EPi-Ease[™] **Epicardial Access Device**

Set-Up Guide

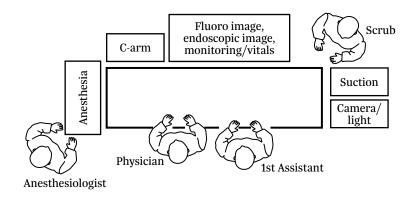


Equipment and Supplies

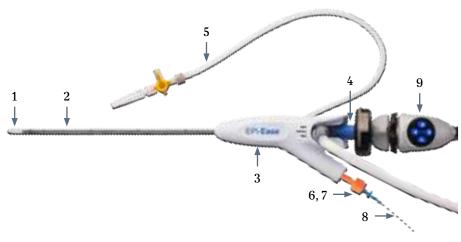
EPi-Ease epicardial access device
Fiberoptic light source
Fiberoptic light cable
Endoscope (2.9 mm x 315 mm - 330 mm - 30 degree)
Endoscopic camera/integrated coupler
Camera control unit
Fluoroscopy C-arm
Vacuum source (minimum-400 mmHg) with tubing
Video monitor
Guidewire 0.014 inch/minimum 130 cm length/3-12 gram tip load

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EPi-Ease Epicardial Access Procedure: Room Setup



EPi-Ease Device Product Description

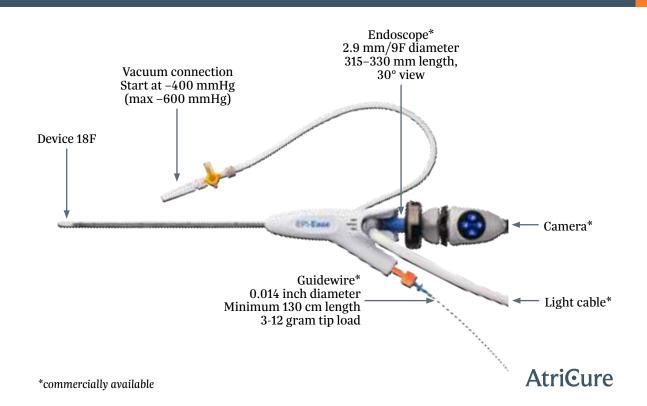


- 1) Distal tip
- 2) Outer shaft
- 3) Handle
- 4) Endoscope/fiberoptic light cable*
- 5) Vacuum tubing with stopcock
- *commercially available

- 6) Needle actuator
- 7) Guidewire port
- 8) Guidewire*
- 9) Camera unit*



EPi-Ease Device Set-Up



EPi-Ease Device Set-Up

- ☐ Prepare scope/camera/fiberoptic light cable assembly (4, 9)
- ☐ Load endoscope/fiberoptic light cable (4) and camera unit (9) into the EPi-Ease device
- ☐ Connect the vacuum tubing with stopcock (5) to the vacuum source
- 5

☐ Load guidewire into the guidewire port (7)



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Camera/Scope Preparation

☐ Attach the camera and fiberoptic light cable prior to insertion into the EPi-Ease device



Attach camera to endoscope



Attach fiberoptic light cable to endoscope



Camera, Scope and Guidewire Preparation

- ☐ Attach the endoscope and camera to the EPi-Ease device
- ☐ See image below to insure full insertion



Posterior view



Superior view



Lateral view



Bottomed out view

☐ Insert 0.014 inch guidewire into the guidewire port on the EPi-Ease device



Guidewire inserted into guidewire port



Device Preparation

- ☐ Connect the vacuum tubing to the vacuum source
- ☐ Ensure the stopcock is set to the "OFF" position during device insertion
- ☐ Recommended starting vacuum pressure is -400 mmHg
- ☐ DO NOT exceed -600 mmHg vacuum pressure



EPi-Ease suction tubing and stopcock (OFF position)



EPi-Ease suction tubing and stopcock (ON position)



Ancillary Equipment



Fiberoptic light source and camera control unit*



Fiberoptic light cable*



Endoscope*
2.9 mm/9F diameter: 315-330 mm length, 30 degree view



Endoscopic camera*



Guidewire*
Diameter: 0.014 inch,
minimum 130 cm length
3-12 gram tip load



Vacuum equipment* Capable of –600 mmHg minimum



EPi-Ease: Procedural Steps

EPi-Ease device and ancillary equipment are prepared (vacuum, light source, fiberoptic light cable, camera, endoscope, camera control unit, guidewire).
Physician makes small subxiphoid incision. Incision should be at least $0.5\mathrm{cm}$ below the xiphoid or between $0.5\mathrm{to}3\mathrm{cm}$ below the inferior aspect of the xiphoid depending on body habitus and/or anterior or posterior approach to obtain pericardial access.
EPi-Ease device is inserted into the incision.
EPi-Ease device is advanced to target epicardial site of interest. A location free of cardiac vessels and pericardial fat should be selected.
EPi-Ease device is placed onto the pericardium, stopcock is opened to retract the pericardium and create a bleb.



EPi-Ease: Procedural Steps continued

☐ If device needs to be rotated to accommodate the choosen access site, always maintain camera orientaton.



Posterior approach: camera orientation facing up



Anterior approach: camera orientation facing up



EPi-Ease: Procedural Steps continued

Needle is advanced through the device to contact the pericardium. Ensure the needle actuator is pointing away from the pericardium (needle bevel is pointed away from the pericardium).
Needle is carefully advanced further to puncture the pericardium.
Guidewire is advanced through the needle until roughly 2-4 cm of guidewire has been introduced to the epicardial space. Check on fluoroscopy that the guidewire is outside of the distal tip.
Vacuum is deactivated and needle is retracted, leaving only the guidewire in the epicardial space.
Needle actuator is rotated 180 degrees allowing for further delivery of the guidewire (needle bevel points toward pericardium).
Ensure guidewire is in epicardial space via fluoroscopy.
EPi-Ease device is removed. Hold the guidewire in place to avoid losing access during device removal.



<u>U.S. Indications</u>: The EPi-Ease Epicardial Access System is intended to access the epicardial surface of the heart via a subxiphoid approach. Rx Only

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