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2024 ESC Guidelines for the management of peripheral and aortic diseases

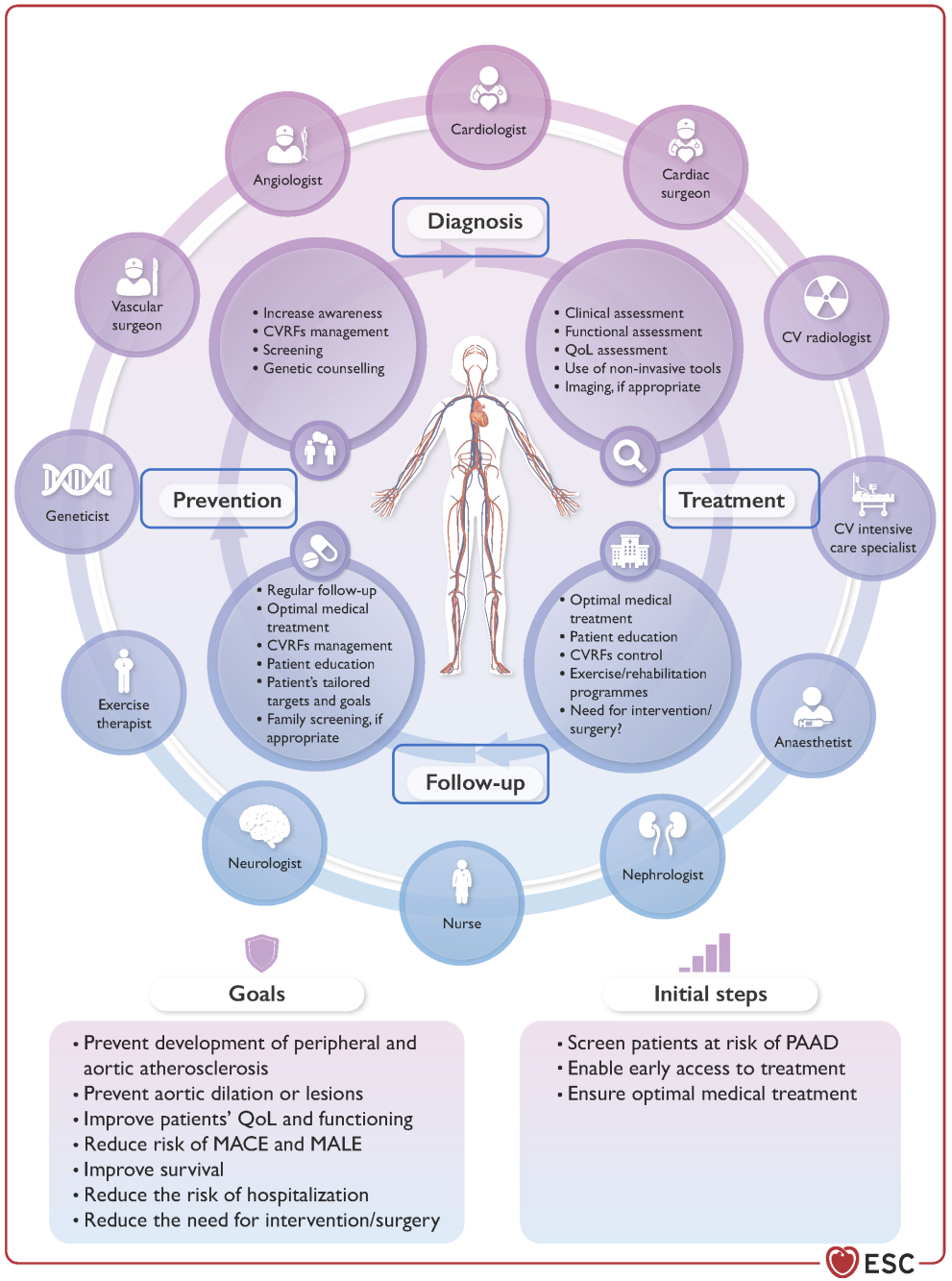
Dr. José F Rodríguez Palomares

Hospital Vall Hebrón Barcelona

12 de Septiembre de 2024

Holistic, multidisciplinary management by an experienced team is mandatory

Recommendations	Class	Level
When managing PAAD, it is recommended to adopt a comprehensive approach that addresses the entirety of arterial circulation.	I	B



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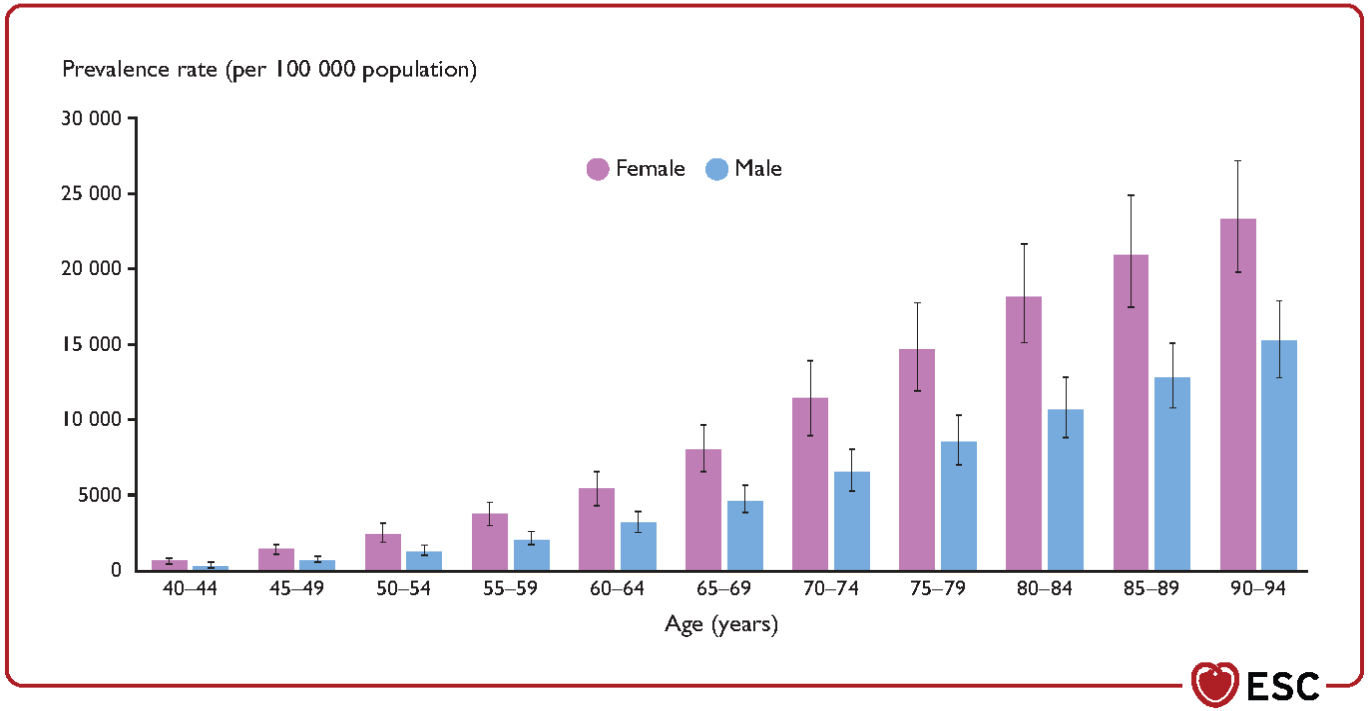
Peripheral arterial and aortic diseases (PAAD), highly prevalent but still too often overlooked

- Prevalence of PAAD is high:
  - 113 million people ≥ 40 yrs
  - 14.91% in those aged 80–84 year
  - Higher in females (18.03% vs. 10.56%, in the same age group)

- Diseases are often asymptomatic
  --> Screening is essential

- Many patients are underdiagnosed and undertreated compared with coronary artery disease

PAD: 45% growth rate in the world population from 1990 to 2019



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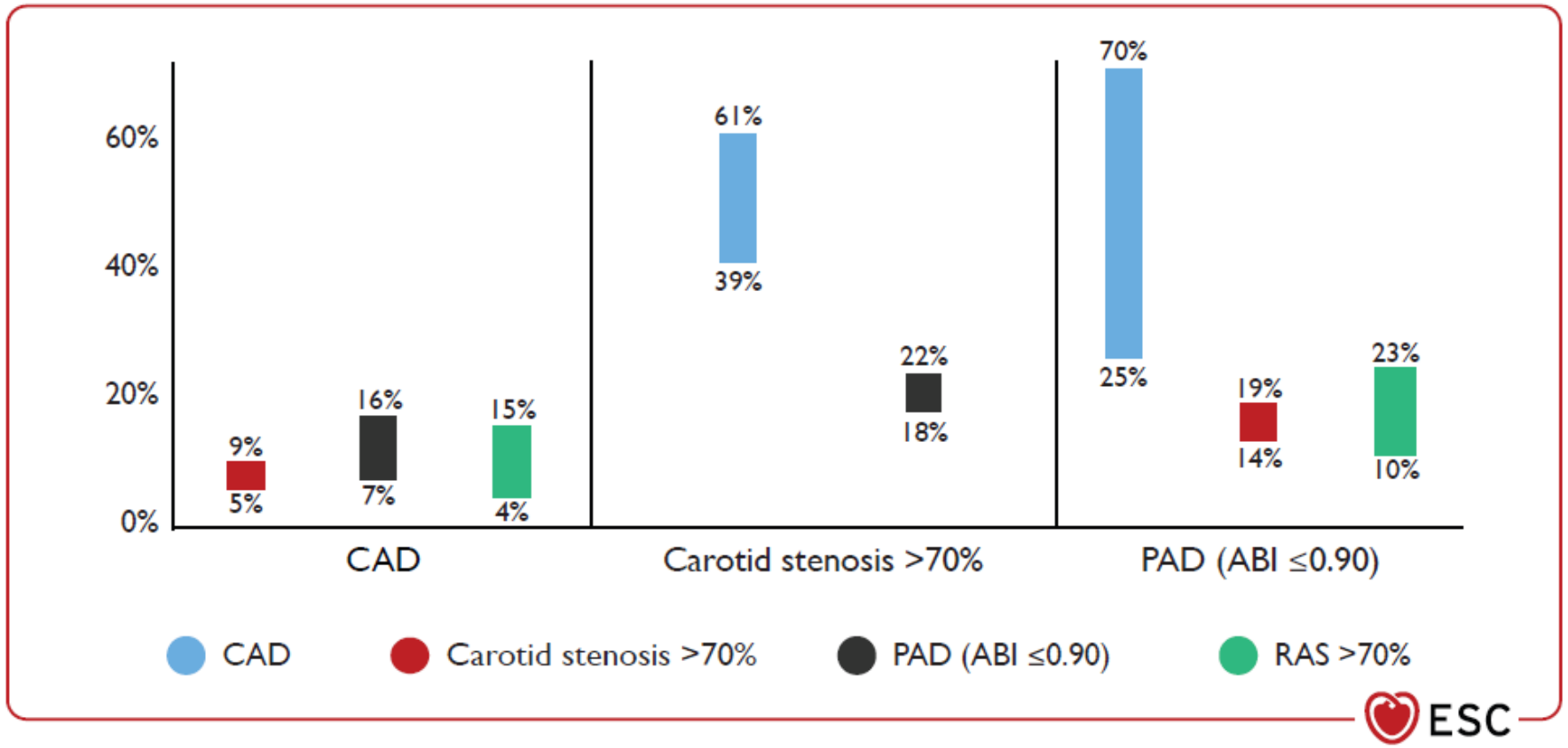
Polivascular disease is often present in PAAD patients



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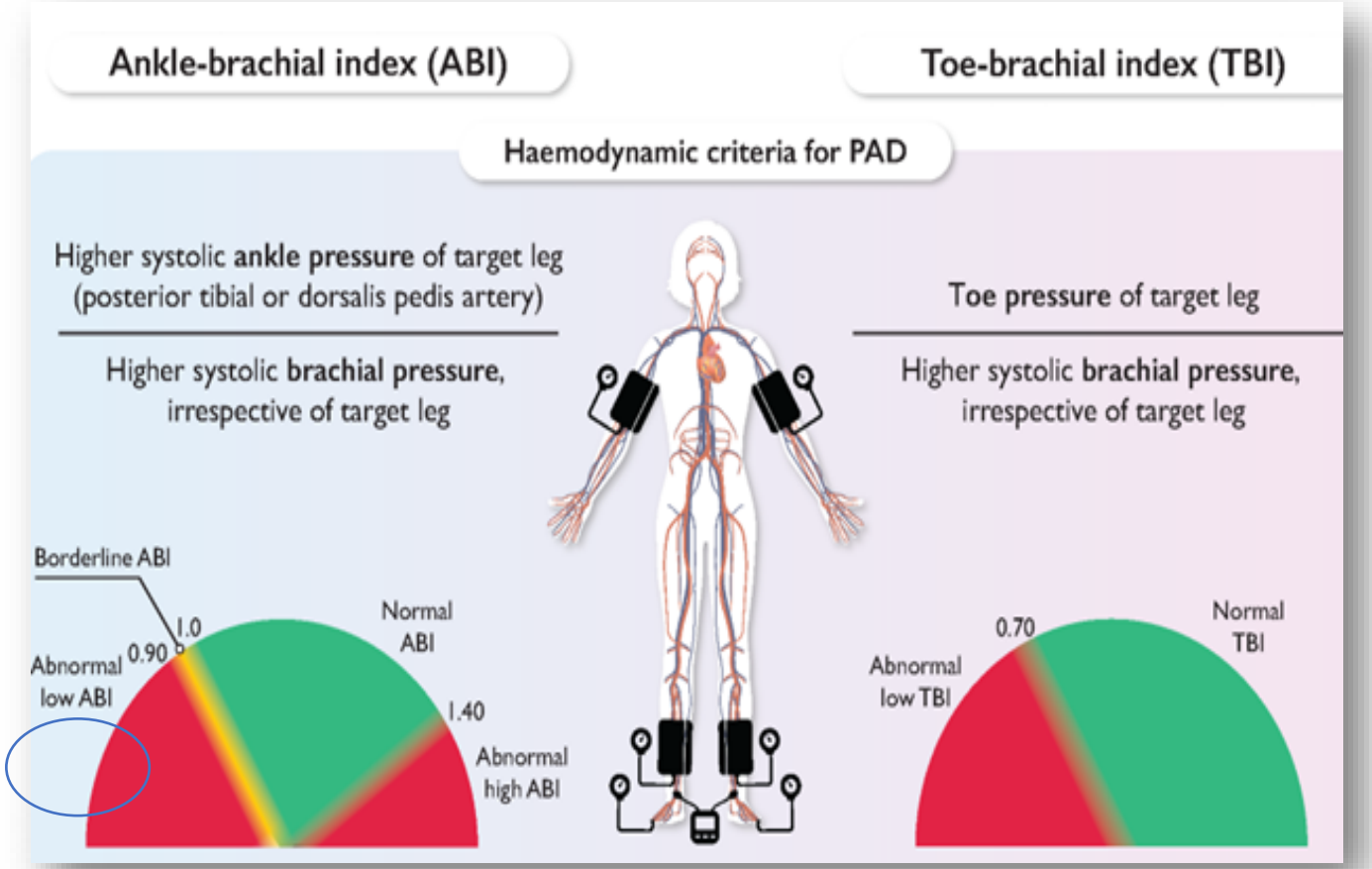
Early PAD diagnosis is crucial for better outcomes

- Ankle-brachial index (ABI) is the recommended (IB) initial diagnostic test for PAD screening and diagnosis
- ABI serves as a surrogate marker for CV and all-cause mortality
- Duplex ultrasound is the recommended (IB) first-line imaging method to confirm PAD
- In women, prevalence of typical PAD symptoms (intermittent claudication) is lower than in men, while atypical symptoms are more common → screening is essential



ABI ≤0.90 as a diagnostic criterion

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Recommendations for abdominal aortic aneurysm screening

Recommendations	Class	Level
Screening for AAA with DUS:		
Is recommended in men aged ≥65 years with a history of smoking to reduce the risk of death from ruptured AAA.	I	A
May be considered in men aged ≥75 years (irrespective of smoking history) or in women aged ≥75 years who are current smokers, hypertensive, or both.	IIb	C
Family AAA screening with DUS:		
Is recommended for FDRs of patients with AAA aged ≥50, unless an acquired cause can be clearly identified.	I	C
Opportunistic AAA screening with DUS:		
Should be considered in symptomatic/asymptomatic PAD patients.	IIa	B
Should be considered in men aged ≥65 years and in women aged ≥75 years during TTE.	IIa	B

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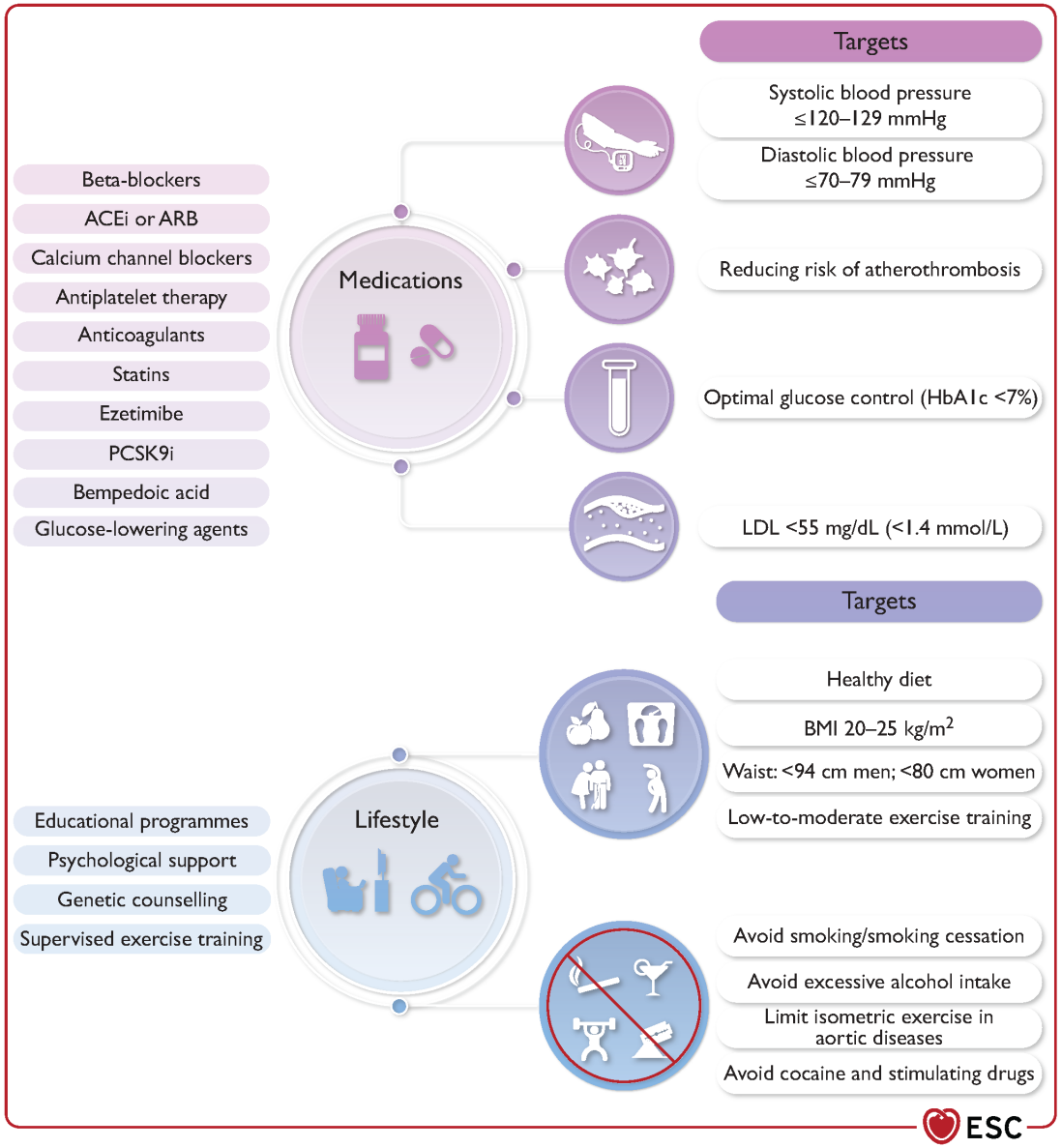
Optimal multimodal medical treatment is key in PAAD patient management

- Pharmacological treatment
- Supervised Exercise training
- Lifestyle behavior

- Revascularization is not recommended in asymptomatic PAD **(IIIC)** *New*
- Revascularization in symptomatic PAD should follow a period of optimal medical treatment and exercise and be discussed in a multidisciplinary setting.



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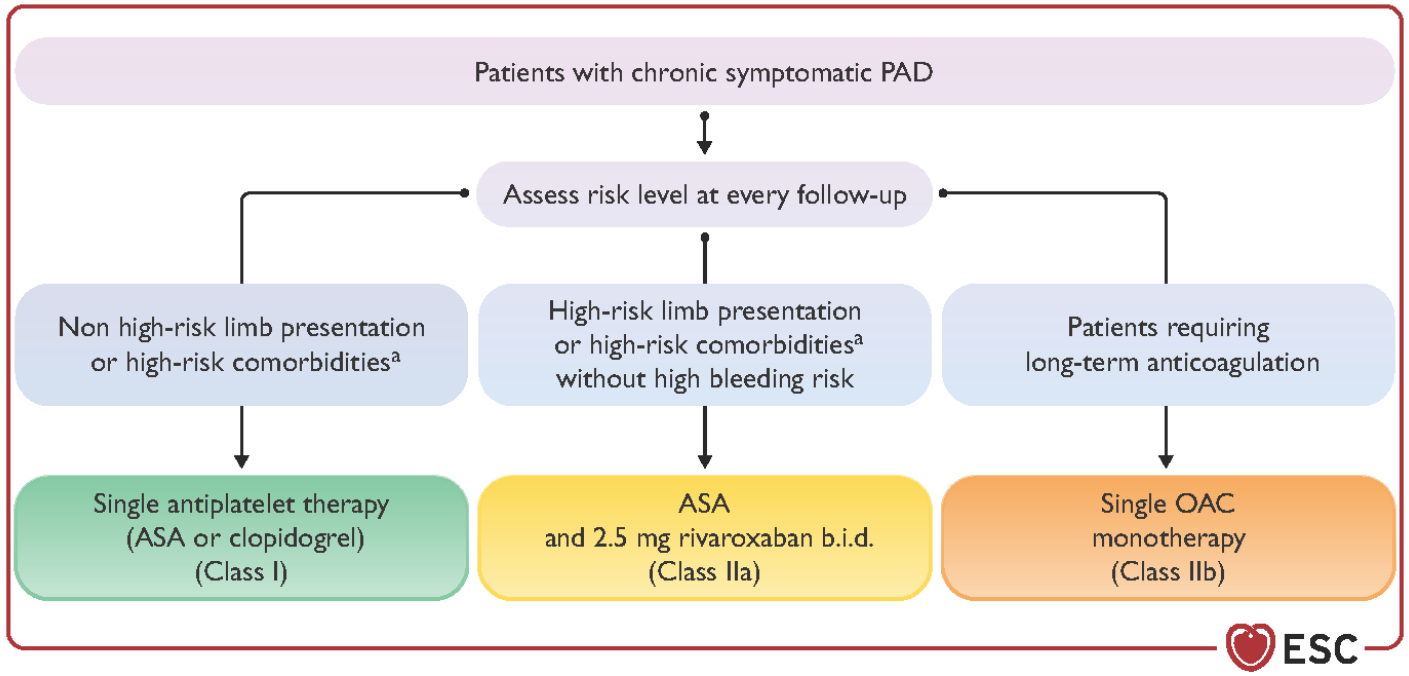
New recommendations for antithrombotic treatment



Recommendations	Class	Level
Use of antiplatelet therapy with aspirin alone (range 75–160 mg o.d.) or clopidogrel alone (75 mg o.d.) is recommended for the reduction of MACE in patients with symptomatic PAD.	I	A
Treatment with combination rivaroxaban (2.5 mg b.i.d.) and aspirin (100 mg o.d.) should be considered for patients with PAD, high ischaemic risk, and non-high bleeding risk.	IIa	A

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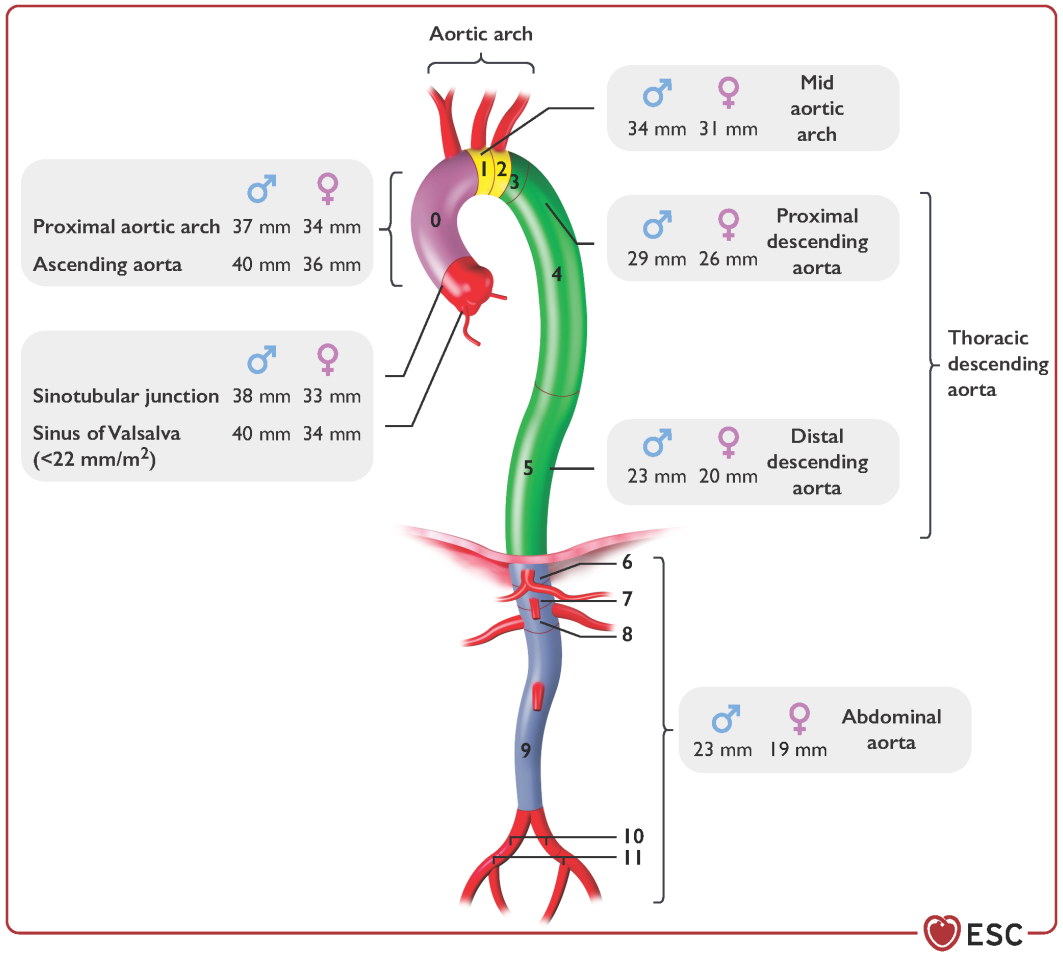
Standardisation in aortic nomenclature and measurement



Recommendations	Class	Level
It is recommended that aortic diameters are measured at prespecified anatomical landmarks, and the largest diameter of the section be perpendicular to the longitudinal axis.	I	C

Recommendations	Class	Level
TTE is recommended as the first-line imaging technique in evaluating thoracic aortic diseases.	I	B
It is recommended to report aortic diameters using the leading-to-leading edge convention in end-diastole by echocardiography.	I	C
It is recommended to report aortic diameters using the inner-to-inner edge convention in end-diastole by CCT or CMR.	I	C
It is recommended to report aortic diameters from images obtained with the double-oblique technique (not axial images) by CCT or CMR.	I	C
ECG-triggered CCT is recommended for comprehensive diagnosis, follow-up, and pre-invasive treatment assessment of the entire aorta, particularly the root and ascending aorta.	I	C
CMR is recommended for diagnosis and follow-up of thoracic aortic diseases, especially when chronic follow-up is required.	I	C

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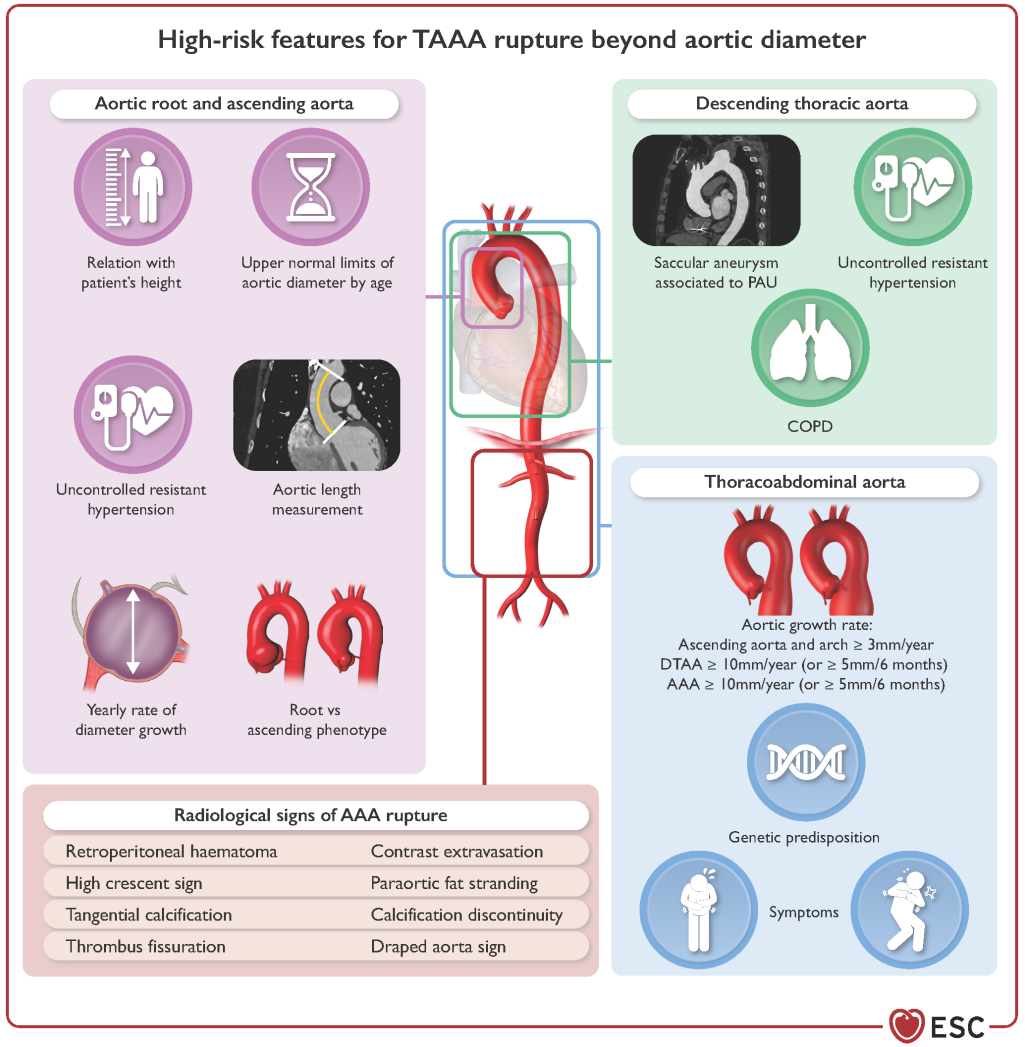
Risk factors for thoracic and abdominal aneurysm rupture



- **Aortic diameter.**
- **AHI (aorta-height index) > 32.1 mm/m (↑ 12% yearly increase of AAEs).**
- **Aortic cross-sectional area to height ≥10 cm^2/m (reduced long-term survival).**
- **Aortic length >11 cm (a threshold for surgery).**

Indexing aortic diameters to BSA, along with the use of nomograms, z-scores, or other indexing methods, should be considered for more accurate assessment of aortic size, especially for body sizes at the lower end of the normal distribution.[156–158]	IIa	B

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New recommendations for surgery in aortic root and ascending aorta dilatation associated with tricuspid aortic valve

2017 PAD and 2014 Aortic Guidelines	Class	Level	2024 PAAD Guidelines	Class	Level
Recommendations for surgery in aortic root and ascending aorta dilatation associated with tricuspid aortic valve					
Surgery should be considered in patients who have isolated aortic arch aneurysm with a maximal diameter ≥55 mm.	IIa	C	Surgery is recommended in patients with dilatation of the aortic root or ascending aorta with a tricuspid aortic valve and a maximum diameter of ≥55 mm.	I	B
Aortic valve repair using the reimplantation technique or remodelling with aortic annuloplasty is recommended in young patients with aortic root dilation and tricuspid aortic valves.	I	C	Valve-sparing aortic root replacement is recommended in patients with aortic root dilatation if performed in experienced centres and durable results are expected.	I	B

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New recommendations for surgery in aortic root and ascending aorta dilatation associated with tricuspid aortic valve

In patients with dilatation of the tubular ascending aorta who can be offered surgery with low predicted risk, ascending aortic replacement should be considered at a maximum diameter >52 mm.	IIa	B
In patients undergoing surgery for tricuspid aortic valve disease who have concomitant dilatation of the aortic root or ascending tubular aorta, and low predicted surgical risk, ascending aorta or root replacement should be considered at a maximum diameter ≥45 mm, otherwise ≥50 mm.	IIa	B

2017 PAD and 2014 Aortic Guidelines	Class	Level	2024 PAAD Guidelines	Class	Level
Recommendations for surgery in aortic root and ascending aorta dilatation associated with tricuspid aortic valve cont.					
Lower thresholds for intervention may be considered according to BSA in patients with small stature or in the case of rapid progression, aortic valve regurgitation, planned pregnancy, and patient's preference.	IIb	C	Ascending aortic or root replacement may be considered at a maximum diameter of ≥50 mm in patients with proximal aorta dilatation who can be offered surgery with low predicted risk and present with any of the following: •Growth of the aortic diameter ≥3 mm per year •Resistant hypertension •Short stature (<1.69 m) •Root phenotype •Aortic length >11 cm •Age <50 years •Desire for pregnancy •Aortic coarctation.	IIb	B

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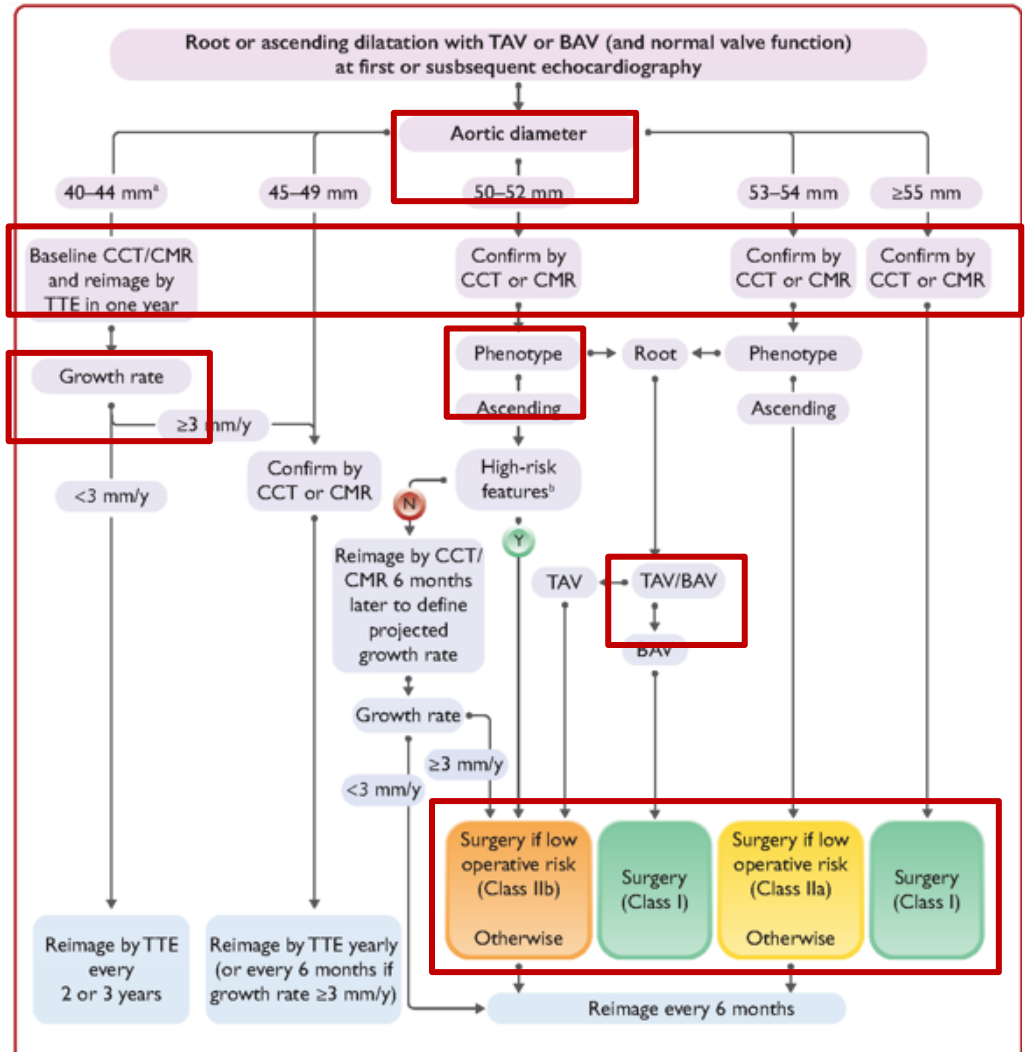
Surveillance of patients with non-heritable thoracic aortic disease



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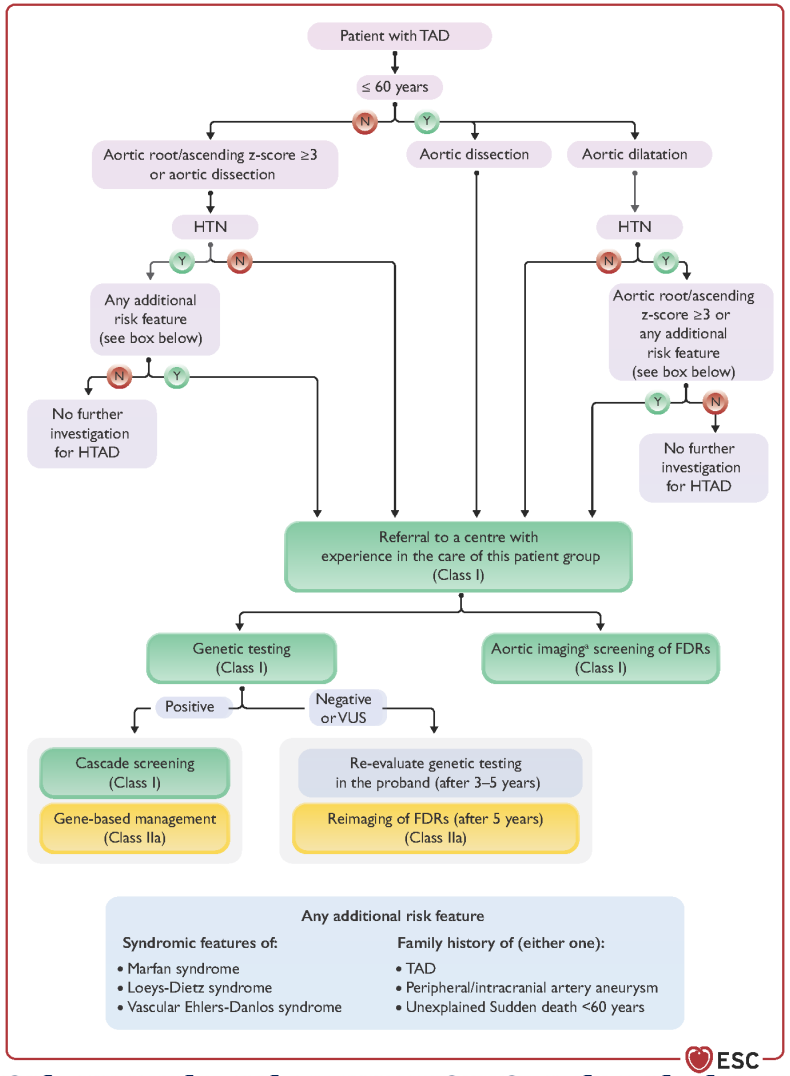
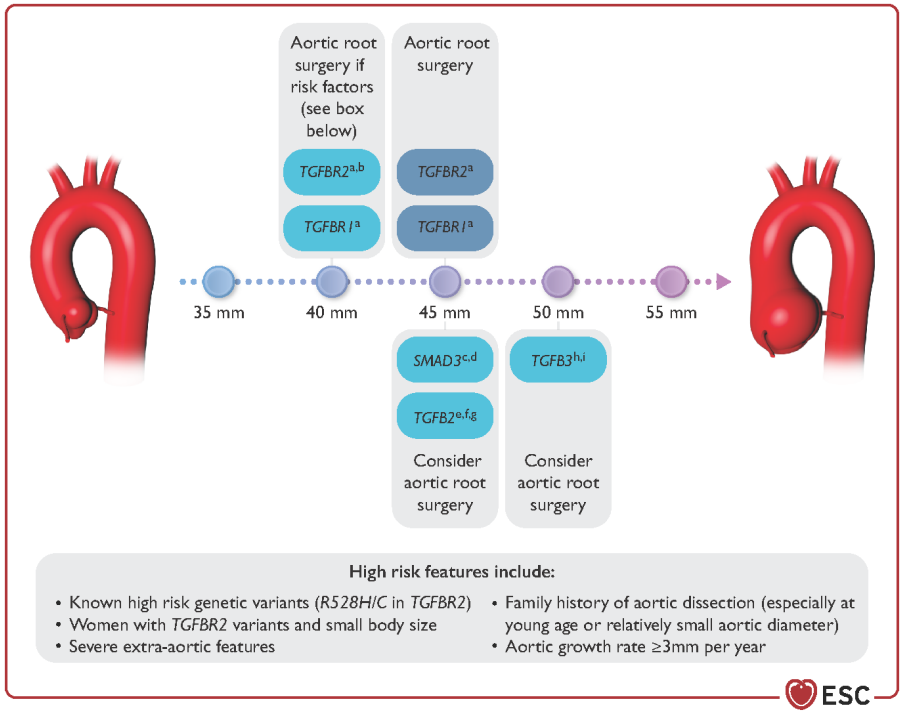
Algorithm for genetic and imaging screening in patients with thoracic aortic disease



In patients with HTAD who have a pathogenic/likely pathogenic variant, genetic testing of at-risk biological relatives (i.e. cascade testing) is recommended, irrespective of age.	I	C
In patients with HTAD, guidance of clinical management by the underlying gene/variant, when known, should be considered.	IIa	B



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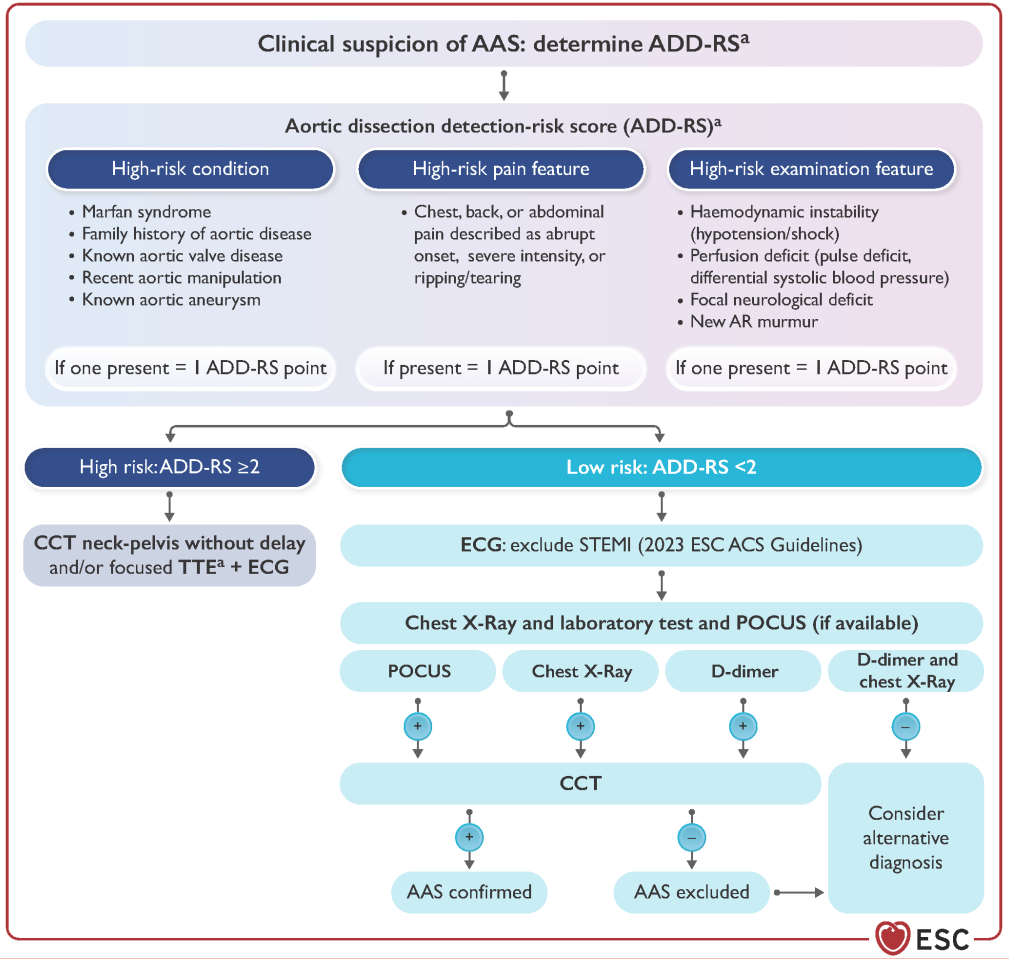
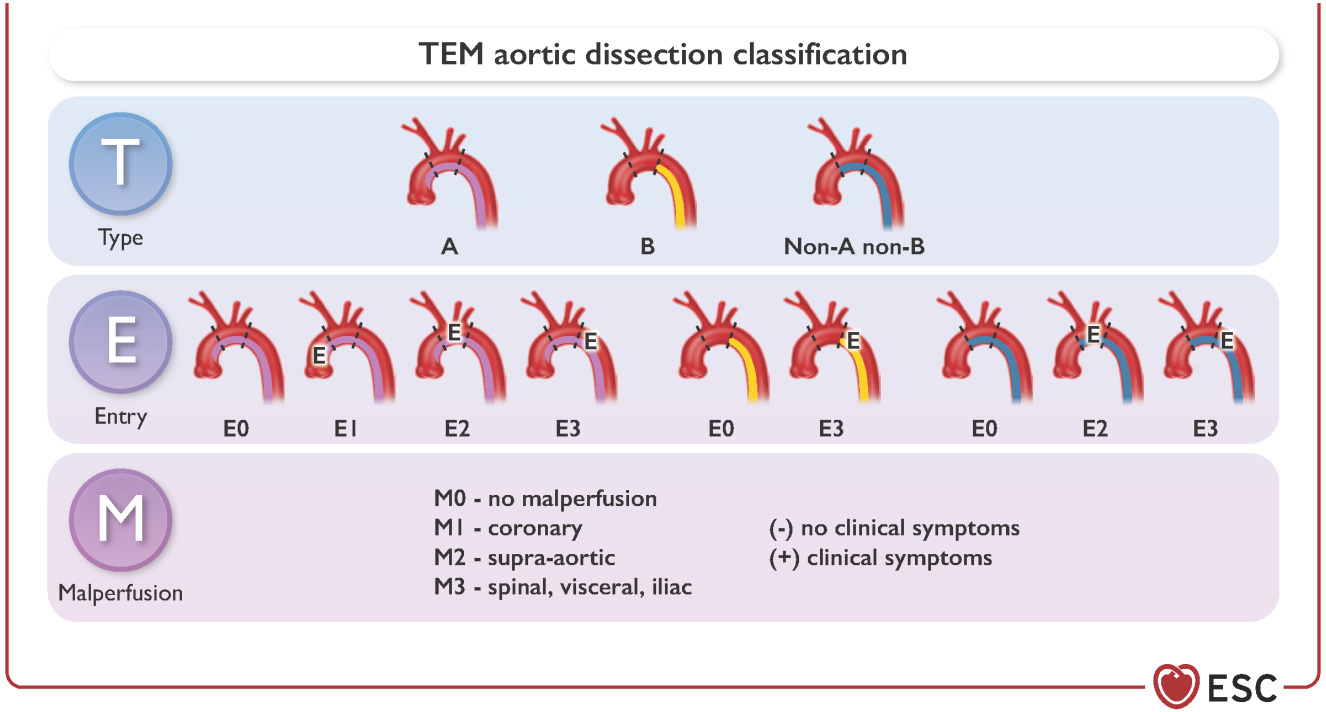
Aortic dissection: Diagnostic algorithm and classification system





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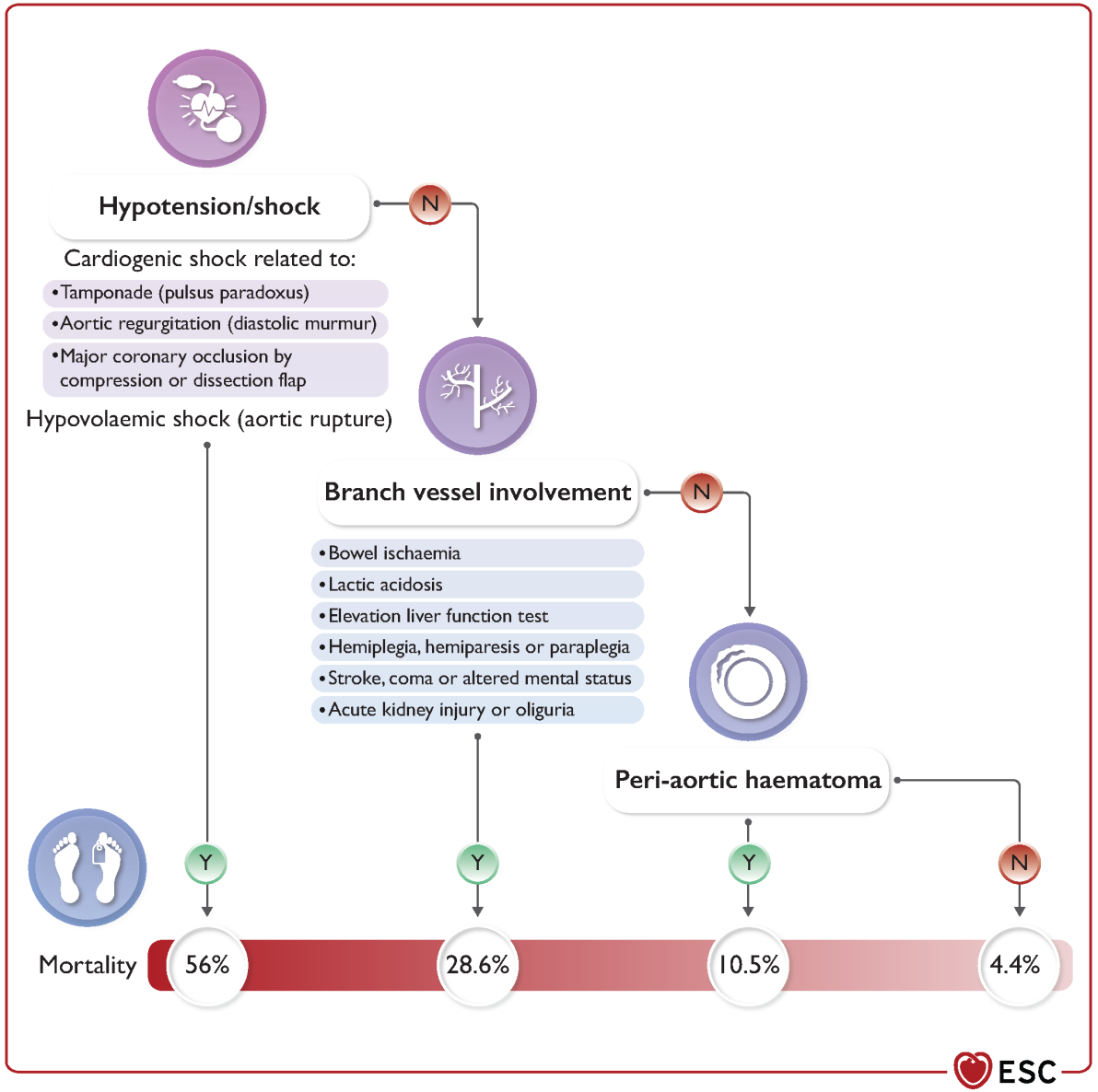
Complications in acute aortic syndromes, clinical evidence associated with malperfusion syndrome, and in-hospital mortality associated with these complications



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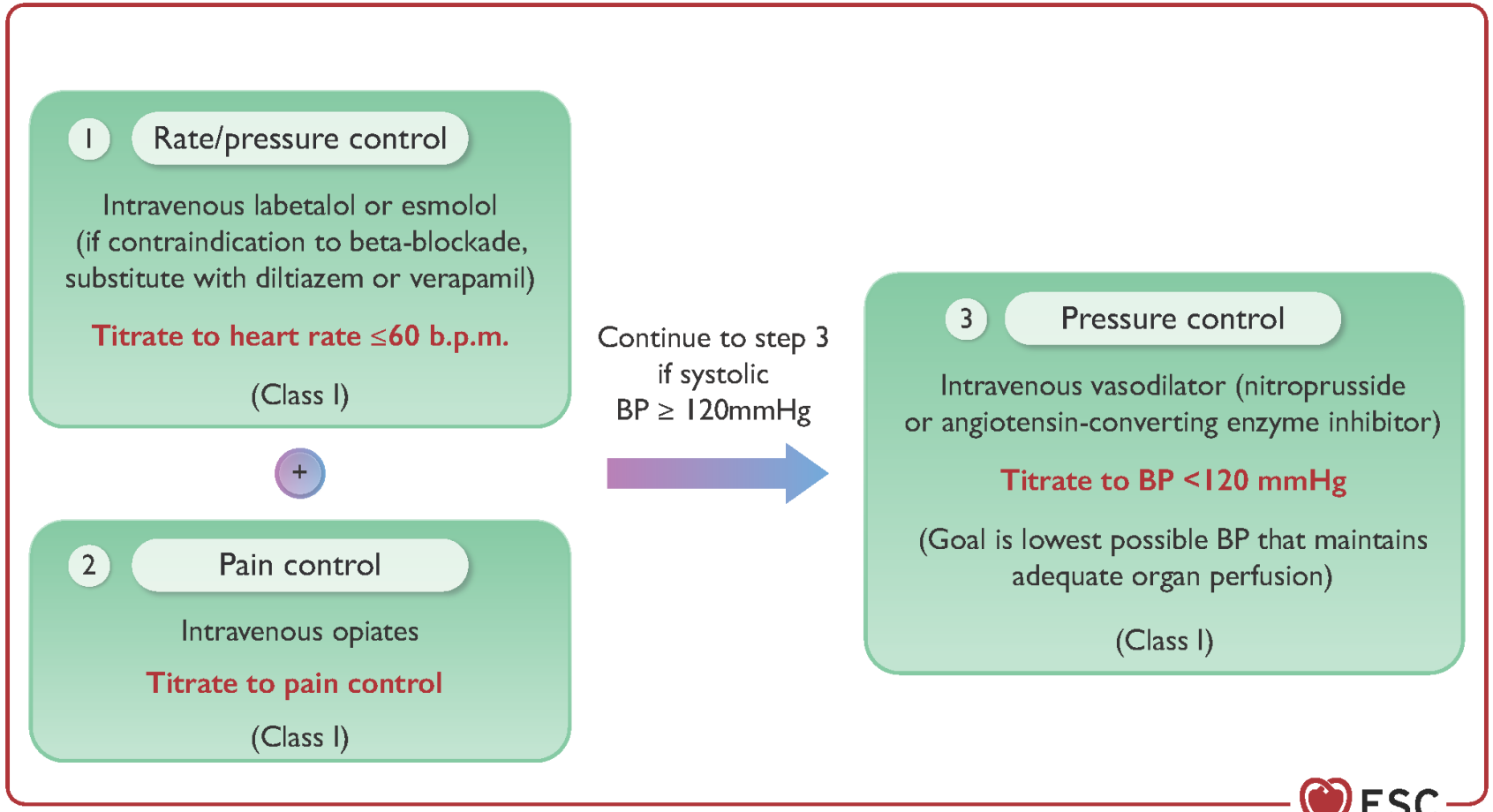
Medical management of acute aortic syndrome



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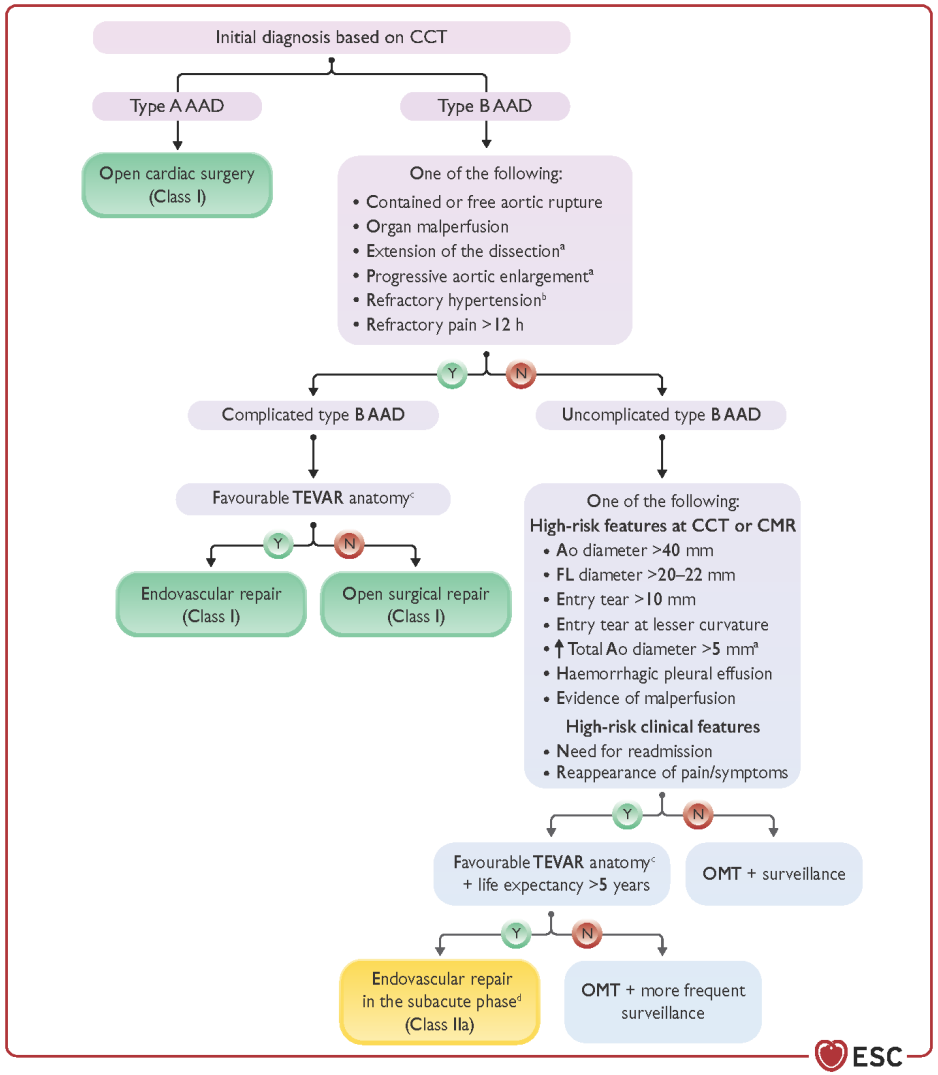
Interventional treatment algorithm in acute aortic dissection



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TAKE HOME MESSAGES

- Realizar una valoración global del sistema cardiovascular.
- Screening es crucial en patología aórtica y vascular periférica para evitar complicaciones.
- Se recomienda un control estricto de factores de riesgo cardiovascular para evitar la progresión de la enfermedad y el desarrollo de complicaciones.
- La sistemática en la medición de los diámetros aórticos es necesaria para homogeneización en el seguimiento y la comparativa de estudios.
- Es importante considerar los signos de alerta para sospechar una patología aórtica genética y el manejo de los pacientes en base a los hallazgos del estudio genético.
- Se requiere una alta sospecha en el diagnóstico de un síndrome aórtico agudo para evitar retrasos terapéuticos. Considerar el abordaje endovascular en pacientes con signos/características de alto riesgo.


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