
detaches



If locked, insert the pump key and turn the cassette/keypad lock counter-clockwise into the unlocked position

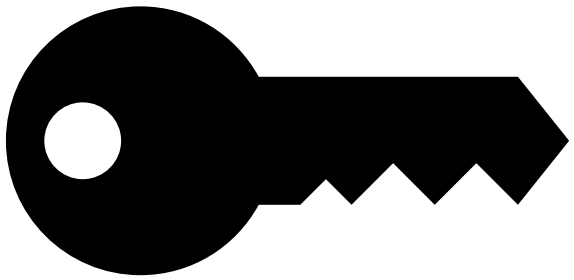
Solis Pump

Alarm	Corrective Action
Battery removed. Pump will not run.	The pump is stopped and the rechargeable battery pack or the 4 AA batteries were removed, but the pump is still powered by the AC adapter. Select **Acknowledge** to clear the alarm. Install a fully charged rechargeable battery pack or 4 new AA batteries. To start delivery, good batteries must always be installed, even when an external source of power is connected.
Downstream occlusion.	Clear occlusion (a kink in the fluid path, or a closed tubing clamp) **between pump and patient.**
High flow admin set required. Remove cassette.	The delivery-specific parameters are programmed to values that cause the maximum rate of delivery to exceed 250 mL/hr. You must remove the standard volume cassette to continue.
High volume admin set not allowed. Remove cassette.	The CADD® high volume administration set cannot be used. The pump is stopped and will not run. Remove the administration set to continue.
Upstream occlusion.	Fluid is not flowing from the fluid container to the pump, which may be due to a kink, closed clamp, or air bubble in the tubing between the fluid container and pump.Clear occlusion **between pump and reservoir**.

TROUBLESHOOTING SOLIS PUMP

Problem	Solution
A continuous two-tone alarm is sounding, and the amber light is lit or flashing.	Delivery has stopped. If the display is blank or contains random characters, the 4 AA batteries or the rechargeable battery pack may be depleted. Install 4 new AA batteries or a rechargeable battery pack.
The pump is sounding 2 beeps every 2 seconds, and the amber light is flashing.	Refer to the list of Alarms.
Three beeps sound every 5 minutes.	This is a reminder that the pump is stopped.
After installing 4 new AA batteries and powering up the pump, no screen appears and no beep sounds.	The batteries may be installed incorrectly. Review the procedure for installing batteries. Be sure to match the polarity (+ and –) markings inside the battery door with the markings on the batteries. If there is still no power, the batteries may be completely depleted.

SOLIS PUMP KEY POINTS



- Always prime on its side, with the lever side down to prevent “Air In Line” alarms
- Plug in pump for a minimum of 4 hours each day, to maintain battery charge. If rechargeable battery requires charging while pump is in use, replace with 4-AA batteries and charge rechargeable battery with AC adapter
- High flow administration set is required for rates greater than 250ml/hr

Eitan Medical Sapphire Pump

Educational Videos:

Starting:

https://youtu.be/ZoBjMD_G6eY?list=TLGGu0ZG3X0Q3DcwMTA1MjAyMw

Stopping:

https://youtu.be/2F6CeYmSyPQ?list=TLGGzF5IXM-3Bm0wMTA1MjAyMw

Emergency Battery Pack:

https://youtu.be/6y-oeQUet6A?list=TLGGqakRsMegpD0wMTA1MjAyMw

Teaching Guide:

64.-Sapphire-Pump-Administration-Process.pdf (carepathrxllc.com)

Pump programming Code: 7770

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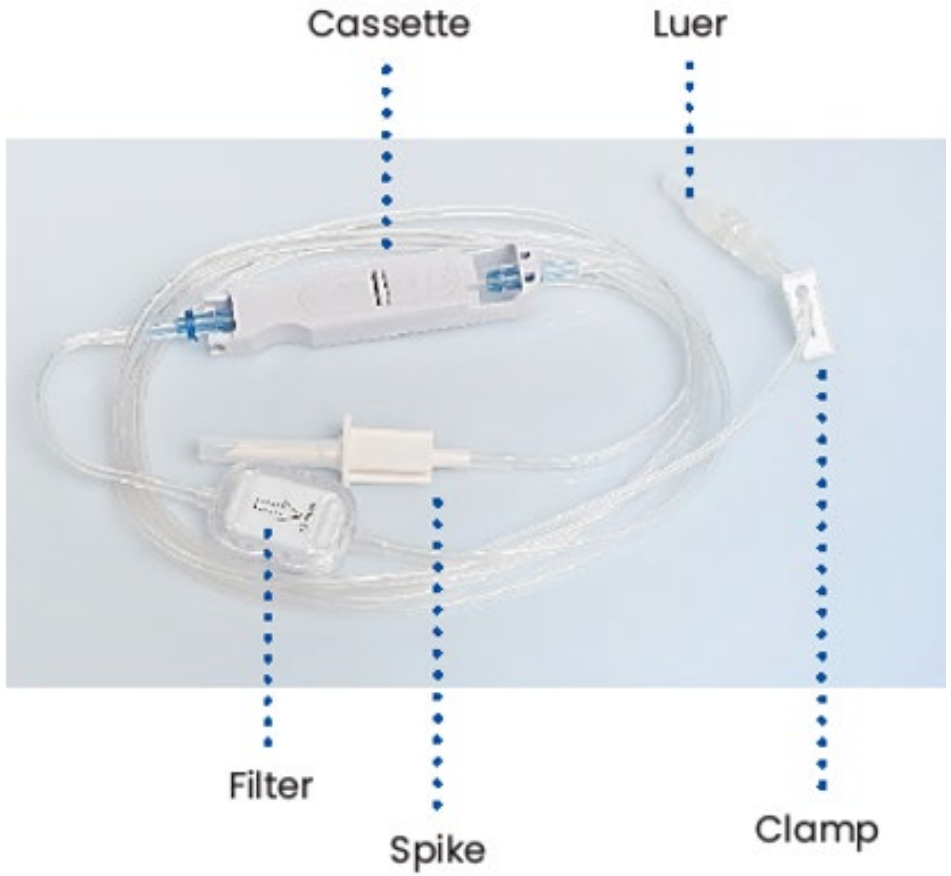
DELIVERY MODES

- PCA Delivery Mode
- Continuous Delivery Mode
- Intermittent Delivery Mode
- Multistep Delivery Mode
- TPN Delivery Mode
- Epidural Delivery Mode

Sapphire Pump Tubing Set

There are different types of tubing sets. The tubing set you are using may have some or all of these parts.



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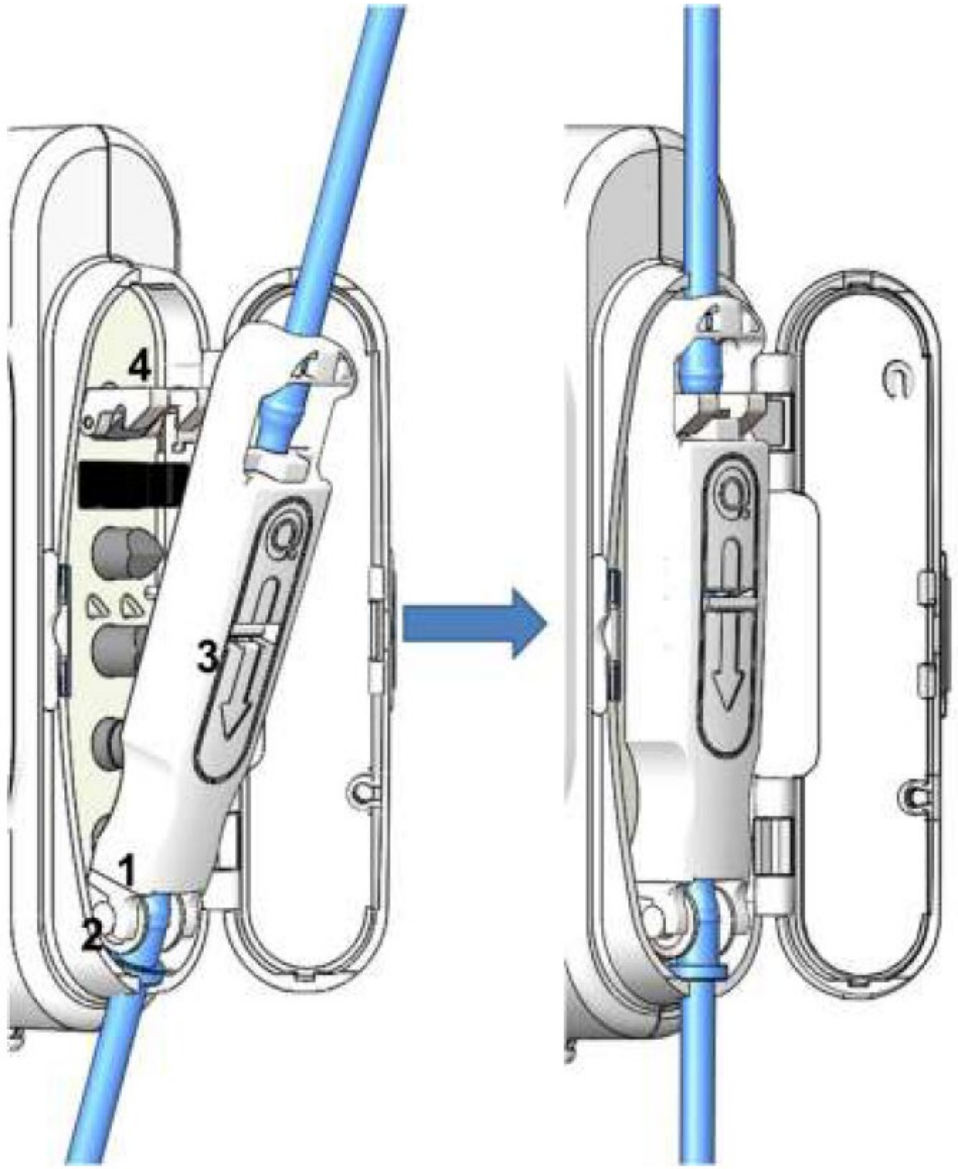


- Open the safety door. Then, insert the administration cassette at an angle, by placing the saddle (#1) on the round metal anchor (#2) in the cassette's housing. Make sure that the arrow on the cassette (#3) is pointing toward the bottom of the pump, and the bottom flange is inside the cassette housing.

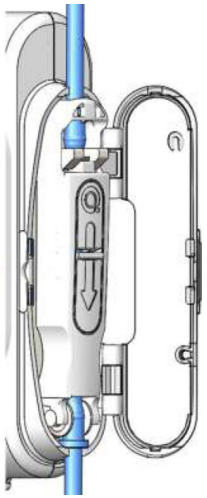
- Clip the upper end of the administration cassette into the metal lock (#4).

- Close the safety door over the administration cassette. Ensure that the safety door clicks upon closure.

Starting the Infusion

Turn on the Pump
Press ON/OFF

Insert the CASSETTE



Press Repeat Last Infusion

Pump will prompt you to:

1. **Confirm the pump perameters by displaying the pump setting**
    1. **Press OK**
2. **Prime the tubing by asking ""do you want to Prime before start?**
    1. **Press PRIME**
3. **Disconnect from patient before priming**
    1. **Press PRIME**
4. **Start the infusion**
    1. **Press START**

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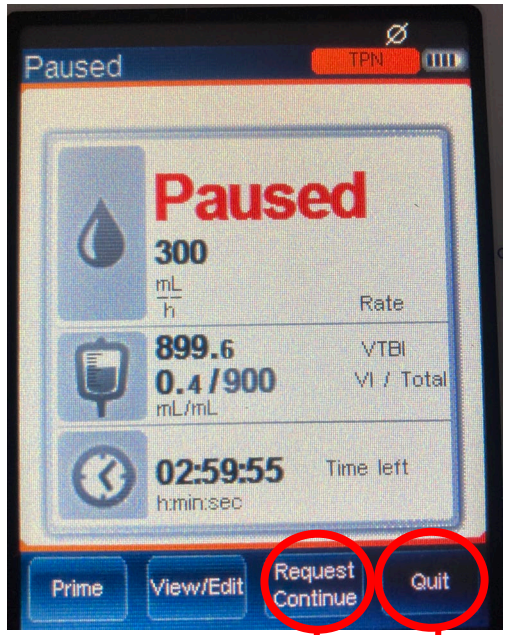
Stopping the Infusion

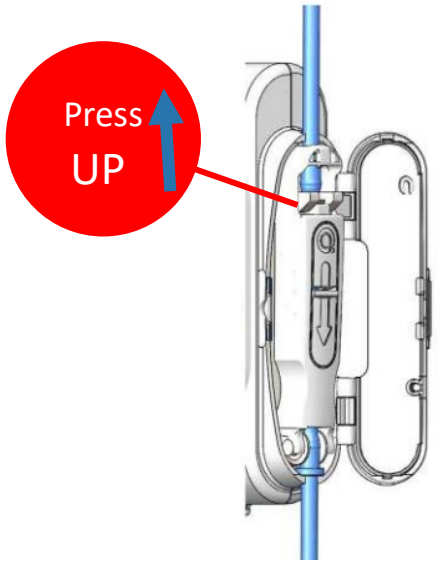
Turn the pump on
Press STOP



Will re-start a stopped infusion (pauses infusion)

Will stop the infusion and return to the home screen.

Remove the tubing cassette
Open clear cassette door
Press up on the metal lock to release the cassette



To turn pump off, press ON/OFF button, then OFF (on the screen)

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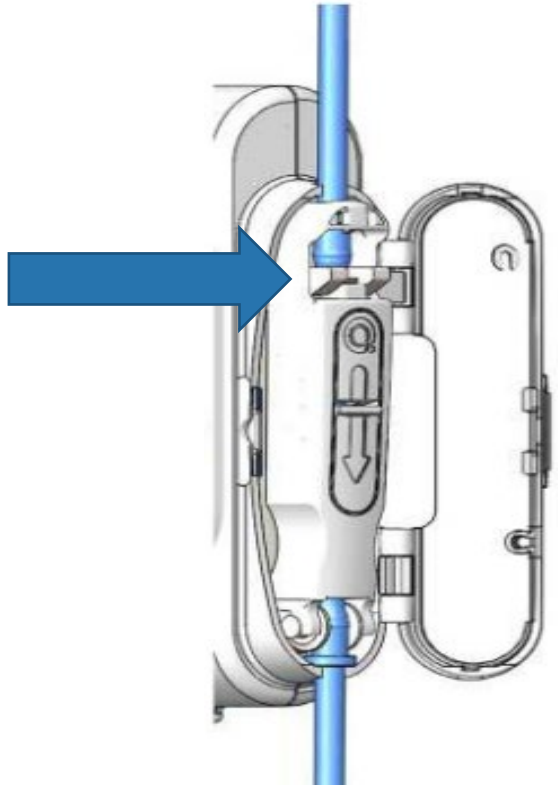
TO REMOVE CASSETTE

Disconnect administration set from the patient, close the clamps and remove administration cassette by raising the metal lock that secures it to the pump



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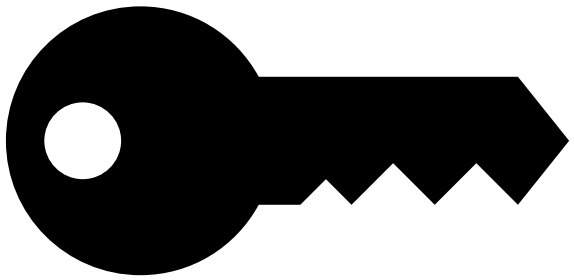
Sapphire Pump

Alarm	Corrective Action
Air in Line	Prime administration set. If problem reoccurs, remove and reinsert the cassette.
Check for Occlusion	Verify clamps are open and set is not occluded. Verify there are no mechanical causes.
Downstream Occlusion	Verify: 1. Clamps are open 2. Administration cassette is properly positioned 3. Line is not kinked 4. No occlusion at the output connection. If all occlusions were cleared press OK to continue.
Flow Error	Verify that the administration cassette is correctly positioned, and battery is sufficiently charged.
Occlusion	Verify: 1. Clamps are open 2. Administration cassette is properly positioned 3. Line is not kinked 4. No occlusion at the output connection. If all occlusions were cleared press OK to continue.
Upstream Occlusion	Verify: 1. Clamps are open 2. Administration cassette is properly positioned 3. Line is not kinked 4. No occlusion at the output connection. If all occlusions were cleared press OK to continue.
Insufficient Battery	Low battery voltage for current rate. Connect pump to power supply.

TROUBLESHOOTING SAPPHIRE PUMP

Problem	Probable Cause	Solution
Programming cannot be completed.	The parameter entered is outside of the safety range calculated by the pump.	Verify the prescription, and obtain a new one if necessary. Enter infusion parameters within the permitted ranges.
Pump is not charging.	• The power supply has become disconnected from the mini cradle. • The power supply was connected to the pump during pump turn-off.	• Verify the power supply is connected to the mini cradle. • Disconnect and reconnect the power supply to the pump.
Recurring Air in Line alarms.	Treatment is near end, or the air detection settings are too sensitive.	Disconnect the set from the patient. Close clamps, remove administration cassette from pump and prime (flush) the set manually. If the issue is not resolved, replace the administration set.
Recurring Occlusion alarms.	The occlusion issue has not been resolved.	Close clamps, remove administration cassette from pump, disconnect patient and prime (flush) the set manually. Replace the administration set.
Pump doesn't turn on when attached to the EBP.	Internal battery is below the required voltage level for the pump to turn on.	Connect the power supply to the pump.

SAPPHIRE PUMP KEY POINTS



- Plug in pump for 6 hours each day to fully charge rechargeable battery
- External Battery Pack with 6 – AA batteries for emergency use
- A PCA clinician bolus can be given only when the infusion is in progress

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CADD PRIZM PUMP

Educational Video:

Bag Change:
https://youtu.be/SaYyr5g2XwI?list=TLGGfdBst0YV8kwwMTA1MjAyMw

PowerPack Use:
https://youtu.be/YAfEyfrOZVM?list=TLGG9LQgk_45H8QwMTA1MjAyMw

Teaching Guide:
25.-Partial-Dose-Infusion-via-CADD-Prizm-Continuous-Mode.pdf (carepathrxllc.com)

DELIVERY MODES

- PCA Delivery Mode
- Continuous Delivery Mode
- Intermittent Delivery Mode
- TPN Delivery Mode

CADD Prizm Tubing and Cassettes

Low Volume Tubing

0.1-125 ml/hr

High Volume Tubing

Up to 350 ml/hr

Rates above 250 ml/hr also require an AC adapter or a power pack.

Low Volume Cassette

50-, 100- or 250-ml capacity

Tubing changes:

Intermittent Infusions – every 24 hours
Continuous Infusions – Mondays, Wednesdays and Fridays only – or every 48-72 hours.
PCA - weekly

Front View

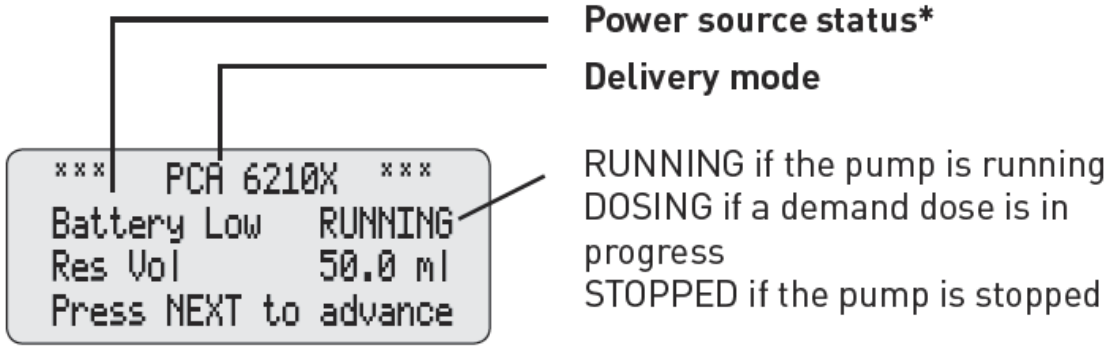
Indicator lights

Green: flashes when the pump is running

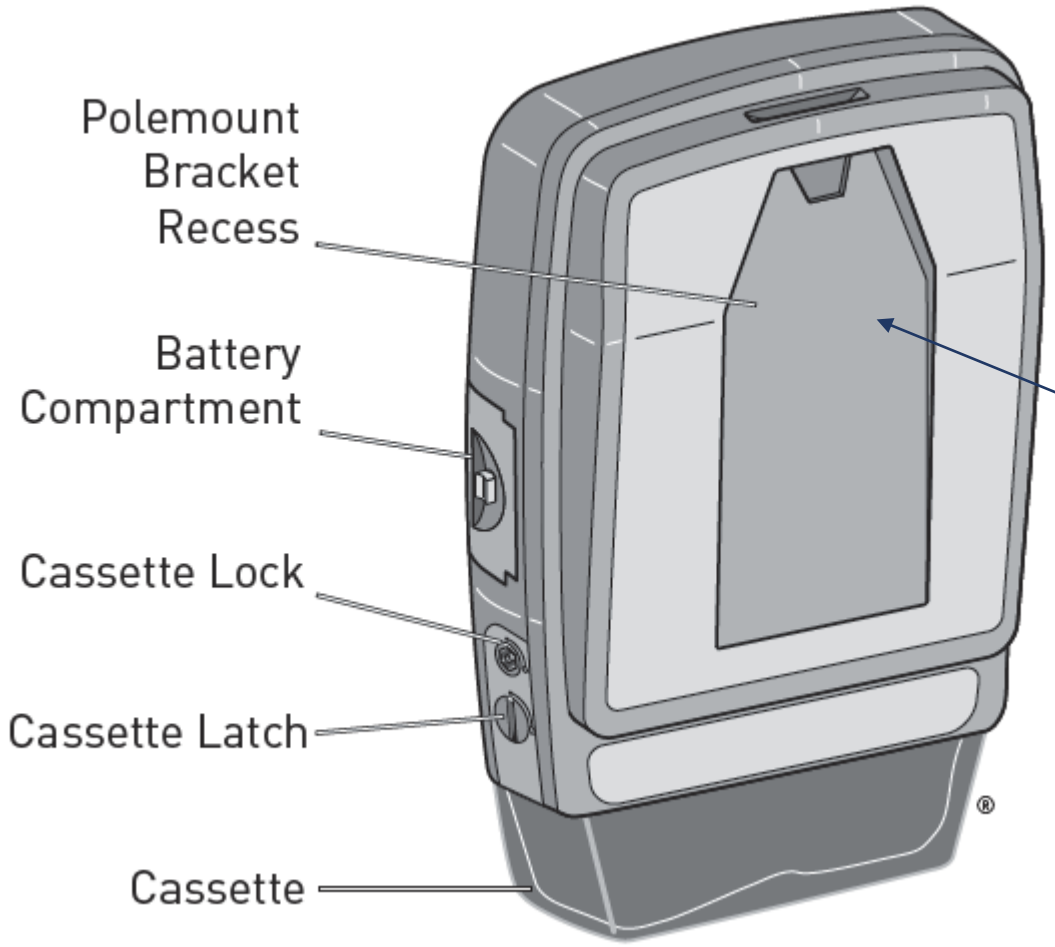
Amber: flashes when the pump is stopped or alerting to an alarm; lit

continuously when the pump is inoperable

Display



Rear View

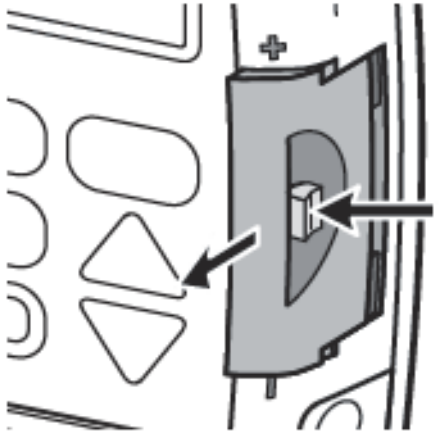


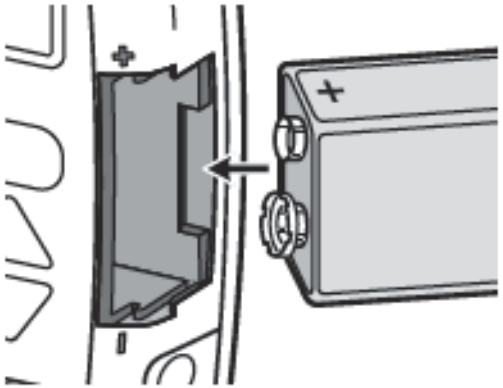
Polemount bracket recess

Bracket slides into the recess on the back of the pump, for attaching the pump to an IV pole

CADD Prizm Pump

- Powered by 1 9-volt battery
- External Power Source (EPS) System Power Pack
  - Pump must also contain a 9-volt battery, otherwise, pump will not start
  - Power pack should be charged 7 hours each day
  - Power pack requires monthly refresh cycle by the patient
- AC adapter





Keypad

- **STOP START** — starts and stops pump delivery
- **LOCK** — displays or changes the lock level; allows access to the clinician bolus in the PCA delivery mode
- **?** — displays more information for a screen or an alarm message
- **ENTER** — saves a new value when programming; records a selection from a menu; clears recordkeeping screens
- **NEXT** — scrolls through programming screens without changing the settings; returns you from the Biomed Toolbox menu to the Options menu, or from the Options Menu to the main screen
- **DOSE** — in the PCA delivery mode, delivers a programmed amount of medication
- **OPTIONS** — displays the Options menu
- **Y** — answers “yes,” increases values on programming screens, or scrolls through items on a menu
- **N** — answers “no,” decreases values on programming screens, scrolls through items on a menu, or cancels printing

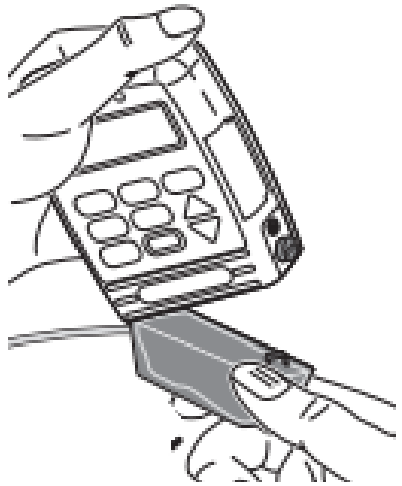
TO ATTACH THE CASSETTE

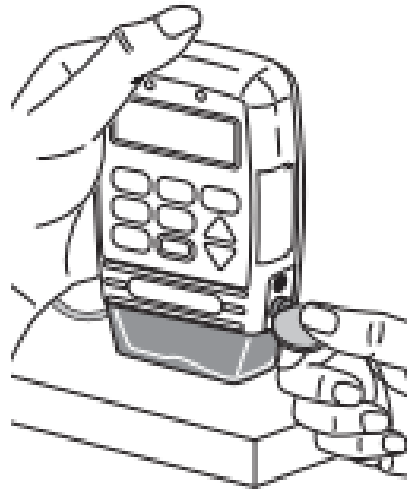
1. Always power up before attaching cassette
   - ➢ Listen for series of beeps and self-check before attaching the tubing cassette
   - ➢ This will prompt “Reset RES VOL?”

2. Insert the cassette hooks into the hinge pins on the pump.

3. Place the pump upright on a firm, flat surface. Press down so the cassette fits tightly against the pump.

4. Insert a coin or the side of the key into the latch button, push in, and turn counterclockwise until the mark on the latch lines up with the solid dot and you feel the button click into place.





Pump will prompt through each step, **only** when the cassette is attached after the pump on powered on and the self-test is complete (5 beeps)

NEXT to Continue → Y to Reset Reservoir → Y to Prime Tubing → Y to Start pump

Pump setting can be viewed as the pump is starting or by pressing the NEXT button

When you attach a reservoir or administration set, the pump's screens will lead you through the following steps: (You must power the pump up before attaching the cassette or the pump will not lead you through the steps)

- Resetting the reservoir volume (if the reservoir volume has counted down)
- Priming the fluid path (if the lock level is LL0 or LL1)
- Starting the pump

When “Reset Reservoir Volume to...?” appears,

- Press Y to reset Reservoir Volume to the value shown,

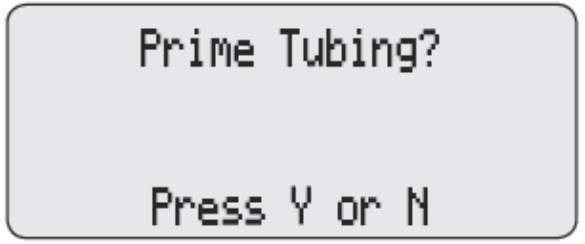
  or

- Press N to retain the current value.

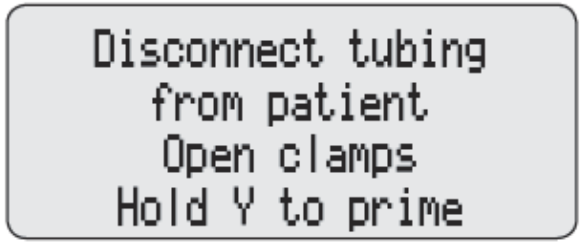
To prime the tubing and connect to the patient

1. When "Prime Tubing?" appears, press Y.

   Or press options to display "Prime Tubing?"

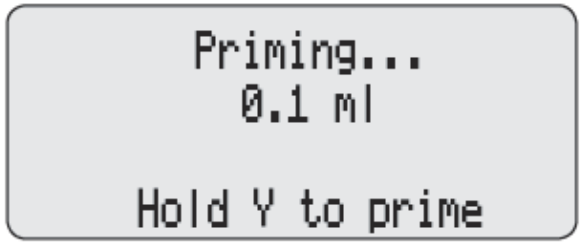


2. Make sure the tubing is disconnected from the patient and the tubing clamp is open.



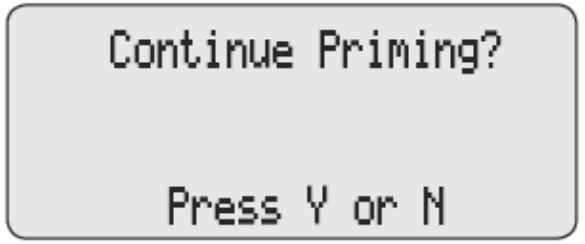
3. Press and hold the Y key until the tubing is fully primed or until priming stops.

   ***NOTE**: Fluid delivered during priming is subtracted from the reservoir volume, but is not added to the Given screen since this fluid is not delivered to the patient.*



4. If the tubing is not yet fully primed, press Y and repeat step 3.

   When the tubing is fully primed, press N to exit priming.



STARTING THE PUMP

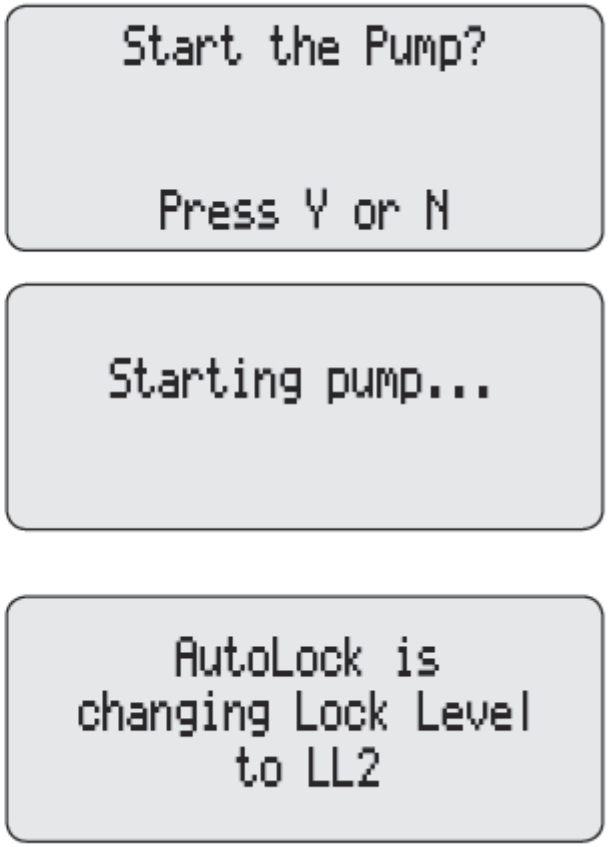
To start the pump

1. Press STOP START "Start the Pump?" will appear.

2. Press Y. "Starting Pump" will appear.

   The pump will review the program, lock level, AutoLock setting, Air Detector status, time, and date.

   If AutoLock is in use, "AutoLock is changing lock level to (LL1 or LL2)" will appear.



STOPPING THE PUMP

1. Press STOP START.

   If a demand dose or clinician bolus is in progress, “Stop Demand Dose?” or “Stop Clinician Bolus?” will appear. Press Y to stop the dose.

2. When “Stop the Pump?” appears, press Y.

Stop Demand Dose?

Press Y or N

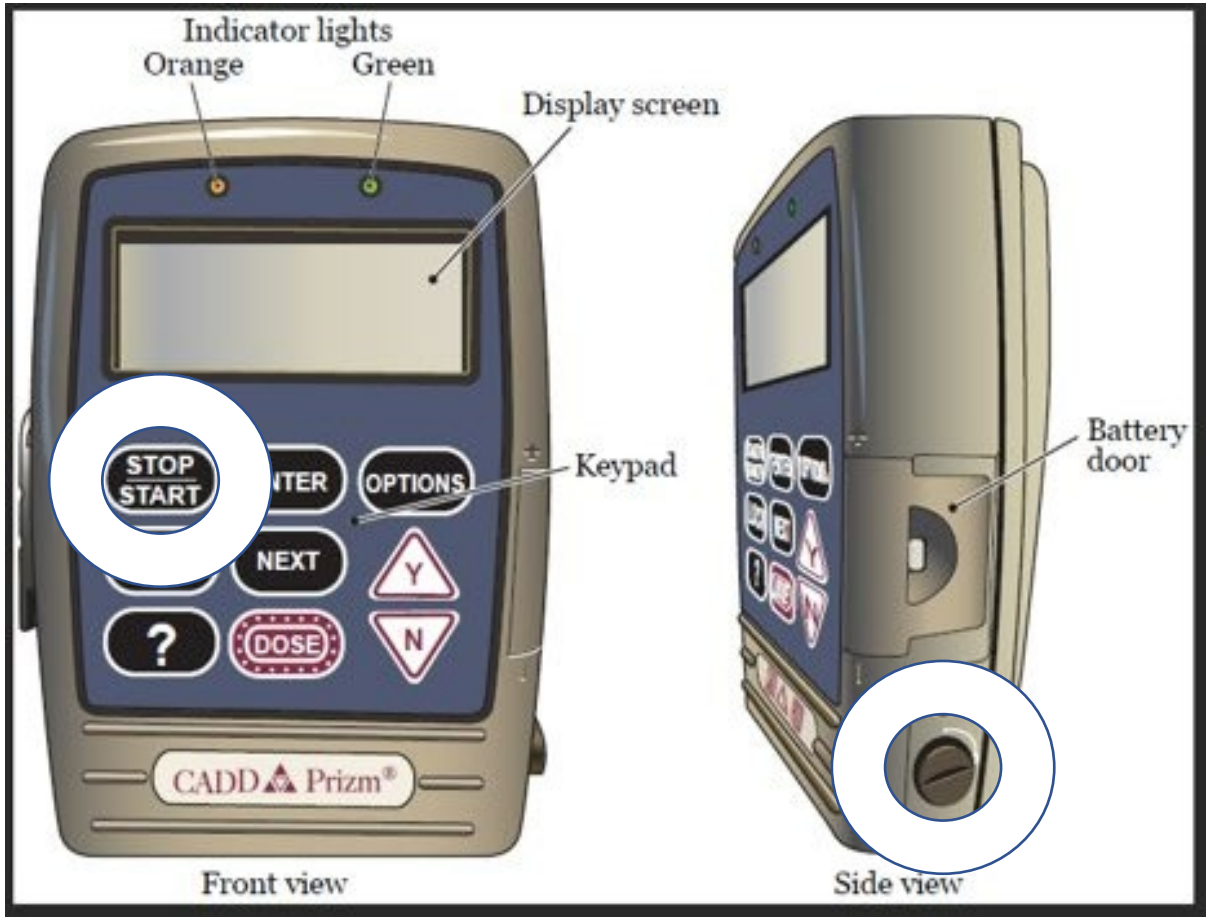
Stop the Pump?

Press Y or N

CADD Prizm Pump

- To Remove Cassette:

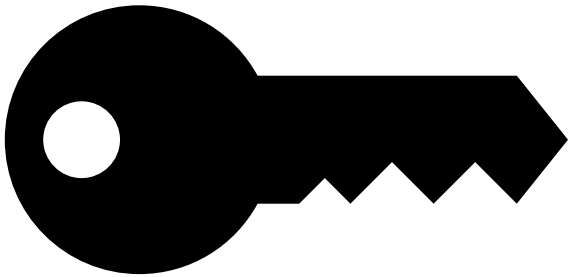
1. Press **Stop/Start** to stop the pump.
2. Close all tubing clamps.
3. Use coin to unlatch used cassette.
4. Disconnect tubing from patient.
5. Remove and discard used cassette in appropriate container.



Prizm Pump Troubleshooting

Alarm	Corrective Action
Air In Line Detected / Pump Will Not Run	Make sure the tubing is threaded properly. If the fluid path contains air bubbles, close the clamps and disconnect the tubing from the patient. Then follow the instructions for removing air using the Prime Option
Cassette Not Attached/ Pump Will Not Run	The pump will not start without a cassette attached. Make sure a cassette is attached properly. Then start the pump.
High Pressure	The pump has detected high pressure, which may be resulting from a downstream blockage, kink in the fluid path, or a closed tubing clamp. Remove the obstruction to resume operation.
Upstream Occlusion	Fluid is not flowing from the reservoir to the pump. Check for a kink, a closed clamp or an air bubble in the tubing between Reservoir and pump.
Wrong Cassette	The pump detects the cassette is damaged, attached improperly, or incompatible with the pump. Close the tubing clamp. Make sure the cassette is attached properly. Then open the clamp and restart the pump. If the alarm persists, you may need to replace the cassette.

PRIZM PUMP KEY POINTS



- Contact the pharmacy for troubleshooting or assistance with reprogramming the pump
- Always power the pump up before attaching cassette, as indicated by “Power Up Successful” on display screen followed by a series of beeps.
- External Power Source (EPS) System Power Pack. Pump must also contain a 9-volt battery, otherwise, pump will not start
- Power pack requires monthly refresh cycle by the patient
- Power pack should be charged 7 hours each day

Curlin Pump

- Can be programed with variable rates
- Nicknamed the “Yes Pump”
- **YES/ENTER**: Used to respond “YES” to data or questions presented or to accept highlighted data when prompted to press ENTER key.
- Powered by 2 C batteries

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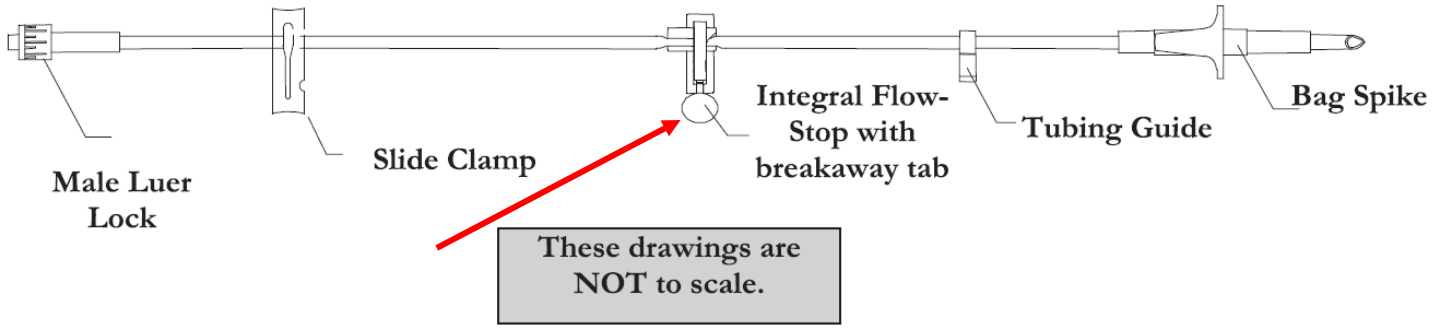
Disposable Administration Set Illustrations and Features

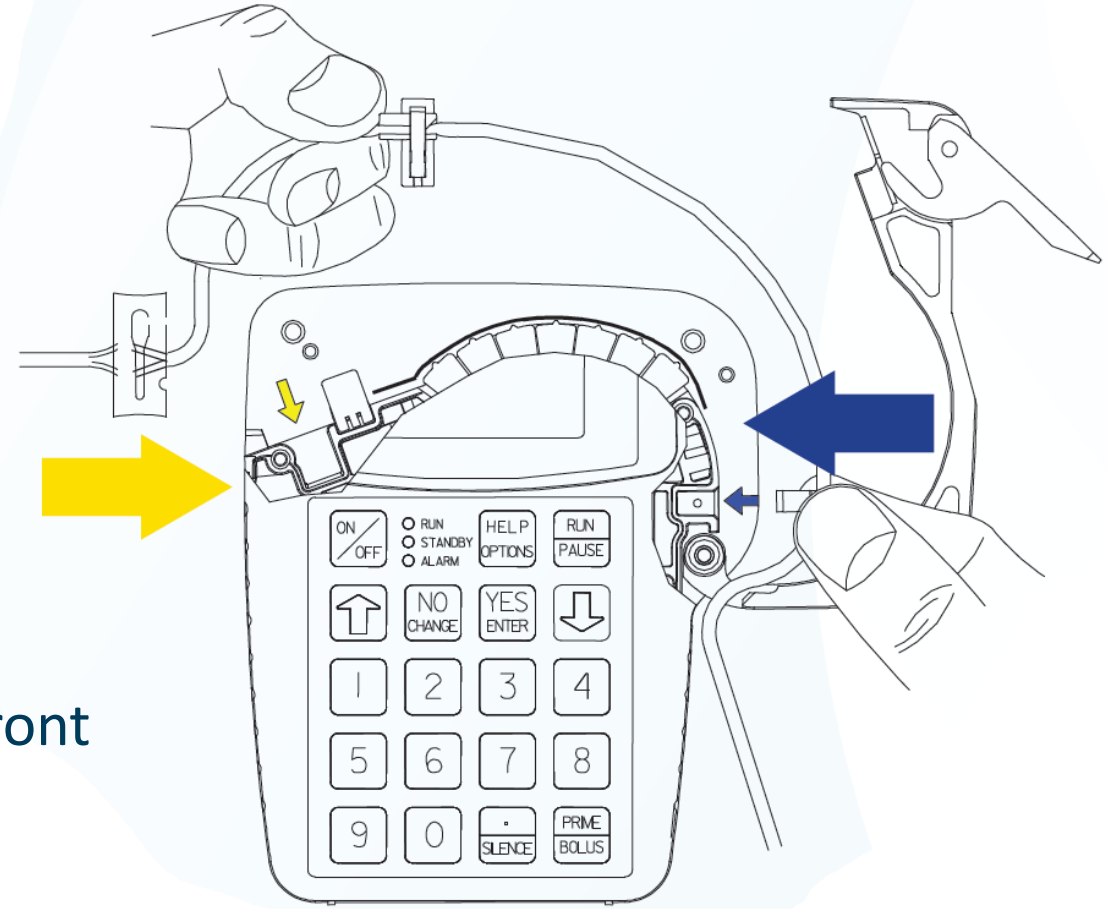


Note: An important feature of the Curlin Medical administration set is the unique design of the set-based Integral Flow-Stop. When the set is new, the Integral Flow-Stop has a breakaway tab that keeps the Integral Flow-Stop open and allows the tubing to be gravity primed. When you are ready to load the administration set into the pump, remove this tab, and the Integral Flow-Stop will automatically clamp the tubing. The Curlin Medical Integral Flow-Stop prevents inadvertent flow of medication to the patient whenever the door of the pump is opened because the Integral Flow-Stop automatically reacts to clamp the tubing. The Integral Flow-Stop can, however, be opened after the tab is broken away by intentionally squeezing down on the movable spring action section of the Integral Flow-Stop. See Figure 1.6 for an illustration of how to intentionally open the Integral Flow-Stop. Note: Administration sets with anti-siphon valve (ASV) protection can also be used for additional free-flow protection.

CURLIN-6000-USER MANUAL. Moog Medical. Salt Lake City, Utah. Retrieved from www.moogmedical.com

INSTALLING THE ADMINISTRATION SET

1. Open pump door.
2. Remove the old tubing.
3. Remove the new administration set from the package.
4. Twist and remove breakaway tab from YELLOW Flow-Stop.
5. Locate the BLUE and YELLOW arrows inside the pump as a reference point.
6. Insert the tubing using the reference points.
7. Ensure the tubing passes through the notch in front of the door hinge.
8. Center tubing over pumping fingers.
9. Close the door securely. Be sure top of door is flush with top of the pump.



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DELIVERY MODES

- CONTINUOUS THERAPY
- INTERMITTENT THERAPY
- STEP
- PCA THERAPY
- TPN THERAPY

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Curlin Pump

Press **RUN/PAUSE** to stop the pump.

Open the **Pump Door**.

Remove the tubing from the pump.

Press the **ON/OFF** button to power down the pump.

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Pump settings and Parameter change label

Pump will arrive pre-programmed according to physician's orders and safe infusion practices.

Settings need to be checked against Plan of Treatment and Product label BEFORE starting infusion

PARAMETER CHANGE LABEL:

To alert the patient that the pump parameters need to be changed before newly delivered medication can be given on the pump in the home.

Will be on a new Plan of Treatment and medication label sent to the patient.

Either a new pump will be delivered with the updated settings, or the pump in the home will need re-programmed.

Always confirm pump settings against orders prior to starting the pump

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National Director, Nursing
Cell: 412-295-7849

Thank you for participating!

Please reach out with questions or for information on additional training opportunities.