

Technique and Tips of Thoracic Endovascular Repair(TEVAR)

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The development of thoracic endovascular aortic repair (TEVAR) has allowed a minimally invasive approach for management of an array of thoracic aortic pathologies. Initially developed specifically for exclusion of thoracic aortic aneurysms, TEVAR is now used as an alternative to open surgery for a variety of disease pathologies due to the lower morbidity of this approach. Advances in endograft technology continue to broaden the applications of this technique.

Thoracic endovascular aortic repair has become the preferred approach for treatment of thoracic aortic pathology since the approval of the first endograft device by the U.S. Food and Drug Administration (FDA) in 2005. Initially utilized in the treatment of aortic aneurysmal disease, TEVAR indications have expanded to include treatment of type B aortic dissection with malperfusion or rupture, traumatic aortic transection, and penetrating aortic ulcer (PAU). Although there are no randomized controlled trials directly comparing TEVAR to open surgery, numerous studies suggest that TEVAR is associated with decreased morbidity compared with open repair. Benefits of the endovascular approach include avoidance of thoracotomy or sternotomy incision, avoidance of aortic cross-clamping, decreased blood loss, and decreased end-organ ischemia.