



## PHYSICIAN

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### ACCESS SITES

- Ideally, unilateral groin access to the largest and most disease free arterial route through the iliac system to the abdominal aorta is selected. Alternatively, if the iliac arteries are not of sufficient caliber to accommodate the stent graft delivery system, access may be obtained with a surgically created graft conduit to a larger, more proximal iliac or aortic location.

## DIAGNOSTIC DEVICES USED

### SHEATH SIZES

Use sheath sizes as necessary for individual endograft introduction. Some devices employ an integral sheath and others utilize a separate introducer sheath. Profiles for sheaths range from 12 F to 24 F for the gamut of TAA stent grafts.

### FLUSH DIAGNOSTIC CATHETERS

Preferred catheters are 5-F angiographic pigtail, with 1-cm graduated markers of 20 cm total length. Total catheter length is predicated on the segment of the aorta to be treated. In the thoracic aorta, 90-cm-long to 110-cm-long catheters are adequate.

### SELECTIVE DIAGNOSTIC CATHETERS

Depending on aortic tortuosity and the proximity or involvement of various branch vessels in association with the aortic pathology (aneurysm, dissection, etc.), a wide spectrum of preformed catheter shapes may be helpful in conjunction with stent graft procedures. Typical selective catheter shapes that may be necessary to safely negotiate difficult iliac anatomy or large and/or ecstatic aneurysms include vertebral/angled tip, Cobra, multipurpose, and internal mammary.

### DIAGNOSTIC GUIDEWIRES

The selection of basic working guidewires is often based on personal experience and operator preference. Many types of wires with or without torque control features can be used to facilitate initial positioning of the pigtail catheter proximal to the aortic pathology. Commonly employed guidewires are either .035 inch or .038 inch in diameter. Bentson, Teflon LLT, Starter, etc., are basic nontorque wires. The angled Glidewire is one example of a routinely used steerable guidewire may helpful in negotiating challenging tortuous vascular anatomy.

## INTERVENTIONAL DEVICES USED

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### INTERVENTIONAL GUIDEWIRES

In TAAs, the aortic endografts are typically advanced over stiff or ultrastiff, .035-inch or .038-inch, highly supportive guidewires to straighten tortuous anatomy and facilitate device tracking to the target. Examples of these wires that are commonly included in stent graft procedures include Lunderquist, straight or precurved, Amplatz, and Meier BU.

### BALLOONS

Postdeployment ballooning of stent graft prostheses at the attachment sites of TAA devices is a common practice and is often prescribed by endograft manufacturers.

Occlusion-type compliant balloons capable of expansion through a range of diameters are used routinely for securing full expansion of the device.

### ENDOGRAFTS

TAA devices are typically cylindrical, however, development of fenestrated and branched TAA products is expected.

### IMAGING

Multislice CT or MR imaging with 3D, multiplanar display.

### IMAGING NOTES

In addition, one other potentially valuable adjunct to TAA procedures is intravascular ultrasound. This technology can provide important planning or confirmatory anatomical information including, precise neck diameter measurements, extent of branch vessel involvement in cases of aortic dissection, and lengths between aortic branches and aortic disease. Some centers use intravascular ultrasound routinely for endograft procedures, whereas the majority of investigators have it available to use in selective cases when the aortic pathology is not routine.

### CONTRAST RECOMMENDATIONS

Nonionic, iso-osmolar contrast media. ■