

Inclusion Criteria:

- Isolated congenital aortic valve stenosis

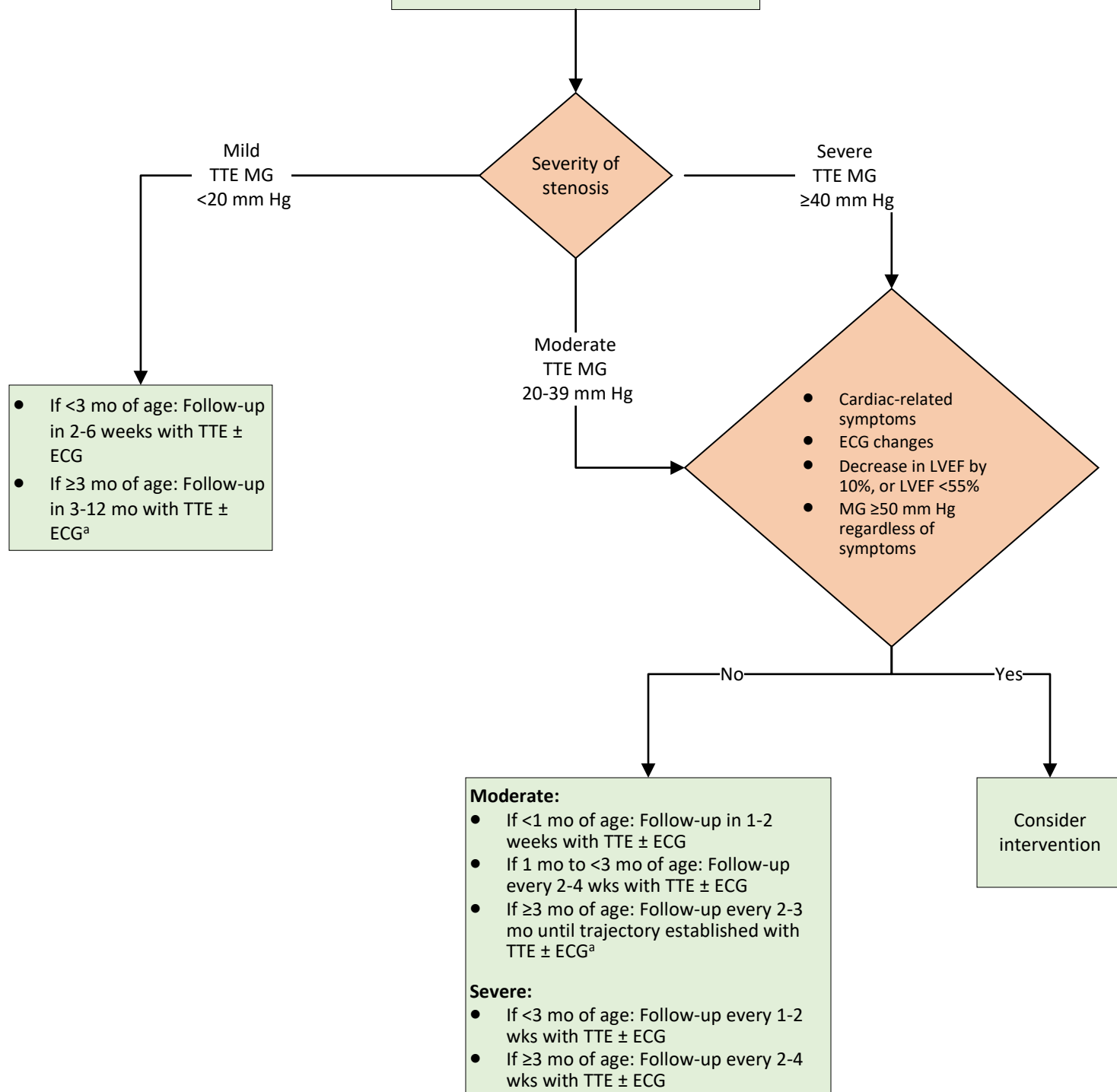
Exclusion Criteria:

- Critical AS
- Multilevel LV outflow obstruction
- Genetic or familial aortopathy
- Prior aortic intervention

CHD Clinical Practice Algorithm Aortic Valve Stenosis <1 Year of Age¹⁻⁶

Initial standard workup:

- TTE
- ECG

**Note**

^aConsider more frequent follow-up if progressive AS/AR or concern for LV dysfunction

CHD Clinical Practice Algorithm

Aortic Valve Stenosis 1-18 Years of Age^{a,1-8}

Inclusion Criteria:

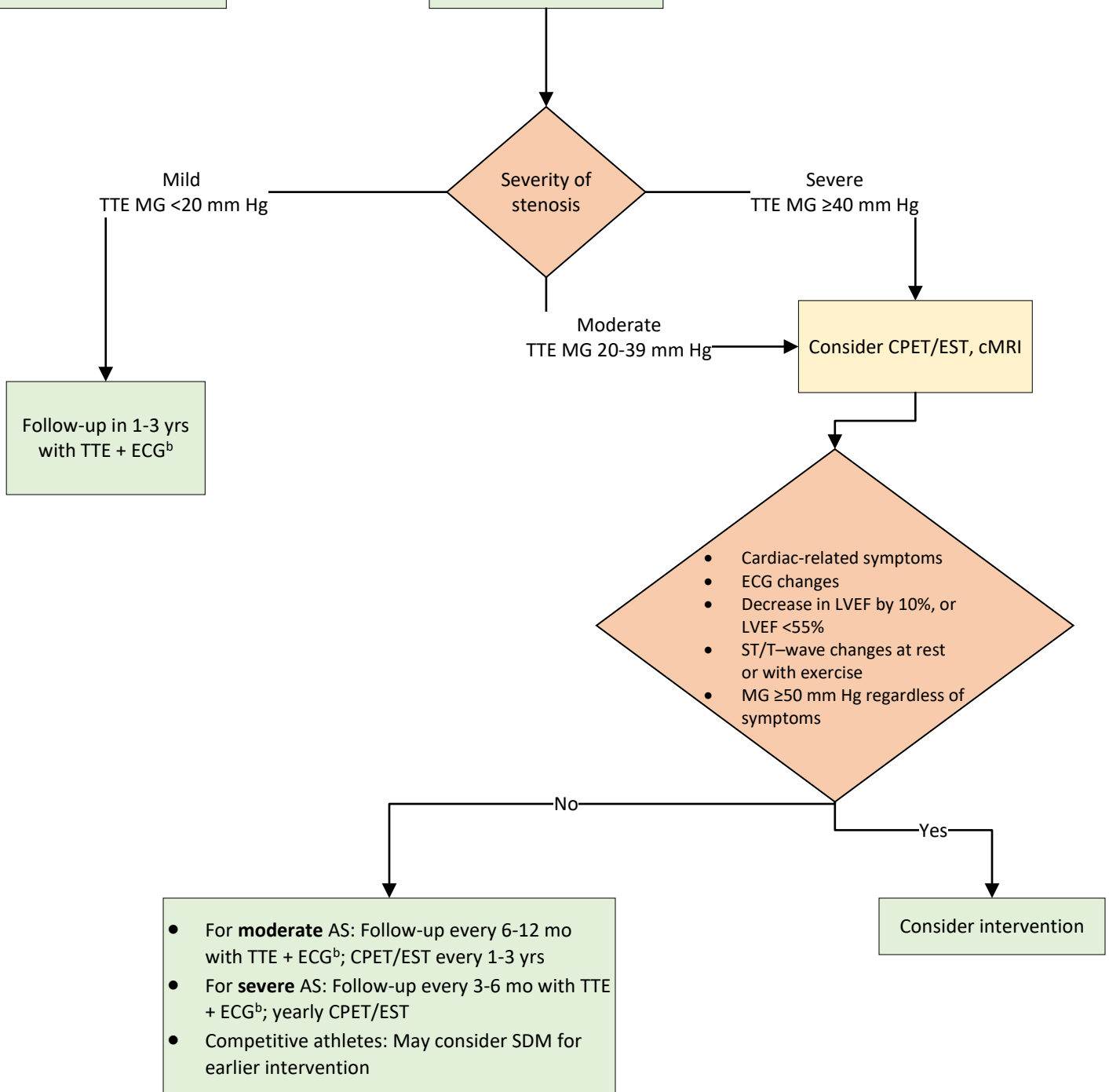
- Isolated congenital aortic valve stenosis

Exclusion Criteria:

- Multilevel LV outflow obstruction
- Genetic or familial aortopathy
- Prior aortic intervention
- Pregnancy

Initial standard workup:

- TTE
- ECG



Notes

^aFor patients >18 yrs of age, see the 2020 ACC/AHA Guideline for the Management of Patients With VHD⁷

^bConsider more frequent follow-up if progressive AS/AR or increasing aortic dilation

Inclusion Criteria:

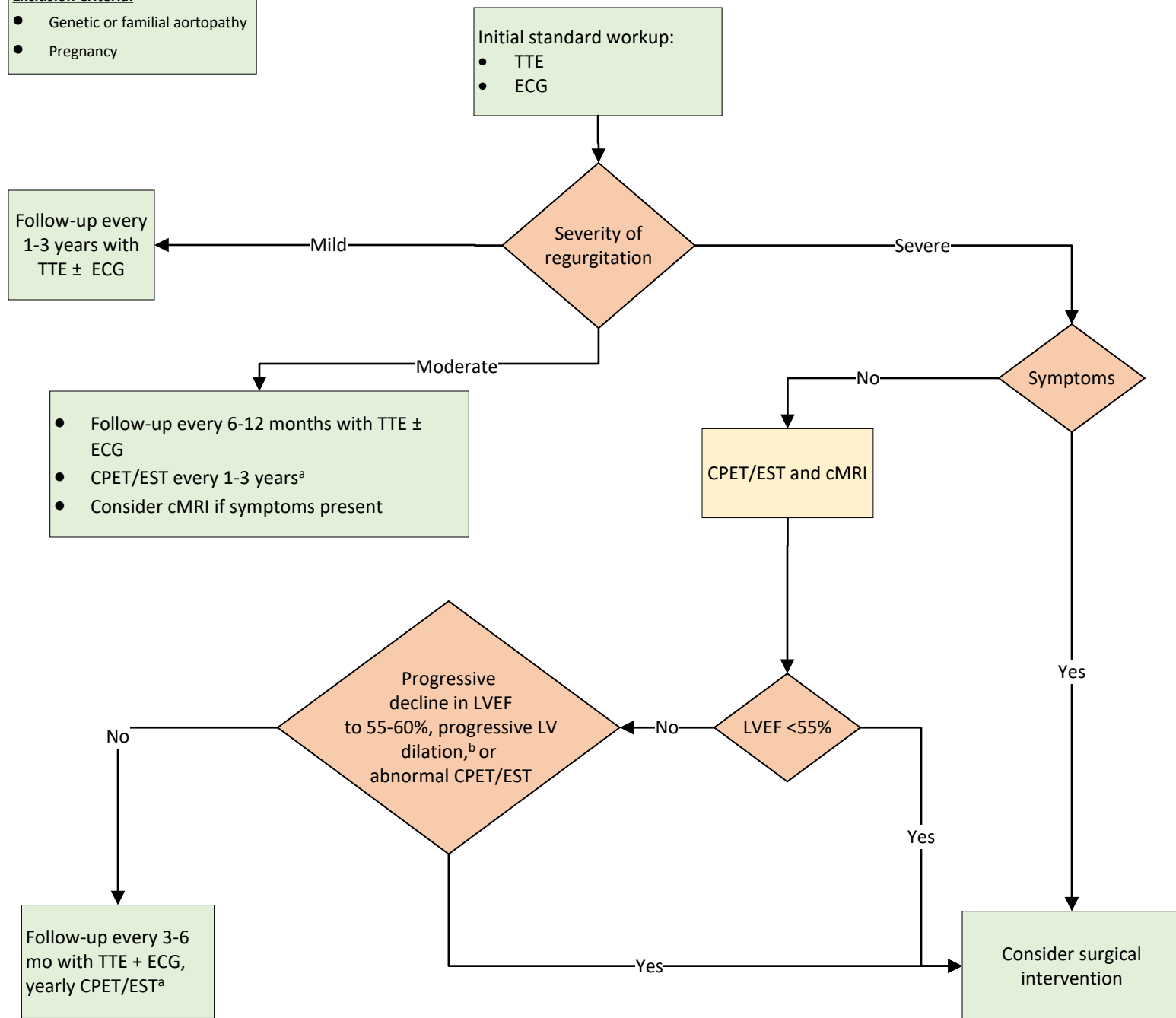
- Isolated aortic valve regurgitation

Exclusion Criteria:

- Genetic or familial aortopathy
- Pregnancy

CHD Clinical Practice Algorithm

Aortic Valve Regurgitation 1-18 Years of Age^{5,7,9,10}

**Notes**

^aConsider closer follow-up during early adolescence/periods of rapid growth, competitive sports >12 years of age, or if mixed AS/AR following valvuloplasty

^bRefer for surgical intervention if progressive and > moderate dilation in pediatric patients, or if LVEDd >6.5 cm in adult-sized patients

Exclusion Criteria:

- Multilevel LV outflow obstruction
- Post aortic valve operation or prior transcatheter valvuloplasty
- Pregnancy

**CHD Clinical Practice Algorithm:
Status Post Aortic Valvuloplasty^{3,4,6,8,9}**

Transcatheter balloon aortic
valvuloplasty

Follow-up with ECG
and TTE every 2-8 wks
until trajectory
established

Predominant
residual AS or AR?

AR

See AR algorithm

AS

Severity of
residual stenosis

Mild
TTE MG <20 mm Hg

Severe
TTE MG ≥40 mm Hg

- If <1 yr of age: Follow-up every 3-6 months with TTE ± ECG^a
- If 1-18 yrs of age: Follow-up every 1-2 yrs with TTE ± ECG^a

Moderate
TTE MG 20-39 mm Hg

Consider CPET/EST, cMRI

- Cardiac-related symptoms
- ECG changes
- Decrease in LVEF by 10%, or LVEF <55%
- ST/T-wave changes at rest or with exercise
- MG ≥50 mm Hg regardless of symptoms

No

Yes

Consider reintervention

- For **moderate** residual AS:
 - If <1 yr of age: Follow-up every 1-3 mo with TTE ± ECG^a
 - If 1-18 yrs of age: Follow-up every 6-12 mo with TTE ± ECG^a; CPET/EST every 1-3 yrs
- For **severe** residual AS: Follow-up every 1-3 mo with TTE + ECG^a; yearly CPET/EST
- Competitive athletes: May consider SDM for earlier intervention

Note

^aConsider more frequent follow-up if progressive AS/AR or increasing aortic dilation

Acronyms

AR = aortic regurgitation; AS = aortic stenosis; CHD = congenital heart disease; CPET = cardiopulmonary exercise testing; cMRI = cardiac MRI; ECG = electrocardiogram; EST = exercise testing; LV = left ventricular; LVEDd = left ventricular end-diastolic dimension; MG = mean gradient; SDM = shared decision-making; TTE = transthoracic echocardiogram; VHD = valvular heart disease.

References

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