



## PHYSICIANS

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## ACCESS SITES

- Femoral artery access is used approximately 80% of the time, and a 10-mm conduit to the common iliac artery is used approximately 15% of time.
- Contralateral femoral artery via percutaneous access.
- The right brachial artery is accessed when planning on excluding any brachiocephalic vessel with a covered device.

## DIAGNOSTIC DEVICES USED

### SHEATH SIZES

- 14-F sheath for initial femoral artery access (to accommodate a large-diameter balloon in case of acute rupture).
- 6-F sheath percutaneous access of contralateral femoral artery.
- 4-F sheath for right brachial artery.
- 18-F or 22-F sheath for after endoluminal graft device is deployed.

### CATHETERS

- 5-F Bern or angled-tip catheter for initial femoral access.
- 6-F pigtail catheter used from the contralateral femoral (if brachial is not available).
- 4-F Bern or angled-tip catheter (if brachial artery access is used).
- 4-F pigtail catheter when using brachial artery.

### IMAGING CATHETERS

- 8-F intravascular ultrasound (IVUS) catheter (8 to 15 MHz).

### DIAGNOSTIC GUIDEWIRES

- .035-inch X 180-cm Bentson-type starter guidewire.
- .035-inch (or .025-inch) X 260-cm stiff-type guidewire with soft tip (I prefer .025-inch Platinum Plus, .035-inch Meier Guidewire, or .035-inch Nitrex Guidewire).
- .035-inch X 180-cm hydrophilic guidewire.
- .035-inch X 450-cm hydrophilic guidewire.

## INTERVENTIONAL DEVICES USED

### BALLOONS

- 8-mm X 8-cm angioplasty balloon (6-F sheath compatible).
- Large-diameter (approximately 40-mm) compliant occlusion balloons (14-F sheath compatible).

### ACCESS NOTES

- A femoral artery cutdown is performed on the device access site. A 14-F sheath is used to potentially accommodate a large-diameter occlusion balloon if acute rupture occurs. An angled catheter and guidewire are used to access the abdominal aorta. The catheter is exchanged for an IVUS catheter and the IVUS and guidewire are advanced together, under direct IVUS imaging and fluoroscopy, into the ascending aorta. The guidewire is then exchanged through the IVUS catheter for a stiff (soft tip) guidewire, and the thoracic aorta is interrogated with IVUS. The tip of the guidewire should reflect off the aortic valve, back into the ascending aorta. The anesthesiologist should be forewarned about these guidewires and to watch for any arrhythmias they may cause.
- A percutaneous 6-F sheath is placed in the contralateral femoral artery, and a second guidewire is positioned in the ascending aorta. If the endoluminal device will be deployed distal to the subclavian artery (landing zone 3 and 4), a 6-F pigtail catheter will be positioned in the ascending aorta. (If the subclavian artery is going to be excluded with the covered device [landing zone 2], this guidewire will serve as a “bailout” access guidewire. If the device is deployed inadvertently over the left carotid artery, an 8-mm X 8-cm balloon will quickly be advanced over this guidewire and inflated across the proximal end of the device to allow perfusion to the carotid artery orifice.)
- A percutaneous 4-F sheath and a subsequent pigtail catheter are placed in the right brachial artery when the subclavian artery is to be excluded. The pigtail catheter is positioned in the ascending aorta.

### IMAGING NOTES

The use of IVUS for thoracic procedures allows the investigator to interrogate the thoracic arch and potentially map out (on the fluoroscopic screen) the arch vessels without the use of contrast. The device can be advanced and positioned in the arch, and then the first angiogram can be performed to confirm branch vessel location,

which may have changed with the device in place. IVUS is also invaluable in dissections to ensure that the device is in the true lumen along the length.

### BODY FLOSS

When dealing with a very tortuous aorta or an arch with a small radius, the body floss maneuver may be helpful in advancing the device through the arch. This maneuver is accomplished by advancing a .035-inch X 450-cm hydrophilic guidewire from the right brachial artery to the femoral artery, then advancing the device over this guidewire. ■