2022 ACC/AHA Guideline
Diagnosis and Management of Aortic Disease

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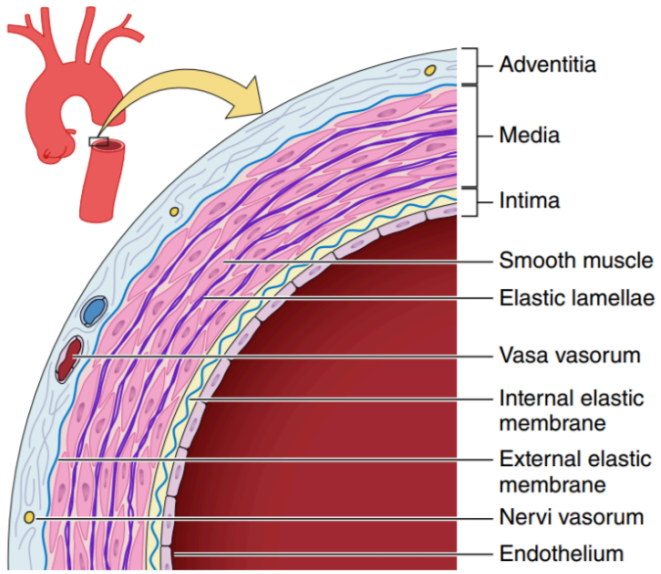
Aortic Disease Guidelines

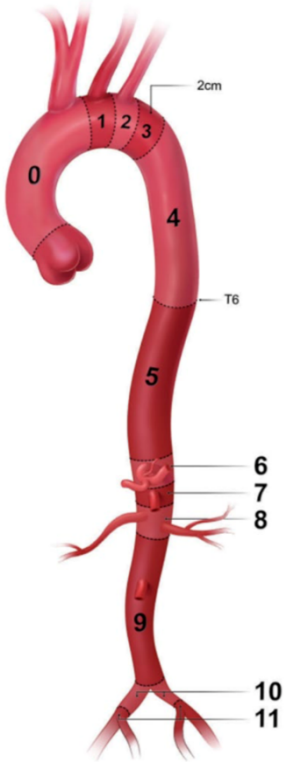
Title	Organization	Publication Year (Reference)
Guidelines		
Thoracic aortic disease	ACCF/AHA/AATS/ACR/ASA/SCA/SCAI/SIR/STS/SVM	2010[13]
Endovascular repair of traumatic thoracic aortic injury	SVS	2011[12]
Diagnosis and treatment of aortic diseases	ESC	2014
Vascular graft infections, mycotic aneurysms, and endovascular infections	AHA	2016[11]
Descending thoracic aorta diseases	ESVS	2017[9]
Abdominal aortic aneurysm	SVS	2018[6]
Thoracic endovascular aortic repair for descending thoracic aortic aneurysms	SVS	2021[1]
Acute type A aortic dissection	AATS	2021[15]
Type B Aortic Dissection	STS	2022[16]
Diagnosis and treatment of aortic diseases	AHA/ACC	2022

Aortic Anatomy

Layers of the Aortic Wall



Zones of the Aorta



Aortic Aneurysm

The standard definition of 1.5x expected diameter is **not applicable to the root and ascending aorta**, use ≥ 4.5 cm for these segments

For patients with height or BSA outside of 1-2 SD of the mean, use:

- Aortic size index [aortic diameter (cm) / BSA (m^2)]
- Aortic height index [aortic diameter (cm)/ patient height (m)]
- Cross sectional area to height

Abbreviations: BSA indicates body surface area; cm, centimeter; m, meter; and SD, standard deviation.

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Imaging and Measurements

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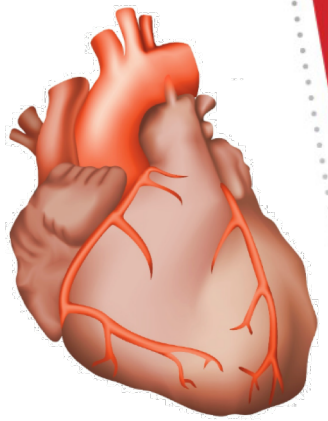
Diagnostic Performance of Aortic Imaging Modalities



	CT	MRI	TTE	TEE	US
Availability	+++	++	+++	++	+++
Portability	-	-	+++	+++	+++
Speed of acquisition	+++	+	++	++	++
Spatial resolution	+++	++	++	+++	++
Temporal resolution	+	++	+++	+++	+++
Three-dimensional data set	+++	++	+	+	+
Arch branch vessel evaluation	+++	+++	++	+	N/A
Evaluation of valve and ventricular function	+	++	+++	+++	N/A

Legend

+++ = excellent results
++ = good results
+ = fair results
- = not available
n/a = not applicable

Abbreviations: CT indicates computed tomography; MRI, magnetic resonance imaging; TEE, transesophageal echocardiography; TTE, transthoracic echocardiography; and US, abdominal aortic ultrasound.

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Essential Elements of CT and MRI Aortic Imaging Reports

Essential Elements of CT and MRI Aortic Imaging Reports
Maximum aortic diameter at each level
Abnormalities of aortic wall (e.g. atherosclerosis, diffuse thickening or mural thrombus)
Describe areas of luminal stenosis/occlusion
If acute aortic syndrome → proximal/distal extension, entry tear site, and complications
Branch vessel involvement, evidence of malperfusion or end-organ injury
Disease classification (e.g., acute aortic syndrome, aneurysm/pseudoaneurysm, atherosclerotic disease)
Relevant details regarding method of image acquisition (e.g. ECG-gating, phase of acquisition)

American Heart Association.

Abbreviations: ECG indicates electrocardiogram.

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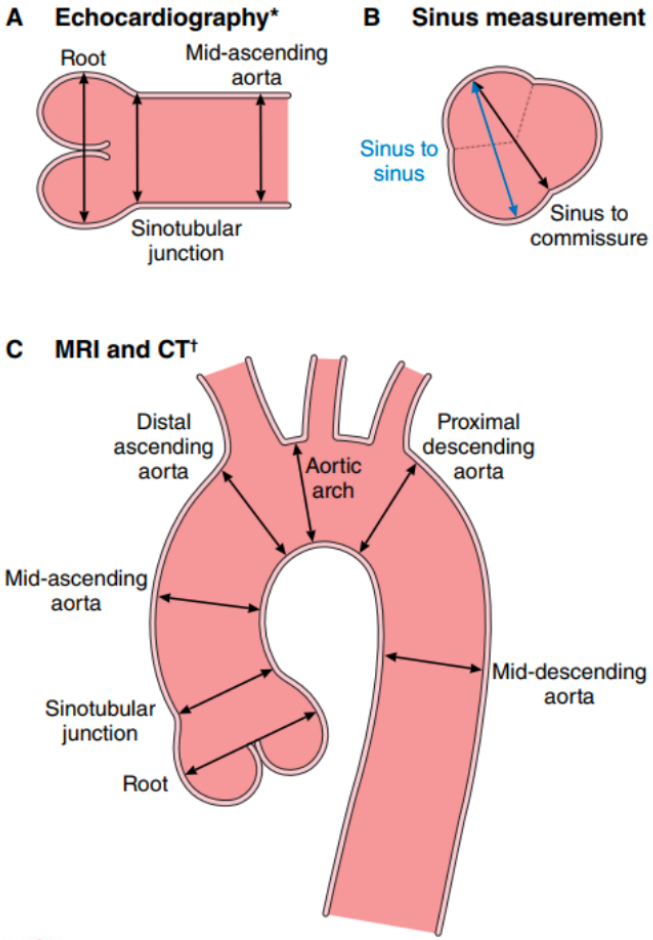
Imaging and Measurement for the Presence and Progression of Aortic Disease



COR	RECOMMENDATIONS
1	Aortic diameters should be measured at reproducible anatomic landmarks perpendicular to axis of blood flow. In cases of asymmetric or oval contour, the longest diameter and its perpendicular diameter should be reported.
1	Episodic and cumulative ionizing radiation doses should be kept as low as feasible while maintaining diagnostic image quality.
1	When performing CT or MR imaging, it is recommended that the root and ascending aortic diameters be measured from inner-edge to inner-edge, using an ECG-synchronized technique. If there are aortic wall abnormalities, such as atherosclerosis or discrete wall thickening (more common in the distal aorta), the outer-edge to outer-edge diameter should be reported.
1	The aortic root diameter should be recorded as maximum sinus to sinus measurement. In the setting of known asymmetry, multiple measurements should be reported, and both short- and long-axis images of the root should be obtained to avoid underestimation of the diameter.
2a	**It is reasonable** that a dilated root or ascending aorta be indexed to patient height or body surface area in the report, to aid in clinical risk assessment.
2a	In patients with known or suspected aortic disease, when performing echocardiography, **it is reasonable** to measure the aorta from leading- edge to leading-edge, perpendicular to the axis of blood flow.
2b	Using inner-edge to inner-edge measurements **may also be considered**, particularly on short-axis imaging.

Abbreviations: CT, computed tomography; ECG, electrocardiogram; and MR, magnetic resonance.

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Aneurysms

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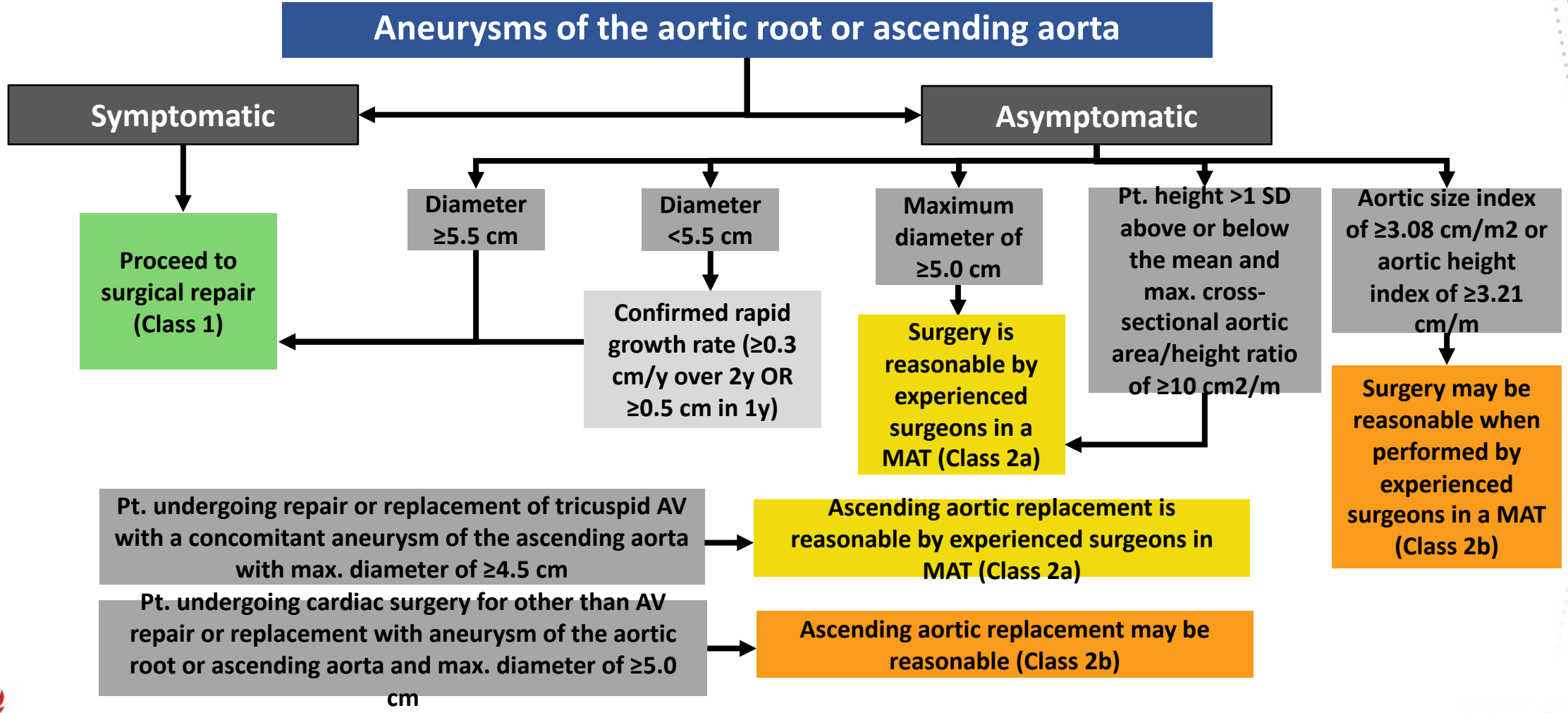
Recommendations for Surgery for Sporadic Aneurysms of the Aortic Root and Ascending Aorta



Abbreviations: AV indicates aortic valve; cm, centimeter; CT, computed tomography; y, year; MAT, multidisciplinary aortic team; max, maximal; pt, patient; SD, standard deviation; and y, year.

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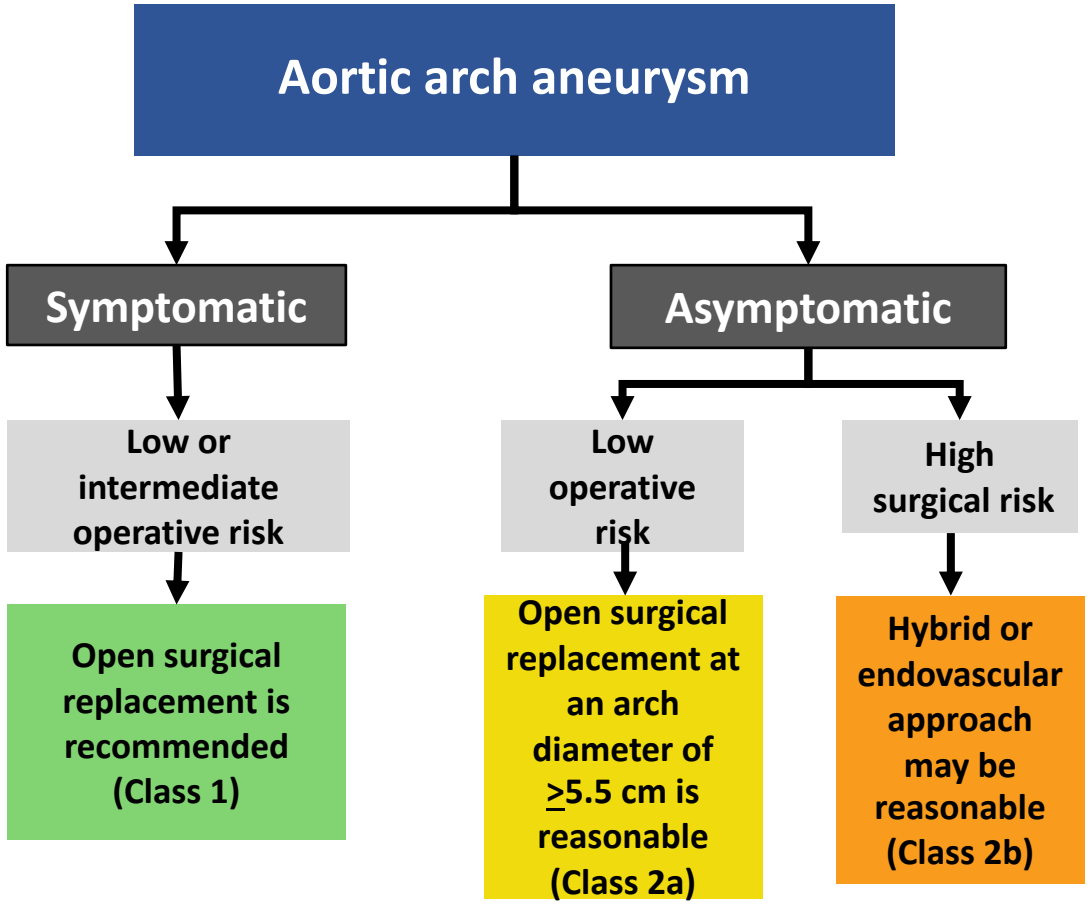
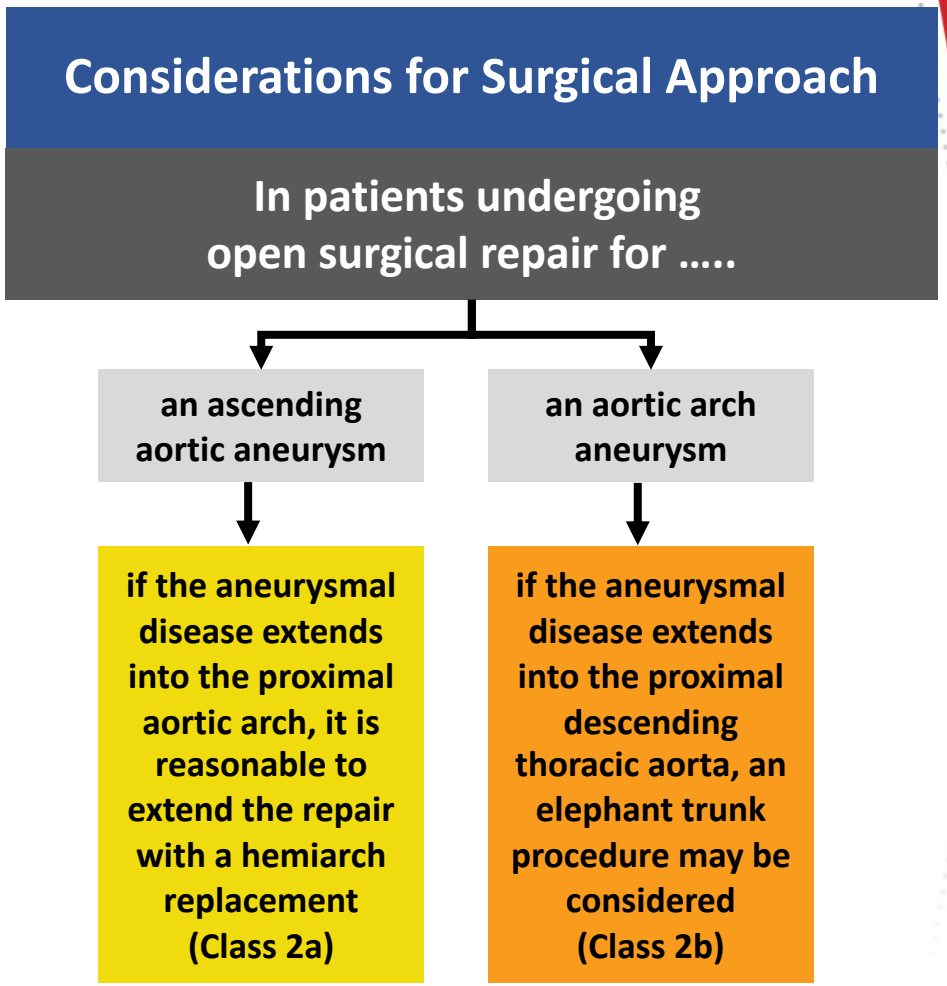
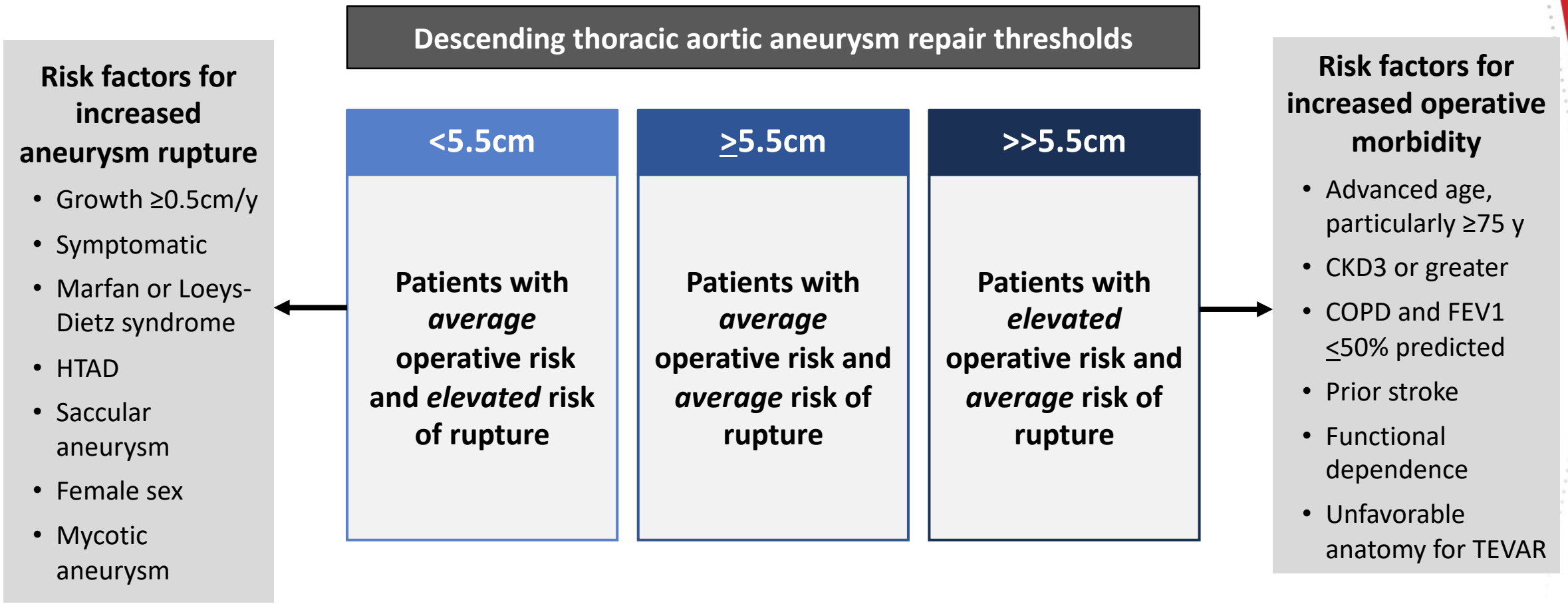
Recommendations for Aortic Arch Aneurysms





Abbreviations: cm indicates centimeter; and DTA, descending thoracic aneurysm.

Guidance for Repair of Intact Descending Thoracic Aortic Aneurysms



Abbreviations: cm indicates centimeter; CKD, chronic kidney disease; COPD, chronic obstructive pulmonary disease; CT, computed tomography; FEV, forced expiratory volume; HTAD, heritable thoracic aortic disease; TEVAR, thoracic endovascular aortic repair; and y, year.

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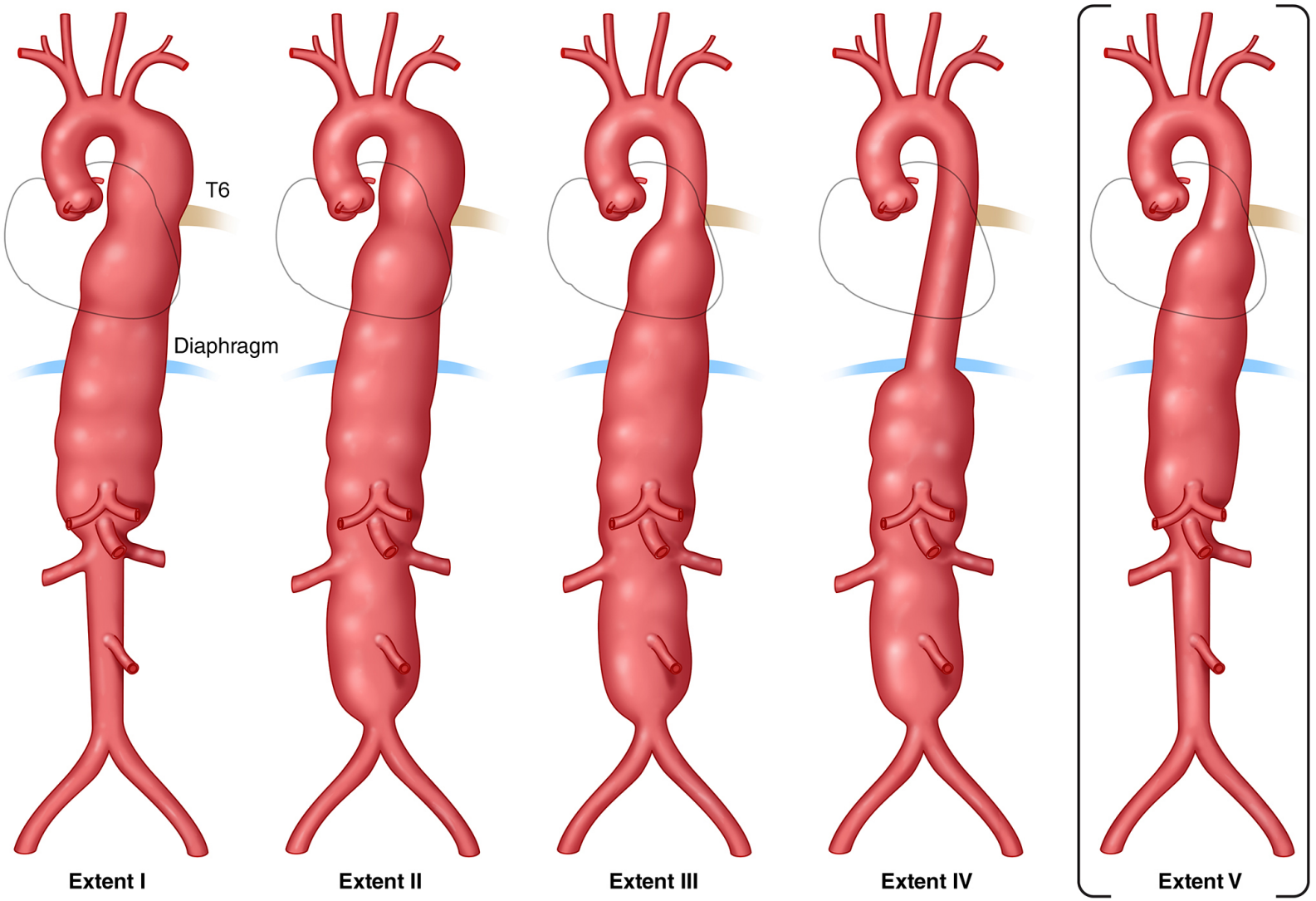
Table 18. Patient Characteristics Associated With Increased Perioperative Morbidity and Mortality After Open and Endovascular Repair of Descending TAA

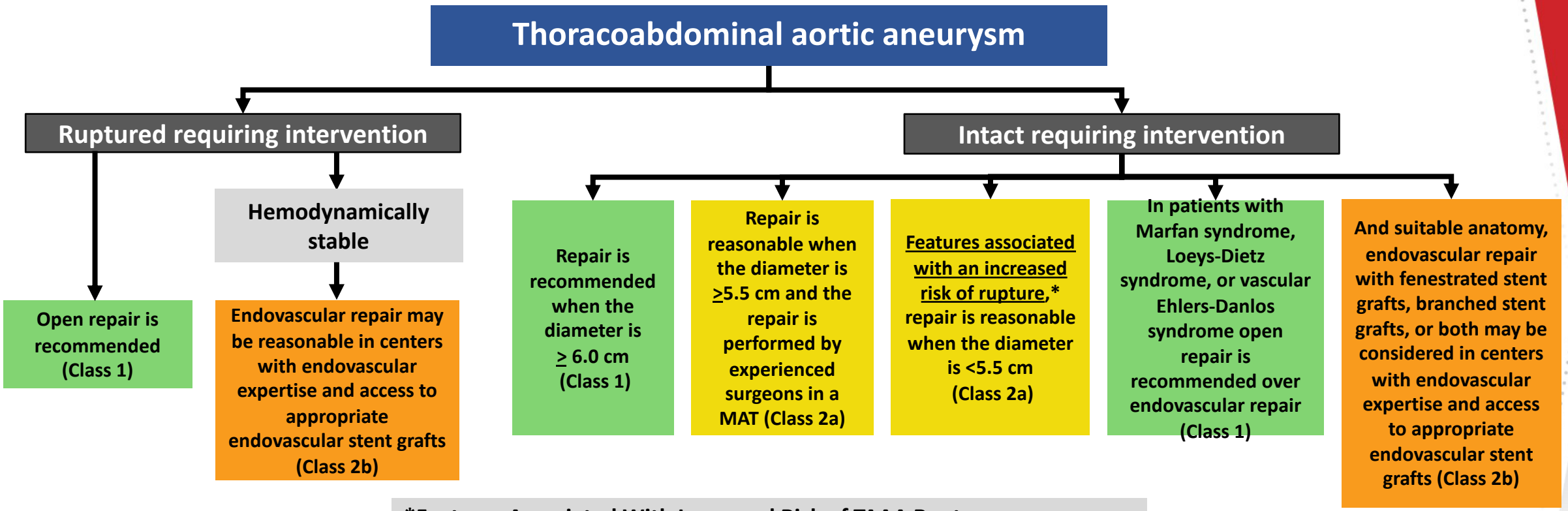
Open Surgical Repair	Endovascular Repair
Advanced age 65-74 y (OR, 1.8; 95% CI, 1.4-2.4; *P*<0.001) ≥75 y (OR, 2.6; 95% CI, 2.0-3.5; *P*<0.001)	Functional dependence
Preoperative renal insufficiency (stage 3 or greater CKD) or hemodialysis	Thoracoabdominal aortic aneurysm extent
COPD and FEV1 ≤50% predicted	Pulmonary disease
Previous stroke	Need for iliac access
	Zone 1/2 landing for thoracic stent graft

CKD indicates chronic kidney disease; COPD, chronic obstructive pulmonary disease; FEV1, forced expiratory volume in 1 second; and TAA, thoracic aortic aneurysm.

Figure 10. Classification of Thoracoab-dominal Aortic Aneurysms.



Guidance for Repair of Thoracoabdominal Aortic Aneurysms



***Features Associated With Increased Risk of TAAA Rupture**

- Rapid growth (confirmed increase in diameter of ≥0.5 cm/y)
- Symptomatic aneurysm
- Significant change in aneurysm appearance
- Saccular aneurysm or presence of penetrating atherosclerotic ulcers

Abbreviations: cm indicates centimeter; CT, computed tomography; PAU, penetrating aortic ulcer; TAAA, thoracoabdominal aortic aneurysm; and y, year.

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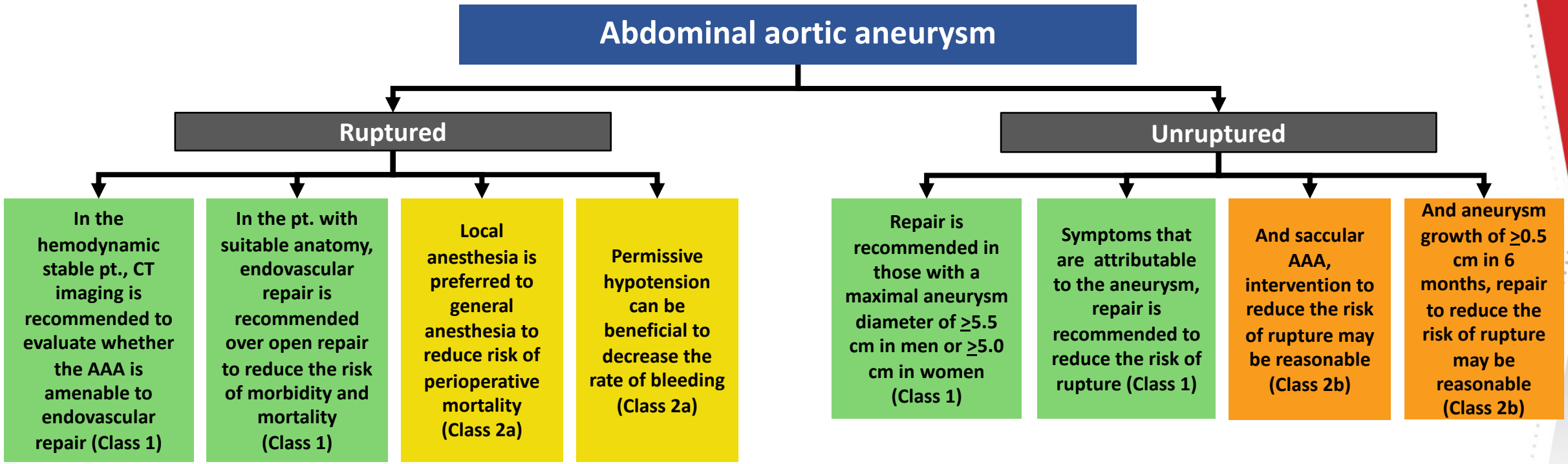
Guidance for Repair of Abdominal Aortic Aneurysms



Abbreviations: AAA indicates abdominal aortic aneurysm; cm, centimeter; CT, computed tomography; and pt., patient.

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BP Management in Sporadic TAA

Recommendations for BP Management in TAA Referenced studies that support the recommendations are summarized in the Online Data Supplement.		
COR	**LOE**	**Recommendations**
1	**B-NR**	**1. In patients with TAA and an average systolic BP (SBP) of ≥130 mm Hg or an average diastolic BP (DBP) of ≥80 mm Hg, the use of antihypertensive medications is recommended to reduce risk of cardiovascular events.**
2a	**C-LD**	**2. In patients with TAA, regardless of cause and in the absence of contraindications, use of beta blockers to achieve target BP goals is reasonable.**
2a	**C-EO**	**3. In patients with TAA, regardless of etiology and in the absence of contraindications, ARB therapy is a reasonable adjunct to beta-blocker therapy to achieve target BP goals.**

Treatment of TAA With Statins

Recommendations for Treatment of TAA With Statins		
COR	**LOE**	**Recommendations**
2a	**C-LD**	**1. In patients with TAA and imaging or clinical evidence of atherosclerosis, statin therapy at moderate or high intensity is reasonable.**
2b	**C-LD**	**2. In patients with TAA who have no evidence of atherosclerosis, the use of statin therapy may be considered.**

Smoking Cessation in TAA

Recommendation for Smoking Cessation in TAA		
COR	**LOE**	**Recommendation**
1	C-LD	1. In patients with TAA who smoke cigarettes, smoking cessation efforts are recommended.

Antiplatelet Therapy in TAA

Recommendation for Antiplatelet Therapy in TAA		
COR	**LOE**	**Recommendation**
2a	**C-EO**	**1. In patients with atherosclerotic TAA and concomitant aortic atheroma or PAU, the use of low-dose aspirin is reasonable, unless contraindicated.**

BP Management in AAA

Recommendation for BP Management in AAA		
Referenced studies that support the recommendations are summarized in the Online Data Supplement.		
COR	**LOE**	**Recommendation**
1	**B-NR**	**1. In patients with AAA and an average SBP of ≥130 mm Hg, or an average DBP of ≥80 mm Hg, the use of antihypertensive medication is recommended to reduce risk of cardiovascular events.**

Treatment of AAA With Statins

Recommendations for Treatment of AAA With Statins Referenced studies that support the recommendations are summarized in the Online Data Supplement.		
COR	**LOE**	**Recommendations**
1	**B-NR**	**1. In patients with AAA and evidence of aortic atherosclerosis, statin therapy at moderate or high intensity is recommended.**
2b	**C-LD**	**2. In patients with AAA but no evidence of atherosclerosis, statin therapy may be considered.**

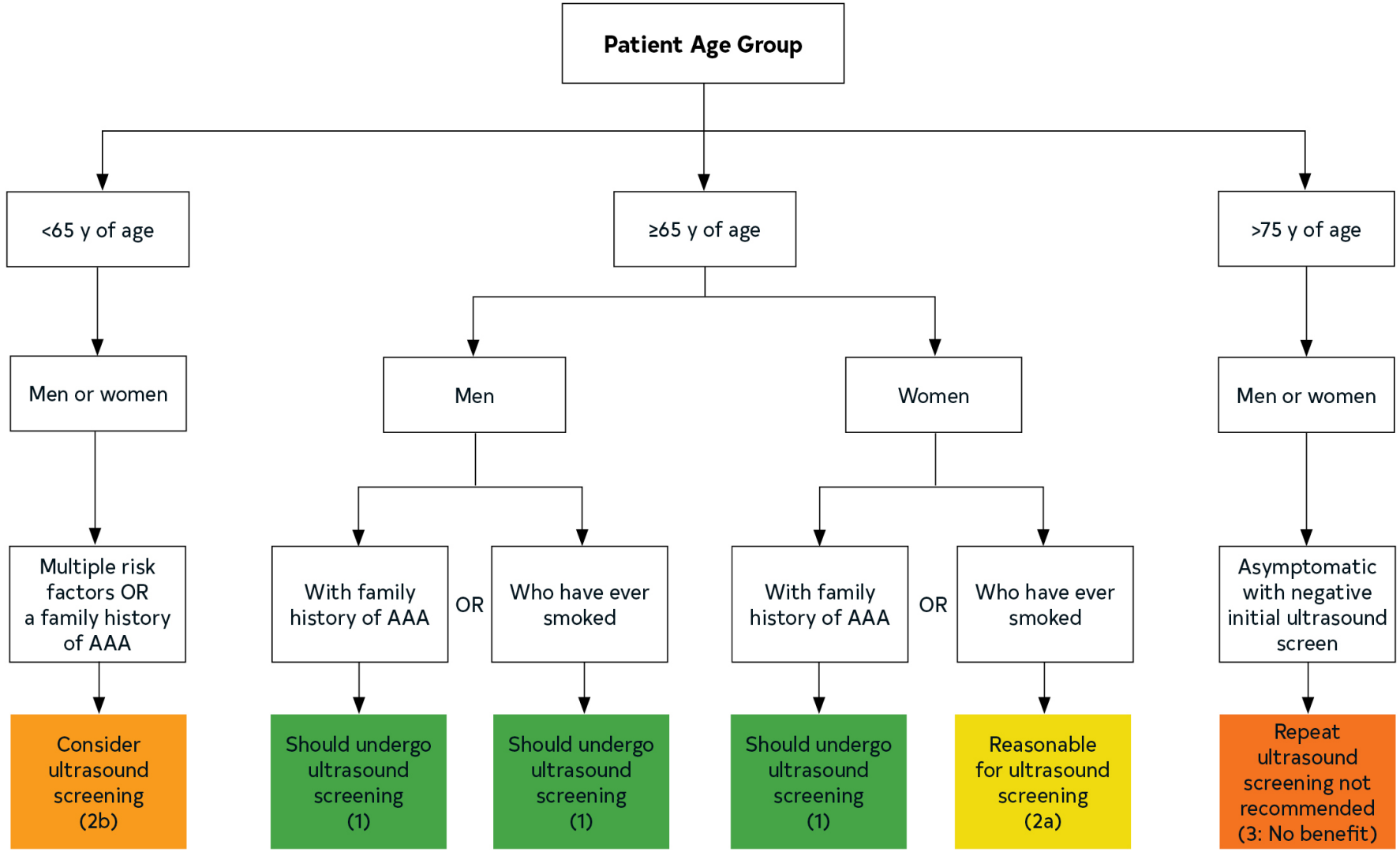
Smoking Cessation in AAA

Recommendation for Smoking Cessation in AAA		
COR	**LOE**	**Recommendation**
1	**C-LD**	**1. In patients with AAA who smoke cigarettes, smoking cessation efforts are recommended.**

Antithrombotic Therapy in AAA

Recommendation for Antithrombotic Therapy in AAA		
COR	**LOE**	**Recommendation**
2b	**C-LD**	**1. In patients with AAA with concomitant atheroma and/or PAU, the use of low-dose aspirin may be considered, unless contraindicated.**

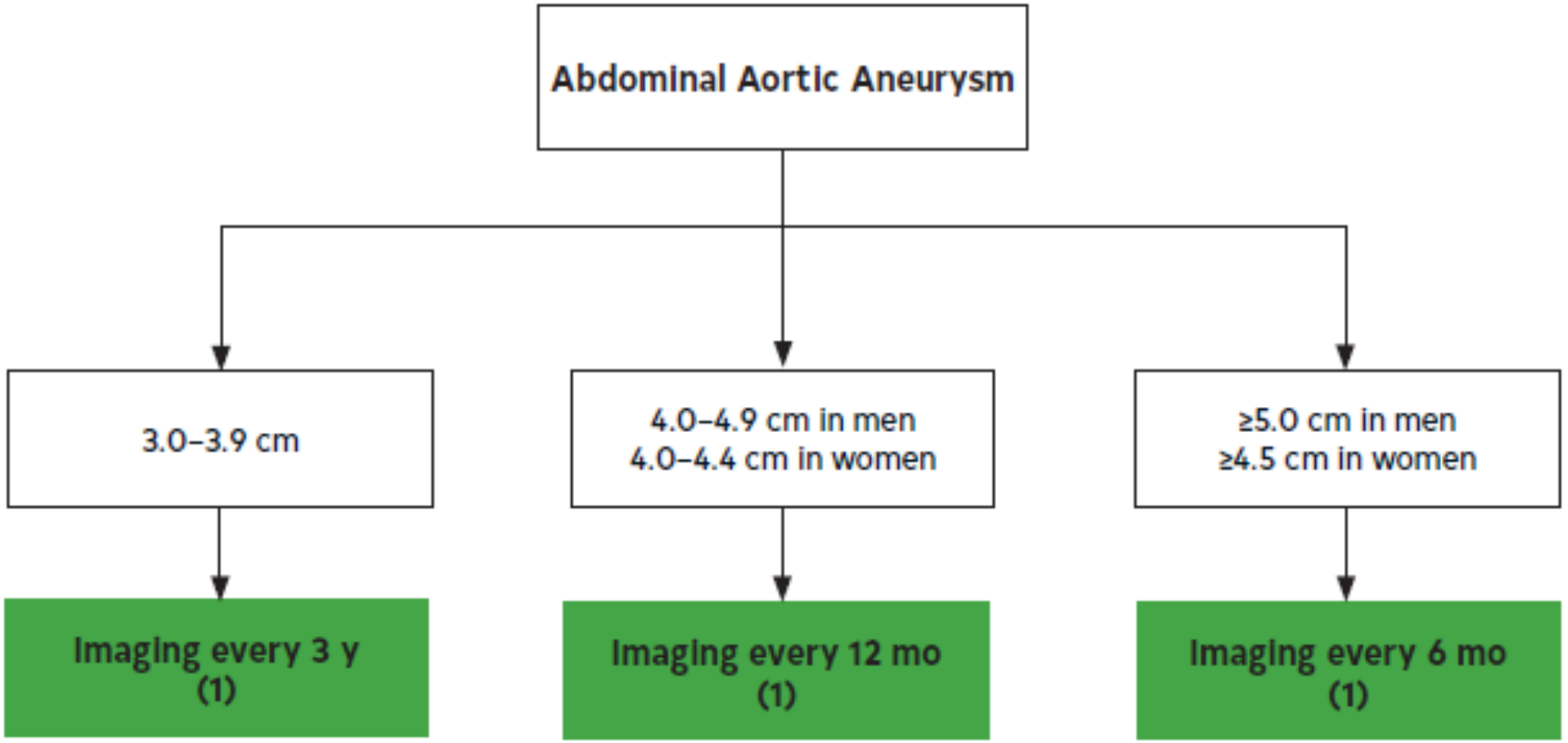
Figure 19. Algorithm for Identifying Patients to Screen for Abdominal Aortic Aneurysm.



AAA indicates abdominal aortic aneurysm.

Colors correspond to Table 1

Figure 20. The Frequency of Surveillance Imaging of Abdominal Aortic Aneurysms Based on Current Aortic Diameter.



Surveillance Protocols Following Aneurysm Repair

	Thoracic aorta		Abdominal aorta		
	Open repair	TEVAR	Open repair	EVAR	Complex EVAR
1 month	-	CT	-	CT	CT
12 months	CT	CT	CT	Duplex US*	CT
Annually	CT/MRI every 5 years	CT/MRI	CT/MRI every 5 years	Duplex US*	CT/MRI vs US

***Duplex US findings that should prompt additional axial imaging**

- Aneurysm sac enlargement
- Any endoleak
- Stent graft fracture
- Stent graft migration
- Stent graft separation

Abbreviations: CT indicates computed tomographic; EVAR, endovascular aortic repair; MRI, magnetic resonance imaging; TEVAR, thoracic endovascular aortic repair; and US, ultrasound.

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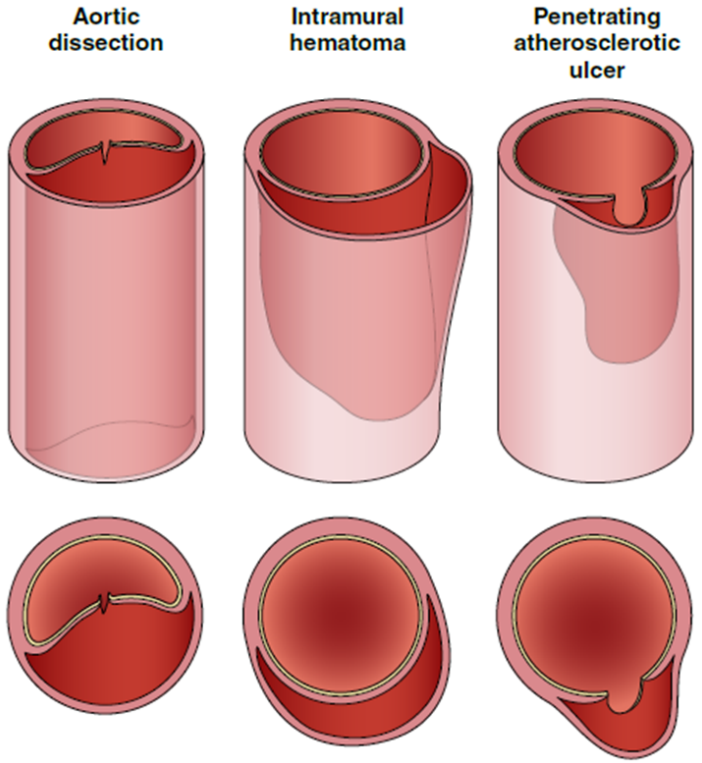
Acute Aortic Syndromes



Acute aortic Dissection

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Classification of Aortic Dissection Chronicity Based on the 2020 SVS/STS Reporting Standards

Chronicity	Time From Onset of Symptoms
Hyperacute	<24 h
Acute	1–14 d
Subacute	15–90 d
Chronic	>90 d

Table 3Perioperative Outcomes (n = 680)

Influence of Timing After Thoracic Endovascular Aortic Repair for Acute Type B Aortic Dissection

- Takeshi Miyairi, MD, PhD, Hiroaki Miyata, PhD, Kiyoshi Chiba, MD, PhD, Hiroshi Nishimaki, MD, PhD, Yukihisa Ogawa, MD, PhD, Noboru Motomura, MD, PhD, and Shinichi Takamoto, MD, PhD, for the Japan Adult Cardiovascular Database Organization

Outcomes	Hyperacute Intervention (n = 295)	Acute Intervention (n = 97)	Subacute Intervention (n = 288)	*p* Value
Inhospital mortality	14.9 (44)	0 (0)	2.8 (8)	<0.001[a,b]
Mortality at 30 days	11.9 (35)	0 (0)	1.7 (5)	<0.001[a,b]
Any paralysis	6.1 (18)	3.1 (3)	1.7 (5)	0.021
Any stroke	5.8 (17)	2.1 (2)	2.1 (6)	0.041
New renal failure	9.1 (27)	1.0 (1)	0.7 (2)	<0.001[a,b]
Aortic dissection	4.7 (14)	2.1 (2)	0.3 (1)	0.003[a]
Overall major complication	32.5 (96)	10.3 (10)	8.3 (24)	<0.001[a,b]

The Society of Thoracic Surgeons/American Association for Thoracic Surgery clinical practice guidelines on the management of type B aortic dissection

Thomas E. MacGillivray, MD,[a] Thomas G. Gleason, MD,[b] Himanshu J. Patel, MD,[c] Gabriel S. Aldea, MD,[d] Joseph E. Bavaria, MD,[e] Thomas M. Beaver, MD,[f] Edward P. Chen, MD,[g] Martin Czerny, MD,[h] Anthony L. Estrera, MD,[i] Scott Firestone, MS,[j] Michael P. Fischbein, MD,[k] G. Chad Hughes, MD,[g] Dawn S. Hui, MD,[l] Kalie Kissoon,[j] Jennifer S. Lawton, MD,[m] Davide Pacini, MD,[n] T. Brett Reece, MD,[o] Eric E. Roselli, MD,[p] and John Stulak, MD[q]

TIMING OF INTERVENTION

In patients with acute uncomplicated TBAD with high-risk features, it may be reasonable to consider delaying treatment (beyond 24 hours up to 90 days) with TEVAR to reduce early adverse events and to improve late outcomes. (COR IIB, LOE C-LD)

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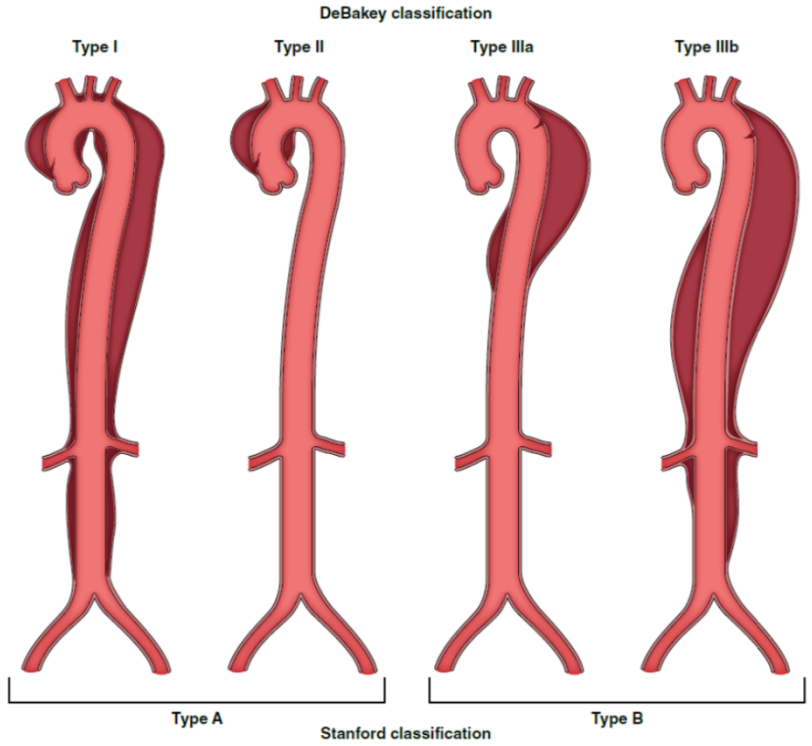
American Heart Association.

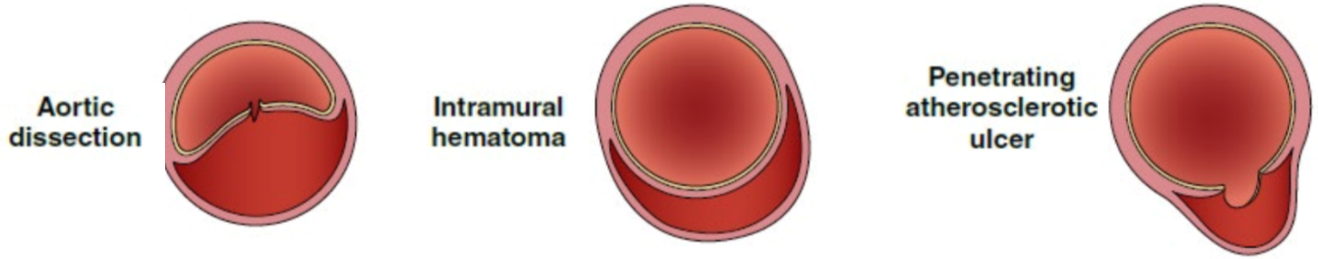
LIVE FIERCE

Aortic Dissection Classification

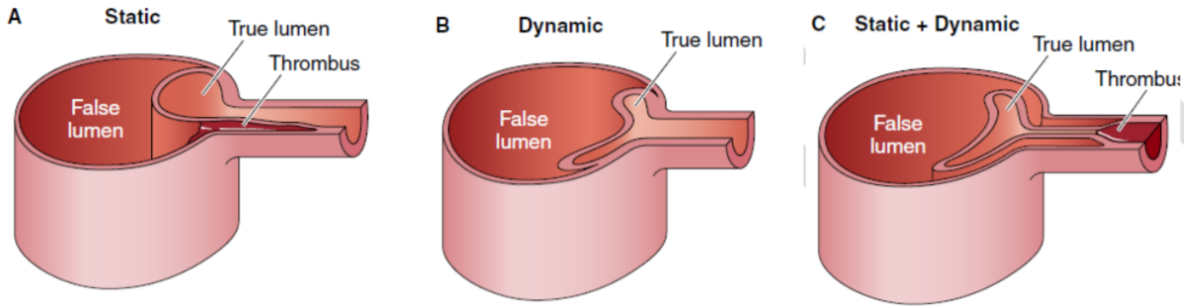
Classification



Types of acute aortic syndromes



Malperfusion



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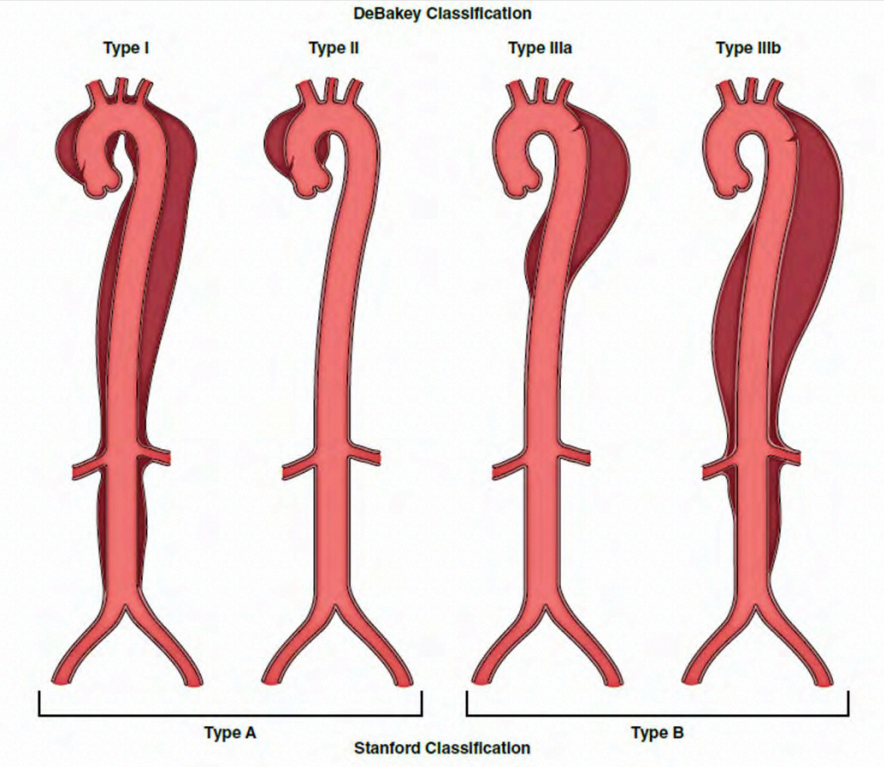
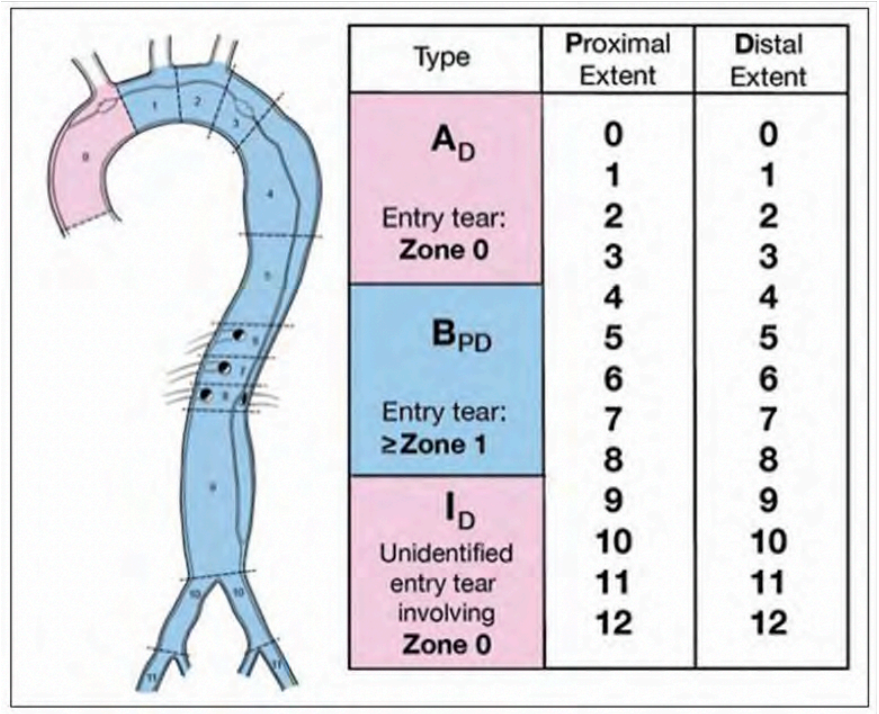
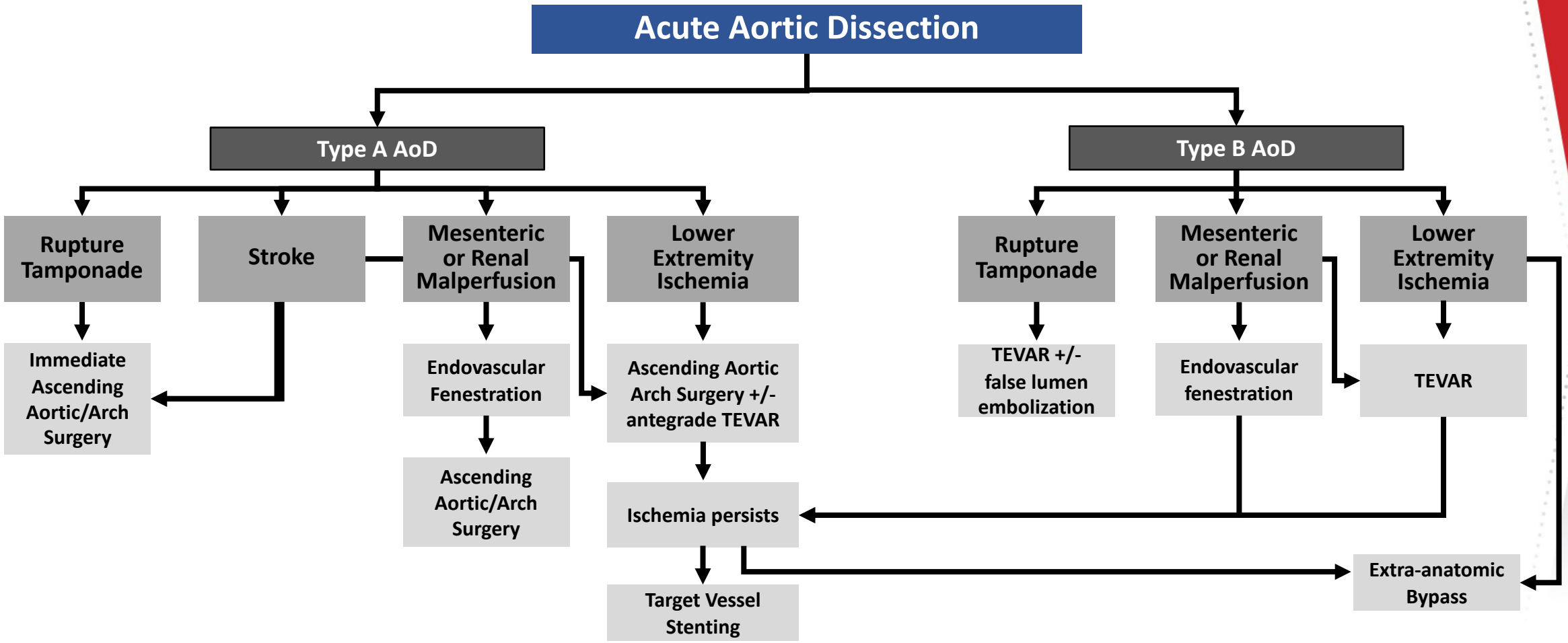
Anatomic Reporting of Aortic Dissection Based on the 2020 SVS/STS Reporting Standards.





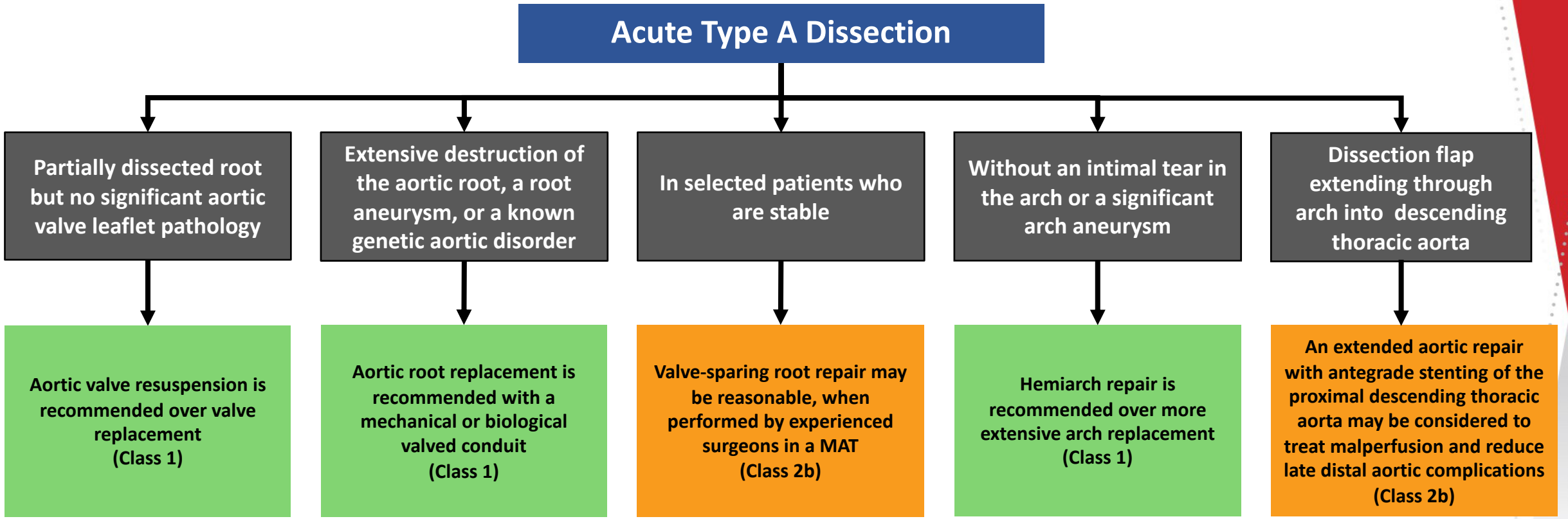
Type	Proximal Extent	Distal Extent
A_D Entry tear: Zone 0	0	0
	1	1
	2	2
	3	3
B_{PD} Entry tear: ≥Zone 1	4	4
	5	5
	6	6
	7	7
	8	8
I_D Unidentified entry tear involving Zone 0	9	9
	10	10
	11	11
	12	12

Acute Aortic Dissection: Malperfusion Treatment Options



Abbreviations: AoD indicates aortic dissection; and TEVAR, thoracic endovascular aortic repair.

Recommendations for Surgical Repair Strategies in Acute Type A Aortic Dissection



In patients with acute type A aortic dissection undergoing aortic repair, an open distal anastomosis is recommended to improve survival and increase false-lumen thrombosis rates. (Class 1)

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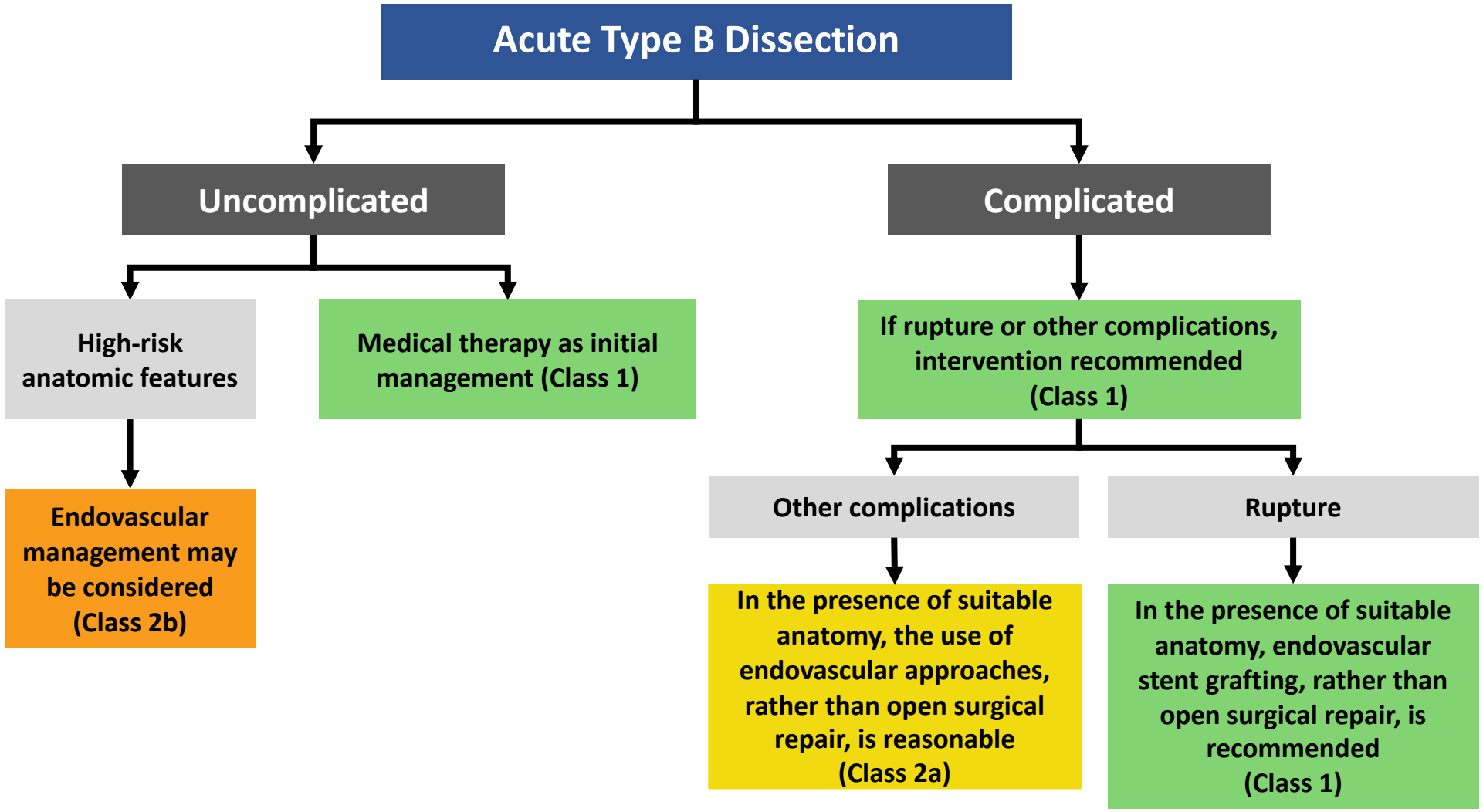
Abbreviations: MAT indicates Multidisciplinary Aortic Team.

Recommendations for the Management of Acute Type B Aortic Dissection



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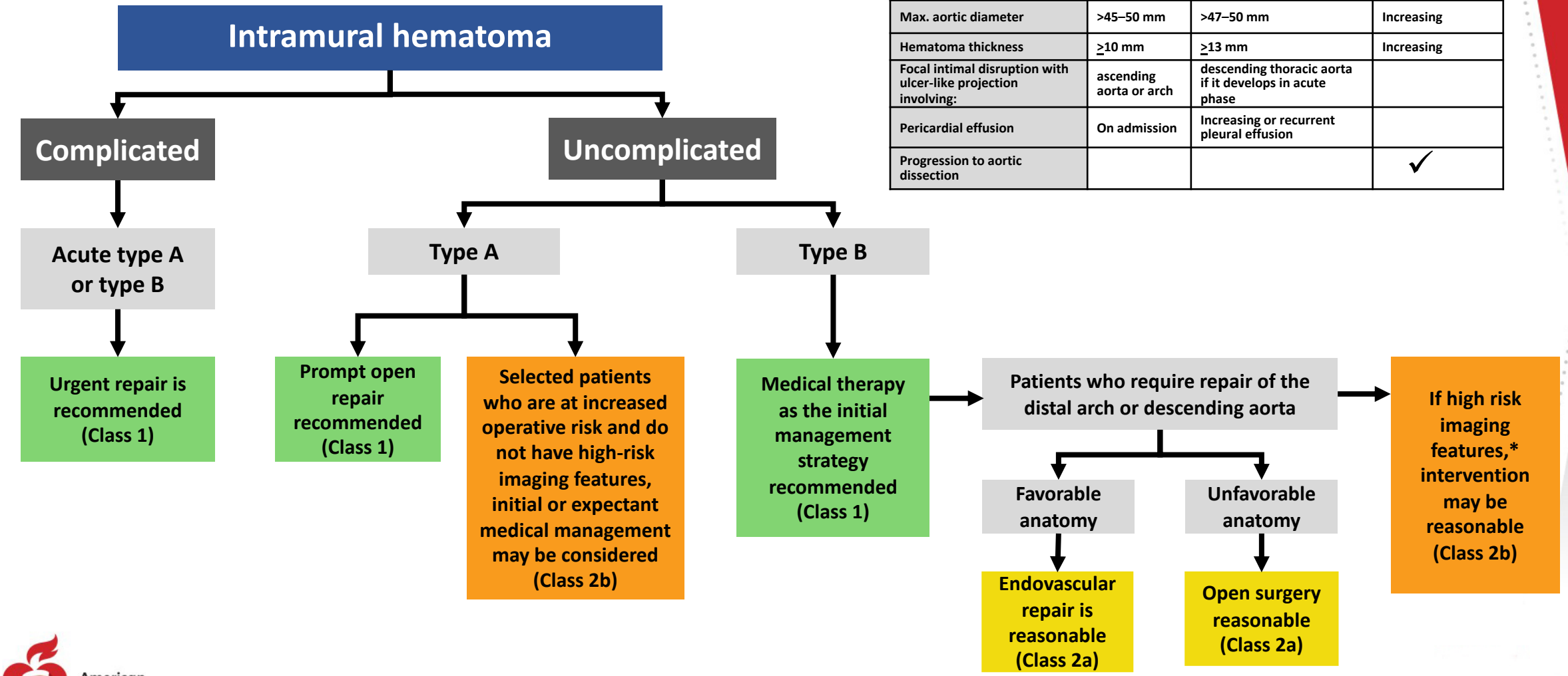
Intramural Hematoma

Recommendations for Management of Intramural Hematoma

***High-Risk Imaging Features of IMH**

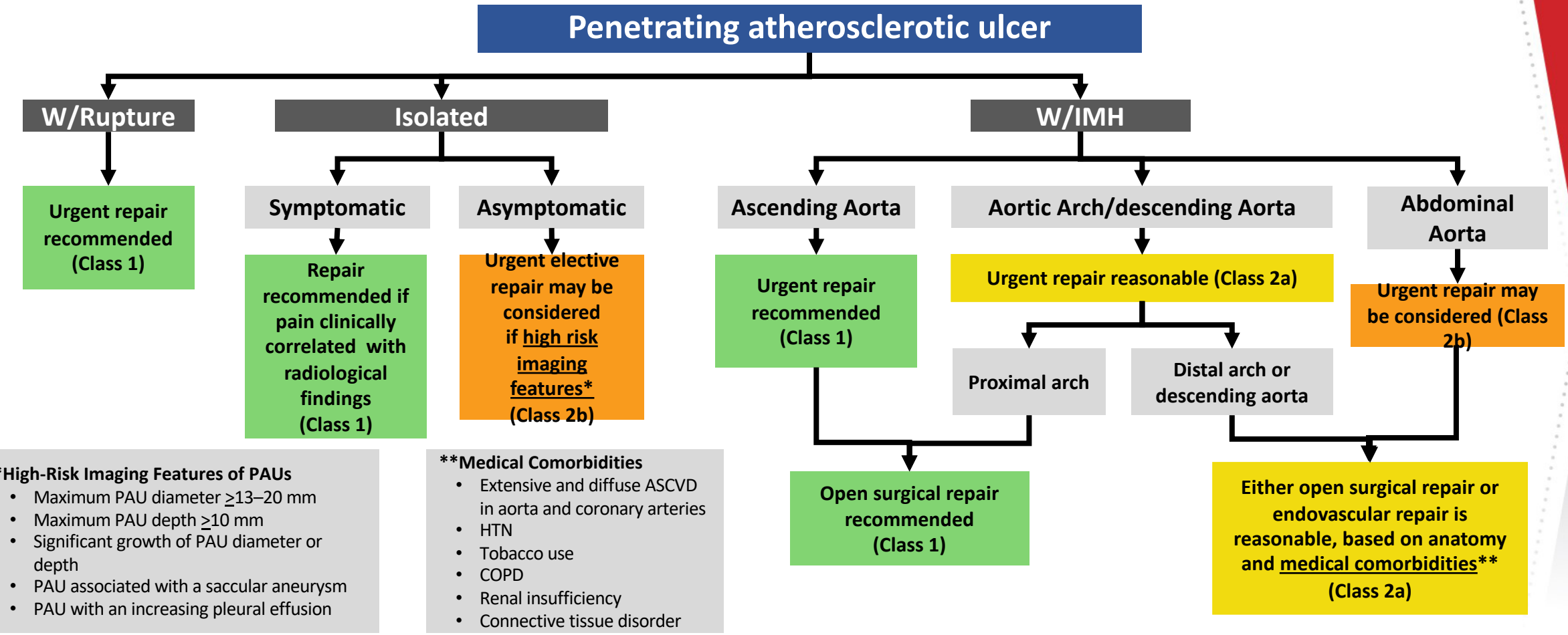
	Type A IMH	Type B IMH	Both Type A and Type B IMH
Max. aortic diameter	>45–50 mm	>47–50 mm	Increasing
Hematoma thickness	≥10 mm	≥13 mm	Increasing
Focal intimal disruption with ulcer-like projection involving:	ascending aorta or arch	descending thoracic aorta if it develops in acute phase	
Pericardial effusion	On admission	Increasing or recurrent pleural effusion	
Progression to aortic dissection			✓



Abbreviations: IMH indicates intramural hematoma.

PAU (Penetrating Atheroclerotic Ulcer)

Recommendations for Penetrating Atherosclerotic Ulcer and Type of Repair



***High-Risk Imaging Features of PAUs**

- Maximum PAU diameter ≥13–20 mm
- Maximum PAU depth ≥10 mm
- Significant growth of PAU diameter or depth
- PAU associated with a saccular aneurysm
- PAU with an increasing pleural effusion

****Medical Comorbidities**

- Extensive and diffuse ASCVD in aorta and coronary arteries
- HTN
- Tobacco use
- COPD
- Renal insufficiency
- Connective tissue disorder

Abbreviations: ASCVD indicates atherosclerotic cardiovascular disease; COPD, chronic obstructive pulmonary disease; HTN, hypertension; IMH, intramural hematoma; mm, millimeter; and PAU, penetrating atherosclerotic ulcer.

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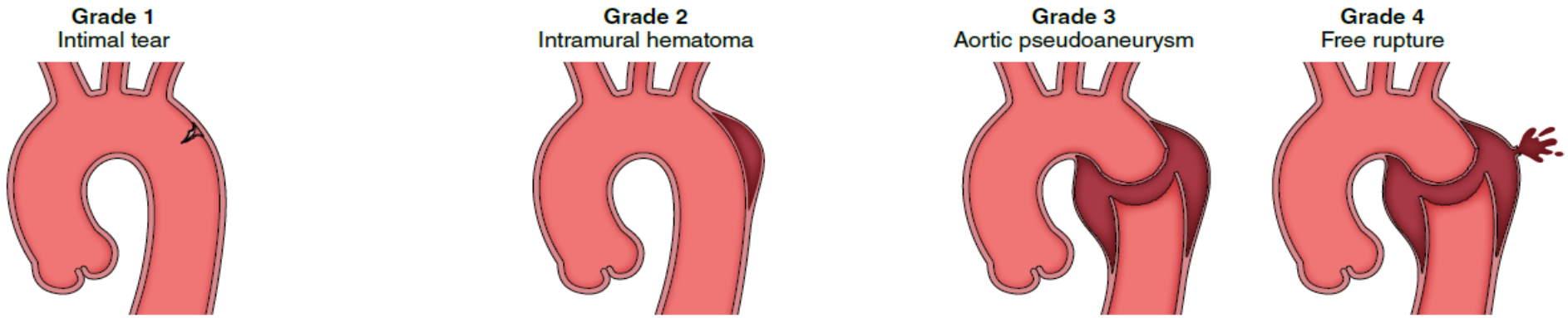
Blunt Traumatic Thoracic Aortic Injury

Approach to the Initial Management of Blunt Traumatic Thoracic Aortic Injury

COR	RECOMMENDATIONS
1	Management and treatment at a trauma center with the facilities to treat aortic pathology is recommended.
1	Anti-impulse therapy to reduce the risk of injury extension and rupture should be implemented, except in patients with hypotension or hypovolemic shock.



Medical management

COR	RECOMMENDATIONS
1	Nonoperative management and f/u imaging are recommended.

COR	RECOMMENDATIONS
2a	With **high-risk imaging features*** aortic intervention is reasonable.
2b	**Without high-risk imaging features,** nonoperative management and follow-up surveillance imaging may be reasonable.

Operative repair

COR	RECOMMENDATIONS
1	With nonprohibitive comorbidities or injuries, aortic intervention is recommended

***High-Risk Imaging Features of BTTAI**

- Posterior mediastinal hematoma >10 mm
- Lesion to normal aortic diameter ratio >1.4
- Mediastinal hematoma causing mass effect
- Pseudocoarctation of the aorta
- Large left hemothorax
- Ascending aortic, aortic arch, or great vessel involvement
- Aortic arch hematoma

Abbreviations: BTTAI indicates blunt traumatic thoracic aortic injury f/u, follow-up; and mm, millimeter.

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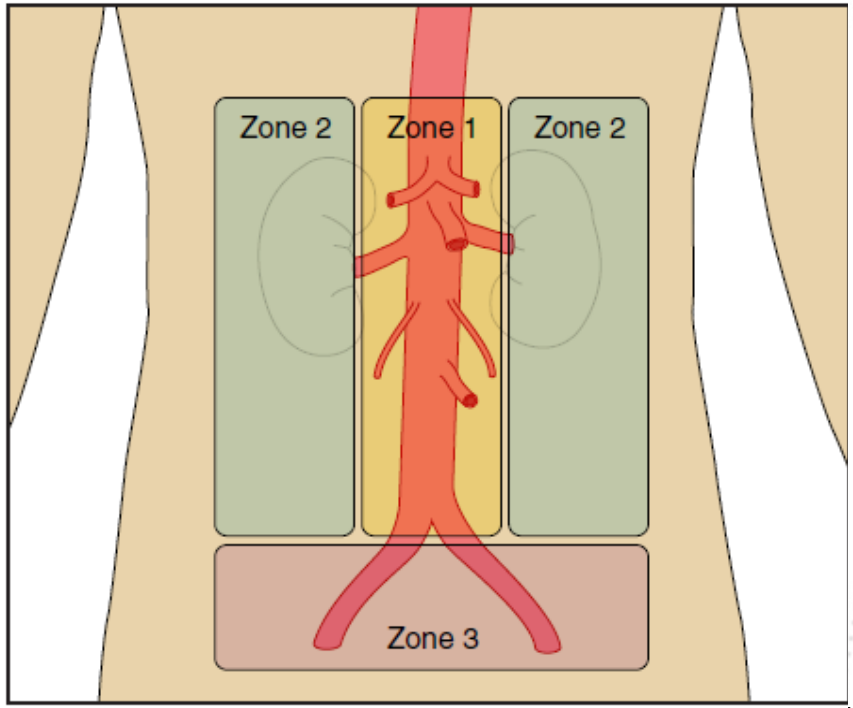
Approach to the Initial Management of Blunt Traumatic Abdominal Aortic Injury

Treatment with either endovascular or open repair is reasonable and depends on degree of injury, aortic anatomy, and the patient's overall clinical status (Class 2a)

Grade 1 **Intimal tear, defect, or thrombus ≤ 10mm**	**Anti-impulse therapy if tolerated and repeat imaging in 24-48 hours (Class 1)**
Grade 2 **Intimal tear, defect, or thrombus ≥10mm**	**if associated with malperfusion, it is reasonable to consider repair (Class 2a)**
Grade 3 **Pseudoaneurysm**	**it may be reasonable to consider repair to reduce risk of progression to life-threatening injury (Class 2b)**
Grade 3 **Aortic rupture**	**Repair should be performed to address life-threatening aortic injury (Class 1)**

The usefulness of routine application of REBOA for hemorrhage control is unclear and in some cases may cause harm. (Class 3:Harm)



Aortic injury zones: Some Zone 1 and 3 injuries are typically amenable to endovascular approaches, while Zone 2 injuries are not.

Abbreviations: REBOA indicates resuscitative endovascular balloon occlusion of the aorta.

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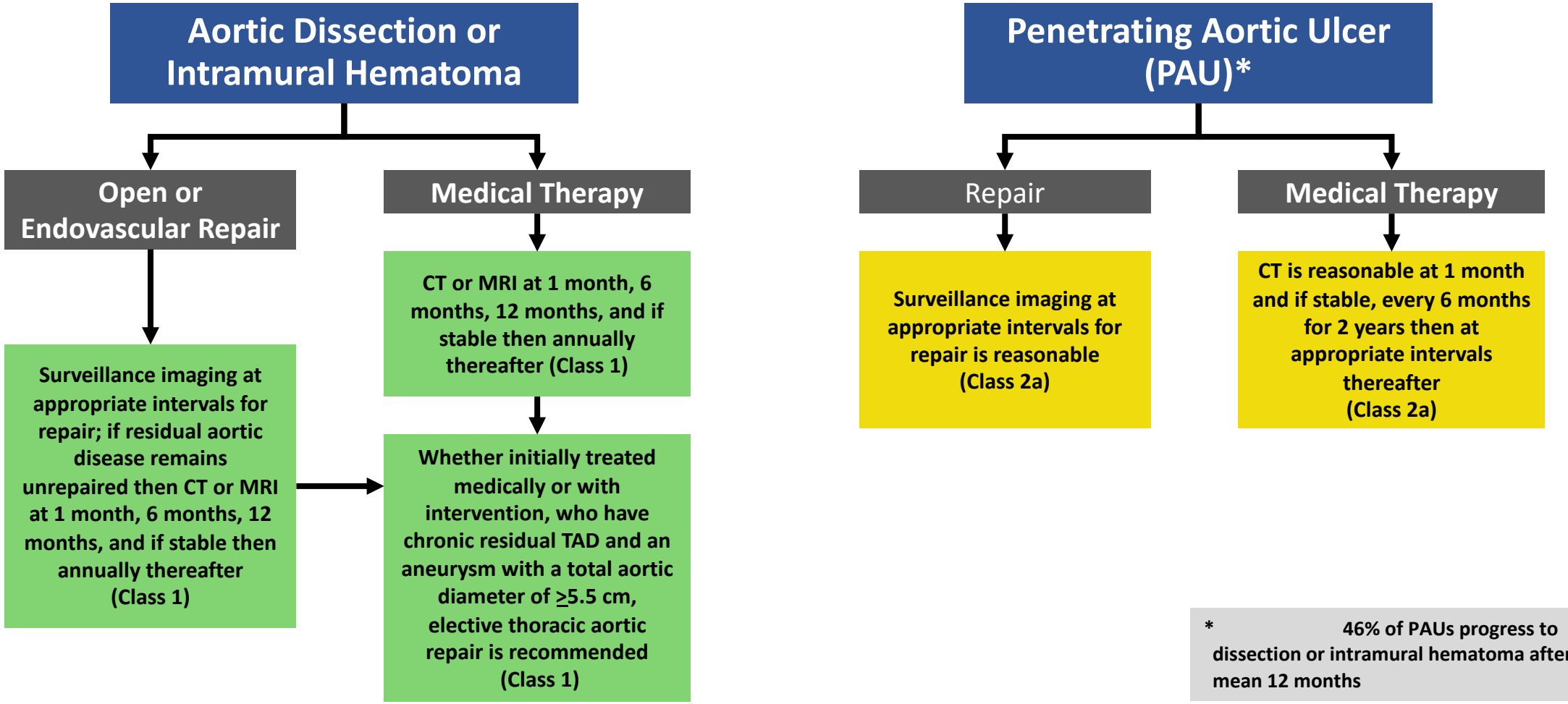
Long Term Surveillance and Management following Acute Aortic Syndrome



Abbreviations: cm indicates centimeter; CT, computed tomography; MRI, magnetic resonance imaging; PAU, penetrating atherosclerotic ulcer; and TAD, thoracic aortic disease.

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Inflammatory Aortitis

Diagnosis and Management of Inflammatory Aortitis

Diagnostic Criteria

TAK (≥3) criteria present
Age <40Y
Claudication
↓Brachial Pulse
SCA/aortic bruit
SBP variation ≥10mmHg in arms
Aortic or aortic branch stenosis

GCA (≥3) criteria present
Age >50y
New localize headache
Temporal artery tenderness
or ↓ pulse
ESR >50mm/h
(+) Necrotizing vasculitis
on arterial bx

Imaging / Monitoring

TAK or GCA Patients: Initial MRI or CT +/- PET *entire* aorta and branches (Class 1)

Monitor treatment efficacy with periodic serum inflammatory markers (CRP/ESR) and repeat imaging (Class 1)

Annual surveillance imaging for GCA/TAK patients in remission (MRI/CT/PET) (Class 2a)

Systemic Therapy

Initial therapy for active GCA/TAK: High-dose glucocorticoid (Class 1) (prednisone 40-60mg/day or equivalent)

GCA + active aortitis: Tocilizumab is recommended as adjunctive therapy to glucocorticoids, with methotrexate as an alternative (Class 1)

TAK: non-biological disease-modifying anti-rheumatic drugs (e.g., methotrexate, hydroxychloroquine, azathioprine, sulfamethoxazole, and leflunomide) should be given in combination with glucocorticoids (Class 1)

Surgery

Elective (open or endovascular) surgical intervention to treat aortic and/or branch vessel complications is reasonable for GCA/TAK patients in remission (Class 2a)

Abbreviations: CT indicates computed tomography; ESR, erythrocyte sedimentation rate; GCA, giant cell arteritis; h, hour; mg, milligram; MRI, magnetic resonance imaging; PET, positron emission tomography; SCA, subclavian artery; TAK, Takayasu arteritis and y, year.

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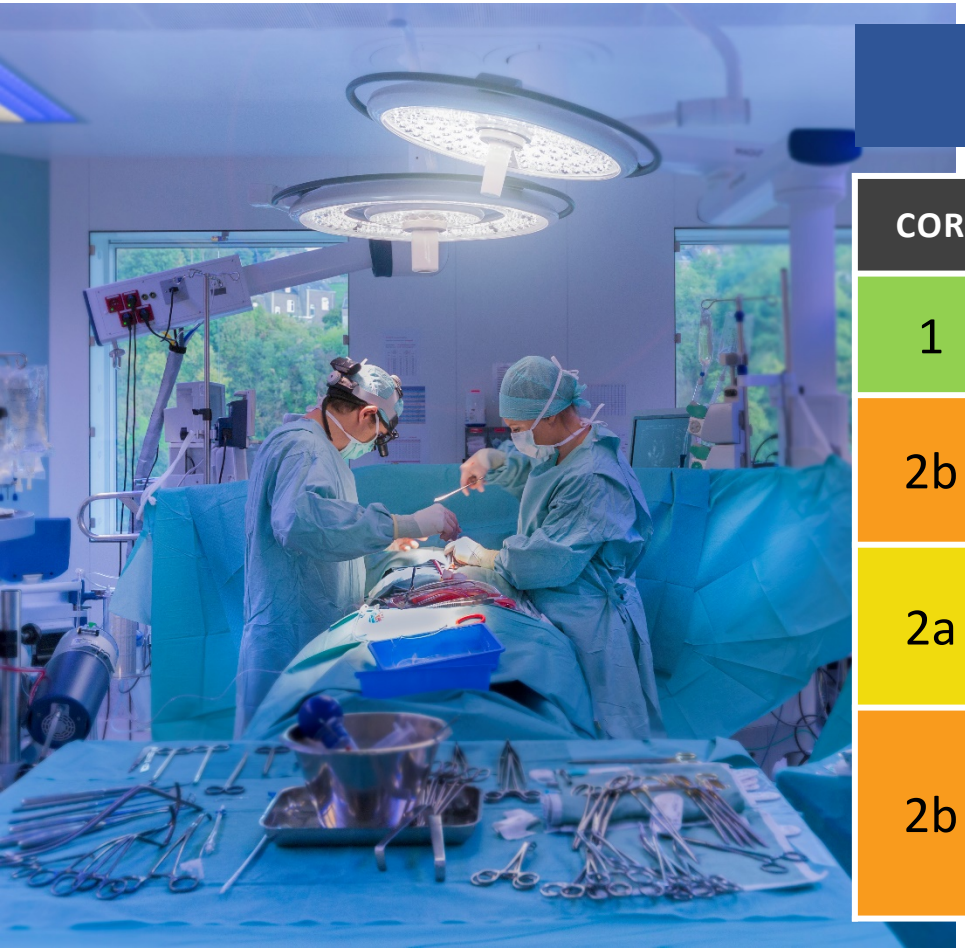
Diagnosis and Management of Infection of the Native Aorta



Individualized approach for each patient based on location, clinical status, surgical risk

COR	RECOMMENDATIONS
1	Thoracic or abdominal aneurysm/dissection associated with infectious aortitis: Open surgical repair is recommended (Class 1)
2b	In select patients, treatment with endovascular repair may be considered. (Class 2b)
2a	Infectious aortitis complicated by rupture, either open or endovascular repair is reasonable, based on the patient's status at presentation and institutional expertise. (Class 2a)
2b	Intravenous antimicrobial therapy of at least 6 weeks' duration may be considered, with lifelong suppressive therapy in select cases not amenable to interventional repair or who have recurrent infection (Class 2b)

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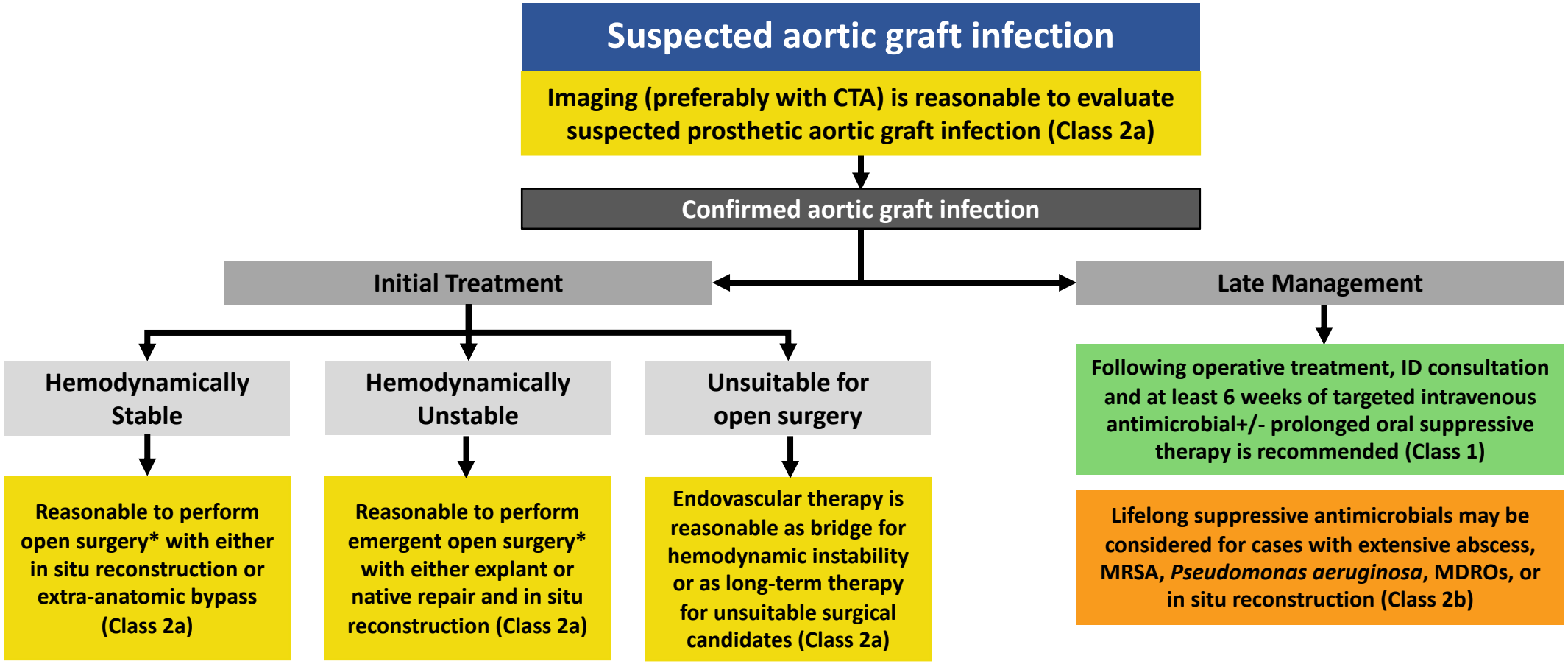
Diagnosis and Management of Prosthetic Aortic Graft Infection



**No clear superiority of cryopreserved allografts, rifampin- or silver-impregnated grafts*

Abbreviations: CTA indicates computed tomography angiography; ID, infectious diseases; MRSA, methicillin-resistant *Staphylococcus aureus*; and MDROs, multidrug-resistant organisms.

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Aortic Atherosclerotic Disease

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Aortic Atherosclerotic Disease

- Associated with coronary artery disease, peripheral arterial disease and all-cause mortality.
- Associated with embolic complications such as stroke

Medical Management of Aortic Atheroma

COR	RECOMMENDATIONS
1	In patients with atherosclerosis affecting the aorta and coronary arteries and/or peripheral arteries, it is recommended to prescribe antiplatelet and/or anticoagulant therapy (Class 1)
2a	In patients with aortic atherosclerosis and coronary artery disease and/or PAD, it is reasonable to prescribe a moderate- or high-intensity statin (Class 2a)
2b	In patients with aortic atheroma of >4 mm thickness, statin therapy may be reasonable (Class 2b)

Abbreviations: mm indicates millimeter; and PAD, peripheral arterial disease.

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Aortic Thrombus and Occlusion

Aortic Mural Thrombus

Most asymptomatic but may embolize

Primary:

- Normal or minimally atherosclerotic aorta
- May be idiopathic or associated with hypercoagulability
- Often pedunculated and extend into lumen

Secondary:

- Associated with aortic pathology (aneurysm, atheroma, aortitis)
- Often in descending thoracic and abdominal aorta

Diagnosis: CTA or TEE

Treatment: Primary thrombus or embolic events managed with anticoagulation, endovascular intervention, and/or open surgery

Aortic Occlusion

- Secondary to extensive atherosclerosis
- Typically, below renal arteries
- Clinical spectrum from acute to chronic occlusion
- May be asymptomatic if extensive collaterals, commonly presents with claudication symptoms

Treatment: Embolectomy for acute embolus

OR

Revascularization options: endovascular, open aortic, extra-anatomic bypass

No RCT evidence for any specific revascularization strategy

Abbreviations: CTA indicates computed tomography angiography; RCT, randomized controlled trial; and TEE, transesophageal echocardiography.

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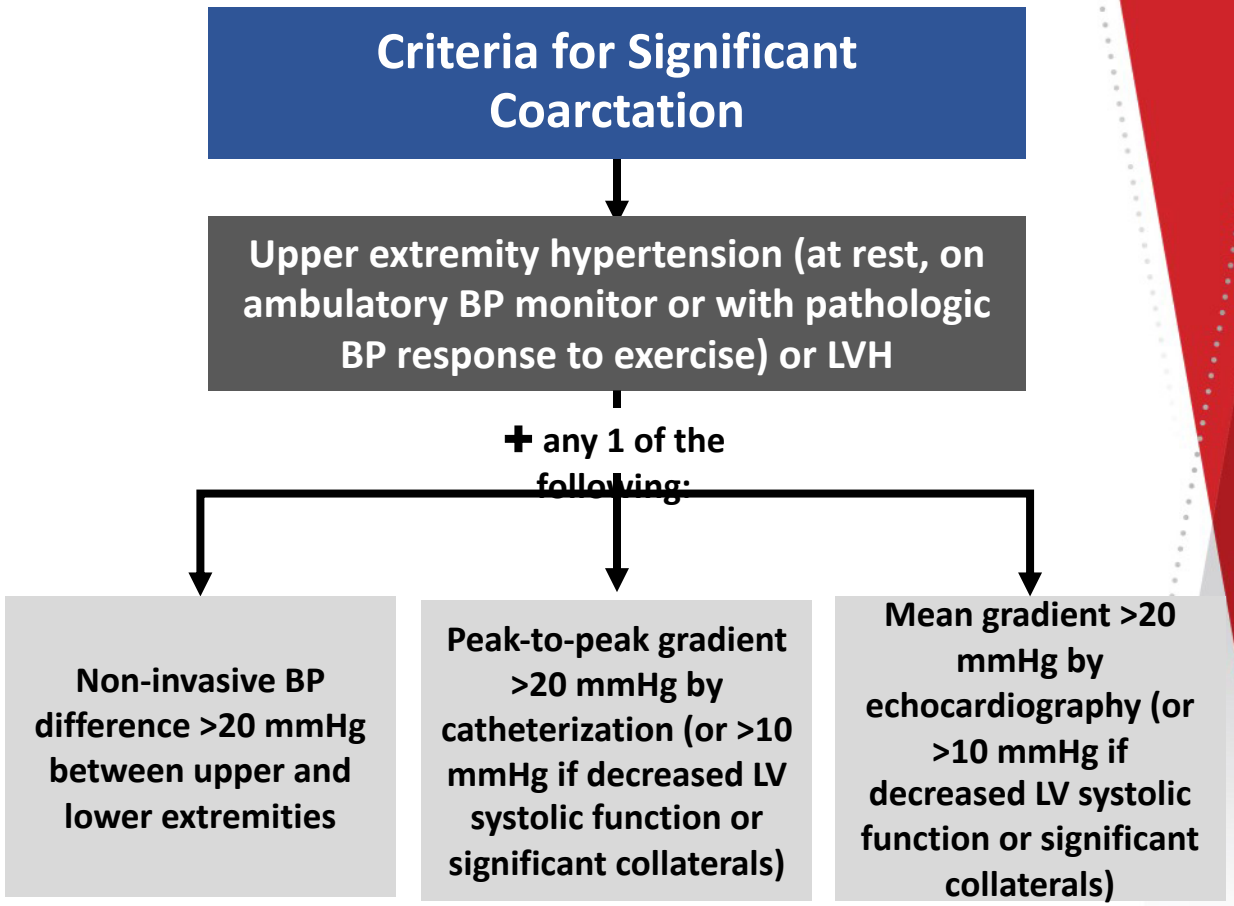
Coarctation of the Aorta

Coarctation of the Aorta: Recommendations for Diagnosis and Management

COR	RECOMMENDATIONS
1	In patients with CoA, including those who have undergone surgical or endovascular intervention, an MRI or CT is recommended for initial, surveillance, and follow-up aortic imaging
1	BP should be measured in both arms and one of the lower extremities
1	In patients with significant native or recurrent CoA and HTN, endovascular stenting or open surgical repair of the coarctation is recommended
1	Guideline-directed medical therapy is recommended for the treatment of HTN
2b	In adult patients, screening for intracranial aneurysms by MRI or CT may be reasonable



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Abbreviations: BP indicates blood pressure; CoA, coarctation of the aorta; CT, computed tomography; HTN, hypertension; LVH, left ventricular hypertrophy; and MRI, magnetic resonance imaging.

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Top 10 Take-Home Messages

2022 Guideline for the Diagnosis and Management of Aortic Disease

Top 10 Take Home Messages

1. Because outcomes for patients with aortic disease are enhanced at programs with higher volumes, experienced practitioners, and extensive management capabilities, Multidisciplinary Aortic Team care is considered in determining the appropriate timing of intervention.

Top 10 Take Home Messages

2. Shared decision-making involving the patient and a multidisciplinary team is highly encouraged to determine the optimal medical, endovascular, and open surgical therapies. In patients with aortic disease who are contemplating pregnancy or who are pregnant, shared decision-making is especially important when considering the cardiovascular risks of pregnancy, the diameter thresholds for prophylactic aortic surgery, and the mode of delivery.

Top 10 Take Home Messages

3. Computed tomography, magnetic resonance imaging, and echocardiographic imaging of patients with aortic disease should follow recommended approaches for image acquisition, measurement and reporting of relevant aortic dimensions, and the frequency of surveillance before and after intervention.

Top 10 Take Home Messages

4. At centers with Multidisciplinary Aortic Teams and experienced surgeons, the threshold for surgical intervention for sporadic aortic root and ascending aortic aneurysms has been lowered from 5.5 cm to 5.0 cm in selected patients, and even lower in specific scenarios among patients with heritable thoracic aortic aneurysms.

Top 10 Take Home Messages

5. In patients who are significantly smaller or taller than average, surgical thresholds may incorporate indexing of the aortic root or ascending aortic diameter to either patient body surface area or height, or aortic cross-sectional area to patient height.

Top 10 Take Home Messages

6. Rapid aortic root growth or ascending aortic aneurysm growth, an indication for intervention, is defined as ≥0.5 cm in 1 year or ≥0.3 cm per year in 2 consecutive years for those with sporadic aneurysms and ≥0.3 cm in 1 year for those with heritable thoracic aortic disease or bicuspid aortic valve.

Top 10 Take Home Messages

7. In patients undergoing aortic root replacement surgery, valve-sparing aortic root replacement is reasonable if the valve is suitable for repair and when performed by experienced surgeons in a Multidisciplinary Aortic Team.

Top 10 Take Home Messages

8. Patients with acute type A aortic dissection, if clinically stable, should be considered for transfer to a high-volume aortic center to improve survival. The operative repair of type A aortic dissection should entail at least an open distal anastomosis rather than just a simple supracoronary interposition graft.

Top 10 Take Home Messages

9. There is an increasing role for thoracic endovascular aortic repair in the management of uncomplicated type B aortic dissection. Clinical trials of repair of thoracoabdominal aortic aneurysms with endografts are reporting results that suggest endovascular repair is an option for patients with suitable anatomy.

Top 10 Take Home Messages

10. In patients with aneurysms of the aortic root or ascending aorta, or those with aortic dissection, screening of first-degree relatives with aortic imaging is recommended.

Chân thành cảm ơn !

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