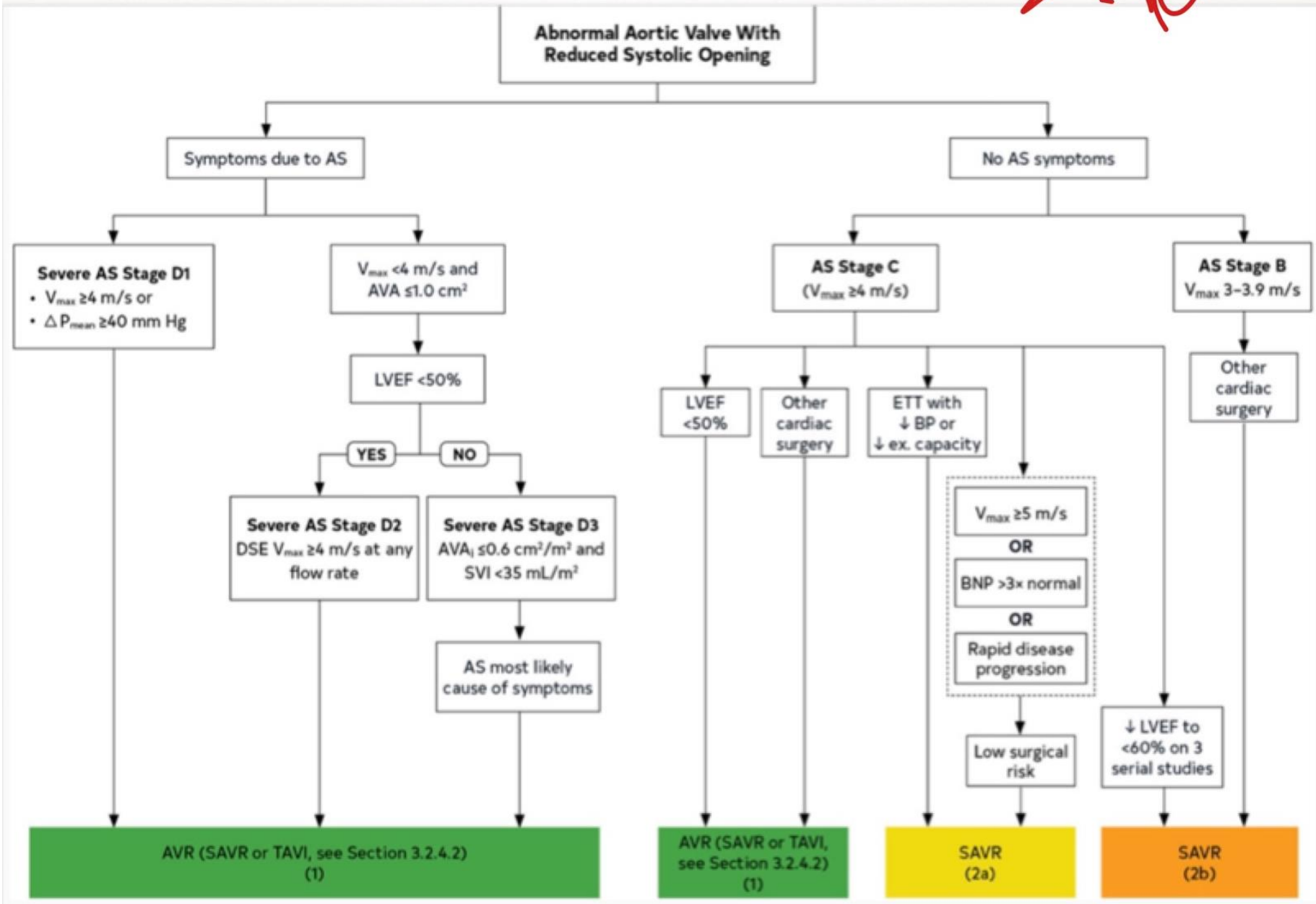
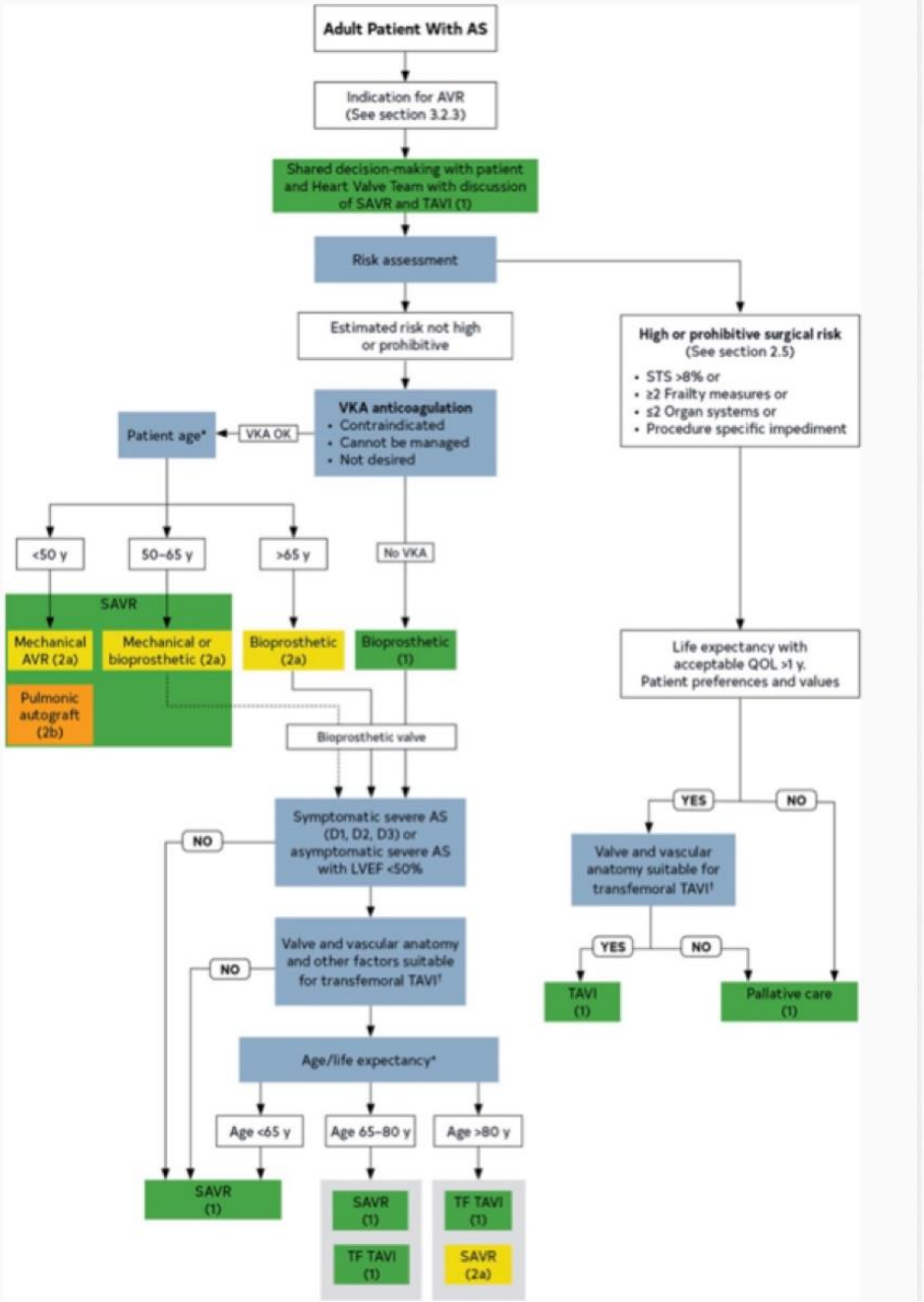
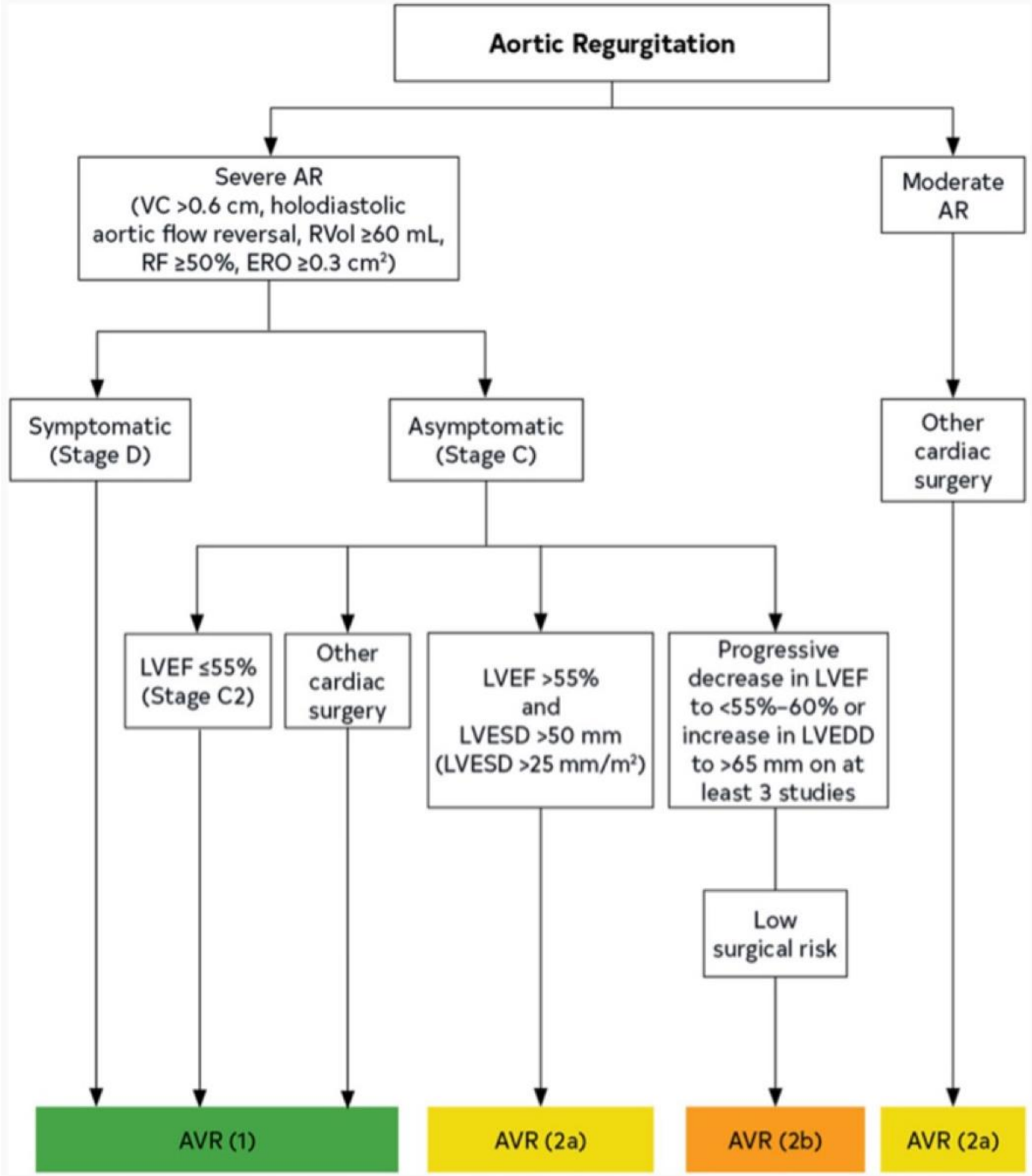
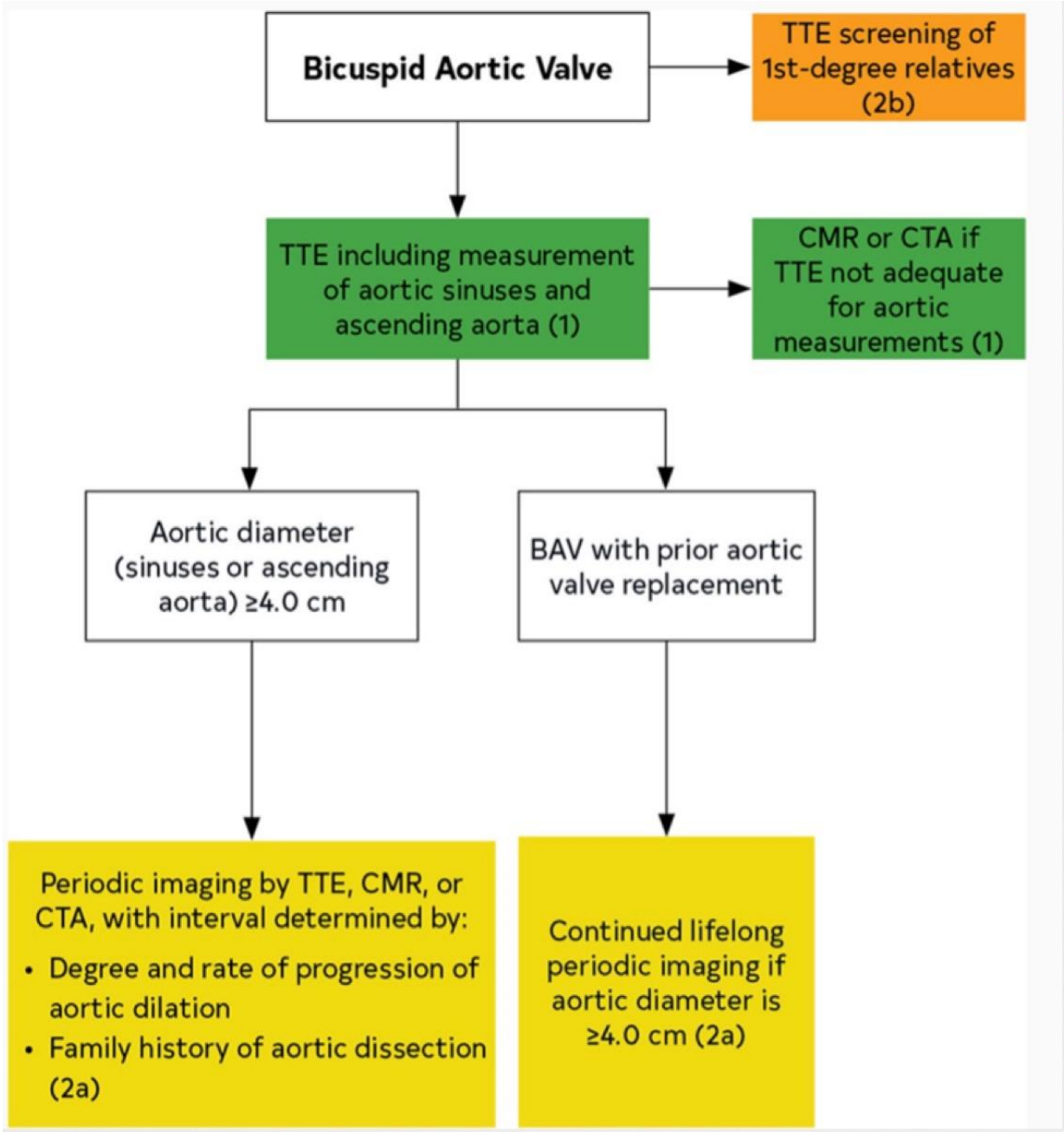

Abnormal Aortic Valve With Reduced Systolic Opening
Symptoms due to AS
No AS symptoms
Severe AS Stage D1
• Vmax ≥4 m/s or
• ΔPmean ≥40 mm Hg
Vmax <4 m/s and AVA ≤1.0 cm²
LVEF <50%
YES
NO
Severe AS Stage D2
DSE Vmax ≥4 m/s at any flow rate
Severe AS Stage D3
AVAi ≤0.6 cm²/m² and SVI <35 mL/m²
AS most likely cause of symptoms
AVR (SAVR or TAVI, see Section 3.2.4.2) (1)
AS Stage C
(Vmax ≥4 m/s)
LVEF <50%
Other cardiac surgery
ETT with ↓ BP or ↓ ex. capacity
Vmax ≥5 m/s
OR
BNP >3× normal
OR
Rapid disease progression
Low surgical risk
↓ LVEF to <60% on 3 serial studies
AVR (SAVR or TAVI, see Section 3.2.4.2) (1)
SAVR (2a)
AS Stage B
Vmax 3–3.9 m/s
Other cardiac surgery
SAVR (2b)

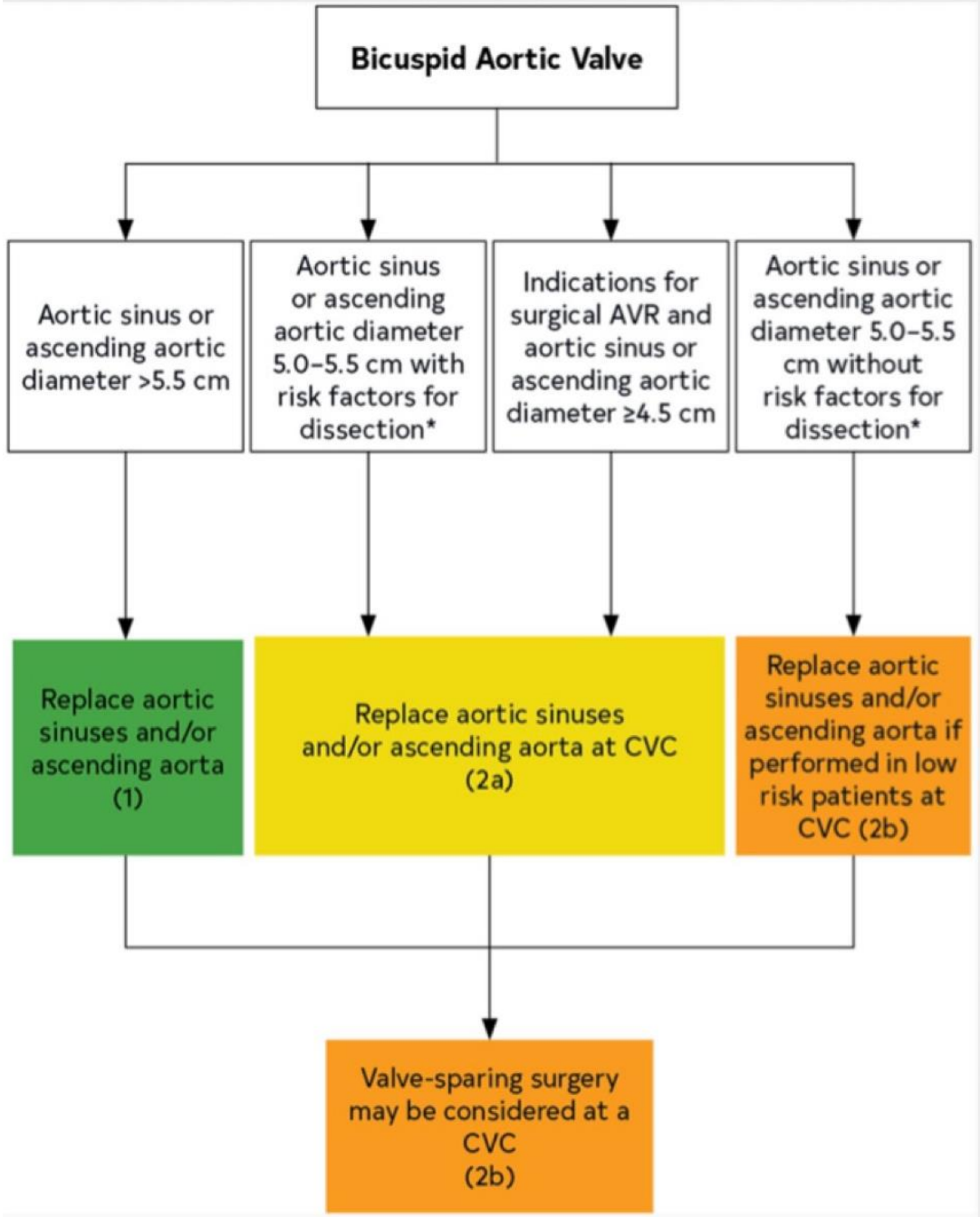


SAO
Costituzione
o
TAVI?

7. Among patients with asymptomatic severe (Stage C) AR, the disease is subcategorized based on LVEF and LV end-systolic diameter (LVESD). Stage C1 reflects normal LVEF (≥55%; previously ≥50% in the 2014 AHA/ACC guidelines) and mild to moderate LV dilation (LVESD <50 mm). Stage C2 reflects abnormal LV systolic function (LVEF <55%; previously <50%) or severe LV dilation (LVESD 50 mm or indexed LVESD >25 mm/m2; unchanged from previous).
8. Intervention for severe AR is based on the presence of symptoms or LV systolic dysfunction (LVEF ≤55%; both Class 1); or the presence of severe LV dilation (LVESD >50 mm or indexed LVESD >25 mm/m2; Class 2a).
9. Among patients with BAV, transthoracic echocardiography is recommended to assess valve morphology, assess AS and AR, assess the aortic root and ascending aorta, and evaluate for the presence of aortic coarctation. If the aortic sinuses, sinotubular junction, and ascending aorta cannot be accurately or fully assessed on echocardiography, then cardiac magnetic resonance angiography or computed tomography angiography is indicated. Lifelong serial imaging is indicated if the aorta diameter is ≥4.0 cm.
0. Among patients with BAV, indications for replacement of the aorta remain similar to previous: aortic diameter >5.5 cm (Class 1), aortic diameter 5.0-5.5 cm plus an additional risk factor for dissection (family history of dissection, aortic growth >0.5 cm per year, aortic coarctation; Class 2a), or aortic diameter ≥4.5 cm with an indication for SAVR (Class 2a).


Aortic Regurgitation
Severe AR
(VC >0.6 cm, holodiastolic
aortic flow reversal, RVol ≥60 mL,
RF ≥50%, ERO ≥0.3 cm²)
Moderate
AR
Symptomatic
(Stage D)
Asymptomatic
(Stage C)
Other
cardiac
surgery
LVEF ≤55%
(Stage C2)
Other
cardiac
surgery
LVEF >55%
and
LVESD >50 mm
(LVESD >25 mm/m²)
Progressive
decrease in LVEF
to <55%–60% or
increase in LVEDD
to >65 mm on at
least 3 studies
Low
surgical risk
AVR (1)
AVR (2a)
AVR (2b)
AVR (2a)


Bicuspid Aortic Valve
TTE screening of 1st-degree relatives (2b)
TTE including measurement of aortic sinuses and ascending aorta (1)
CMR or CTA if TTE not adequate for aortic measurements (1)
Aortic diameter (sinuses or ascending aorta) ≥4.0 cm
BAV with prior aortic valve replacement
Periodic imaging by TTE, CMR, or CTA, with interval determined by:
• Degree and rate of progression of aortic dilation
• Family history of aortic dissection (2a)
Continued lifelong periodic imaging if aortic diameter is ≥4.0 cm (2a)

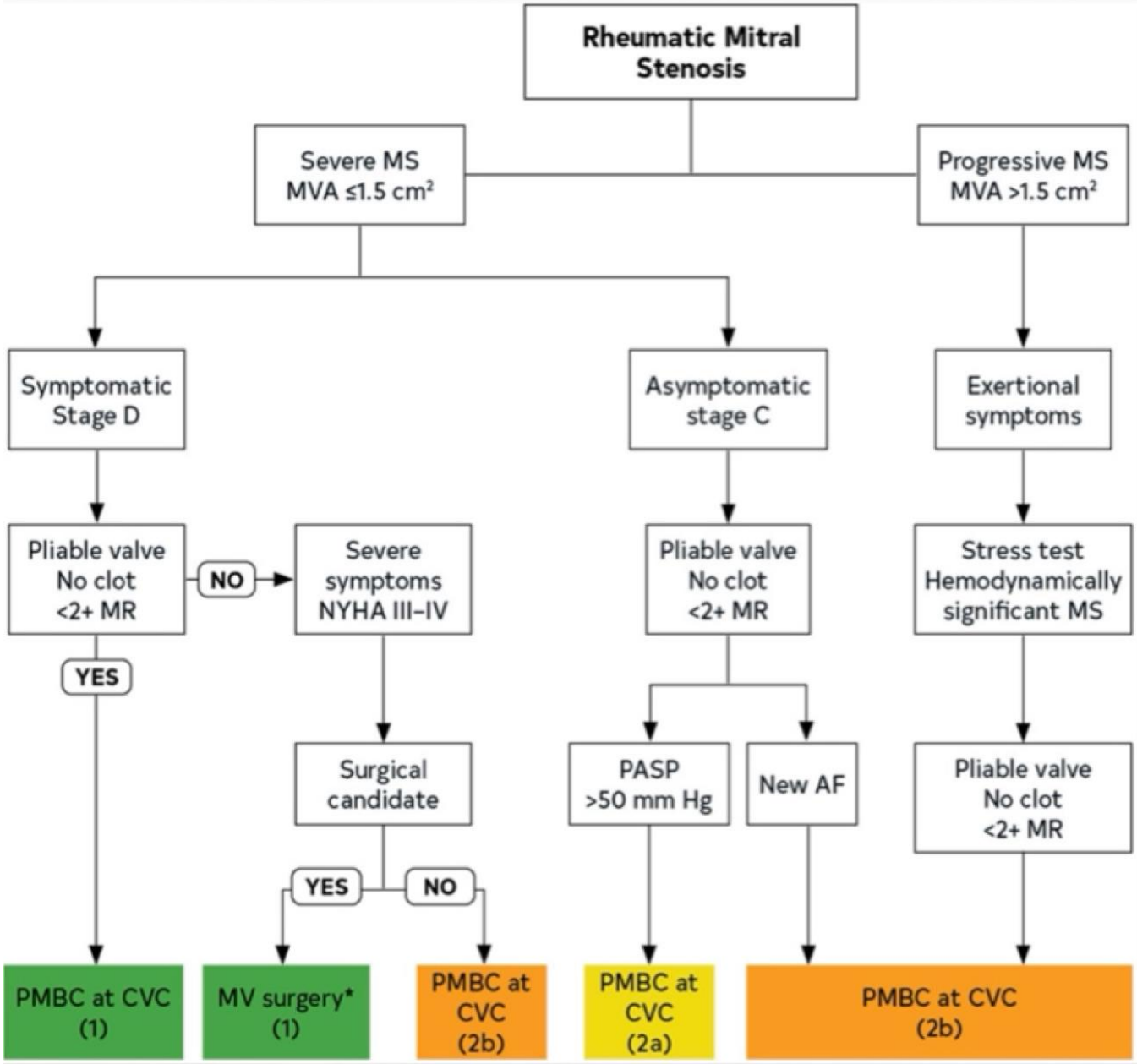


AORTA BICUSPIDE CHIRURGIA

SM

1. Recurrent rheumatic fever is associated with worsening of rheumatic heart disease. Therefore, for secondary prevention of rheumatic fever, in patients with previous episodes of rheumatic fever or evidence of rheumatic heart disease, long-term antistreptococcal prophylaxis is indicated (Class 1 recommendation). Antibiotic options include penicillin, sulfadiazine, and macrolides. The recommended durations of prophylaxis are as follows:
    - Rheumatic fever with carditis and residual valvular disease: 10 years or until patient is ≥40 years of age (whichever is longer)
    - Rheumatic fever with carditis but no residual valvular disease: 10 years or until patient is ≥21 years of age (whichever is longer)
    - Rheumatic fever without carditis: 5 years or until patient is ≥21 years of age (whichever is longer)
2. Rheumatic MS is much more common in women than in men (80% of cases in women). Worldwide, most MS is rheumatic, though calcific MS is becoming more common in the elderly population in high-income countries.
3. In patients with Stage D rheumatic MS (symptomatic MS with mitral valve area ≤1.5 cm2 and/or diastolic pressure half-time ≥150 ms, typically with mean mitral valve gradient >5-10 mm Hg) and favorable valve morphology with less than moderate MR and no left atrial appendage thrombus, percutaneous mitral balloon commissurotomy (PMBC) is recommended if it can be performed at a Comprehensive Valve Center (Class 1). If PMBC is not an option due to anatomic considerations, severe MR, or failed prior PMBC, surgical intervention is recommended, unless risk is prohibitive.

4. Patients with calcific MS often have multiple comorbidities and are of advanced age. Because stenosis results from mitral annular calcification encroaching on the leaflet bases, without involvement of the leaflet tips, PMBC is not beneficial. Severe mitral annular calcification can make secure implantation of a surgical prosthesis challenging and may result in residual MS following valve replacement. Therefore, in Stage D calcific MS, surgical intervention should be undertaken only after careful consideration of risks and potential benefits (Class 2b).
5. Timing of intervention for chronic primary MR should be based on symptoms and left ventricular (LV) size and function. Recommendations for surgical intervention for MR remain similar to those in the 2014 guideline. For severe primary MR due to degenerative mitral valve disease, surgical repair is recommended in preference to valve replacement, provided that a successful and durable repair is technically feasible (Class 1). In asymptomatic patients, surgery is recommended if LV ejection fraction (LVEF) ≤60% and/or LV end-systolic diameter ≥40 mm (Stage C2, Class 1 recommendation). Surgery may be considered if these LV criteria are not met but the likelihood of a successful and durable repair is >95% with <1% expected mortality at a Primary or Comprehensive Valve Center. Transcatheter edge-to-edge repair (TEER) outcomes in severe primary MR are inferior to those of surgical mitral valve repair, but TEER is a reasonable option if surgical risk is high or prohibitive and anatomy is favorable.
6. For secondary MR in the setting of LV dysfunction, guideline-directed medical therapy for heart failure is the mainstay of treatment, and secondary MR often improves with medical optimization.


Rheumatic Mitral Stenosis
Severe MS MVA ≤1.5 cm²
Progressive MS MVA >1.5 cm²
Symptomatic Stage D
Asymptomatic stage C
Exertional symptoms
Pliable valve No clot <2+ MR
NO
Severe symptoms NYHA III–IV
Pliable valve No clot <2+ MR
Stress test Hemodynamically significant MS
YES
Surgical candidate
PASP >50 mm Hg
New AF
Pliable valve No clot <2+ MR
YES
NO
PMBC at CVC (1)
MV surgery* (1)
PMBC at CVC (2b)
PMBC at CVC (2a)
PMBC at CVC (2b)