

Volumetric Infusion Pump

Quick Reference Guide







This quick reference guide is not intended to replace the complete user instructions provided in the operator's manual. The user is advised to read and understand the complete operating instructions, including all warnings and cautions, prior to operating the COLLEAGUE CXE Volumetric Infusion Pump.

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User Assistance Information

North America

For technical service of the COLLEAGUE pump call 1-800-THE-PUMP.

For product usage information or clinical questions, call Baxter Medication Delivery Product Information Center at 1-800-933-0303.

Outside North America

Visit www.baxter.com/baxter_worldwide.html for contact information or call your Baxter customer service representative to locate the nearest service center.

Warnings and Cautions

Warnings



The COLLEAGUE 3 CXE pump is intended for use in delivering multiple infusions to a single patient. Never use the pump to deliver infusions to more than one patient simultaneously.

Do not use this pump in Linear Accelerator



! WARNING !

Do not use the COLLEAGUE pump in hyperbaric chambers.

Radiation Therapy suites or Magnetic

Resonance Imaging Suites.



Do not use the COLLEAGUE pump with Extracorporeal Membrane Oxygenation (ECMO) systems.

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! WARNING !

Epidural administration of drugs other than those indicated for epidural use could result in serious injury to the patient.

- Epidural administration of anesthetics is limited to short term infusion (not to exceed 96 hours) with indwelling catheters specifically indicated for short term anesthetic epidural drug delivery.
- Epidural administration of analgesics is limited to use with indwelling catheters specifically indicated for either short term or long term analgesic epidural drug delivery.
- To prevent infusion of drugs not indicated for epidural use, do not use administration sets incorporating injection sites during epidural delivery.
- Clearly distinguish pumps used for epidural drug delivery from pumps used for other routes of administration.

Cautions

CAUTION

In the U.S., use of device is restricted by Federal Law (USA) to sale or use by, on the order of, or under the supervision of a physician or other licensed healthcare professional.



Follow the cleaning schedule and methods defined under "Cleaning" in the operator's manual to ensure proper maintenance of the device.





Power On and PERSONALITY Feature Set Selection

- **Note:** The COLLEAGUE and COLLEAGUE 3 pumps have not been evaluated for use in care areas other than those listed in the operator's manual.
- 1. Press the **ON/OFF CHARGE** key to turn the pump ON. The Main Display prompts to perform a speaker test, which helps ensure alarms and alerts are audible and the volume level is appropriate for the care area.
- 2. Press and hold the Speaker Test soft key until Yes and No soft keys are displayed (Figure 1). The pump produces sound for as long as the Speaker Test soft key is pressed.
- **3.** Do one of the following:

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If the tone is heard, press Yes. The pump completes self-test and displays the Power On screen.



Figure 1 Speaker Test Screen

If the tone is not heard, even after adjusting the volume control, press No, then press No again when prompted to confirm. Do not use the pump.

If the continuous tone is not heard during the speaker test, alarms and alerts may not be audible during operation. Do not use the pump. Send the pump to service.

- 4. To clear previously programmed information and Volume History, press the **New Patient** soft key.
- To select a PERSONALITY feature set, press the Change Personality soft key. A list of available PERSONALITY feature sets is displayed.



6. Use the û ↓ keys to highlight the desired PERSONALITY feature set, then press the **Select** soft key.

If no keys are pressed, the pump automatically displays the Main Display screen after approximately 10 seconds.

Power Off

- Press the ON/OFF CHARGE key to power off the pump. A pop-up window is displayed to confirm that the pump should be powered off. To resume operation, press the Return soft key.
- 2. Press ON/OFF CHARGE again to power off the pump.



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Loading the Administration Set

! WARNING !

Pulling or tugging on the administration set tubing between the pump channel and the patient may cause false Air Detected alarms, which will cause the pump to stop infusing. In order to reduce the potential for this situation to occur:

- First, select an appropriate length administration set.
- Before loading the set into the pump, position the keyed slide clamp at an appropriate location along the tube segment to ensure that there is adequate length of tubing between the patient and the pump to reduce tugging on the set.
- Lastly, ensure there is sufficient slack in the tubing between the distal end of the tubing channel and the patient to prevent tube tugging during activities such as moving the patient from one bed to another, or transportation of the patient from one facility location to another.

In order to avoid false alarms, the pump should never be placed on the bed alongside the patient.

! WARNING !

Do not allow fluid to enter the tubing channel or load wet tubing into the pump. Contact your Baxter Service Center for assistance immediately if fluid enters the tubing channel. The tubing channel should be cleaned as soon as possible by Baxter-trained, qualified personnel to minimize potential difficulties caused by fluid pooling and drying on the mechanism. Fluid in the tubing channel can also cause false Air In Line alarms.



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When attempting to load or unload an administration set, do not insert tools or other objects into the tubing channel.



 For single channel pumps, press the *Open* key. For triple channel pumps, press the *Channel Select* key for the desired channel, then press the *Open* key.

The automatic tube loading mechanism will open. The pump module displays PATIENT alternating with ---->>>>.

- 2. Close the keyed slide clamp on the administration set so it occludes the tubing.
- **3.** Hold the tubing so the fluid path is from left to right (Figure 2a), and insert the keyed slide clamp into the keyed slot on the left-hand side of the tubing channel (Figure 2b).
- 4. Pull the tubing taut and slide it all the way into and along the tubing channel (Figure 2c). The pump pulls in the keyed slide clamp, then loads the administration set into the pumping mechanism (Figure 2d). The pump module displays LOADING and then STOPPED.
- Note: A Tube Misloaded alarm will occur if the tubing is not loaded properly.
- **5.** Open the regulating clamp. Verify that no solution is flowing.
- **6.** Attach the primed administration set to the patient access site.
- 7. For triple channel pumps only: Arrange the tubing in the tubing guide according to pump channel.









Figure 2 Loading the Administration Set



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! WARNING !

If flow is observed when tubing is loaded but the pump is not running, close the regulating clamp immediately. Ensure that all steps have been properly performed. If flow is still observed, remove the pump from service and contact Baxter-trained, qualified personnel.

Programming a Primary Rate-Volume Infusion

Note: Pump Status

If the pump status is unclear, close any pop-up windows on the display and press the **Main Display** key to continue.

1. For single channel pumps: press the **Primary** soft key. For triple channel pumps: press the desired **Channel Select** key.

> The Main Display shows the Primary Rate-Volume programming screen, and the **Rate** field is highlighted (Figure 3).





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There may be periods of no flow for flow rates less than or equal to 1mL/hr.

- 2. Enter the flow rate using the numeric keypad.
- Press the Vol key or use the
 ¹ ↓ keys to highlight the Volume
 to be infused (VTBI) field.



! WARNING !

Do not enter a Volume to be infused greater than the amount of fluid available in the container.

- 4. Enter the VTBI using the numeric keypad.
- 5. Press the Confirm Primary soft key.
- 6. Press **START** to start the infusion. The green RUNNING LED will illuminate on the pump channel and a moving drop icon will appear on the Main Display.

Confirm that flow is occurring by observing drops falling into the drip chamber.

Selecting a Label

- 1. For single channel pumps: press the **Primary** soft key. For triple channel pumps: press the desired **Channel Select** key.
- 2. Press the **Change Mode** soft key. The Programming Modes Menu is displayed.
- Highlight Label Line (under Functions) using the û↓ keys, then press the Select soft key.

A list of labels and their abbreviations is displayed (Figure 4).

 Use the û ↓ keys and/ or the Page Up and Page Down soft keys to highlight the appropriate label, then press the Select soft



Figure 4 Label List

key. When the **Select** soft key is pressed, the Programming screen is displayed, showing the selected label.

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Note: Labels configured using the COLLEAGUE GUARDIAN feature do not appear in the label list.

To clear a label, use the same procedure, but select No Label from the label list. No Label always appears first in the label list.

Confirm that the selected label is appropriate for the medication/ solution infusing on that channel.

To add or change a label after the infusion is already running, first stop the infusion by pressing the **STOP** key. After following the steps above, press **START** to resume the infusion.

Programming a Primary Volume-Time Infusion

- 1. For single channel pumps: press the **Primary** soft key. For triple channel pumps: press the desired **Channel Select** key.
- 2. Press the **Change Mode** soft key. The Programming Modes Menu is displayed.
- 3. Highlight Primary Volume-Time, then press the Select soft key. The Volume-Time Programming screen is displayed (Figure 5).
- Enter the Volume to be infused using the keypad.



Figure 5 Volume-Time Programming Screen

pump automatically calculates the flow rate.





- 6. Press the Confirm Primary soft key.
- 7. Press the **START** key to start the infusion. The green RUNNING LED will illuminate on the pump channel and a moving drop icon will appear on the Main Display.

Confirm that flow is occurring by observing drops falling into the drip chamber.

Programming a COLLEAGUE GUARDIAN Infusion (Rate-Volume)

- **Note:** If the **Colleague Guardian** soft key is not visible at the bottom of the Programming screen, this feature is not enabled.
- 1. For single channel pumps: press the **Primary** soft key. For triple channel pumps: press the desired **Channel Select** key.
- 2. Press the Colleague Guardian soft key from the Programming screen. The labels for which COLLEAGUE GUARDIAN limits have been defined are displayed in a pop-up window (Figure 6).
- Use the
 [↑]
 [↓] keys to
 highlight the desired
 label, then press the
 Select soft key.

The programming mode



Figure 6 Colleague Guardian Label List

changes to the mode configured for the selected label, and the Rate field is filled with the configured value.





- 4. Use the \oplus key to highlight the The Volume To Be Infused field.
- **5.** Enter the volume using the numeric keypad.
- 6. Press the Confirm Primary soft key. If the values entered result in a dose that is outside the COLLEAGUE GUARDIAN rate limits, a Limits Warning pop-up is displayed (Figure 7).

If this occurs, do one of the following:

Press Cancel Rate (\$\overline\$ key) to return to the programming screen, then enter a rate that is within the rate limits.



- Press Accept Rate (î key) to accept the out-of limits flow rate and continue with the infusion as programmed.
- 7. Press the **START** key to begin the infusion.

COLLEAGUE GUARDIAN infusions are indicated by the mortar and pestle icon rightarrow next to the label on the Main Display screen.





Programming a COLLEAGUE GUARDIAN Dose Mode Infusion

- 1. For single channel pumps: press the **Primary** soft key. For triple channel pumps: press the desired **Channel Select** key.
- 2. Press the Colleague Guardian soft key. The labels for which COLLEAGUE GUARDIAN limits have been defined are displayed in a pop-up window (Figure 8).
- Use the
 [↑]
 [↓] keys to highlight the desired label, then press the Select soft key.

The programming mode changes to the mode configured for the selected label, and the Dru



Figure 8 Colleague Guardian Label List

selected label, and the Drug Amount, Diluent Volume, and Concentration fields are filled with the defined values.

For non-weight-based modes, the Volume To Be Infused field is filled with the standard Diluent Volume (Figure 9).





For weight-based modes, the Weight field is highlighted (Figure 10). If a default dose has been configured, it appears in the Dose field.



4. For weight-based modes, enter patient weight using the numeric keypad. The pump calculates the values for the remaining fields.

Depending on how the pump has been configured at the facility, the kg or lbs field may not be available for data entry. Fields not available for data entry appear as shaded.

For small patients, weight can be entered in grams (or ounces) if appropriate. To change weight units, highlight the **Weight** field, press the **Units** soft key to display the weight units list, highlight the desired weight unit, then press the **Select** soft key.



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- (Optional) To view the limits for the label, press the View Limits soft key. The Limits Display pop-up displays the preconfigured range limits for rate, dose, or concentration, whichever is appropriate for that label (Figure 11). Press the Done soft key to close the pop-up.
- 6. (Optional) If the label is set up to allow non-standard concentration





programming, the drug amount, diluent volume, and concentration can be changed by using the $\Omega \oplus$ keys to highlight the appropriate field and entering new values using the numeric keypad.

 Use the \$\\$ key to highlight the Dose field and enter the dose. The pump displays the dose and calculated flow rate.

> If values are changed so that the resulting drug amount, diluent volume, or concentration is non-standard, the changed values are indicated by white triangles beside them (Figure 12).



Figure 12 Non-Standard Programming (White Triangles)

8. Press the Confirm Primary soft key.

If the dose entered is outside the dose limits, a Limits Warning pop-up is displayed (Figure 13). Do one of the following:

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- Press Cancel Dose (¹/₄ key) to cancel the dose, then enter a dose that is within the preset limits.
- If the clinical decision is to proceed with the override of the COLLEAGUE GUARDIAN limits, press Accept Dose (îr key) to accept the out-of limits dose and continue.





9. Press **START** to begin the infusion.

COLLEAGUE GUARDIAN infusions are indicated by the mortar and pestle icon range next to the label on the Main Display screen.

A yellow triangle is displayed beside the label name if the drug amount, diluent, or concentration was changed to deviate from the standard COLLEAGUE GUARDIAN settings.

Note: If the clinical decision was to override the COLLEAGUE GUARDIAN limits, the dose and programming mode are displayed in red on a yellow highlight indicating that the programmed dose is outside of the limits.

Programming a Dose Mode Infusion

- 1. For single channel pumps: press the **Primary** soft key. For triple channel pumps: press the desired **Channel Select** key.
- 2. Press the **Change Mode** soft key. The Programming Modes Menu is displayed.





■ Use the û ↓ keys and/or the **Page Up** and **Page Down** soft keys to highlight the appropriate dose mode, then press the **Select** soft key. The Dose Programming screen is displayed, with programming fields for either a non-weight based mode (Figure 14) or a weight-based mode (Figure 15) as appropriate.



- 3. Use the û ♣ keys to move through the programming screen. Enter the drug amount, diluent volume, and the dose or rate.
- 4. For weight-based modes, enter patient weight in kg (or lbs) using the numeric keypad. The pump calculates the values for the remaining fields.

For small patients, weight can be entered in grams (or ounces) if appropriate. To change weight units, highlight the **Weight** field, press the **Units** soft key to display the weight units list, highlight the desired weight unit, then press the **Select** soft key.

- 5. Press the Confirm Primary soft key.
- 6. Press **START** to begin the infusion.





Programming a Secondary Rate-Volume Infusion

1. For single channel pumps: press the **Secondary** soft key. For triple channel pumps: press the desired **Channel Select** key, then press the **Secondary** soft key.

The Main Display shows the Secondary Rate-Volume programming screen, and the **Rate** field is highlighted.

! WARNING !

There may be periods of no flow for flow rates less than or equal to 1mL/hr.

Do not enter a Volume to be infused greater than

- 2. Enter the flow rate using the numeric keypad.
- 3. Press the Vol key or use the û ♀ keys to highlight the Volume to be infused (VTBI) field.

! WARNING !

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the amount of fluid available in the container.

- **4.** Enter the VTBI using the numeric keypad.
- 5. Press the Confirm Secondary soft key.
- 6. If the primary set has a slide clamp above the pump, close the slide clamp.
- 7. Open the On/Off clamp on the secondary medication/solution set and press the *START* key.

Confirm that flow is occurring by observing drops falling into the drip chamber. Delivery from the primary container will occur when the secondary container empties.

Note:	If the primary administration set has a slide clamp
Open Primary	above the pump, when the secondary infusion has
Slide Clamp	completed, open the slide clamp above the pump
	to restart the primary infusion.

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Programming a Secondary Volume-Time Infusion

- For single channel pumps: press the Secondary soft key. For triple channel pumps: press the desired Channel Select key, then press the Secondary soft key.
- 2. Press the **Change Mode** soft key. The Programming Modes Menu is displayed.
- 3. Highlight Secondary Volume-Time, then press the Select soft key. The Volume-Time Programming screen is displayed (Figure 5).
- 4. Enter the Volume to be infused using the keypad.
- Highlight Time Duration using the û ↓ keys. Use the keypad to enter the time period for the infusion in hours and minutes. The pump automatically calculates the flow rate.
- 6. Press the Confirm Secondary soft key.
- **7.** If the primary set has a slide clamp above the pump, close the slide clamp.
- 8. Open the On/Off clamp on the secondary medication/solution set and press the *START* key.

Confirm that flow is occurring by observing drops falling into the drip chamber. Delivery from the primary container will occur when the secondary container empties.

Note:	If the primary administration set has a slide clamp
Open Primary	above the pump, when the secondary infusion has
Slide Clamp	completed, open the slide clamp above the pump
· · · · · · · · · · · · · · · · · · ·	to restart the primary infusion.





Standby Mode

For single channel pumps:

- Ensure the pump is stopped. 1.
- (Optional) To preprogram the pump for future use, program the 2. infusion (but do not press the START key).
- 3. From the Programming screen, press the Change Mode soft key.
- 4. Use the û ♀ keys to highlight Standby, then press the **Select** soft key. The Standby pop-up is displayed (Figure 16).
- 5. Press the 1 key next to the YES shown on the pop-up to place the pump into Standby mode.

For triple channel pumps:



- 1. Ensure the pump channel is stopped. Press the **Channel**
 - Figure 16 Standby Pop-up

Select key for the channel to be put on Standby.

- 2. (Optional) To preprogram the channel for future use, program the infusion (but do not press the START key).
- 3. Press the *Channel Select* key again. The Standby pop-up is displayed.
- 4. Press the $\hat{\mathbf{T}}$ key next to the YES shown on the pop-up to place the channel into Standby mode.

To exit Standby:

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1. For single channel pumps: press the **Primary** soft key. For triple channel pumps: press the desired Channel Select key.

The pump channel exits Standby and reverts to the programming mode in effect when it was placed on Standby.



Unloading the Administration Set

Automatic Unloading

- 1. If the pump module is running, press the **STOP** key on the pump module to stop it.
- 2. Close the regulating clamp on the administration set.
- 3. Press the *Open* key on the pump module. The mechanism closes the keyed slide clamp and opens the tubing channel. When an arrow is displayed on the pump module, the tubing channel is open.



While the pump automatically closes the keyed slide clamp, always close the regulating clamp on the administration set before loading or removing the administration set from the pump.



When attempting to load or unload an administration set, do not insert tools or other objects into the tubing channel.

- **4.** Grasp the administration set on both sides of the pump and remove it from the tubing channel. The mechanism closes automatically 60 seconds after the administration set has been removed.
- **Note:** Do not cut the tubing to remove the administration set from the channel. If the tubing is cut, remove the slide clamp immediately.

Using the Manual Tube Release (MTR)

Use Manual Tube Release only when the Tube Loading Mechanism is NOT functioning, or if a channel failure occurs. The MTR feature is for emergency use. Never use the MTR to load or unload the administration set during normal operation.

Note: The pump will not turn on if the MTR is in the open position.





For triple channel pumps: If the MTR is used, the remaining pump channels cannot be programmed until the MTR is reset.

- Close the regulating clamp on the 1. administration set.
- 2. Locate the appropriate Manual Tube Release on the right side of the pump channel.
- 3. Push and grasp the release tab (Figure 17A), turning it out (Figure 17B).
- 4. Rotate the tab counterclockwise until it stops (Figure 17C).
- Note: If the pump is off when the MTR is activated, it will automatically turn itself on. The Reset Manual Tube Release alarm occurs and the Reset Manual Tube Release screen displays
- 5. This closes the keyed slide clamp and opens the pump mechanism so the administration set can be removed.







Figure 17 Using the MTR

6. Remove the administration set from the pump.

> If the pump is on with no administration set in the tubing channel, a Reset Manual Tube Release alarm occurs.

If the pump is on and the administration set is in the tubing channel when the MTR is activated, a Close Regulating Clamp alarm occurs. Close the regulating clamp on the administration set, remove the administration set, and then reset the mechanism.







Resetting the Manual Tube Release

If a channel failure occurs and an attempt is made to power off the pump without first resetting the MTR, the Reset Manual Tube Release pop-up is displayed (Figure 18).

Reset the Manual Tube Release as follows:

1. Close the regulating clamp on the administration set. Ensure there is no administration set or foreign object in the tubing channel.



- el.
- 2. Turn the release tab (Figure 17A) clockwise until it stops and push the tab into its socket. For triple channel pumps: Repeat the steps above as needed for additional channels.
- 3. Press the **Done** soft key to clear the alarm.
- **Note:** If the MTR is used following a channel failure to remove the administration set, the pump cannot be powered off until the MTR has been reset. A Reset Manual Tube Release pop-up message will be displayed.
- **Note:** If three unsuccessful attempts to reset the MTR are made, a channel failure occurs. The pump cannot be used until the MTR is reset and the pump is powered off and back on.





Troubleshooting Failures

Device Failure

Device failures affect all infusions running on the device. When a device failure has occurred, follow the directions below:

- 1. Close the regulating clamp on the administration set. Unload the administration set.
- 2. Request a replacement pump immediately.
- **3.** Cycle power on the pump by powering off and then powering on again. Do this only once.
- 4. Based on the result, do one of the following:
 - If the failure code recurs after the pump is turned back on, stop using the pump.
 - If the failure code does not recur after the pump is turned back on, re-load the administration set into the same channel, open the regulating clamp, and continue using the pump.
- 5. Monitor the pump until replacement pump arrives and transfer any infusions to the replacement pump as soon as it is clinically safe. Have the failed pump serviced as soon as possible.

Channel Failures

! WARNING !

While the pump automatically closes the keyed slide clamp, always close the regulating clamp on the administration set before loading or removing the administration set from the pump.

Note: 803:07 Failure Code If Failure Code 803:07 occurs, ensure that the slide clamp has been removed from the pump. Do not cut the tubing to remove the administration set from the channel. If the tubing is cut, remove the slide clamp immediately.



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- 1. For single channel pumps: press the **Primary** or **Secondary** soft key. For triple channel pumps: press the desired **Channel Select** key.
- 2. For single channel pumps: request a replacement pump immediately.
- 3. Perform step 4 or 5 as appropriate.
- If the tube loading mechanism is open, close the regulating clamp on the administration set and remove the set. Press the Done soft key. The channel is now shown as Out Of Service.

For single channel pumps: the pump cannot be used to deliver infusions, but the *Volume History* key can be used to retrieve history information. Skip to step 6.

- 5. If the channel fails with the tube loading mechanism in the "closed" position:
 - Close the regulating clamp on the administration set. Press the Open key. If the mechanism opens, remove the set.
 - If the mechanism does not open, use the MTR to remove the set.
- 6. Press the **Done** soft key. The Main Display shows that the pump is out of service.
- 7. Do one of the following:
 - For single channel pumps, cycle power on the pump by powering off and then powering on again. Do this only once. Proceed to step 8.
 - For triple channel pumps, allow any infusions running on the other pump channels to complete. Remove the pump from service and have it inspected by Baxter-trained, qualified personnel as soon as possible. Do not continue with this procedure.

8. Based on the result, do one of the following:

- If the failure code recurs after the pump is turned back on, stop using the pump.
- If the failure code does not recur after the pump is turned back on, re-load the administration set into the same channel, open the regulating clamp, and continue using the pump.

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9. Monitor the pump until replacement pump arrives and transfer any infusions to the replacement pump as soon as it is clinically safe. Have the failed pump serviced as soon as possible.

Troubleshooting Alarms

An alarm will override an existing alert condition. The alarm tone can be silenced for two minutes by pressing the *Alarm Silence* key.

Air Detected

Pump module display message: AIR

Cause: An air bubble detected in the administration set. **Action:** For single channel pumps: proceed directly to step 2. 1. For triple channel pumps: press the **Channel Select** key to access the appropriate programming screen. A pop-up window is displayed. 2. You have two options:

- Press the \$\overline\$ key next to the **NO** selection, unload the tubing, then manually purge the air. Properly reload the tubing after the air is purged.
- Press the

 \u03c8 key next to the YES selection, then press and hold
 the Advance Air soft key. When the pump detects fluid, a fluid
 detected icon is displayed. Press the Done soft key. The Air
 Detected alarm is reset. Visually inspect the air and follow
 your care area's procedures for manually removing the air.

Note: The **Advance Air** alert is active when the **Advance Air** soft key is pressed. This alert clears when the **Done** soft key is pressed.

3. To restart the infusion, press START.

Downstream Occlusion

Pump module display message: DWN OCCL/label Cause: A closed clamp, stopcock, clogged filter or other occlusion is preventing fluid flow between the pump and patient. Action: Correct the problem causing the occlusion.

After correcting the problem, press the appropriate *Channel Select* key (for a triple channel pump), press the **Primary** or **Secondary** soft key, then press the **START** key to resume the infusion.

Note: When the pump is configured with the Auto Restart feature ON, the pump can automatically restart if the occlusion is resolved within one minute after detection. Auto Restart will be disabled if any key is pressed during a Downstream Occlusion alarm.

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NO BATTERY - Plug in Now

Pump module display message: current infusion information

Cause: The batteries are depleted and infusions have stopped. The pump must be plugged into AC power before infusions may be restarted. After 5 minutes in this alarm state, the pump will shut down. **Action:** To clear the alarm, plug into AC power immediately. A pop-up is displayed, instructing not to unplug the pump. Press the **Ok** soft key to clear the pop-up and resume the infusion using AC power.

- To resume infusions on single channel pumps: press the START key.
- To resume infusions on triple channel pumps: press the Channel Select key(s), then press the START key.

Do not use the pump on battery power until the battery charge icon indicates that the batteries have fully charged.

If infusions are complete, power off the pump by pressing the **ON/ OFF CHARGE** key twice and allow the batteries to recharge fully.

Tube Misloaded

Pump module display message: PATIENT ---->>>> Cause:

- The administration set has been improperly loaded.
- The administration set was not fully removed from the tubing channel.
- A hardware problem may have occurred.

Action:

- Close the regulating clamp on the administration set and remove the administration set. Reload the set.
- If alarm occurs again, a hardware problem may exist. Take the pump out of service and have it inspected by Baxter-trained, qualified personnel.

Upstream Occlusion

Pump module display message: UPOCCL/label

Cause: A closed clamp, obstruction, or kink in the administration set is preventing fluid flow between the source container and the pump. **Action:** Correct the problem causing the occlusion.

- Ensure the complete insertion of the spike into the source container.
- Inspect the administration set above the pump for closed clamps or kinks.
- Ensure that BURETROL administration sets or source containers are vented.

After correcting the problem, press the appropriate *Channel Select* key (for a triple channel pump), press the **Primary** or **Secondary** soft key, then press **START** to resume the infusion.

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Troubleshooting Alerts

The alert tone can be silenced for two minutes by pressing the *Alarm Silence* key.

Advance Air

Pump module display message: ADV AIR

Cause: The pump's Advance Air feature is being used to move an air bubble through the tubing.

Action: The Rdvance Air alert is active when the Advance Air soft key is pressed. This alert clears when the **Done** soft key is pressed.

Channel Stopped

Pump module display message: STOPPED

Cause: The pump is ON and the infusion is not running. **Action:** Complete the remaining programming steps and press the **START** key, or power off the pump.

LOW Battery - Plug in Now

Pump module display message: the current infusion information **Cause:** The charge remaining in the batteries has 30 minutes of infusion time left. The time remaining shown on the Main Display decrements if the pump is not plugged in.

Action: Plug the pump into an AC power source as soon as possible.

KVO: Volume Remaining = 0

Pump module display message: KU0=x.x/label (where x.x = the KVO rate)

Cause: The Volume to be infused has reached zero and the pump is infusing at the KVO rate (or programmed rate, whichever is lower). **Action:** Do one of the following as appropriate:

- Prepare a new infusion.
- For triple channel pumps, stop the channel and place it in Standby mode.
- Power off the pump.







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