



Evaluation and Management of a Patient with Type B Aortic Dissection

Description of the Activity	Vascular surgeons evaluate and treat patients with acute and chronic TBAD and should have a comprehensive understanding of the presentation, diagnostic techniques, and medical and surgical management of this disease process. This includes selection criteria and indications for intervention (or palliative care/hospice), type of intervention, and timing of intervention. Additionally, vascular surgeons should understand perioperative management, including recognition and treatment of complications of surgical intervention, needed follow-up, and surveillance strategies.
Functions	<ul style="list-style-type: none">❖ Nonoperative/Preoperative<ul style="list-style-type: none">➤ Synthesize essential information from a patient’s referring providers, records, history, physical examination, and initial diagnostic evaluation to develop a differential diagnosis.➤ Determine whether intervention is indicated, including a discussion of nonoperative, medical management with anti-impulse therapy.➤ Synthesize a palliative care plan for a patient in whom intervention is not indicated.➤ Select a surgical approach consistent with a patient’s anatomy, comorbidities, and presentation.➤ Obtain informed consent. Describe the indications, risks, benefits, alternatives, and potential complications of the planned operation, and ensure patient/caregiver understanding.➤ Synthesize an operative plan that demonstrates understanding of the operative anatomy, physiology, indications, contraindications, risks, benefits, alternatives, and potential complications of:<ul style="list-style-type: none">▪ Aortic arch debranching▪ Thoracic endovascular aortic repair (TEVAR)▪ Visceral and lower extremity open and endovascular revascularization❖ Intraoperative<ul style="list-style-type: none">➤ Perform the procedures required to manage acute or chronic TBAD.<ul style="list-style-type: none">▪ TEVAR▪ Thoracic branch endoprosthesis▪ Aortic arch debranching▪ Intravascular ultrasound (IVUS)➤ Integrate new information discovered intraoperatively to modify the surgical plan or technique as necessary, such as:<ul style="list-style-type: none">▪ Hemodynamically unstable patient▪ Inadvertent aortic rupture during TEVAR▪ Inadvertent coverage of the great vessels or visceral vessels during TEVAR▪ IVUS findings▪ Lower extremity malperfusion▪ Retrograde type A dissection▪ Type I/III endoleak▪ Visceral malperfusion➤ Work with anesthesia staff, nursing staff, and other perioperative health care professionals to create and maintain an intraoperative environment that promotes patient-centered care.

The vascular surgery EPAs may be further refined based on pilot data and final review by several ABS Council Committees; final versions including any edits stemming from those processes will be available in fall 2024.



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	<ul style="list-style-type: none">❖ Postoperative<ul style="list-style-type: none">➤ Initiate and oversee postoperative care, including postoperative disposition, resuscitation, appropriate medical therapy, spinal drain management, and follow-up imaging and care.➤ Communicate with the patient/caregiver(s) and members of the care team to ensure understanding of postprocedure instructions and the patient's ability to carry out the resultant plan within the context of their life (eg, transportation, living situation, insurance, access to a pharmacy).➤ Recognize, evaluate, and manage early and late complications following acute or chronic TBAD.➤ Identify a surveillance plan and indications for reintervention.
Scope	<ul style="list-style-type: none">❖ In scope<ul style="list-style-type: none">➤ Intramural hematoma➤ Penetrating aortic ulcer➤ TBAD, complicated➤ TBAD, uncomplicated❖ Out of scope<ul style="list-style-type: none">➤ Patients with connective tissue disorders➤ Type A dissection❖ Spical Population<ul style="list-style-type: none">➤ Iatrogenic dissection➤ Traumatic aortic dissection/injury



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<p>1</p> <p>Limited Participation</p> <p>Demonstrates understanding of information and has very basic skills</p> <p>Framework: What a learner directly out of medical school should know</p> <p>The attending can show and tell.</p>	<ul style="list-style-type: none">● Elicits a history (onset of pain, BP) and performs a vascular exam (pulses, abdominal pain)● Identifies risk factors for disease development● Identifies a basic preop problem (eg, HTN) and initiates management (BP goals, anti-impulse therapy) with supervision● Identifies the various imaging modalities (CTA, IVUS)● Identifies the indications for intervention over medical management (eg, malperfusion)● Demonstrates knowledge of current guidelines in treating TBAD	<ul style="list-style-type: none">● Uses US to demonstrate anatomy for vascular access; recognizes the importance of maintaining wire position during wire and catheter exchanges● Identifies the types of available procedures (TEVAR, debranching)	<ul style="list-style-type: none">● Identifies a basic postop problem (hypo/hypertension, paraplegia, abdominal pain) and initiates management with supervision● Recognizes the need for long-term surveillance and risk factor modification
<p>2</p> <p>Direct Supervision</p> <p>Demonstrates understanding of the steps of the operation</p>	<ul style="list-style-type: none">● Forms a management plan for a straightforward presentation, recognizing acuity and need for intervention; requires help with decision-making and	<ul style="list-style-type: none">● Uses US to obtain vascular access; demonstrates basic catheter and wire-handling techniques● Identifies most steps of the procedure and the equipment	<ul style="list-style-type: none">● Manages a common postop problem (hypo/hypertension, paraplegia, access site complication), including



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<p>but requires direction through principles and does not know the nuances of a basic case</p> <p>Framework: The learner can use the tools but may not know exactly what, where, or how to do it.</p> <p>The attending gives active help throughout the case to maintain forward progression.</p>	<p>recognizing complicated TBAD</p> <ul style="list-style-type: none"> Articulates clinical questions and elicits a patient's preferences when discussing treatments for TBAD 	<p>required; needs prompting to advance the procedure</p>	<p>ordering and interpreting additional tests</p> <ul style="list-style-type: none"> Communicates standard postop instructions and describes basic evidence-based imaging and risk factor modification
<p>3</p> <p>Indirect Supervision</p> <p>Can do a basic operation but will not recognize abnormalities and does not understand the nuances of an advanced case</p> <p>Framework:</p>	<ul style="list-style-type: none"> Demonstrates thorough understanding of immediate optimization with medical management Recognizes the signs and symptoms of malperfusion and the need for immediate intervention Uses imaging findings to plan straightforward TEVAR vs alternatives; sizes a 	<ul style="list-style-type: none"> Performs a diagnostic angiogram Differentiates the true lumen from the false lumen Identifies all critical steps of the procedure (aortogram, IVUS) and the equipment required; advances the procedure with minimal prompting 	<ul style="list-style-type: none"> Recognizes and manages a complex postop complication (malperfusion, retrograde type A dissection), recognizing the need to return to the OR Recognizes the impact of disease progression (aneurysm formation) and complications (malperfusion, spinal cord



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<p>The learner can perform the operation in straightforward circumstances.</p> <p>The attending gives passive help. This help may be given while scrubbed for more complex cases or during a check-in for more routine cases.</p>	<p>patient for endo intervention</p> <ul style="list-style-type: none"> Develops a TEVAR plan and recognizes device limitations based on patient anatomy and device instructions for use Identifies clinical practice guidelines for the management of TBAD and applies them independently 		<p>ischemia) on the longitudinal care plan</p>
<p>4</p> <p><u>Practice Ready</u></p> <p>Can manage more complex patient presentations and operations and take care of most cases</p> <p><u>Framework:</u> The learner can treat all straightforward TBAD cases and has a strong understanding of surgical options and</p>	<ul style="list-style-type: none"> Oversees the care of a complex patient and problem Manages a complicated presentation (eg, malperfusion), leading the team and coordinating critical care and operative intervention Identifies a dissection on imaging and elicits subtle findings (eg, arch extension) Independently uses multidimensional imaging to 	<ul style="list-style-type: none"> Independently performs TEVAR, including IVUS, and troubleshoots and treats an endoleak Recognizes when operative plan deviation is needed, including treating visceral malperfusion Identifies all critical steps of the procedure and the equipment required; advances the procedure without prompting; recognizes critical decision points (need for visceral stenting or petticoat extension for malperfusion) 	<ul style="list-style-type: none"> Leads the team and provides supervision in managing a postop complication (spinal cord ischemia, malperfusion, retrograde type A dissection) Independently alters longitudinal care based on disease progression (aneurysm formation) and complications (malperfusion, spinal cord ischemia)



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<p>techniques for less common scenarios.</p> <p>The attending is available at the request of the learner but is not routinely needed for common presentations, though input may be needed for more complex presentations.</p>	<p>determine eligibility for open or endo repair</p> <ul style="list-style-type: none">Adapts the management plan based on a change in a patient's condition (eg, malperfusion), including from endo to openCritically appraises and applies evidence about the management of TBAD and tailors it to a patient, even in the face of conflicting evidence	<ul style="list-style-type: none">Independently interprets completion imaging and determines the appropriate proximal seal and distal endpoint for adequate perfusion	