

# Arrow VPS Rhythm Device ECG Quick Guide



## Non-Sterile Setup

1. Turn on monitor using power switch on back of monitor.
2. Enter patient ID.
3. Select CVC or PICC.
4. Enter optional notes.

## ECG Setup and Baseline Cardiac Rhythm

1. Connect black patient ECG cable connector to the black socket and the blue remote control connector to the blue socket on the back of the monitor.
2. Connect the ECG snap leads to the corresponding color of the ECG patient cable and attach the electrodes to the snap leads.
3. Apply the ECG electrodes to the patient, (AHA leads: white to right arm, black to left arm, red to lower left chest/upper left leg and IEC leads: red to right arm, yellow to left arm, green to lower left chest/upper left leg)
4. Verify external ECG signal, and confirm patient is in sinus rhythm.
5. Click camera icon to take a baseline external ECG snapshot of the patient's cardiac rhythm, then click the "Checkmark" icon to save.

## If using PICC mode

- Once baseline external ECG is saved, a window will appear to allow user to enter external measurement and trimmed length. Using landmark technique obtain external measurement for catheter length; enter into external measurement window.
- Add 2 cm to external measured length and enter as trimmed length. Trim PICC at this length if trimming is required.

## Sterile Setup

1. Set up the sterile field and prepare patient per institutional policy and procedure and manufacturer's guidelines.
2. Open sterile contents of ECG accessory pack and remove sterile sleeve.
3. Place remote control in sterile sleeve, unrolling the sleeve to cover the entire length of the remote control cable.
4. Pull the plastic sleeve tightly over the tip of the remote control cable plug, creating tension against the tip of the plug.
5. Insert the remote control plug into the disposable ECG clip cable jack, carefully piercing through the sterile sleeve while maintaining the sterile field.
6. Connect the ECG clip cable to the catheter by squeezing the alligator clip and connect it to the metal portion of the catheter wire.

## If Using an Arrow-Johans RAECG (EKG) Adapter for PICC or CVC Placement

1. While maintaining sterile technique, connect the Arrow-Johans Adapter to the catheter.
2. Squeeze the ends of the alligator clip and connect it to the Arrow-Johans Adapter.

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# VPS Rhythm Device ECG Quick Guide (cont.)

## Catheter Placement

### Using Valved Catheters

If using a valved catheter special considerations must be made for correct use of the VPS Rhythm Device for catheter tip placement. The ECG signal used for final catheter tip placement is impeded if the catheter's integral valve is closed.

### Catheters with a valve at the distal end of the catheter

- Use the saline column technique to insert these catheters. While advancing catheter towards the Superior Vena Cava (SVC), periodically flush the catheter through the distal end of the Arrow-Johans Adapter to open the catheter's integral valve.

### Catheters with a valve integrated into the catheter's luer hub

- The saline column technique can be used: While advancing the catheter towards the SVC, periodically flush the catheter through the distal end of the Arrow-Johans Adapter to open the catheter's integral valve.
- If the catheter has a metal stylet/wire where the position of the wire can be secured relative to the catheter hub, the technique detailed below regarding use of catheters with a metal stylet/wire, may be used. When using this technique the metal stylet/wire passes through the valve, keeping it open throughout the procedure.

**Note:** Always maintain a complete saline column inside the catheter.

**Note:** To maintain a clear waveform, it is recommended to keep the patient as still as possible

**For central venous catheter, or PICC lines with a metal stylet/wire when the position of the stylet/wire can be secured relative to the catheter hub that now have the alligator clip connected to the metal portion of the catheter/stylet wire:**

Slowly thread catheter per institutional policy and procedure. As the catheter approaches the SVC, observe changes in the ECG waveform to place the line at the proper location.

**For central venous catheters or PICC lines with a non-metal stylet where the saline column technique will be used: use either the Seldinger or Modified Seldinger technique, depending upon your institutional policy and procedure, manufacturer's guidelines and user experience:**

### Seldinger Catheter Insertion with Saline Column Technique

Attach Arrow-Johans Adapter to the catheter's luer hub and flush the Adapter and all catheter lumens with sterile saline. Place the central line using the Seldinger technique per institutional policy and procedure and manufacturer's guidelines. Attach ECG Clip Cable to the Adapter using the alligator clip.

As the catheter approaches the SVC, observe changes in the ECG waveform to place the line at the patient's maximum P-wave, the proper tip location. Continue the procedure per institutional policy and procedure and manufacturer's guidelines. Follow the steps outlined on the next page regarding snapshots for final documentation.

### Modified Seldinger Catheter Insertion with Saline Column Technique

Attach Arrow-Johans Adapter to the catheter's luer hub and flush the Adapter and all catheter lumens with sterile saline. Attach ECG Clip Cable to the Adapter using the alligator clip. Place the central line using the Modified Seldinger technique per institutional policy and procedure and manufacturer's guidelines.

As the catheter approaches the SVC, observe changes in the ECG waveform to place the line at the patient's maximum P-wave, the proper tip location. Continue the procedure per institutional policy and procedure and manufacturer's guidelines. Follow the steps outlined on the next page regarding snapshots for final documentation.

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# VPS Rhythm Device ECG Quick Guide (cont.)

1. Ensure monitor is in intravascular mode.
2. If trimming the catheter, retract/remove catheter wire and trim catheter to desired length, per institutional policy and procedure and manufacturer's guidelines.
3. Flush all catheter lumens with normal sterile saline. Always maintain a saline column in the catheter.
4. Slowly thread catheter per institutional policy and procedure and manufacturer's guidelines.
5. Advance the catheter, watching for increasing intravascular P-wave amplitude. Continue advancing the catheter until a slight negative P-wave deflection is observed. Take and save a negative deflection intravascular snapshot.
6. Slowly retract the catheter until maximum P-wave is observed. Take a snapshot of this event.
7. Use remote control during procedure to obtain ECG snapshots. (Remote control has left, enter and right controls to toggle through the screens). Scroll right and select the "Checkmark" icon to save snapshot.

## Recommended snapshots include:

- External ECG baseline
- P-wave deflection
- Maximum P-wave

## Snapshots may be taken at any time.

**Note:** The right hand snapshot window will remain blank unless 16 snapshots have been taken, at which point additional snapshots overlay the previously taken image. The clinician can scroll through the previously taken snapshots using the arrow keys on the remote control.

## If using PICC mode

8. A window appears for each IV ECG snapshot taken, requiring the clinician to enter the exposed catheter length, using the remote control. The implanted catheter depth is automatically calculated and displayed.
9. Advance the catheter, watching for increasing intravascular P-wave amplitude. Continue advancing the catheter until a slight negative P-wave deflection is observed. Take and save a negative deflection intravascular snapshot.
10. Slowly retract the catheter until maximum P-wave is observed. Take a snapshot of this event.

## Finish Procedure

1. When catheter is properly placed in the lower 1/3 SVC near the cavo-atrial junction (CAJ), use the remote control or touch screen to select the large "Checklist" icon.
2. If the user has not collected sufficient Intravascular snapshots, select the "Undo" icon to return to the ECG screen and take any remaining snapshots required.
3. Secure the PICC according to institutional policy and procedure. The sterile portion of the procedure is now complete.
4. If all items in checklist have been met, select "YES" using the touch screen and enter to complete the case.
5. If all items in checklist have not been met, select "NO" using the touch screen and enter to complete the case. Another method of tip confirmation, such as chest X-ray or fluoroscopy is required.

## Post-Procedure

1. When the case is completed, the Patient File screen is displayed. Patient files are available for download via USB, or they can be printed for patient record.
2. From the Patient File screen, the user can either turn the monitor off, or press the Enter button to start a new case.

See the product Instructions for Use for detailed information regarding the indications for use, contraindications, warnings, and cautions. This material is not intended to replace standard clinical education and training by Teleflex and should only be used as an adjunct to more detailed information that is available about the proper use of the product.

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