Alaris® PCA Module Guide

Syringe Loading and Set-Up

WARNING: TO PREVENT UNREGULATED FLOW, CLOSE SET TUBING CLAMP BEFORE LOADING OR UNLOADING SYRINGE.

Loading:
1. Open syringe barrel clamp (clear piece) until it clears syringe chamber.
2. Raise drive head (gray) to fully extended position.
3. Insert syringe barrel flange between barrel flange grippers (see drawing).
4. Lock syringe in place by closing barrel clamp.
5. Twist gripper control clockwise, lower drive head, lock plunger in place with plunger grippers.

Priming:
1. If priming using PCA module, this feature is available when viewing Infusion Mode screen during programming of PCA module. At this screen, press OPTIONS, then press PRIME SET WITH SYRINGE.
2. Once tubing set is primed, close slide clamp.  
Note: At the start of an infusion program, the system prompts to select and confirm syringe type and size. Ensure displayed syringe manufacturer and size correctly identifies the installed syringe.

Programming Guide

WARNING: DO NOT PRIME WHILE ATTACHED TO PATIENT!

Initial Set-Up:
1. Select administration set and attach set to syringe.
2. If priming manually, express air from administration tubing set.
3. Load syringe with administration set attached.
4. Press SYSTEM ON key and select YES or NO to “New Patient”.
5. Select appropriate profile.
6. Press CHANNEL SELECT key and set key to “Program” position.
7. Press CONFIRM time setting and choose correct syringe type and size.  
Note: If installed syringe is not listed, press ALL SYRINGES and choose matching installed syringe type and size.
8. Choose correct medication and concentration.
10. Press PRIME SET WITH SYRINGE.
11. Press and hold PRIME key to prime tubing.  
Note: Do not prime while attached to patient.
12. Press EXIT when prime is complete.
13. Choose desired Infusion Mode and follow on-screen prompts.
14. Close and lock door and attach administration set tubing set to patient.
15. Review settings and press START.

Programming PCA with PCA Pause Protocol Enabled:
1. Perform steps 1-10 of Initial Set-Up in previous section and continue with following steps.
2. Review Clinical Advisory “Attach an SPO2 or EtCO2 Module Now”.
3. Press CONFIRM.

Note: If a monitoring module is not attached and started, PCA Pause Protocol WILL NOT activate.
4. Choose desired Infusion Mode and follow onscreen prompts.
5. Press NEXT key to verify medication parameters.
6. Review Clinical Advisory “PCA Pause Limits Should be Reviewed”.
7. Press CONFIRM.
8. Choose desired Infusion Mode and follow onscreen prompts.

Change Syringe:
1. Press PAUSE and close tubing clamp.
2. Use key and unlock door and remove old syringe.
3. Press SILENCE.
4. Attach new syringe to tubing and load new syringe.
5. Set key to “Program” position and close door.
6. Press CHANNEL SELECT key.
7. Choose correct syringe type and size.
8. Press CONFIRM.
9. Press RESTORE if same drug and concentration.
11. Lock door and open tubing clamp.
12. Review settings and press START.

Change Program/Mode:
1. Press CHANNEL SELECT key.
2. Press PROGRAM.
3. Set key to “Program” position or enter authorization code (if enabled).
4. Choose desired infusion mode and follow onscreen prompts.

Beginning of Shift/Summary Review:
1. Press CHANNEL SELECT key and verify settings.
2. Press START key.

Patient History/End of Shift/24hr History:
1. Press CHANNEL SELECT key.
2. Press OPTIONS.
3. Press PATIENT HISTORY.
4. Press ZOOM key (time interval) as appropriate and review drug totals.
5. To clear patient history press CLEAR HISTORY and press YES or NO.
7. Press EXIT then press START.

Operator Precautions: For proper operation of the Alaris® System (formerly Medley® System) the user must be familiar with the features, disposables, administration sets, set-up and programming.

This guide includes selected information and suggestions and is not intended to be comprehensive instructions for the set-up and operation of the Alaris® System. For complete instructions along with Warnings and Cautions, refer to Alaris® System Directions for Use (v8).

created 0808
Patient has true measurement of low EtCO2

Module Reached
Drive Not
Check
Alerts
Troubleshooting
2=light on, 3=light off).
2. Press
1. Press
5. Press
4. Enter bolus dose amount and lock door.
Press CONFIRM
6. Review settings and press START.

Stop Bolus, Loading or PCA Dose
1. Press CHANNEL SELECT key.
2. Press Stop Bolus>Loading or PCA.
3. Press YES or NO.
Programmed settings will resume.

Change Dose Request Cord Setting
1. Press CHANNEL SELECT key.
2. Press OPTIONS.
3. Press "Dose Request Set-up."
4. Choose desired Dose Cord Profile. (1=light flashes, 2=light on, 3=light off)
5. Press CONFIRM and press START.

Change PCA Pause Alarm Limits
1. Press CHANNEL SELECT key.
2. Press OPTIONS.
3. Press "PCA Pause Limits."
4. Choose desired parameter and enter value.
Note: If acceptable range value is not within hospital defined range a prompt is provided.
5. Follow on screen prompts.
6. Press CONFIRM and press START.

Access Drug Event History
1. Press CHANNEL SELECT key.
2. Press OPTIONS, then press DRUG EVENT HISTORY.
Attaching and Detaching Dose Request Cord
To attach the Dose Request Cord:
Insert latching connector on the cord into Dose Request Cord attachment on the PCA module. The red marking on the latching connector should be aligned with the red marking on the Dose Request Cord attachment.
To detach the Dose Request Cord:
Hold the body of latching connector on the Dose Request Cord and pull straight away from the PCA module, without twisting or turning.

Detaching Module:
Use key to unlock door. Inside locate black lever and depress. At the module sideways and away from the Alaris® PC Point-of-Care unit ("Alaris® PC unit").

2. Press 1. Press
2. Press
5. Press
4. Enter bolus dose amount and lock door.
Press CONFIRM
6. Review settings and press START.

Set key to Program position or enter authorization code (if en
OPTIONS
CHANNEL SELECT
Stop Bolus/Loading or PCA
CHANNEL SELECT
Bolus Dose
CHANNEL SELECT
MAIN SCREEN

Set field.

A user message will appear on the screen when the Alaris® System (formerly Medley®System) is not captured, the system will immediately alarm.

• Syringe barrel clamp opened during infusion and then closed.
• Syringe plunger not captured while in idle mode. System alarms automatically to indicate potential siphoning condition. If safety door is closed and syringe plunger is not captured, the system will immediately alarm.

PCA Infusion has paused due to a decline in respiratory status.

Assess patient status per hospital policy. Press CONFIRM once patient status and monitoring values have been addressed. Press RESTART key per hospital policy. To view trigger of PCA Pause Alarm, Press CHANNEL SELECT, Press OPTIONS, Press DRUG EVENT HISTO-
RY, Press Up/Down key to view text for monitoring value causing PCA Module to pause. Press EXIT and then START.

Drive Not
Engaged
Drive system disengaged during operation. Open and close plunger grippers. Ensure syringe is properly installed.

Max Limit Reached
Indicates the maximum amount of drug delivered based on Maximum Hourly Limit field.

Module Enforcement
A user message will appear on the screen when the PCA module is NOT located directly to the right of the Alaris® PC unit.

Near End (NEOi) Near End of Infusion and remaining VTBI will alternate on screen until syringe is empty. Alert message will scroll in channel message display on the PCA module. The PCA module remains functional and will continue infusion

Syringe Empty Alarm message Syringe Empty will scroll in channel message display on the PCA module.
To silence safety alarm tone, press SYRINGE key. Alarm tone will re sound if additional dose is requested during maximum limit reached alarm

Securely lock plunger grippers, press CHANNEL SELECT key, and re select syringe. Securely lock syringe barrel clamp and press RESTART key. Check for potential siphoning. Ensure administration set clamp (riderslide) is in closed position. Securely lock plunger grippers over syringe plunger.

To silence safety alarm tone, press SYRINGE key. PCA module will remain sil-
ent. Alarm tone will re sound if additional dose is requested during maximum limit reached alarm

Remove the PCA module and attach directly to the right of the Alaris® PC unit.

To silence safety alert tone, press SYRINGE key. PCA module will remain silent until Syringe Empty alarm sounds.

To silence safety alarm tone, press SYRINGE key. PCA module will remain silent approximately 2 minutes and will re sound.

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**EtCO2 Waveform Examples**

The following are examples of common EtCO2 waveforms. The waveform trends are examples only and do not represent all potential abnormal waveforms. Analysis of these waveform trends may provide an early indication of the noted possible causes. The associated possible responses are suggestions only and are not meant to replace current clinical practice or hospital protocols. Always consult hospital protocols. Abnormal waveforms are not always associated with alarms.

<table>
<thead>
<tr>
<th>Normal / Abnormal Waveform</th>
<th>Clinical Findings</th>
<th>Possible Causes</th>
<th>Possible Responses</th>
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</thead>
<tbody>
<tr>
<td>Normal Waveform (Normal Ventilation; 35-45 mmHg)</td>
<td>• Normal breathing, Normal EtCO2&lt;br&gt;A - B: Baseline period of no CO2, End of inhalation&lt;br&gt;B - C: Exhalation begins, begin rapid rise in CO2&lt;br&gt;C - D: Sustained exhalation, Alveolar plateau&lt;br&gt;D: End of expiration, end tidal CO2 (EtCO2) value&lt;br&gt;D - E: Inhalation, Rapid decrease in CO2</td>
<td>Increase in pain level or splinting area of pain&lt;br&gt;• Increase in anxiety or fear&lt;br&gt;• Respiratory distress or shortness of breath</td>
<td>Always follow hospital protocols&lt;br&gt;• Treat cause of increased respiratory rate&lt;br&gt;• Assess ABCs (Airway, Breathing, Circulation)&lt;br&gt;• Decrease pain stimulus or encourage calm&lt;br&gt;• Notify RT or MD</td>
</tr>
<tr>
<td>Hyperventilation</td>
<td>• Rapid breathing, Low EtCO2</td>
<td>• Over medication or increased sedation&lt;br&gt;• Snoring or possible obstruction</td>
<td>Always follow hospital protocols&lt;br&gt;• Access ABCs&lt;br&gt;• Assess sedation level&lt;br&gt;• Stimulate patient&lt;br&gt;• Notify RT or MD</td>
</tr>
<tr>
<td>Hypoventilation</td>
<td>• Slow breathing, High EtCO2</td>
<td>• Over medication or increased sedation&lt;br&gt;• Low tidal volume</td>
<td>Always follow hospital protocols&lt;br&gt;• Assess ABCs&lt;br&gt;• Maintain patient airway&lt;br&gt;• Encourage patient to take deep breaths&lt;br&gt;• Notify RT or MD</td>
</tr>
<tr>
<td>Hypoventilation with Shallow Breathing</td>
<td>Slow breathing, Low EtCO2 followed by deep breath (see pointing arrow)</td>
<td>• Over medication or increased sedation</td>
<td>Always follow hospital protocols&lt;br&gt;• Assess ABCs&lt;br&gt;• Maintain patient airway&lt;br&gt;• Encourage patient to take deep breaths&lt;br&gt;• Notify RT or MD</td>
</tr>
<tr>
<td>Partial Airway Obstruction</td>
<td>Irregular breathing, possible audible sound or snoring, EtCO2 may be above or below baseline</td>
<td>• Poor head or neck alignment&lt;br&gt;• Over medication or sedate</td>
<td>Always follow hospital protocols&lt;br&gt;• Assess ABCs&lt;br&gt;• Encourage patient to take deep breaths&lt;br&gt;• Perform a head tilt or chin lift; Check position of cannula&lt;br&gt;• Notify RT or MD</td>
</tr>
<tr>
<td>No Breath</td>
<td>Sudden loss of EtCO2 reading, Very shallow or no respiratory rate pattern observed</td>
<td>• No Breath or Apnea&lt;br&gt;• Very shallow breathing&lt;br&gt;• Over medication or sedate&lt;br&gt;• Displaced cannula</td>
<td>Always follow hospital protocols&lt;br&gt;• Assess ABCs&lt;br&gt;• Stimulate patient&lt;br&gt;• Open airway&lt;br&gt;• Notify RT or MD</td>
</tr>
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References: