STEP 1 Identify patients at risk for acute AoD

Consider acute AoD in all patients presenting with:
• Chest, back, or abdominal pain
• Syncope
• Symptoms consistent with perfusion deficit (i.e. CNS, mesenteric, myocardial, or limb ischemia)

Boxes with accompanying text are labeled and numbered with the symbol.

STEP 2 Bedside risk assessment

High Risk Conditions
• Marfan Syndrome
• Connective tissue disease
• Family history, aortic disease
• Known aortic valve disease
• Recent aortic manipulation
• Known thoracic aortic aneurysm

High Risk Pain Features
Chest, back, or abdominal pain described as the following:
• Abrupt in onset/severe in intensity
• Ripping/tearing/sharp or stabbing quality

High Risk Exam Features
• Evidence of perfusion deficit
• Pulse deficit
• Systolic BP differential
• Focal neurologic deficit (in conjunction with pain)
• Murmur of aortic insufficiency (new or not known to be old and in conjunction with pain)
• Hypotension or shock state

Determine pre-test risk by combination of risk conditions, history, and exam.

STEP 3 Risk based diagnostic evaluation

Low Risk
No high risk features present.

Proceed with diagnostic evaluation as clinically indicated by presentation.

Alternative diagnosis identified?
Yes
No

Intermediate Risk
Any single high risk feature present.

EKG consistent with STEMI?
Yes
No

CXR with clear alternate diagnosis?
Yes
No

History and physical exam strongly suggestive of specific alternate diagnosis
Yes
No

Expedited aortic imaging

Aortic Imaging Study
• TEE (preferred if clinically unstable)
• CT (images entire aorta)
• MR (chest to pelvis)

STEP 4 Acute AoD identified or excluded

Aortic Dissection Present?
Yes
No

Proceed to Treatment Pathway

STEP 5 Expedited aortic imaging

Unexplained hypotension or widened mediastinum on CXR?
Yes
No

Consider aortic imaging study for TAD based on clinical scenario (particularly in patients with advanced age, risk factors for aortic disease, or syncope).

High Risk
Two or more high risk features present.

Immediate surgical consultation and arrange for expedited aortic imaging.

IF high clinical suspicion for aortic dissection exists, consider secondary imaging study.