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# Troubleshooting Guide

## Troubleshooting Intraoperatively

If you cannot hear the sound of blood flow:

1. Irrigate the probe with saline. This will produce a sound and confirm that the probe is functioning.
2. If irrigation confirms that the probe is functioning, check to see if the lack of blood flow sound indicates one of the following:
  - A low flow state in the flap or a drop in blood pressure
  - A loose probe, which can be confirmed by pressing the probe and checking for tightness
3. If there is still no sound after the previous steps have been followed, palpate the vessel near the location of the probe to check for flow.

**Note:** When leading the probe to the vessel, be careful to allow a natural pathway for the wire from the crystal to the monitor. Make sure there is no tension in the probe wire, because tension may prevent the probe from orienting flush against the vessel.

## Troubleshooting Postoperatively

If you cannot hear the sound of blood flow:

1. Consider repositioning the patient.
2. Press or palpate the patient near the probe site to improve the crystal's contact with the blood vessel.
3. Make sure you have selected the proper channel.
4. Test the operation of the monitor by pressing the "test" button and listening for the tone.
5. Use the Channel/Cable Verifier to make sure that the channel you plugged the extension cable into is operational.
6. Use the Channel/Cable Verifier to make sure that your extension cable is operational.

If the unit is functioning correctly and you still cannot hear the sound of blood flow, contact the physician immediately.

## Removing the Probe

After the physician has determined that the flap has permanently established blood flow, follow these steps to remove the crystal:

1. Remove sutures (and/or tape) from the wire outside the wound and from the retention tabs.
2. Tug gently on the wire near the crystal to disengage it from the cuff. (As little as 0.2 lb of pressure will disengage the crystal from the cuff.)
3. Leave the silicone cuff; it remains permanently in place around the vessel.

**Note:** Avoid use of excessive force to remove the transducer assembly from the patient, which may cause injury to the blood vessel. If the transducer assembly can not be removed using gentle traction, the transducer assembly should be removed surgically.

# Doppler Blood Flow Monitoring System

Used for monitoring blood flow in vessels intraoperatively, and following reconstructive microvascular procedures, reimplantation, and free-flap transfers.<sup>1</sup>

## Low Battery LED

This light indicates when the unit has a low battery.

## Flow Indication Lights

Although audio output is the primary indicator of blood flow in the vessel you are monitoring, these lights also indicate blood flow in that vessel.

## Test

Press and hold this button. If you hear a steady tone, the unit is functioning properly.

## Channel Select

Select which of the two connection jacks you will plug the Cook-Swartz Doppler Probe into.

## Connection Jacks

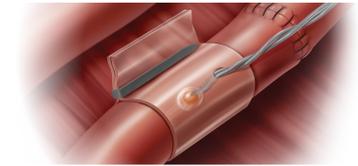
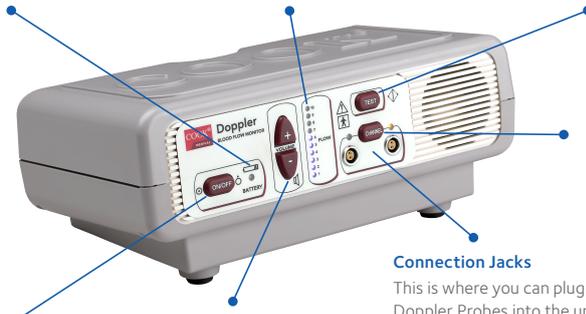
This is where you can plug one or two Cook-Swartz Doppler Probes into the unit. The red marks on the proximal connector of the probe must align with the red marks on the connection jack. Only one connection jack is operable at a time.

## Power Switch

Turn the unit on and off.

## Volume Control

Adjust the loudness of the audio output.



Cook-Swartz Doppler Probe



Doppler Extension Cable



Doppler Battery Charger



Doppler Channel/Cable Verifier

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800.243.2974 | 203.601.5200

[www.coopersurgical.com](http://www.coopersurgical.com)

Important Safety Information: For monitoring blood flow in vessels intraoperatively, and following reconstructive microvascular procedures, re-implantation and free-flap transfers. **PRECAUTIONS:** The Doppler Probe should only be used with the Doppler Blood Flow Monitor. The Doppler Probe is not intended for fetal use; not for use on the central circulatory system. **CAUTION:** Do not remove the probe conductor wire and crystal assembly (leaving only the cuff on the vessel) until vessel monitoring is completed (commonly 3-5 days). Probe conductor wire and crystal assembly placement must not exceed 29 days. In the unlikely event that the transducer assembly has become detached and remains in the cuff in the patient, the transducer assembly should be removed surgically. Cuff alone may remain within the patient indefinitely.

Use of the Probe involves potential risks associated with any implanted device. Please consult the IFUs prior to use of the Probe and Monitor, for detailed instructions and potential risks. <https://www.coopersurgical.com/doppler-ifu/>

References: 1. Cook Doppler Blood Flow Monitor Instructions for Use. Vanergrift, PA: Cook Medical; 03-2021; 2. Cook Doppler Flow Probe and Extension Cable Instructions for Use. Vanergrift, PA: Cook Medical; 07-2019

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**Doppler**  
Blood Flow Monitoring System

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