

Complete your treatment



Disclaimer

NxStage has prepared this document as a supplement to existing labeling and training materials. It is not intended to replace the NxStage VersiHD, NxStage System One or PureFlow SL user guides or the cartridge instructions for use.

Patients, care partners, and providers must review and refer to the applicable user guides and cartridge instructions for use for all instructions, warnings, and precautions.

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Chapter 1: How do I determine my treatment dose?

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Your pre-treatment assessment

Always perform an accurate pre-dialysis assessment. This includes taking your vital signs, weighing yourself, and determining your ultrafiltration rate and volume. Use these guidelines determined by your dialysis center when performing your pre-treatment assessment. If any of your measurements are out of the ranges below, call your dialysis center for instructions.

Determining your ultrafiltration rate and volume

To determine your ultrafiltration volume

- Subtract your current dry weight from your pre treatment weight.
- This is the total weight to be removed during the treatment.
- If this ultrafiltration volume exceeds your maximum ultrafiltration volume, call your dialysis center for instructions.

To determine your ultrafiltration rate

Ultrafiltration rate is how much of the fluid volume is removed per hour.

- The ultrafiltration rate should not exceed 8 mL/Kg/hr to avoid removing fluid too quickly.
- If this ultrafiltration rate exceeds your maximum ultrafiltration rate, call your dialysis center for instructions.

Example calculation

If this ultrafiltration rate exceeds your maximum ultrafiltration rate, call your dialysis center for instructions.

Pre-weight:	75 Kg	Ultrafiltration rate =
Dry weight:	73 Kg	73 Kg x 0.8 L/Kg/hr
Ultrafiltration volume: 2.0 L		.58 L/hour

Your ultrafiltration volume and rate parameters

If your volume or rate exceeds the limits below, call your dialysis center prior to treatment for instructions.

Maximum Ultrafiltration (UF) volume should not exceed **Liters.**

Maximum (UF) rate should not exceed **L/hour.**

Obtaining an accurate weight

To get an accurate weight, always do the following:

- Weigh yourself just before treatment.
- Use a calibrated digital scale (medical-grade preferred).
- Place the scale on a firm, flat surface (on a bare floor, not on a carpet).
- Weigh yourself wearing clothing of similar weight each day.
- Measure your weight three individual times.
 - Disregard any weight out of this range, then average the remaining weights.
 - Weights should be within 0.1 Kg of each other.



Your dry weight parameters

If any of the following are true, do not start treatment.

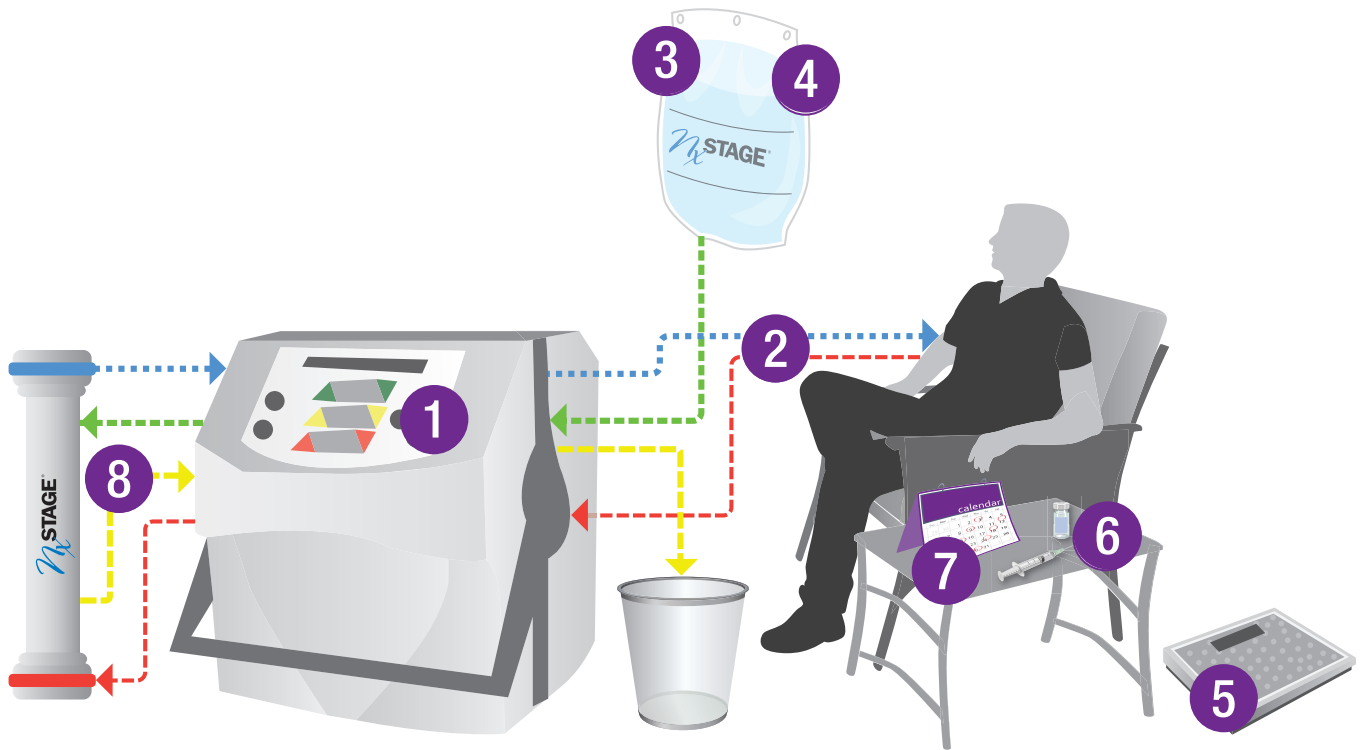
- You gain more than _____ Kg between treatments.
- Your weight is _____ Kg below your dry weight.

Note: You may adjust your dry weight by _____ Kg per week, but you must call your dialysis center to report your new dry weight target.

Your vital sign ranges

- Your blood pressure is below _____/_____ or above _____/_____.
- Your pulse rate is below _____beats per minute or higher than _____beats per minute.
- Your temperature is higher than _____degrees Celsius or _____degrees Fahrenheit.





Your treatment prescription

Prescription Component	Description	Your Prescription
1a Maximum dialysate rate (DFR) in L/hr and maximum ultrafiltration rate (UFR) in L/hr OR 1b Maximum flow fraction (FF) % and maximum ultrafiltration rate (UFR) in L/hr	Your ultrafiltration rate and dialysate flow rate control the speed and efficiency of your dialysis therapy. Set either a maximum dialysate flow rate (DFR) OR a maximum flow fraction (FF). You do not need to set both.	1a - DFR L/ hr and UFR L/ hr OR 1b - FF % and UFR L/ hr
2 Blood flow rate (BFR)	Rate at which blood goes through the blood tubing. Your BFR is prescribed by your physician, and is based on your vascular access type. It is best not to exceed 450 mL/min blood flow rate	mL/min

3	Dialysate volume	The amount of dialysate needed to adequately clean your blood.	Liters
4	Dialysate composition	Dialysate cleans the blood during dialysis. It is a mixture of important electrolytes in water with a specified purity level.	Potassium: mEq/L Lactate: mEq/L
5	Dry weight	This is the weight at which your blood pressure is normal and no swelling exists because all excess fluid has been removed.	Kg
6	Heparin dose and/or other medications	A medication that may be prescribed by your doctor that reduces the risk of blood clotting.	units or mL
7	Frequency	More frequent dialysis has been reported to provide significant health benefits for a number of patients.	 treatments per week
8	Fluid removal UF	A process that removes excess fluid from the blood. This fluid is not replaced. • UF removes excess patient weight. • Fluid removal is calculated by subtracting your dry weight from weight just prior to your dialysis treatment. • This may change daily based on your weight. • UF volume and UF rate will both be determined for each treatment to remove the extra fluid gained.	Liters

Your medications

As a home hemodialysis patient, you are responsible for giving yourself medications that you currently receive as part of your in-center treatment.

- Record these medications below, along with any other medications you take.
- Your nurse will review these medications with you.

Medication	Purpose	Dose	Frequency (Include time of day)

Chapter 2: How do I enter the treatment information?

Chapter Overview

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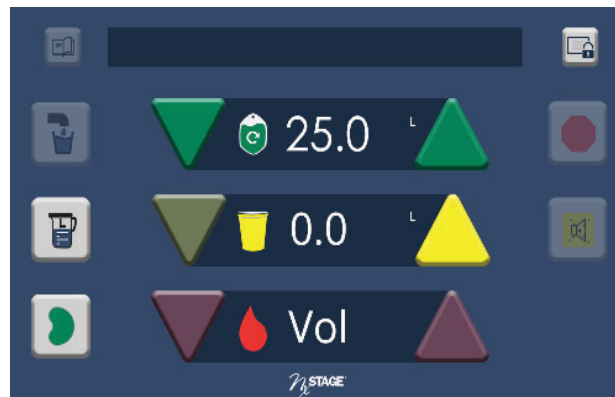
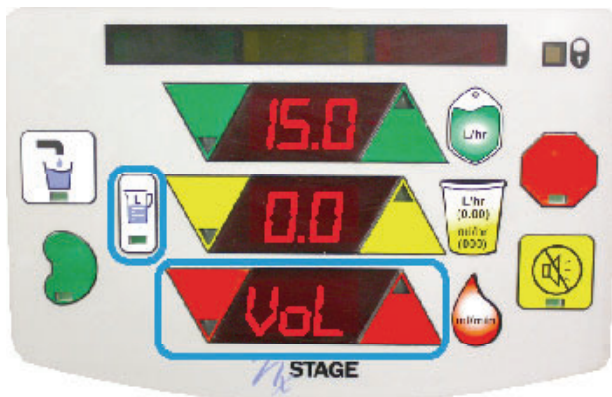
Your system settings 14

Entering your treatment settings

There are several versions of cyclers from NxStage. Your cycler control panel may look different than shown here, but all NxStage cyclers function the same. You will either press a button or tap a key when entering treatment information.

Pressing the **VOLUME TOGGLE** switches the cycler to the Volume screen.

You know you are in the Volume screen because the message VOL appears in the bottom (red) status window.



▶ Entering the volume settings

To enter volume settings, do the following:

1. Press the **VOLUME TOGGLE**  to switch the cycler display to the Volume screen.
 - For cycler software version 4.9 or lower, you must begin entering the information within ten seconds or the cycler returns to the Rate screen.
2. Check that the dialysate volume matches the prescription.
3. Press the green (top window) **ADJUSTMENT ARROW UP**  or **DOWN**  to make adjustments as needed.

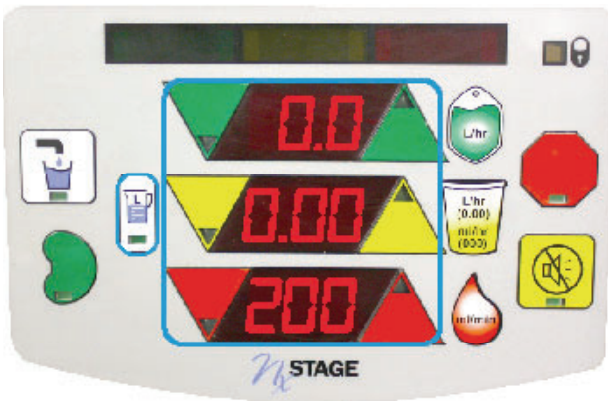
Do one of the following to get the desired dialysate rate:

- a. Increase the blood flow to the desired rate and then press the green up arrow until you see a yellow **3** in the caution bar.
 - b. Verify the dialysate rate that has been determined and set for you.
4. Enter ultrafiltration (UF) volume for the treatment by pressing the yellow (middle window) **ADJUSTMENT ARROW UP** .

Note: Do not remove more weight during the treatment than your dialysis center for you. Remember that 1 Kg = 1 Liter

5. Press the **VOLUME TOGGLE**  to switch back to the Rate screen.

Rate screen - This is the home screen. It is the screen that appears when you turn on the cyclor.



▶ Entering the rate settings

To enter rate settings, do the following:

1. Check the blood flow rate.
2. Use the red arrows to make adjustments as needed.
 - This rate is pre-set to start at 200 mL/min.
 - After treatment has started, increase the blood flow rate to the prescribed rate.
3. Enter the ultrafiltration (UF) rate you determined by pressing the yellow **ADJUSTMENT ARROW** ▲ up .

Note: It is recommended to set the fluid removal rate limit to 8 mL/kg/hr or lower.

4. Make sure that the UF fluid is not taken off too quickly.
5. Adjust the dialysate rate as needed by pressing the up or down green arrow.

After you enter the required parameters and reach your prescribed blood flow rate, the green status window in the upper left corner shows the flow fraction and the total treatment time.

If you see a treatment time that doesn't match the prescription or a treatment time of **99:59**, you have not entered all the required data or you have entered something incorrectly.

Note: Make sure that the ultrafiltration volume does not exceed the acceptable limit and that the ultrafiltration is not taken off too quickly. In general, the recommended rate should not exceed 8 mL/kg/hr, or as prescribed.

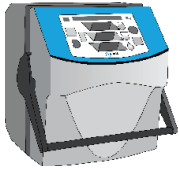
Your system settings

Cycler system settings are the operating parameters for the cycler. Always follow your prescription and dialysis center's instructions when changing system settings. The suggested system settings are listed in "System Settings Guide" on page 49.

Once the system setting values are changed, they are saved. The cycler uses these settings as the starting values each time the cycler is powered on.

System Setting #	Your Prescription	Setting Description
0		Cartridge type
1		Maximum flow fraction
2		Initial fluid (dialysate) pump rate (DFR)
4		Initial blood pump rate
5		Prescribed dialysate volume
6		Initial weight to remove
12		Blood dialyzer volume
13		Rinseback factor
42		Target volume met
47		Arterial (Access) pressure decreasing limit
80 §		Maximum ultrafiltration rate
81 §		Maximum dialysate rate

§ Applies to software versions 4.11 and higher



Chapter 3: How do I use the cycler?

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Preparing for treatment

▶ Installing your equipment

1. Install your equipment according to the instructions in the user guides.
2. Check the cyclor system settings. Adjusting cyclor system settings is covered in “Changing system settings” on page 48.
3. Make sure the settings displayed match the following:
 - The default System Setting values in your cyclor’s user guide, and on “System Settings Guide” on page 49.
 - Your specific cyclor system settings as listed on “Your system settings” on page 14.
4. Installation of the PureFlow SL is covered in “Chapter 4: How do I manage PureFlow SL?” on page 51.

Additional supplies may be required for some therapies

For nocturnal patients:

- A cartridge/cyclor leak detection device, such as the NxStage® Fluid Detection System
- A vascular access leak detection device
- CAR-172
- Infusion pump for anticoagulant

For solo patients:

- A cartridge/cyclor leak detection device, such as the NxStage® Fluid Detection System
- A vascular access leak detection device
- CAR-172

▶ Completing your pretreatment assessment

Complete and document the pretreatment assessment (including weight) on your dialysis center’s patient treatment record, flowsheet or Nx2me® app (if used).

- If using the Nx2me app, make sure your iPad is clean and is connected to your cyclor.
- For more information on taking an accurate pre-treatment assessment, see “Chapter 1: How do I determine my treatment dose?” on page 5.

Setting up

1. Wash your hands.
2. Gather the supplies and inspect for damage.
3. Make sure that the dialysate matches your prescription.
4. Open the cycler door.
 - Lift up the front handle until it clicks.
 - Pull the handle toward you to open the door.
5. Turn the cycler power switch **ON**.
 - The yellow caution window flashes.
6. Remove the 1-L bag of normal saline from the package.
7. Hang the saline bag on the IV pole.



Open the cycler door

Loading the cartridge

1. Remove the cartridge from its package carefully.
2. Tighten all of the connections and caps on the lines.
3. Remove the paper tape, line organizer, and connector tabs, if present.
4. Insert the cartridge into the cycler.
5. Press air detector tubing segments into the cycler. Remember, air is square.
6. Close the door of the cycler.
7. Push down the door handle until it clicks to lock it.



Insert the cartridge into the cycler

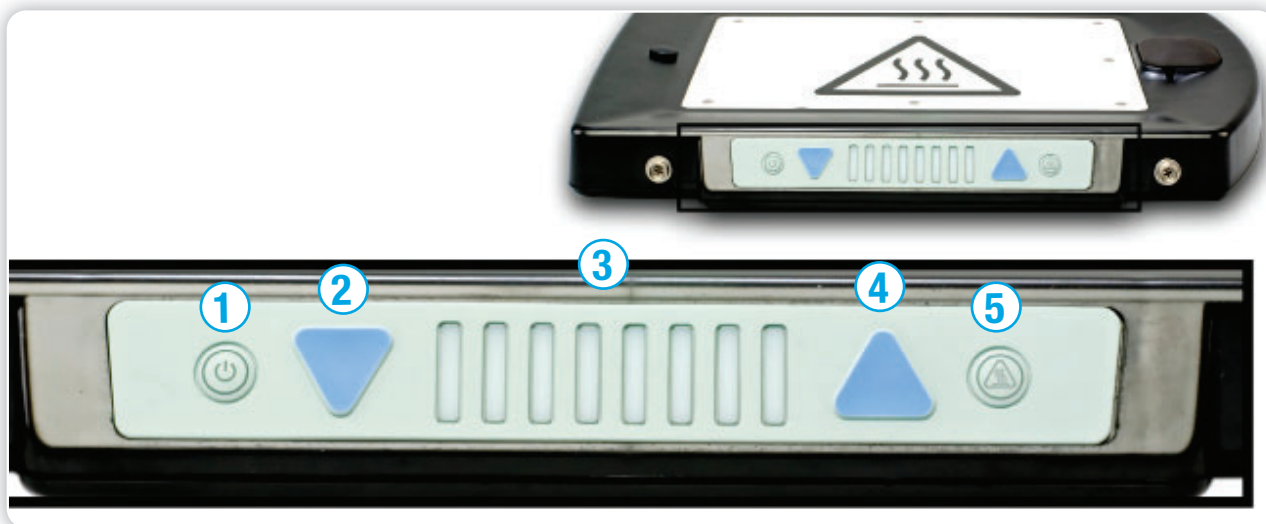
Using the Express Fluid Warmer

1. Place a 5-liter bag directly on top of the heater plate.



Note: Ensure that the bag is fully covering the dialysate bag sensor and that the bag label is faced up.

2. Align the left side of the bag with the left side of the fluid warmer.
3. Make sure to snap the cover onto the snaps on the back of the fluid warmer.
4. Bring the cover over the bag.
5. Attach the snap-on buttons to the front of the fluid warmer.
6. Plug the power interconnect cord into the cycler.
7. Check that the self-test completes successfully.
 - The status lights flash red, yellow, and then green.
8. Press the **UP**  arrow key four times, until you see four light bars of the comfort setting lights light up on the fluid warmer.



Parts of the Express Fluid Warmer

- | | | |
|---|--|---|
|  Standby indicator light |  Comfort setting light bars |  Hot surface indicator light |
|  Down arrow |  Up arrow | |

▶ Testing the fluid detection sensor

1. Moisten a clean cloth with tap water.
2. Touch the sensor's stainless steel bars.
 - If the sensor is working properly, you hear the alarm sound.
3. Dry the sensor.
4. Place the fluid detection sensor in the molded area of the cycler base with the alarm speaker facing out and the metal bars facing down.



Leak detector placed in the cycler base

For nocturnal and solo patients:

Before starting prime, test the vascular access leak detection device per the manufacturer's instructions.



Completing the prime and alarms test

▶ Priming the cartridge

Before treatment, the cartridge lines and dialyzer must be flushed with saline to eliminate all air.

1. Wash your hands.
2. Put on gloves.
3. Insert the cartridge priming spike into a 1L bag of saline, using a twisting motion.
 - The tip of the priming spike should be visible in the saline bag.
4. Attach the access pressure pod.
 - a. Hold the pressure pod monitoring line behind the locking collar.
 - b. Insert the tip of the line into the connector on the right side of the cycler.
 - c. Twist the tip a quarter ($\frac{1}{4}$) turn to the left to seal the connection.
 - d. Tighten the locking collar.
5. Press **ADD FLUID**  on the cycler.



Priming spike in the saline bag



Attach the access pressure pod.

IMPORTANT: Do not make cartridge or patient connections until ALL of the following occurs::

- ✓ Prime and alarms tests are complete.
- ✓ The air has been removed from the cartridge and dialyzer (snap and tap).
- ✓ The Rate screen displays on the cycler.

If using the Express Fluid Warmer:

1. Secure the waste line extension with the yellow clamp to the IV pole.
2. Put the end of the waste line extension in the drain.

Preparing the dialysate source

If using the PureFlow SL:

Note: Always check chloramines before using a new batch.

1. Press **GO**  on the PureFlow SL.
 - The control panel shows the message “Config to Use Batch.”
2. Press **GO**  again.
 - The control panel shows the message “Batch in Use.”
3. Close the green clamp below the 1.2 micron filter on the SAK dialysate outlet line.
 - Do NOT close the green non-reopening clamp on the dialysate outlet line.

For complete details of connecting the PureFlow SL to the cartridge, see “Connecting to the Cartridge” on page 65.

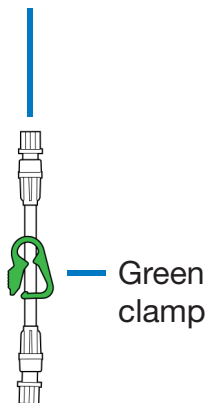
If using the Express Fluid Warmer:

1. Hang the dialysate bags on the IV pole.

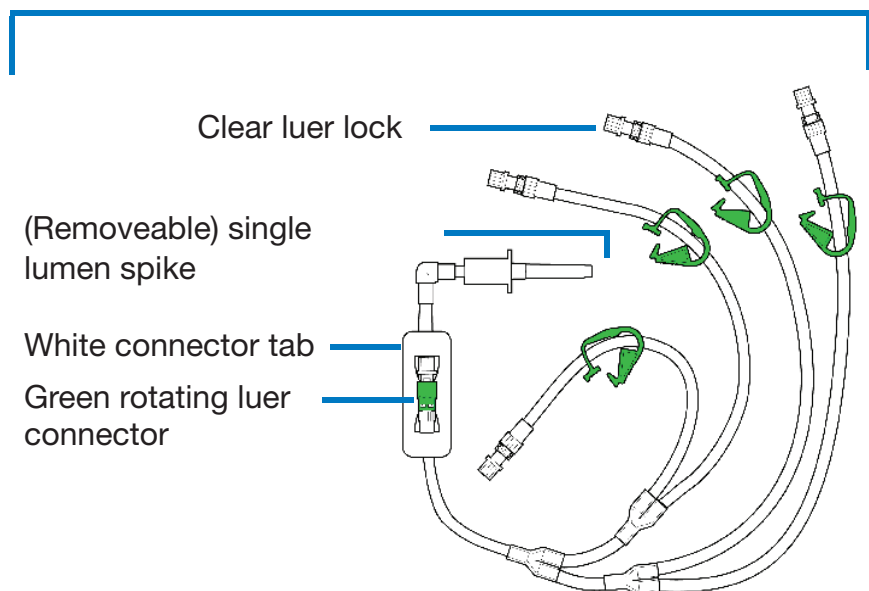
Note: The Express Fluid Warmer IV pole safely holds 21 L of fluid, using 2 hooks per dialysate bag.

2. Make sure that all caps on the Multi-Line Adapter (MLA) are finger-tight and all green clamps are open.

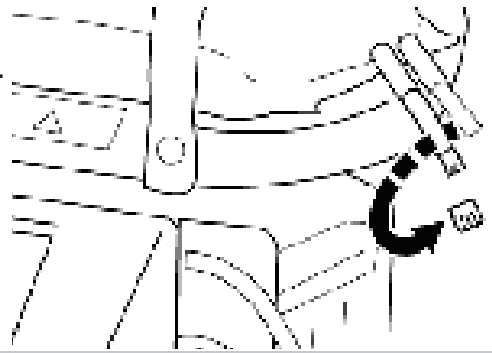
Short dialysate outlet line



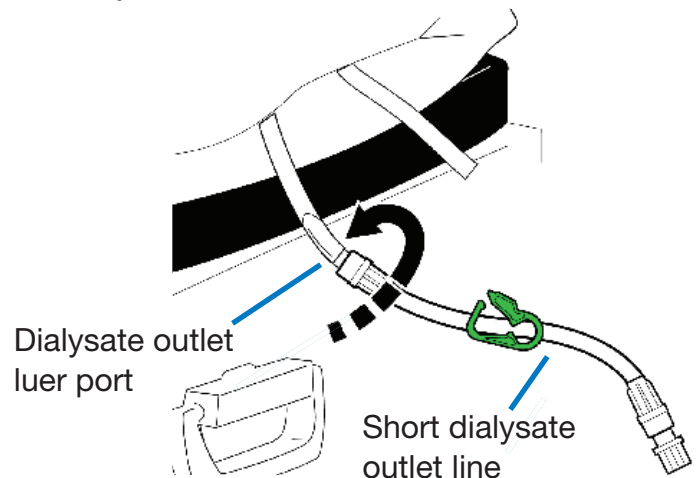
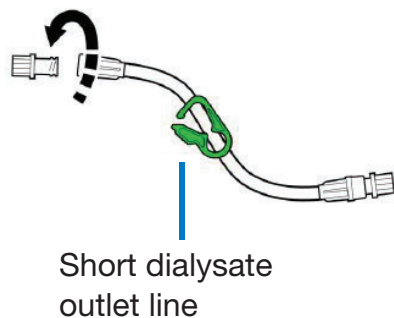
Multi-Line Adapter (MLA)



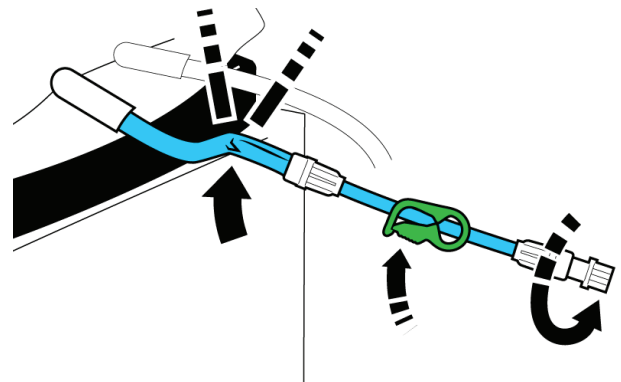
3. On the fluid warmer dialysate bag, remove the cap from the dialysate outlet port closest to the cartridge.



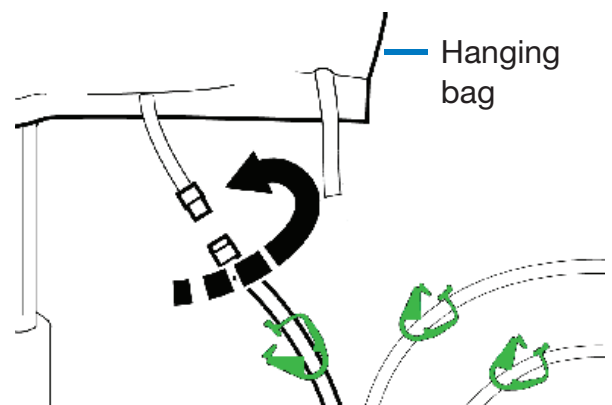
4. Remove the cap from one end of the short dialysate outlet line and connect it to the fluid warmer dialysate bag.



5. Break the frangible in the dialysate bag's outlet port.
 - a. Prime the short dialysate outlet line and finger-tighten the cap.
 - b. Close the green clamp on the short dialysate outlet line.



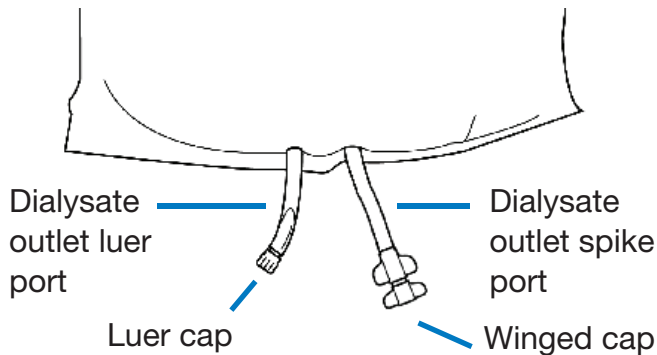
6. For each of the hanging dialysate bags:
 - a. Remove the cap from the port.
 - b. Connect one line from the MLA with a clear luer connection to the bag.
 - c. Finger-tighten the connections.



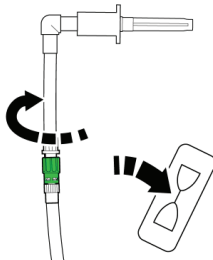
If using the Express Fluid Warmer:

- Identify which type of dialysate bags are used. The MLA has a removeable spike to accommodate either bag configuration.

Option A: Spike and luer port

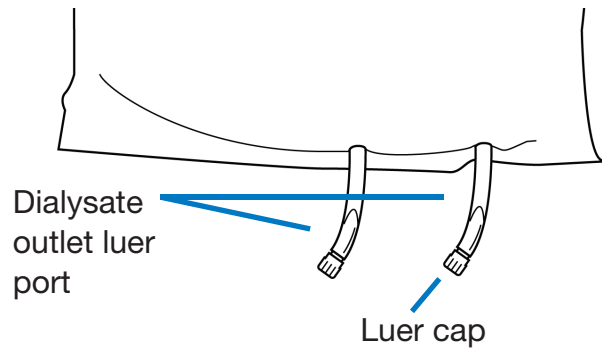


- On the fluid warmer dialysate bag, twist off the winged cap from the dialysate outlet spike port.
- If your MLA has a white connector tab, remove it, then tighten the spike and green luer connection on the MLA by twisting clockwise.

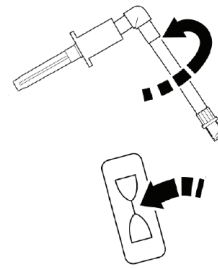


- Remove the cap from the MLA spike and insert the spike into the bag on the fluid warmer.
- Make sure there are no kinks in the lines.
- Break the frangibles on the hanging bags.

Option B: Two luer ports



- On the fluid warmer dialysate bag, remove the luer cap from the remaining port.
- Remove the white connector tab, then remove the spike assembly from the MLA line by twisting counterclockwise and discard.



- Connect the green rotating luer connector of the MLA line to the port of the dialysate bag that is resting on the fluid warmer.
- Make sure there are no kinks in the lines.
- Break the frangibles on the fluid warmer bag and hanging bags.

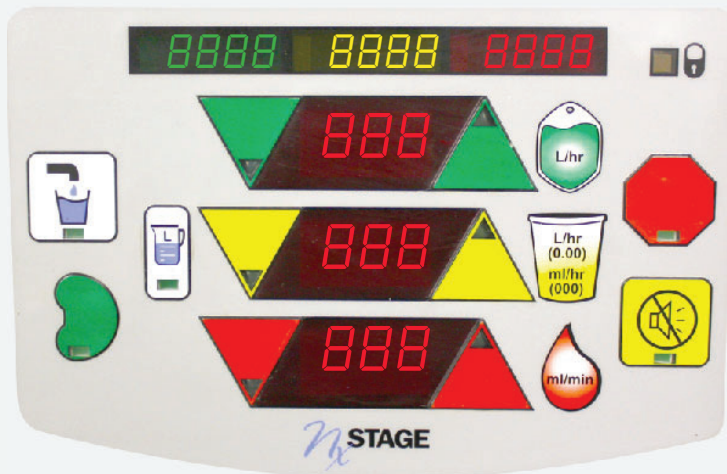
- Prime and close the clamps on any unused MLA lines.
- For complete details of connecting the dialysate bag to the cartridge, see “Making the cartridge connections” on page 28.

Refer to the Express Fluid Warmer User Guide for additional information.

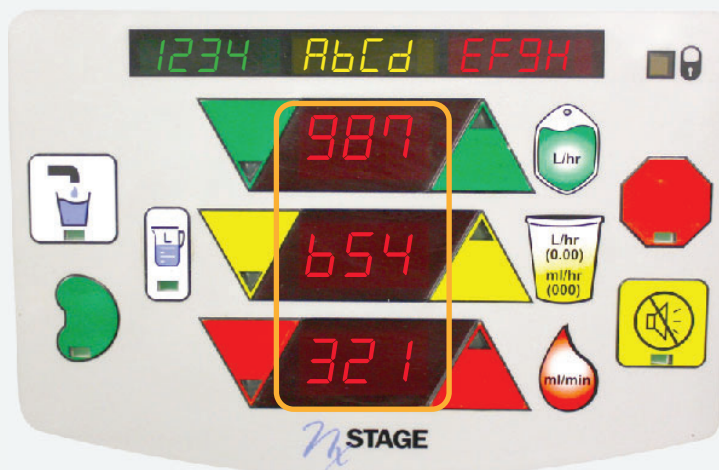
Verifying the alarms test

When priming is complete, do the following:

- Look at the control panel and verify the following:
 - The number **8** appears in the status bar windows.
 - The number **8** appears in all three rate/volume windows.
 - An alarm sounds.
- Press **MUTE** .



- Check that the display test appears on the screen and that you hear an alarm.
 - The following numbers and letters appear:
 - In the status bar windows:
 - 1234, AbCd, EFgH.**
 - In the three rate/volume windows:
 - 987, 654, 321.**

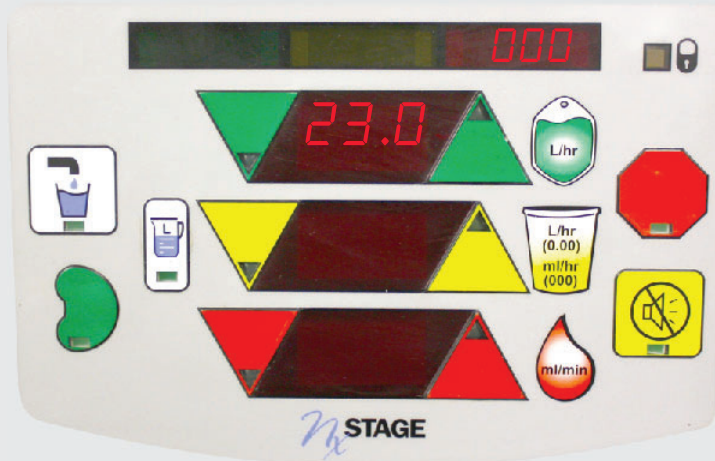


Note: If you don't see the numbers displayed as shown, call Technical Support.

4. Press **MUTE** .

Verify that 23.0 is displayed in the top dialysate window, indicating that the system is recirculating.

- Do not press the stop button and do not close any clamps or disconnect any lines while the pumps are running.
- During recirculation, the blood and the fluid pumps are running, moving the fluid through the cartridge and saline bag.



IMPORTANT: Do not make cartridge or patient connections until ALL of the following occurs:

- ✓ Prime and alarms tests are complete.
- ✓ The air has been removed from the cartridge and dialyzer (snap and tap).
- ✓ The Rate screen displays on the cycler.

▶ Removing the air from the cartridge

Observe the blood circuit for air. If you see any air, remove the air starting with the arterial blood line (red clamp) and ending with the venous blood line (blue clamp).

1. Starting at the red clamp on the priming spike, snap and tap the arterial blood line (red clamp).
2. Remove the dialyzer from the cartridge tray.
3. Flip the dialyzer over so that the blue side faces up.
4. Tap the dialyzer against your palm or a soft surface.
5. Put the dialyzer in the filter holder so that the post-dialyzer port faces up.
 - Make sure there are no kinks in the blood line when placing the dialyzer in the filter holder.
6. Prime the post-dialyzer port.
 - Loosen the cap, allow the air to escape then tighten the cap and close the clamp.
7. Close the blue clamp on the post-dialyzer port securely.
8. Move to the venous blood line (blue clamp) where it exits from the dialyzer and goes into the cyclor.
9. Snap and tap the venous blood line from where it exits the top of the cyclor door and move towards the priming spike.
 - Follow the venous blood line from where it leaves the dialyzer to the blue clamp on the priming spike.



Note: Remove accumulated air as instructed prior to making patient connections to minimize the chance of cyclor air alarms after making patient connections.

10. Carefully recheck the patient lines for any remaining air. If air is present or if recirculation is allowed to continue, repeat steps 1-9.
11. Press **STOP** . Confirm that the patient's default treatment rates are displayed.
12. Prime the saline "T" (short line with a white clamp) on the arterial blood line.
 - Loosen the cap on the saline "T" to allow the air to escape then tighten the cap .
13. Close the white clamp on the saline "T" securely.

If using CAR-172, including nocturnal and solo patients:

Prime the heparin line with the white clamp. Use aseptic technique.

1. Loosen the cap on the heparin line until saline flows out.
2. Tighten the cap on the heparin line.
3. Close the white clamp on the heparin line securely
4. If the heparin infusion line is not being used, check that the clamp on the heparin line is closed and that the cap is closed tightly.

Making the cartridge connections

After the Prime and Alarms test and the display tests, make non-patient connections to the cartridge.

IMPORTANT: DO NOT connect the patient lines at this time.

Making all non-patient fluid line connections

Remember to use aseptic technique when making cartridge connections. Remove gloves and put on a new clean pair.

1. Locate the saline line at the priming spike and follow the line to the white and green clamps.

Note: The saline line is connected to the dialysate fluid inlet line.

2. Clamp the saline line (white clamp) and the cartridge dialysate inlet line (green clamp).
3. Disconnect the saline line from the cartridge dialysate inlet line.
4. Keeping the lines sterile, connect the saline line (white clamp) to the saline “T” on the arterial blood line.

Note: Do not open the white clamps.

5. Prime the dialysate outlet line:
 - **If using PureFlow SL:** Use one of the SAK dialysate outlets;
 - **If using bagged fluid:** Use the outlet line attached to the dialysate bag on the warmer.
6. Connect the dialysate inlet line (green clamp) to the dialysate source, which is either the PureFlow SL or the Express Fluid Warmer bags.
7. Open both green clamps.

For nocturnal HD patients:

1. Set up and operate the infusion pump per the manufacturer’s and your center’s instructions.
 - Your anticoagulant prescription: _____ (Units or mL/hr) for _____ (min/hrs).
 - Center instructions: _____
2. Remember to prime the device tubing and the blue one-way check valve (if used).
3. Using aseptic technique, connect primed infusion pump tubing to primed cartridge heparin line or one-way valve (if used) and close the cartridge heparin line clamp.

Making the waste line connections

If using the PureFlow™ SL:

1. Locate the waste line (yellow clamp) at the priming spike.
2. Close the yellow clamps on the waste line.
3. Disconnect the waste line from the priming spike.
4. Connect the waste line to the waste line adapter on the PureFlow SL control unit.
5. Open the yellow clamps on the waste line and the waste line adapter.

If using the Express Fluid Warmer:

1. Locate the waste line (yellow clamp) at the priming spike.
2. Close the yellow clamps on the waste line and the priming spike.
3. Disconnect the waste line from the priming spike.
4. Connect the waste line (yellow clamp) to the waste line extension (yellow clamp).
5. Place the end of the waste line extension into an appropriate plumbing drain, such as a tub or sink.
6. Open the yellow clamps on both lines.

Performing the treatment

▶ Entering the treatment settings

**“Enter settings to do, then move
red and blue.”**

Before treatment, enter your treatment settings on the cyclor, using the Rate and Volume screens.

Volume screen:	Confirm dialysate volume Set ultrafiltration volume
Rate screen:	Confirm or set dialysate rate Set ultrafiltration rate Confirm blood flow rate

For more information on entering treatment settings, see “Entering your treatment settings” on page 12.

Maximum ultrafiltration:

Volume: _____ and Rate: _____

Treatment information:

- **Volumes:** Dialysate: _____ Ultrafiltration: _____
- **Rates:** Blood Flow: _____ Ultrafiltration: _____ Dialysate: _____

Initially keep the blood flow rate at 200 mL/min.

Additional supplies may be required for some therapies

For nocturnal patients:

1. Put on new gloves, establish vascular access, take blood samples, and give heparin bolus dose as prescribed: _____
Units or _____ mL.
2. Secure the vascular access leak device sensor over the access site (per the manufacturer's and your center's instructions).

For solo patients:

1. Secure the vascular access leak device sensor over the access site (per the manufacturer's and your center's instructions).

REMEMBER the following:

- That the starting blood flow rate displayed will be lower than your treatment rate.
 - The starting blood flow rate is typically 200 mL/min, which is then increased to the prescribed treatment rate.
- Ensure that the dialysate volume displayed matches the prescription.
 - If using bagged dialysate, the maximum dialysate rate is 12 L/hr.
- Always determine the ultrafiltration volume target correctly by subtracting an accurate dry weight from an accurate pre-dialysis weight.
 - An accurate dry weight is a weight without extra fluid in your tissues (face, hands, abdomen, legs, ankles), is provided by your center after a recent physical assessment, and is within your dry weight adjustment settings and allowable weight adjustment settings.
 - To avoid the risk of hypotension and cardiac stunning during treatment, the ultrafiltration rate should not exceed 8 mL/kg/hr.
- If you drink any fluid, or deliver a manual fluid bolus to check the dialyzer for clotting during treatment, then you must add the fluid intake volume to your ultrafiltration volume.
- Pressing **TREATMENT**  on the cyclor starts dialysate delivery on the PureFlow SL.

▶ Making the patient connections

After priming the cartridge and entering your treatment settings, it is time to connect the patient lines using universal precautions and aseptic technique as taught by your center.

1. Follow aseptic technique to establish the vascular access.
2. Take blood samples, if ordered.
3. Give anticoagulant as prescribed.
4. Starting at the priming spike, close the red and blue clamps on the priming spike and arterial and venous blood lines.
5. Disconnect the arterial blood line (red clamp) from the priming spike.
6. Connect the arterial blood line (red clamp) to the arterial vascular access line.
7. Connect a sterile 10 mL luer-lock syringe to the red port on the priming spike.
8. Repeat these steps for the venous patient line.
9. Open the four red and blue clamps on the arterial and the venous blood lines and the vascular access lines.
10. Fill each 10 mL syringe attached to the priming spike with 10 mL of saline or use pre-filled saline syringes (if instructed by center).



The patient lines attached.

Note: Follow the center's instructions. You may be instructed to use pre-filled syringes or an alternative type of cap to attach to the priming spike.

If using CAR-172, including nocturnal and solo patients:

- If using an infusion pump, connect the primed pump tubing to the heparin infusion line, then open the clamps.
- Connect the SecureClip to the connection point of the venous blood line to the access line.

Before starting the treatment, check the following:

- The dialyzer is in the filter holder with the post-dialyzer port upright.
- None of the fluid lines are kinked.
- The blue clamp on the post-dialyzer port is closed.
- The cartridge waste line (yellow clamps) is connected to the waste line extension or to the PureFlow SL waste line adapter and all clamps are open.
- The arterial and venous blood lines (red and blue clamps) are visible, have no kinks, are connected securely to the vascular access lines, and all clamps are open.
- All connections and caps are tight.
- The white clamps on the saline line and saline “T” are closed.
- The dialysate source is connected to dialysate inlet line (green clamp) and all clamps are open.
- SecureClip, if included on your cartridge, is securely connected to the venous vascular access line and venous patient line.
- If using the Nx2me app, make sure your iPad and cycler are communicating and you have connectivity.



For nocturnal HD patients

- The vascular access leak device is placed properly to detect leaks (per manufacturer's and/or center's instructions).
- The infusion pump is primed and connected to the primed cartridge heparin line.
- The fluid detection sensor is placed within the base.

If using CAR-172, including nocturnal and solo patients:

If the heparin infusion line is not being used, be sure that the clamp on the heparin line is closed and that the cap is closed tightly.

Starting the treatment

1. Press **TREATMENT**  on the cyclor.

2. Increase the blood flow rate to the prescribed rate.

3. Monitor the arterial and venous access pressures.

If the arterial access flow is poor, the blood flow rate may be too high. This can cause small air bubbles in the arterial blood line (red clamp), resulting in an Alarm #11: Check for arterial air during TREATMENT.

Note: The cyclor shows the arterial access pressures without a negative sign.

4. Document vital signs and therapy settings in your dialysis center's patient treatment record or Nx2me app, if used.

5. Call your center for vital signs and pressures outside your expected range, bleeding, clotting, or unusual symptoms.

- Your normal arterial pressure range is between _____mmHg.
- Your normal venous pressure range is between _____mmHg.

For nocturnal HD patients:

- Start the infusion pump now.

▶ Monitoring the treatment

Once treatment has started, you see Caution #7, and then Caution #8. During treatment, Caution #2 occurs regularly.

Do the following during treatment:

1. Resolve all alarms and cautions.
 - The blood lines and dialyzer can begin clotting when the cyclor blood pump is off.
 - Repeatedly pressing **MUTE**  - **STOP**  - **TREATMENT**  on the cyclor during an alarm without addressing the cause of the alarm increases the potential for clotting.
2. Check for air in the venous header of the dialyzer.
 - a. If there is air, remove the air from the post-dialyzer port line with a 20 mL luer-lock syringe.
 - b. Flush the line with 3 mL of saline to clear the blood and then close the blue clamp.
3. Make sure that the needles and the blood lines are always taped securely and visible.
4. Verify that the arterial and venous access pressures are within the expected ranges.
 - A normal arterial pressure is between -50 and -200 mmHg.
 - A normal venous pressure is between 20 and 300 mmHg.
5. Check that both of the white clamps on the saline line and saline “T” are closed.
6. Observe the blood circuit for signs of clotting.
7. Inspect the system periodically for evidence of leaks.
8. If using the Nx2me app, make sure the app is always displayed on your iPad.

Ancillary safety devices may be required

For nocturnal patients:

1. Verify that the infusion pump is delivering anticoagulant appropriately and will stop infusing as prescribed.
2. Ensure the vascular access leak device is secure per manufacturer's instructions for use.

For solo patients:

1. Ensure the vascular access leak device is secure per manufacturer's instructions for use.

If using the Express Fluid Warmer:

1. Check that the dialysate bag on the warmer is full of dialysate.
2. Confirm that the dialysate bags have enough fluid and are draining evenly.

Ending the treatment

The treatment ends when the volume targets are met and all alarms have been cleared.

At the end of treatment, the following occurs:

- The yellow caution status window shows 000.
- The dialysate and ultrafiltration rate windows show 0.
- The blood pump continues to run.

For nocturnal and solo patients:

- If using an infusion pump, turn the infusion pump off when treatment is stopped.

▶ Performing an automated rinseback

Note: Before starting rinseback, if you are drawing any post treatment labs, follow the instructions on page 5.

1. Check the saline bag to make sure it has 300–500 mL left when volume targets (ultrafiltration volume and total dialysate delivered) are met.
2. Press **STOP**  .
The rinseback volume is displayed.
3. Wash your hands and put on clean gloves.
4. Close the red clamp on the arterial blood line.
5. Disconnect the arterial blood line (red clamp) from the arterial vascular access line.
6. Connect the arterial blood line (red clamp) to the priming spike line with the red clamp.
7. Open the red clamps on the arterial blood line and on the priming spike.
8. Press **ADD FLUID**  .
The rinseback volume number counts down to zero (0).
9. Monitor venous line for air during rinseback.
10. If instructed by your center, additional rinseback volume may be required.





Completing rinseback

The procedure is different depending on your therapy type:

For other HD patients:

1. When rinseback is complete, disconnect the SecureClip, if included on your cartridge, from the vascular access line.
2. Close the blue clamp on your venous vascular access line.
3. Close the blue clamp on the venous blood line.
4. Disconnect the venous blood line (blue clamp) from the venous vascular access line.
5. Connect the venous blood line (blue clamp) to the priming spike line with the blue clamp.
6. Remove the fistula needles and care for the access site.
 - If using a CVC, follow your center's instructions for the catheter limbs.

For nocturnal HD patients:

1. When rinseback is complete, disconnect the SecureClip from the vascular access line.
2. Close the blue clamp on your venous vascular access line.
3. Clamp and disconnect the cartridge heparin line from the infusion pump tubing.
4. Close the blue clamp on the venous blood line.
5. Disconnect the venous blood line (blue clamp) from the venous vascular access line.
6. Connect the venous blood line (blue clamp) to the priming spike line with the blue clamp.
7. Put on new gloves, remove the vascular access leak device and vascular access lines
8. Remove the fistula needles and care for the access site.
 - If using a CVC, follow your center's instructions for the catheter limbs.

Reviewing the treatment summary

1. Press the **VOLUME TOGGLE**  to see the treatment summary information.
2. Record the following information:
 - Total treatment time.
 - Total dialysate delivered.
 - Total ultrafiltration removed.
 - Total blood processed, in liters.

Note: Make sure you write down the treatment summary values before turning off the cyclor. When you turn off the cyclor, the treatment summary disappears and cannot be retrieved.

If using Nx2me, your treatment summary will automatically be captured. Remember to complete the post treatment assessment and confirm your treatment flowsheet.

3. Complete and record the post-treatment assessment (vital signs and anticoagulant given) on your flowsheet or Nx2me® app (if used).
4. Call the center for unusual symptoms.

▶ Turning the system off

1. Turn the cyclor power switch **OFF**.
2. Open the cyclor door.
3. Close all of the clamps on the cartridge and other disposables.
4. Remove and appropriately throw away disposables.

For nocturnal and solo patients:

- Turn the cyclor infusion pump and vascular access leak device power **OFF**.

If using the PureFlow SL:

1. Press **STOP**  to pause.
2. Close the dialysate outlet green clamp and the non-reopening green clamp on the 3-pronged outlet.
3. If this is your last treatment with this batch, press and hold **STOP**  to drain the batch following the instructions on the Control Panel Display.

If using the Express Fluid Warmer:

Check the warmer to see if the **STANDBY**  indicator lights are lit. If not, do the following:

1. Press the **DOWN**  arrow until all of the comfort setting lights turn off and the **STANDBY**  indicator lights are lit.
2. Make sure the hot surface light is off then close the clamps on all the lines.
3. Detach the snaps on dialysate bag cover then remove the warmer disposables.
4. Disconnect the interconnect power cord.

Disposal guidelines:

Maintaining the cyclor

Clean and disinfect all exterior surfaces of your dialysis equipment after each treatment.

Cleaning and disinfecting the cyclor after every treatment

1. Close the cyclor door.
2. Use a paper towel and mild detergent such as a dishwashing liquid to clean all exterior surfaces.

Note: Do not allow fluid to drip inside the equipment.

3. If you see blood on any surfaces, disinfect the cyclor using a bleach solution prepared according to the table below. Allow the solution to remain in contact with the surface for 10 minutes.



Wipe the cyclor after treatment

Sodium Hypochlorite Concentration	Water-To-Bleach Solution
5.0% - 5.9%	Add 16 oz water and 2 oz household bleach
6.0% - 6.9%	Add 20 oz water and 2 oz household bleach
7.0% - 7.9%	Add 24 oz water and 2 oz household bleach
8.0% - 8.9%	Add 28 oz water and 2 oz household bleach

Note: Most common household bleaches have a concentration of 5.25%-6.15% sodium hypochlorite. Refer to the product label for the actual strength of the product.

4. Throw away used cleaning supplies.

Cleaning the iPad

1. If using Nx2me app, if the iPad has blood on it or you suspect any surfaces were contaminated with germs, wipe the iPad's exterior surface with a cloth moistened with 70% Isopropyl alcohol.
2. Allow alcohol to dry and reapply a second time and allow to air dry.
3. If a cover is used, dispose of non-reusable covers or follow the manufacturer's disinfection instructions.

Cleaning the blood leak detector

Clean the detector at least once a month or more frequently if needed.

- Remove all jewelry before putting your hand inside the cyclor.
 - Camera or eyeglasses lens cloths can be used for cleaning the detector and mirror.
 - Do not touch other sensors during this procedure.
1. Unplug the cyclor.
 2. Open the door of the cyclor.
 3. Look for the mirror directly across from the blood leak detector.
 - The blood leak detector is inside the cyclor, on the left.
 4. Moisten a clean, soft, lint-free cloth with tap water.
 5. Wipe the blood leak detector and mirror to remove dust and debris.
 6. Dry the blood leak detector and mirror with a new dry lint-free cloth.
 7. Throw away used cleaning supplies.

Common procedures

▶ Delivering a manual fluid bolus

1. Make sure there is enough saline available (between 300- 500 mL) for the bolus.
2. Make sure the saline line is primed.
3. Open the white clamps on the saline line and saline “T.”
4. Give the desired fluid volume.
 - During the bolus a Yellow Caution (20, 21) may occur and should resolve after the bolus is completed.
5. Close the white clamps on the saline line and saline “T.”
6. Write down the amount of saline given and add the volume delivered to your ultrafiltration volume.
 - Any bolus volume not removed by ultrafiltration must be compared to your target weight and UF goal.

Note: This procedure can be used to check the dialyzer for clotting, if required. The dialyzer is best seen if the red clamp on the arterial blood line is closed while saline is given. Open the red clamps on the arterial blood line after the bolus.

▶ Reducing the UF rate quickly

1. Press and hold **STOP**  for two seconds.
 - The dialysate and UF rate windows go to zero (0).
 - The yellow caution window shows three zeros (000).
 - The pump on indicator lights turn off.
 - The blood pump continues to run.
2. Treat your symptoms following your institution’s procedure.

For example: Give a saline bolus or decrease the UF rate and/or volume.
3. Press **TREATMENT**  to resume the treatment.

▶ Ending the treatment early

1. Press and hold **STOP**  for two seconds.
2. Do one of the following:
 - Press **TREATMENT**  to resume the previous rates and continue treatment
 - Press **STOP**  again when ready to end treatment and return the blood. Continue to “Performing an automated rinseback” on page 37.



Resetting the access pressure pod

1. Press **MUTE**  to silence the alarm.
2. Identify and fix the probable cause(s).

Check for	Do
Access pressure pod connection error: The monitoring line is leaking, poorly connected, or not connected.	Follow the procedure below to reset the access pressure pod.
The access pressure pod monitoring line has a kink in it.	Remove the kink in the access pressure pod monitoring line.

Reset the access pressure pod as follows:

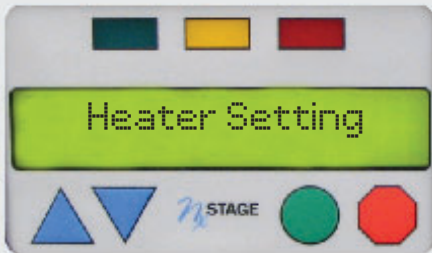
1. Disconnect the access monitoring line from the cyclor.
The access pressure pod deflates.
2. Press **STOP** .

If the pod fills immediately:	If the pod does not fill immediately:
a. Attach the access pressure pod monitoring line to the connection point on the cyclor. b. Press TREATMENT  to resume the treatment. c. Confirm that arterial pressures are within range.	a. Close the red clamp on the arterial blood line. b. Open the white clamps on the saline line and saline "T." c. The pod fills with blood. d. Close the white clamps on the saline line and saline "T." e. Open the red clamp on the arterial blood line. f. Attach the access pressure pod monitoring line to the connection point on the cyclor. See "Priming the cartridge" on page 20. g. Press TREATMENT  to resume the treatment. h. Confirm that arterial pressures are within range.

▶ Adjusting the dialysate temperature

If using the PureFlow SL:

1. Press the **UP** ▲ or **DOWN** ▼ arrow on the control panel to go to the heater setting.
The display shows the current setting.
2. Press the **UP** ▲ or **DOWN** ▼ arrows to adjust the heater setting from 0 to 20.
3. Press **GO** ● or wait three seconds to return to the previous display.



Note: The heater does not turn on until there is enough fluid in the SAK.
If you select "0" the heater is off.

If using the Express Fluid Warmer:

- Press the **UP** ▲ arrow for warmer or the **DOWN** ▼ arrow for cooler.
- When you press the **UP** ▲ arrow a comfort setting light turns yellow.
When the light turns green, the fluid temperature comfort setting has increased.
- When you press the **DOWN** ▼ arrow a comfort setting light turns flashes green.
When the light turns off, the fluid temperature comfort setting has decreased.

Taking a blood sample

To draw a pre-treatment blood sample:

1. Put on clean gloves.
2. Draw a sample of blood directly from the arterial vascular access line.

To draw a post-treatment blood sample:

Note: If your center requires the use of an alternate post treatment blood sample procedure, please refer to those instructions before proceeding.

1. Watch the cycler display until you see **000** in the yellow caution window at the end of treatment and before RINSEBACK mode.
 - The dialysate and UF rate windows show three zeros (**000**).
 - The blood pump continues to run.
2. Allow the blood to circulate for three (3) minutes.
 - Do not reduce the blood flow rate now.
3. Prepare blood collection tubes for the sample.
4. Press **STOP**  on the cycler.
5. Put on clean gloves.
6. Close the red clamps on the arterial blood line and the arterial vascular access line.
7. Disconnect the arterial blood line and connect it to the red port on the priming spike.
8. Open the red clamps on arterial blood line and the priming spike line.
9. Attach the blood collection tube to the arterial vascular access line.
10. Open the clamp on the arterial vascular access line.
11. Withdraw _____ mL (typically 2 – 3 mL) of blood.
12. Close the clamp on the arterial vascular access line.
13. Follow your institution's protocols for labeling, spinning, storing and transportation of sample.
14. Remove and dispose of gloves and supplies.
15. Press **ADD FLUID**  on the cycler and complete the rest of the treatment.
See "Ending the treatment" on page 37.

[illegible]

Changing system settings

1. Turn **ON** the power switch on the back panel of the cyclor.
 - The front panel flashes “888” several times, goes blank, and then flashes again.
2. Listen for a beep and then quickly press and hold **TREATMENT**  to go to the System Settings menu.
3. Watch for the number 0 or 1 in the top window. You can now change System Settings.
 - The top window displays the selected system setting number.
 - The middle window displays the current value of that setting.
 - If the numbers do not appear, repeat steps 1 and 2.
4. Press the green top window **ADJUSTMENT ARROW UP**  or **DOWN**  to select the desired system setting.
 - See page 49 for a list of the system settings by number.
5. Press the yellow middle window **ADJUSTMENT ARROW UP**  or **DOWN**  to change the value of the setting.
6. Repeat the process for other system settings, as desired.
7. When you have finished changing the system settings, turn **OFF** the power switch on the back panel of the cyclor to save the settings.

Note: After updating or changing a system setting using the adjustment arrows, press the green top window **ADJUSTMENT ARROW** to scroll through the remaining system settings.

- Confirm that the settings are correct before turning the cyclor power off and on to save the desired settings. Failure to do so may result in an incorrect set-up error upon powering on the cyclor.
- Check your cartridge’s instructions for use for the suggested system settings.

NxStage System One™, System One S, and Versi®HD

System Settings Guide

System Setting Number		Range	Suggested Setting	System Setting Description
0†		0-13	0	Cartridge Type
1		5-480%		Maximum FF (flow fraction)
2		0-12L/hr (System One) 0-18L/hr‡ (System One S and VersiHD)	Rate per dosing calculator	Initial Fluid (Dialysate) Pump rate (DFR)
3		0-2.4 L/hr		Start up UF rate
4†		10-600 ml/min	200	Start up blood flow rate
5		0-90.0 L	Pt's Prescribed Volume of Dialysate	Prescribed dialysate volume
6		0-99.9 L		Initial weight to remove
12		10-220ml	91ml	Blood Volume of the Dialyzer
13‡		0.10-5.00	1.45	Rinseback factor
Reduce Snap and Tap	22	0-200 ml/min	40	Dialyzer Flush FP
	23	0-200 ml/min	20	Dialyzer Flush UFP
	24	50-600 ml/min	250	Dialyzer Flush BP
	27	40-200 ml/min	40	Prime FP
	31	0-600 ml/min	600	Recirculation BP
Optional settings for nocturnal treatment	35	0-60 min		Dimmed Timer
	36	0-15		Dimmed Caution Intensity
	37	0-15		Dimmed Intensity
	38	0-1		Remove Rinseback Volume (removed prior to UF target removal)
	42	0-1	0	Therapy target met
	43	15-60	30	Volumetric Management System Check Interval
	47†	50-400 mmHg	220	Access (Arterial) pressure warning limit (Caution 24)
	63	5-60min	15	First Volumetric Management System Check
80§		0.01-2.4 L/hr	Not to exceed 8 ml/Kg/hr ¶	Max UF rate (UFR)
81§		.1- 12/ 18 L/hr	12 to 18L/ hr	Max Dialysate rate (FPR)

[†] Applies to software versions 4.6 and higher

[‡] Applies to software versions 4.8 and higher

[§] Applies to software versions 4.10 and higher

[¶] Literature suggests that UF rates below 8 ml/hr/kg improve mortality.¹

1. Flythe JE et al, Rapid fluid removal during dialysis is associated with cardiovascular morbidity and mortality. *Kidney Int* 2011; 79(2): 250-257

How do I use the cyclers?

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Chapter 4: How do I manage PureFlow™ SL?

Chapter Overview

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Making a batch of dialysate 60

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Maintenance 69

Collecting water and dialysate samples 71

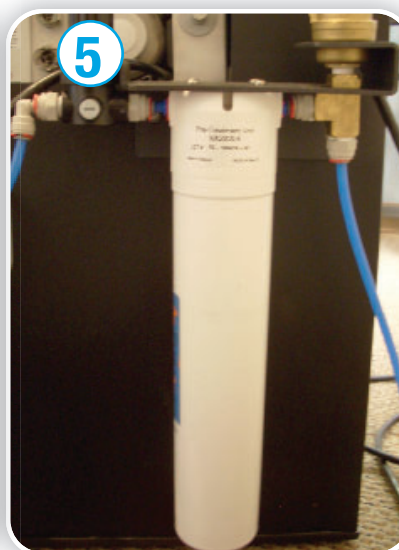
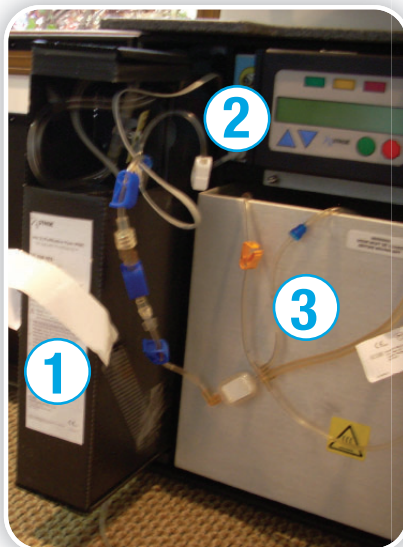
Supplemental procedures 75

Introduction

This quick reference guide is designed to assist you with installing and using the PureFlow SL. Refer to the *PureFlow SL User Guide* for additional information.

Parts of the PureFlow SL

- ① Purification pack (PAK)
- ② Control unit and control panel
- ③ Tub within cabinet
- ④ Dialysate sack (SAK)
- ⑤ Pretreatment kit, including the following parts:
 - › Water line
 - › Drain line
 - › Sediment filter
 - › Water source connectors



Assembling the PureFlow SL

Before using the PureFlow SL, the device must be assembled. When deciding where to place the PureFlow SL Cabinet consider the following:

- Make sure that there is at least 12 inches of space on all sides of the cabinet. Leaving this space around the system allows for easy access and prevents other items from coming into contact with the system.
- The cabinet should be near a cold water source where you will perform the therapy.

If using the standard installation:	If using the LINX water pretreatment system:
The source water line is 40 feet long.	The source water line 60 feet long.

Installing the control unit

- Slide the control unit into the space above the tub.
- Pull the tub open.
- Hand-tighten the two thumb screws under the front of the control unit.



Note: It is easier to tighten thumb screws if you slide out the tub.

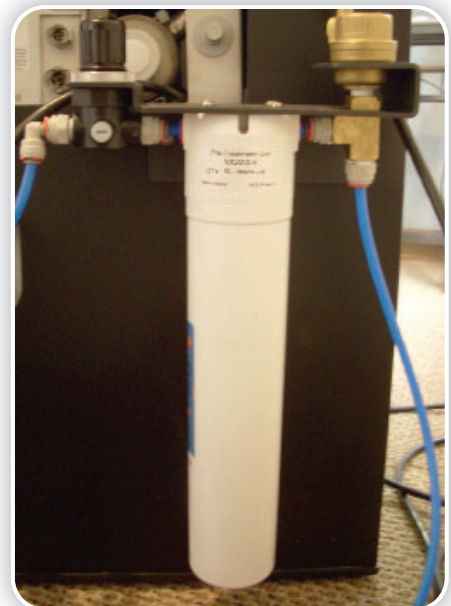
- Close the tub.



Installing the control unit

Installing the pre-treatment unit

- Place the bracket over the two screw heads on the back of the cabinet.
- Make sure that:
 - The nylon washer rests between the cabinet and the pre-treatment bracket.
 - The metal washer rests between the screw head and the pre-treatment bracket.
- Adjust the screws as necessary.
- Push down on the bracket to make sure that the pre-treatment unit is seated securely on the screws.
- Tighten the screws.
- Pull gently on the bracket to make sure that the assembly is secured to the cabinet.



Installing the pre-treatment unit

NxSTEPS Quick Reference Guide

7. Adjust the air vent.
 - › Turn the air vent clockwise until it stops.
 - › Turn the air vent counterclockwise a half turn.
8. Pull the yellow tab to remove the cap on the sediment filter.
9. Screw the filter onto the filter head attached to the bracket. Hand tighten.
10. Connect the blue water line from the pre-treatment unit to the blue water inlet on the back of the control unit.
 - › The connector snaps into place.
 - › This step completes the pre-treatment unit installation for NX2000-10.
11. If you are using NX2000-1, connect the UV water line to the water outlet.
 - › Both water connections snap into place.
 - › This step completes the pre-treatment installation for NX2000-1.



Remove the yellow cap on the sediment filter

Installing the drain line

When the PureFlow SL is in use, the drain line:

- › Must be in a drain at all times.
 - › Should not be placed lower than floor level.
 - › Should not be placed higher than three feet above the ground.
1. Attach the black drain line to the drain line connection on the back of the control unit.
 - › The connection snaps into place.
 2. Place the end of the drain line into a drain.
 - › Do not submerge the drain line in the drain.

If using the LINX water pretreatment system:

- Install the LINX water pretreatment system.
- Refer to the *LINX Water Pre-Treatment System User Guide* and the *Installation and Use* video.

Connecting the water source

Use one of the following adapters:



Faucet adapter



Under sink adapter

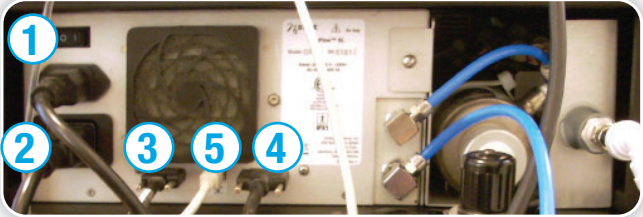
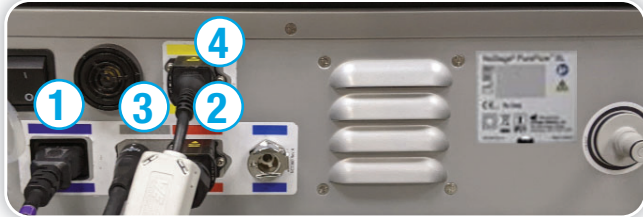


Washer hook-up adapter

If using the standard installation:	If using the LINX water pretreatment system:
1. For instructions on how to connect to your water source, refer to the <i>PureFlow SL User Guide</i>. 2. Connect the 40-foot blue PureFlow SL source water line to the source water supply. 3. Turn on the source water. 4. Check for leaks.	1. For instructions on how to connect to your water source, refer to the <i>LINX Water Pretreatment System User Guide</i>. 2. Connect the green LINX feed water line to the source water supply. 3. Connect the blue LINX treated water line to the Pureflow SL. 4. Turn on the source water. 5. Check for leaks.

Making the electrical connections

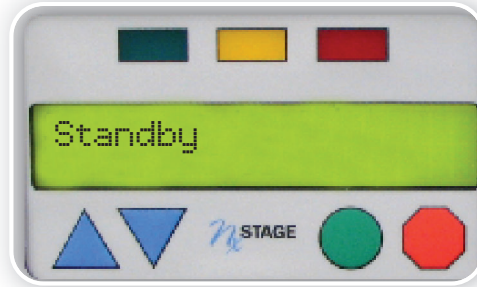
All electrical connections are unique. Each cord fits only one connector on the back of the PureFlow SL control unit.

If using NX2000-1	If using NX2000-10
 1. Connect the power interconnect cord from the cyclor to the AC power connector. 2. Connect the heater power cord to heater power connector. 3. Connect the cable labeled J2 from the cabinet to the dialysate tub connector. 4. Connect the cable labeled J1 from the UV light tray to the UV light connector. 5. Connect the USB cable to the USB connector and then connect the other end to the cyclor's JewelBox or ConNxBox™.	 1. Connect the interconnect cord (purple) to the AC power connector. The connector snaps into place. 2. Connect the heater power cord (red) to the heater power connector. The connector snaps into place. 3. Connect the dialysate tub cable (gray) to the dialysate tub connector. Align the connector arrow. The connector snaps into place. 4. Connect the USB cable (yellow) to the USB connector on the rear panel. The connector snaps into place. Note: To remove connections 2 and 4, disconnect the cord by gripping and pulling on the connector. Do not pull from the cable. To remove connection 3, grip the connector and rotate it counter-clockwise, and then pull.

Priming a PAK

Installing a new PAK

1. Turn on the PureFlow SL.
2. Check the control panel to make sure that the PureFlow SL is in STANDBY mode.
3. Place the PAK shipping box on its side so that the label faces up.
4. Open the box.
5. Pull the white handle to remove the PAK from the shipping box.
6. Remove the packages of control unit adapters from the side of the new PAK and set them aside.
7. Tear off the perforated section of the PAK.



Perforated section

8. Slide the PAK over the lip and into the PAK compartment in the cabinet.



PAK sliding into compartment

Connecting the water lines and electrical cable to the control unit

The control unit has connectors on the front that are used while making dialysate and during treatment.

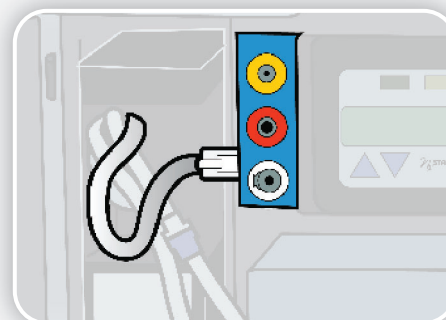
The connectors are color-coded by function.

- The waste connector is yellow.
- The conductivity sensor connector is orange.
- The water outlet connector is clear.

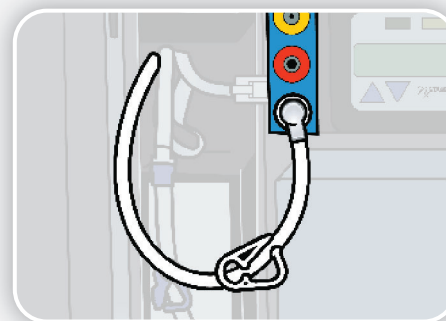
1. Remove the tape around the water inlet line with the white clamp and the gray electrical cable.
2. Gently pull the three lines from the PAK.
3. With the tab facing down, insert the electrical cable from the PAK into the electrical connector on the left side of the control unit.



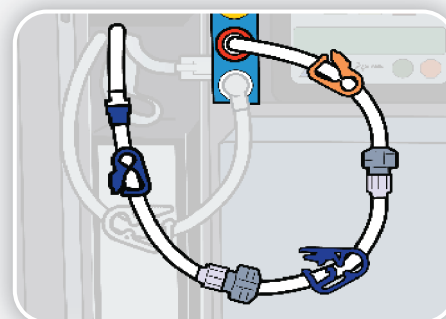
Note: The orientation of the electrical cable when inserted will differ depending on your PFSL model.



4. Connect the PAK water inlet line with the white clamp to the white water outlet connector on the front of the control unit.
5. Push in the connector until you hear or feel a click.



6. Connect the condo adapter line with the orange clamp to the orange conductivity sensor connector on the front of the control unit.
7. Connect the clear connector at the end of the PAK water outlet line with the blue clamp to the condo adapter line with the orange clamp.
8. Connect the waste line adapter with the yellow clamp to the yellow waste line connector on the front of the control unit.

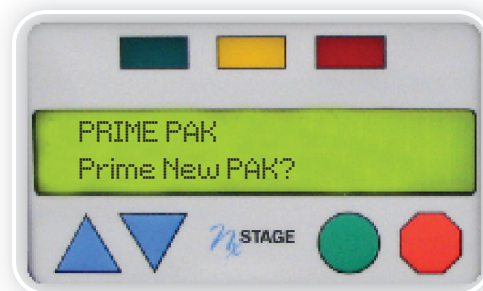


Note: The only time you make this blue to orange connection is when priming a PAK.

Priming a new PAK

You must use a primed PAK to make a batch of dialysate.

1. Make sure that the cold water supply is on.
2. Turn on the PureFlow SL.
3. Check the control panel to make sure that the PureFlow SL is in STANDBY mode.
4. Check that all connections are tight and all clamps are open.
5. Place the drain line in the drain.
6. If using LINX, make sure that the green center light on the LINX system is lit.
7. Press **GO** .
 - › The control unit shows the message
"Prime PAK
Prime New PAK?"



8. Press **GO**  again.
 - › The PureFlow SL starts priming the PAK.
 - › Priming takes about 2.5 hours.
 - › The control unit shows the message
"Prime PAK Complete.
Close Blue Clamps" when priming is done.
9. Close both blue clamps on the PAK water outlet line and close the orange clamp on the condo adapter line.
10. Press **GO**  again to return to STANDBY mode.



Making a batch of dialysate

Loading the SAK

The SAK must be loaded into the tub so that when it is unfolded, the front and rear are at the same height. This ensures that the SAK fills evenly.

1. Make sure that the PureFlow SL is in STANDBY mode.
 - › Press **GO** .
2. The control panel shows the message “Open Door, Load SAK-XXX.”
3. Remove the SAK from the package.
4. Check for leaks and loose caps or connections.
5. Verify the following :
 - › The SAK type matches your prescription.
 - › The SAK type matches the SAK type shown on the control panel.
 - › The expiration date has not passed.

 **Note:** Refer to “Changing the SAK type” on page 75 for instructions on changing the SAK type.

6. Open the cabinet door and pull out the tub.
7. Place the SAK into the tub with the label facing you.
8. Slide the SAK to the back wall of the tub.
9. Unfold the top fold so the label is against the back wall of the tub.
10. Unfold the front fold toward the front of the tub.
11. Remove and discard the protective foam sheet.
12. Gently push down on the SAK to make sure it is seated correctly.



Tub pulled out

Running the SAK lines

Before connecting the SAK lines, run them through the control panel and the dialysate pump cover.

1. Remove the tape.
2. Uncoil the lines.
3. Check that none of the lines are kinked or crossed.
4. Open the control panel door.
5. Lift up the dialysate pump cover.
6. Insert the five-way connector, elbow joint, and lines into the channels.
7. Run the lines through the channels above and below the connector.
8. Run the dialysate pump line through the dialysate pump.
 - › The dialysate pump line must point to the right.
9. Close the dialysate pump cover.
10. Make sure the lines are properly seated, then close the control panel door.



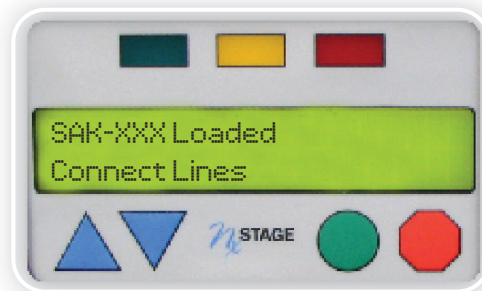
SAK lines in the channels



Note: If using the SAK-40x series, route the pressure relief line around the left side of the closed control unit panel door.

Adjusting the line collar assemblies

1. Locate the lines with the green line collar assemblies exiting from the SAK.
2. Pull the lines on each side of the green line collar assembly to release the fold. Repeat for the second line.
3. Slide the green line collar assemblies over the previously folded areas on both lines.
 - › Wait at least two seconds after closing the control panel door. The display should then tell you to "Connect Lines."



Connecting the SAK and PAK lines

1. Close the blue clamp on the PAK water outlet line and the orange clamp on the condo adapter line.
2. Disconnect the PAK water outlet line (blue clamp) from the condo adapter line (orange clamp).



Note: Whenever the condo adapter line is not connected to the PAK during PRIME mode or to the SAK during MAKE BATCH mode, make sure the orange clamp on the line is closed.

3. Disconnect the short line segment with the blue non-reopening clamp from the PAK water outlet line (blue clamp).
4. Remove the protective cap from the SAK water inlet line (blue clamp).
5. Connect the SAK water inlet line (blue clamp) to the PAK water outlet line (blue clamp).
6. Remove the connector tab on the SAK water inlet line (blue clamp).
7. Tighten the blue rotating collar.
8. Open the blue re-opening clamp on the PAK water outlet line.
9. Remove the cap from the SAK conductivity line (orange clamp).
10. Connect the SAK conductivity line (orange clamp) to the condo adapter line (orange clamp) on the front of the control unit.
11. Open the orange clamp on the condo adapter line.
12. Drape the SAK water inlet line into the tub.
13. Completely slide in the tub and close the cabinet door.

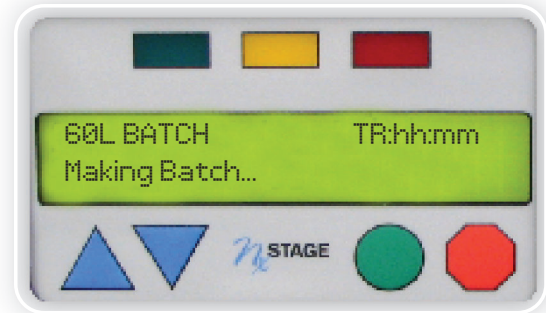


Note: Make sure that the lines do not get caught in the cabinet door and are not kinked.

Making a batch of dialysate

Once the SAK has been loaded and properly connected, the PureFlow SL is ready to make a batch.

1. Turn the cold water on.
2. Press **GO**  to start the batch.
3. The PFSL conducts a series of tests and then starts making the batch. After these tests are completed, the control panel displays the size of the batch being made and the time remaining until the batch is complete.
 - › A batch takes 5–7 hours depending on the SAK size.



Testing for chloramines/chlorine

To test the batch for chloramines/chlorine, follow the instructions included with the test kit your facility uses. For the best results, test for chloramines within two hours of making a batch. Use test strips that can detect 0.1 parts per million chloramines/chlorine.

1. Turn the cold water on.
2. Check that the automated conductivity check was successful.
3. The control panel shows the message "CHECK CHLORAMINES, Remove Orange Line."
4. Close the orange clamp on the condo adapter line. **DO NOT** close the orange clamp on the SAK line.
5. Disconnect the SAK conductivity line with the orange clamp from the condo adapter line.
6. Hold the line over the specimen container.
7. Press **GO** .
 - › The PureFlow SL dispenses the sample in approximately one minute.
 - › You will hear the valves open before the fluid sample begins dispensing.
 - › After the sample is dispensed, the control panel shows the message "CHECK CHLORAMINES, Reconnect Line."
 - › PureFlow SL software version 1.15 or greater dispenses a 100 mL sample.
 - › PureFlow SL software versions prior to 1.15 dispense a 60 mL fluid sample.



Collect the dialysate sample

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8. Reconnect the SAK conductivity line with the orange clamp to the condo adapter line.
9. Open the orange clamp on the condo adapter line.
10. Press **GO** .
 - › The control panel shows the message
 “CHECK CHLORAMINES
 Pass: GO
 Fail: STOP.”
11. Test chloramines using the test kit and instructions provided by your center.

If the sample passes:	If the sample fails:
Press GO  on the PureFlow SL. The control panel shows the time remaining until the batch expires.	a. Press STOP  on the PureFlow SL. › The PureFlow SL prompts you to test again. b. Repeat the test procedure. › If the new sample passes, use the batch. However, if the new sample fails, the system automatically goes to DRAIN mode. › To perform a treatment, use dialysate bags or make a new batch.

Using a batch

Remember the following when using a batch:

- The batch must be used before it expires.
- The **Batch Expiration Time** is tracked by the control unit.
- The time tracking begins at the start of mixing the batch of dialysate.
- The drain line must be in a drain at all times.
- Do not submerge the drain line in the drain.
- Use aseptic technique when handling the SAK and making cartridge connections.
- **Always check for chloramines before using a new batch.**

Connecting to the cartridge

Connect the PureFlow SL to the cartridge after the cartridge has been primed.

1. Press **GO**  on the PureFlow SL.
 - › The control panel shows the message
“XXL BATCH IN USE
Config to use Batch.”
2. On the cartridge, close the white clamp on the saline line and then close the green clamp on the dialysate inlet line.
3. Disconnect the cartridge saline line and the dialysate inlet line.
4. Close the white clamp on the saline “T” on the arterial blood line.
5. Attach the saline line from the priming spike to the saline “T” (white to white). **Do not open the clamps.**
6. Remove the cap from the outlet of the SAK dialysate outlet line.
7. Connect the SAK dialysate outlet line to the cartridge dialysate inlet line (green to green).



Note: You must use a new dialysate outlet for each treatment.

8. Open the green clamps on both the SAK dialysate outlet line and the cartridge dialysate inlet line.
9. Close the yellow clamp on the cartridge waste line.
10. Disconnect the cartridge waste line from the priming spike and connect it to waste line adapter (yellow clamp) on the PureFlow SL.
11. Open the yellow clamps on the waste line and the waste line adapter.
 - › To start using the batch, press **GO**  on the PureFlow SL.

Disconnecting from the cartridge

After the treatment is complete, do the following:

- 1. Press **STOP**  on the PureFlow SL to pause it.
- 2. Close the non-reopening green clamp on the used SAK dialysate outlet.
- 3. Close the green clamp on the cartridge dialysate inlet line.
- 4. Disconnect the cartridge dialysate inlet line from the dialysate outlet line (green clamps).
- 5. Close the yellow clamps on the cartridge waste line and the waste line adapter (yellow clamps).
- 6. Disconnect the cartridge waste line from the waste line adapter.
- 7. Connect the cartridge waste line to the priming spike to prevent leaks.

Keep the PureFlow SL in pause if:	Drain the batch if:
There is enough dialysate remaining for the next treatment.	■ There is not enough dialysate for the next treatment. ■ The batch expires before or during the next treatment.

**Note:** Do not turn off the PureFlow SL between treatments. The batch cools because the heater is off.

Discarding a batch

Once you start draining the SAK, you cannot return to using the batch.

Draining the batch

1. Press and hold **STOP**  on the PureFlow SL .
 - › The control panel shows the message
 XXL BATCH TR:hh:mm
 Cont: G0 To Drain: STOP.”
2. Press **STOP**  again.
 - › The control panel shows the message
 “DRAIN PENDING
 Drain: G0 Cancel: STOP.”
3. Press **GO**  to start draining the batch.
 - › Once draining is complete, the control panel shows the message
 “DRAIN COMPLETE
 More: G0 Done: STOP.”
 - › To proceed to unload, press STOP
 - › If more fluid needs to drain, press GO.

If you are draining a partial batch

The PureFlow SL assumes you are draining a full 60 L batch, which takes 3.5 hours. Depending on the amount of fluid left to drain, you may stop the drain mode before the control panel shows the message “Drain Complete.”

1. Press **STOP**  to pause the drain.
2. Press and hold **STOP**  to end the drain.

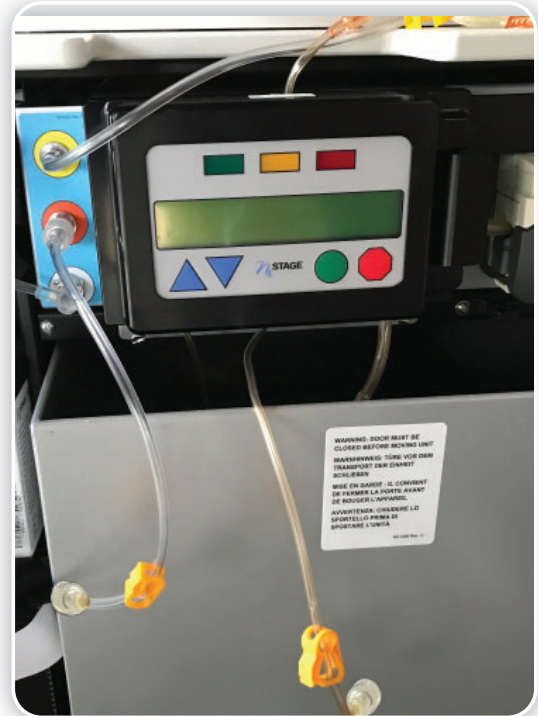
Performing final flush

1. Turn the cold water on.
2. Press **STOP**  on the PureFlow SL.
 - › The control panel shows the message
 “DRAIN TR:hh:mm
 Flushing...”.

Unloading the SAK

After the final flush completes, the PureFlow SL enters UNLOAD mode.

- › The control panel shows the message
“UNLOAD
Close Blue Clamps”.
1. Close the three blue clamps on the water lines that connect the PAK to the SAK, including the non-reopening blue clamp.
 2. Disconnect the SAK water inlet line (blue clamp) from the PAK water outlet line (blue clamp), leaving the short line segment on the PAK line as a cap to prevent contamination.
 3. Close the orange clamp on the conductivity sensor line and the orange clamp on the condo adapter and disconnect the line.
 4. Press **GO** .
 - › The control panel shows the message
“UNLOAD
Open Door; Remove SAK”.
 5. Open the control panel door and then the dialysate pump cover.
 6. Remove the lines from the dialysate pump and the control panel channels.
 7. Close the dialysate pump cover.
 8. Close the control panel door.
 - › The PureFlow SL returns to STANDBY mode and is ready to make a new batch.
 9. Remove and discard the SAK.



Open the tub to remove the SAK

Maintenance

Although maintenance requirements are minimal, clean and disinfect the exterior surfaces after each treatment.



Note: Remember to use universal precautions when cleaning dialysis equipment.

Cleaning the PureFlow SL

1. Power off system.
2. Disconnect the equipment from its power source.
3. Make sure all disposables are removed from the equipment.
4. Open the PureFlow SL cabinet and pull out the tub.
5. Use a paper towel and mild detergent such as dishwashing liquid to clean all exterior surfaces. Follow the detergent manufacturer's cleaning instructions.



Note: Avoid touching the metal connections on the back of the PureFlow SL when cleaning. Do not pour solution onto or allow fluid to drip into the equipment.

6. Throw away used cleaning supplies and personal protective equipment appropriately.
7. For storage, make sure cabinet door is closed.

Disinfecting the PureFlow SL

If the equipment is contaminated with blood or suspected of being contaminated with pathogenic microorganisms (bacteria, virus, or fungi), disinfect it using a bleach solution. Refer to "Maintaining the cycler" on page 41 for additional information.

1. Prepare a bleach solution according to the table below.

Sodium Hypochlorite Concentration	Water-To-Bleach Solution
5.0% - 5.9%	Add 16 oz water and 2 oz household bleach
6.0% - 6.9%	Add 20 oz water and 2 oz household bleach
7.0% - 7.9%	Add 24 oz water and 2 oz household bleach
8.0% - 8.9%	Add 28 oz water and 2 oz household bleach



Note: Most common household bleaches have a concentration of 5.25%-6.15% sodium hypochlorite. Refer to the product label for the actual strength of the product.

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2. Moisten a soft cloth with the bleach solution.
3. Clean all visible blood or contamination.
4. Allow the solution to remain in contact with the exterior surface for 10 minutes.
5. Use a new soft cloth and water to rinse off the bleach solution.
6. Allow the surface to air dry.



Maintaining the air filter

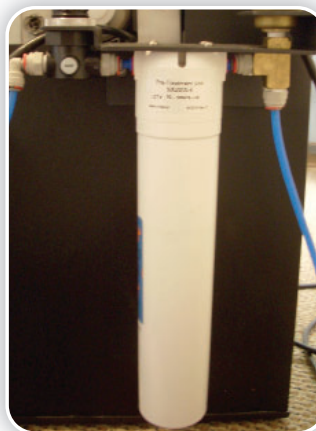
- Clean or replace the PureFlow SL's air filter every three months.
- Follow the instructions in the *PureFlow SL User Guide*.



Location of the air filter on the back of the control unit

Replacing the sediment filter

- Replace the sediment filter annually or more frequently as needed.
- Follow the instructions in the *PureFlow SL User Guide*.
- Write the installation date on the sediment filter as a reminder.



Flushing the drain line

Flush the drain line monthly or more frequently as needed. If using the drain line cleaning kit provided by NxStage, refer to the package instructions for use.

Do the following while the PureFlow SL is in STANDBY mode or as part of the recovery from an alarm:

1. Fill a 60 mL syringe (or two 30 mL syringes) with a 1:10 bleach solution.
2. Attach a recirculation connector (female-female adapter) to the syringe.
3. Connect the recirculation connector that is attached to the syringe to the waste line adapter on the control unit.

4. Open the yellow clamp on the waste line adapter.
5. Push 60 mL of bleach solution into the waste line adapter.
6. Reset the drain line by disconnecting and then reconnecting the quick disconnect for the black drain line at the rear of the control unit.
7. Allow the solution to stay in the waste line for 5–10 minutes.
8. Fill the syringe with 60 mL of tap water.
9. Connect the recirculation connector that is attached to the syringe to the waste line adapter.
10. Push the tap water into the waste line connector.
11. Repeat the rinse with an additional 60 mL of tap water.

Collecting water and dialysate samples

All water samples must be properly stored, packaged, and shipped according to the testing lab's instructions.

Both source water and product water must be tested as follows:

- **Source water:** Send a source water sample for testing before use begins to determine if the PureFlow SL can be used and if the LINX system should be used as well.
- **Product water:** Test product water when the PureFlow SL is installed and produces the first batch. After the initial test, repeat the test once a year.

When should the product water be tested?

- **Initial test:** Obtain this sample within four hours after making the first batch. Take the sample when the chloramines test has passed and "Batch Use: G0" is shown on the control unit.
- **Annual test:** Collect this sample near the end of PAK life, preferably after the Caution 5, "Last Batch Caution" is shown on the control unit.

Collecting a product water sample



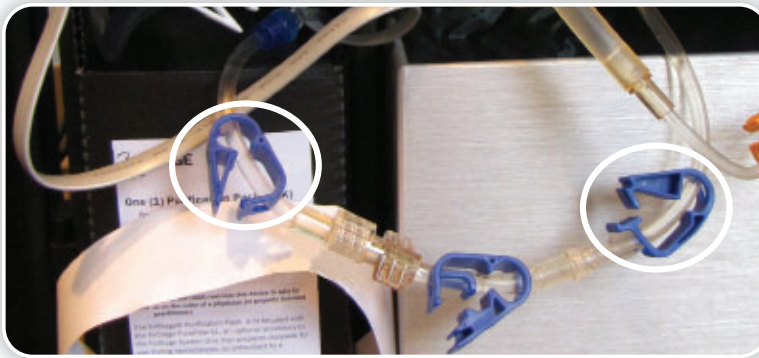
Note: Remember to follow aseptic technique.

1. Prepare the following supplies:
 - › Sterile female-female adapter
 - › Gloves
 - › Clean drape
 - › Sterile 30 mL syringe
 - › Testing container
 - › Alcohol prep pad



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2. Connect a sterile female-female adapter to a sterile 30 mL syringe.
3. Close the two blue clamps on either side of the blue non-reopening clamp on the water line connecting the PAK to the SAK.
4. Disconnect the SAK inlet line from the PAK, leaving the short line segment with the blue non-reopening clamp on the PAK water outlet line.
5. If you plan to make a batch after obtaining the sample, place the SAK water inlet into an opened alcohol prep pad.
6. Attach the open end of the sterile female-female adapter to the disconnected PAK water outlet line.
7. Open the blue reopening clamp on the PAK water outlet line and pull back on the syringe to obtain a 30 mL product water sample from the PAK.
8. Close the blue reopening clamp on the PAK water outlet line to the left of the blue non-reopening clamp.
9. Disconnect the syringe and inject the product water sample into the appropriate specimen container supplied by your center.
10. Repeat steps 2 - 9 as needed to collect the required volume of product water.
11. Disconnect the syringe and set it aside.
12. Reconnect the SAK water inlet line to the PAK water outlet line (blue to blue connection).
13. To use the batch for a treatment, follow the instruction for "Using a batch" on page 65.



Close these blue clamps



Collect the product water sample

Collecting a dialysate sample

Collect a dialysate sample near or at the end of SAK life. Remember to do the following:

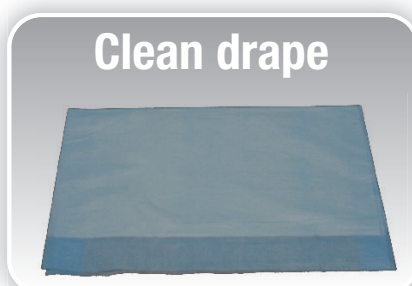
- Follow strict aseptic technique to prevent sample contamination.
- Follow your testing lab's procedures for storage, packaging, and shipping specimens.
- Collect the sample when you still have at least one unused dialysate outlet line. The dialysate sample will be taken from an unused dialysate outlet line.

1. Prepare the following supplies:

- › Gloves
- › Clean drape
- › Mask
- › Alcohol prep pad
- › Dialysate testing kit (DTK-001) or sterile specimen container



Gloves



Clean drape



Mask



Alcohol prep pad



Dialysate Testing Kit (DTK-001) or Sterile Specimen Container

2. Check that your PureFlow SL has been paused.
 - › The control panel shows the message
"XXL BATCH IN USE
Paused TR:hh:mm"
3. Press **GO**  on the PureFlow SL.
 - › The control panel shows the message
"XXL BATCH IN USE
Batch Expires: hh:mm"
4. Close the green clamp on the dialysate outlet line of the SAK below the 1.2 micron filter.
5. Put the mask on, wash your hands, and put on gloves.



Note: Everyone else in the room must also wear a mask.

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6. Prepare a clean field using a disposable drape.
7. Open an alcohol swab package.
8. Carefully remove the protective cap on the remaining unused dialysate outlet line and put the cap (clean side first) inside the alcohol swab package.

If using the DTK-001:	If using a sterile specimen container:
■ Remove the cap from the DTK-001 line with the green non-reopening clamp. ■ Connect the line to the unused connection on the dialysate outlet line.	■ Open the container and place the lid sterile side up on the clean drape.

9. Open the dialysate outlet line below the 1.2 micron filter and allow the required volume of dialysate to pump into the DTK-001 sample bag or specimen container.
10. When you've collected the required volume of dialysate, close the clamp on the dialysate outlet line before the 1.2 micron filter.
11. Close the green non-reopening clamp on the DTK-001 line.
12. Disconnect the DTK-001 line from the dialysate outlet line.
13. Remove the protective cap that was stored in the alcohol swab package and place it on the end of the dialysate outlet line.
14. If you are not planning on using this outlet connection for treatment, close the green non-reopening clamp on the line with this outlet connection.
15. Immediately prepare the dialysate sample for shipment following the guidelines of your testing laboratory.

Supplemental procedures

Adjusting the heater setting

1. Press the **UP** ▲ or **DOWN** ▼ arrow on the control panel to go to the heater setting.
 - › The control panel displays the current setting:

Heater Setting: 15
Heating...

← Current heater setting

Heater Setting: 15
Current Value: 8

← Current heater value

- › The display alternates between the two screens approximately every five seconds.
 - › The heater does not turn on until there is enough fluid in the SAK.
 - › If you select **0**, the heater is turned off.
2. Press the **UP** ▲ or **DOWN** ▼ arrows to adjust the heater setting from **0** to **20**.
 - › When there is enough fluid, the heater turns on. The control panel displays the following when you are in heater setting.

Heater Setting: 15
Heating...

- › When the dialysate reaches your desired heater setting, the control panel displays the following while in heater setting.

Heater Setting: 15
Temp. Reached

3. Press **GO** ● or wait three seconds to return to the previous display.

Changing the SAK type

To change the SAK type, the PureFlow SL must be in STANDBY mode.

1. Press and hold **STOP** ● to go to STANDBY mode.
2. Press and hold the **DOWN** ▼ arrow to go to USER MAINTENANCE mode.
3. Press **GO** ● to enter **Settings**.
4. Press **GO** ● to enter **Change SAK Type**.
5. Press the **UP** ▲ or **DOWN** ▼ arrows to select the SAK type.
6. Press **GO** ● to confirm the SAK type.
7. Press and hold **STOP** ● until the PureFlow SL starts the self-test.
 - › After the self test is completed, the PureFlow SL returns to STANDBY mode.

Pausing the PureFlow SL

1. Press **STOP** .
 - › To resume, press **GO** .
 - › If you are resuming using a batch, press **GO**  again.

Draining the PureFlow SL

1. Press **STOP**  to pause.
2. Press and hold **STOP**  until the display shows the message
Cont: GO To Drain: STOP.”
3. Press **STOP**  to enter DRAIN mode.
4. Press **GO**  to begin draining the SAK.

Removing the PAK

1. Open the cabinet door on the front of the PureFlow SL.
2. Close the white clamp on the water inlet line.
3. Close the blue re-opening clamps on the water outlet line.



Note: Do not close the blue non-reopening clamp.

4. Close the orange clamp on the condo adapter line, if the PAK water inlet line is connected to the condo adapter line.
5. Disconnect all PAK fluid connections from the front of the control unit and the SAK.
6. Disconnect the PAK electrical connector from the side of the control unit.
7. Lift up the front end of the PAK so that it clears the lip at the front of the compartment, and then slide out the rest of the PAK.

Draining the SAK manually

If the PureFlow SL does not drain automatically, manually drain the SAK using one of the following methods.

Drain the SAK from the user maintenance menu:	Manually drain the SAK:
a. Press and hold STOP  to go to STANDBY mode. b. Press and hold the DOWN  arrow until the control panel displays “USER MAINTENANCE Settings.” c. Press the DOWN  arrow until the control panel displays “USER MAINTENANCE Drain.” d. Press GO  to drain.	▪ Refer to the <i>PureFlow SL User Guide</i>.

Removing the control unit

1.

Press and hold **STOP**  to go to STANDBY mode.
2.

Shut off the power.
3.

Disconnect the power cord.
4.

Close the clamps on all the fluid lines.
5.

Disconnect all the connections from the front and the back of the control unit.
6.

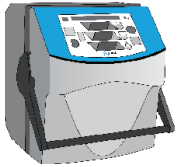
Disconnect the PAK’s electrical connector from the side of the control unit.
7.

Loosen the two thumb screws located under the front of the control unit.
8.

Slide the control unit forward to remove it.

Replacing the LINX DI Cells

1. Put the LINX is in BYPASS mode.
2. Position the tip of the blue unit connector over a drain or a bucket.
3. Press down on the tip of the unit connector to release a short burst of air and water to depressurize the system.
4. Remove one blue DI cell cover and set it aside.
5. Securely attach the wrench from the DI Cell Replacement Kit to the DI cell.
6. Turn the wrench left for two turns.
7. Slowly lift the DI cell from the LINX and set it aside.
8. Use the pipette from the replacement kit to remove the water from the empty cell housing.
9. Remove the DI cell top and install it on the new DI cell securely.
10. Place the new DI cell into the empty cell housing.
11. Turn the DI cell to the right to hand-tighten.
12. Use the wrench to turn the DI cell to the right until the top aligns with the seam on the LINX unit.
13. Replace the blue DI cell cover.
14. Turn to the blue DI cell cover left until it is tight to the housing.
15. To replace the second LINX DI cell, repeat the above steps 4 through 14.



Chapter 5: How do I deal with the unusual?

Chapter Overview

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Dealing with unusual situations

As a home hemodialysis patient, you will sometimes experience situations such as alarms, equipment failures, or emergencies while performing your treatment. This section has guidelines as to which actions you should perform when these events happen.

Situation	Do
Unable to clear alarm Power/equipment failure	End treatment without returning your blood, see page 81.
Urgent situation requiring immediate blood return For example: A medical or environmental emergency when there is time to rinse back your blood.	Emergency Rinseback, see page 82. My dialysis center’s Emergency Rinseback instructions:
Multiple or recurring alarms You need to disconnect from the cartridge	Temporary Disconnection, see page 83. After automated or emergency rinseback for _____ minutes
Alarm troubleshooting directs you to reprime the cartridge.	Repriming a cartridge, see page 84. Do not reprime a cartridge that has been used on a patient.



End treatment without returning your blood

There are times when rinseback cannot be performed, for example during a power failure, a recurring alarm, if the blood circuit is clotted or hemolyzed, or another problem that cannot be resolved.

1. Turn off the cyclor.
2. Care for your vascular access.
3. Discard the cartridge.
4. Call your center immediately to report the problem you experienced and the blood loss.

Remember:

Do not return blood if blood circuit is clotted or hemolyzed, air is seen in the blood circuit or in the patient lines, or if blood flow stops for an extended time.

Emergency rinseback

If allowed by your dialysis center, use emergency rinseback when you need to return blood quickly.

Do not return blood if blood circuit is clotted or hemolyzed, air is seen in the blood circuit or in the patient blood lines, or if blood flow stops for an extended time.

1. Make sure there is enough saline (300-500 mL) to rinse back the blood.
2. Open the white clamps on the saline line and saline "T."
3. Check the flow of saline.
4. Close the red clamp on the arterial blood line.
 - If using an infusion pump, stop the pump and clamp the cartridge heparin line.
5. Let the saline flow into the blood lines to return the blood to the patient.
6. Press **STOP**  on the cyclor when the venous blood line (blue clamp) is clear.
7. Close the clamps on the vascular access lines.
 - If using remove the vascular access leak device.
8. Disconnect the SecureClips, if included in your cartridge. Close the red clamp on the arterial blood line and disconnect it from the vascular access.
9. Connect the arterial blood line to the red port on the priming spike.
10. Close the blue clamp on the venous blood line and disconnect it from the cartridge heparin line.
11. Connect the venous blood line to the blue port on the priming spike.
 - If using an infusion pump, disconnect the pump and clamp the cartridge heparin line.
12. Turn the cyclor power switch **OFF**.
13. Open the cyclor door.
14. Close all open clamps and then remove and appropriately throw away disposables.

If using the Express Fluid Warmer:

1. Press the **DOWN**  arrow until all of the comfort setting lights turn off and the **STANDBY**  indicator lights are lit.
2. Make sure the hot surface light is off.
3. Remove the warmer disposables.
4. Disconnect the interconnect power cord.

If using the PureFlow SL:

1. Press **STOP**  to pause.
2. Press and hold **STOP**  for two seconds to drain the batch following the instructions on the Control Panel Display if this is your last treatment with this batch.
3. Close the dialysate outlet green clamp and the non-reopening green clamp on the 3-pronged outlet.

Temporary disconnection after returning your blood

If allowed by your dialysis center, use temporary disconnection to recirculate the blood circuit if you have recurring alarms or need to temporarily disconnect from the cyclor.

1. Complete rinseback.
 - **If using emergency rinseback:** After rinseback, move the arterial blood line to the red port on the priming spike, and then open both red clamps.
2. Flush the vascular access with a syringe filled with saline to prevent clotting.
3. Close the blue clamp on the venous blood line and disconnect it from the vascular access.
4. Connect the venous blood line to the blue port on the priming spike.
5. Open both the blue clamp on the venous blood line and on the priming spike..
6. Flush the vascular access with a saline-filled syringe to prevent clotting.
7. Press **TREATMENT**  on the cyclor and adjust the flow rates:
 - Dialysate to 0.1 L/hr
 - Ultrafiltration to 0.00 L/hr
 - Blood flow rate to 300-350 mL/min

My maximum recirculation time:
 minutes

Note: If clotting is present, discard the cartridge.

To re-start your treatment

1. When ready to restart treatment, press **STOP**  on the cyclor.
2. Close the blue clamps on the venous blood line and connect it to the vascular access.
3. Close the red clamps on the arterial blood line and connect it to the vascular access.
4. Open the clamps on the arterial blood line, venous blood line, and the vascular access.
5. To resume therapy, press **TREATMENT**  on the cyclor and re-enter the therapy rates.



Repriming a cartridge

If the troubleshooting instructions direct you to reprime the cartridge, follow these steps.

- 1. Turn **OFF** the power switch to the cyclor.
- 2. Lower the saline bag below the cyclor.
- 3. Open the cyclor door and allow the fluid to flow completely back into the saline bag.
- 4. Detach the access pressure Pod and remove the Cartridge.
- 5. Turn **ON** the power switch to the cyclor with the door open and the handle raised.
- 6. When the yellow caution window flashes two bars, insert the cartridge, pressing the tubing into the three air detectors. Close the door, attach the access pressure pod, and hang the saline bag.
- 7. Press **ADD FLUID**  to restart priming.

Notes

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