

EkoSonic® Endovascular Device and Control Unit PT-3B Circulator Skills Checklist

Indications for Use

The EkoSonic® Endovascular System is indicated for the:

- Ultrasound facilitated, controlled and selective infusion of physician-specified fluids, including thrombolytics, into the vasculature for the treatment of pulmonary embolism.
- Infusion of solutions into the pulmonary arteries.
- Controlled and selective infusion of physician-specified fluids, including thrombolytics, into the peripheral vasculature.

Please refer to the Instructions for Use for indications, contraindications, precautions, warnings, and full operational instructions.

Terms and Abbreviations

Control Unit	CU
Connector Interface Cable	CIC
EkoSonic® Endovascular Device	Device

Skills to Review	Reviewer Initials
<ol style="list-style-type: none"> 1. Steps for initial setup of EkoSonic® Endovascular System: <ol style="list-style-type: none"> a. Verify that the EkoSonic® CU has power: <ul style="list-style-type: none"> • The CU is plugged into the UPS/battery on the bottom of the cart. • The battery is plugged into an AC outlet and turned on. • Locate rocker switch on the back of CU. Turn CU on and wait for the set-up screen to appear. b. Set up the prescribed solutions via standard hospital infusion pump to the drug and coolant ports of the EKOS® Infusion Catheter. Ensure all air bubbles are purged from the tubing. <ul style="list-style-type: none"> • To ensure proper infusion and reduce the potential for infusion pump alarms, the infusion pressure setting on the pumps should be set to the highest value allowed by hospital policy. A minimum of 10 PSI or 500 mmHg will reduce the potential of downstream occlusion alarm. • Thrombolytic drug via port marked DRUG at prescribed dose. Minimum infusion rate 5 mL/hr, maximum 35 mL/hr. Adjust drug concentration to stay within these flow rates. • Normal saline or heparinized saline via port marked COOLANT at 35 mL/hr, maximum 120 mL/hr. • If applicable, heparinized saline or heparin via side arm of the sheath at prescribed dose. c. Connect infusions after the device has been placed in the patient’s vasculature. Consider attaching sterile extension tubing to the infusion lines so they can be started before breaking the sterile field. Flush forward to purge any air out the side port of the stopcocks attached to the Drug and Coolant ports. Insert infusion tubing into the pump, start the pump, and turn the stopcock on to the Infusion Catheter. d. Ensure that all cables are attached correctly: <ul style="list-style-type: none"> • CIC is attached to CU. 	

<ul style="list-style-type: none"> • Ultrasonic Core (labeled MSD) black cable and Infusion Catheter (labeled IDDC) gray cable are connected to the CIC. • Always verify that both electrical connectors from an Ultrasonic Core-Infusion Catheter (MSD-IDDC) pair are connected to the same CIC if more than one device is being used. <p>e. Confirm that drug and coolant are infusing, then begin ultrasound therapy by pressing the green START button.</p> <p>f. Confirm that ultrasound is running as indicated by the <i>flashing yellow light</i> in the lower left-hand corner of the EkoSonic® CU.</p>	
<p>2. Process for transporting a patient:</p> <p>a. Unplug UPS/battery from AC outlet (battery will last for 60 minutes).</p> <p>b. When UPS/battery is unplugged, an alarm will sound.</p> <p>c. Silence the alarm by pressing and holding the “MUTE” button located on the front of the battery for 2 seconds.</p> <p>d. Transport patient to new location.</p> <p>e. Plug UPS/battery into AC outlet.</p>	
<p>3. Process for troubleshooting CU alarm conditions:</p> <p>a. If a CU alarm sounds it can be muted by pushing the upper right hand soft key beside the Alarm Silence Icon.</p> <p>b. Confirm that the CU Display does not show any red circles indicating a disconnected cable. Reconnect any cable showing a circle and confirm that it goes away. Push the green START button.</p> <p>c. If the alarm condition persists then identify the troubleshooting icon that is flashing at the bottom of the CU display between the two gray bars.</p> <p>d. Call EKOS® Help Line at 888-356-7435 (24/7/365). The Help Line number is located on top of the EkoSonic® CU.</p> <p>e. If unable to resume ultrasound therapy after contacting EKOS®, contact the interventional physician.</p>	
<p>4. Important guidance for proper operation of the EkoSonic® Endovascular System:</p> <p>a. Never aspirate from the DRUG or COOLANT ports. This will clog the lumens with blood and render the catheter inoperable. Never piggyback any solutions on the drug or coolant infusions.</p> <p>b. Infusion rate ranges are:</p> <ul style="list-style-type: none"> • 5-35 mL/hr for the drug lumen • 35-120 mL/hr for the coolant lumen <p>c. Never infuse any medicines via Coolant or Drug port other than heparinized saline, normal saline, and/or therapeutic agent.</p> <p>d. Never transmit ultrasound energy to the Ultrasonic Core-Infusion Catheter (MSD-IDDC) pair unless it is placed within the patient anatomy and infusions are running.</p> <p>e. Always turn the ultrasound OFF before removing the Ultrasonic Core from the Infusion Catheter or before removing the device from the patient.</p> <p>f. Discontinue the infusions before removing the device. Turn stopcocks OFF to both lumens to prevent air from being introduced into the vasculature.</p> <p>g. Never get electrical connectors wet.</p> <p>h. Never connect Infusion Catheter to a power injector.</p>	

Name: _____ **Date:** _____

Reviewer: _____

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This checklist is intended as an example to demonstrate the type of checklist you may wish to implement in your clinical practice. Any checklist you implement should reflect your actual clinical practice at your facility. EKOS® makes no recommendations or representations about the content of this sample checklist. The responsibility for such a checklist rests with the clinical practice.