Aortic Stenosis (AS) Management Pathway

Initial evaluation

Positive history
- Valve area < 1.0 cm²
- Mean gradient > 40
- EF < 50%
- Dense aortic valve calcification
- Velocity ratio < 0.25

Positive exam
- Valve area index < 0.6 cm²
- Elevated JVP
- Significant systolic murmur
- Fatigue
- Syncope/Pre-syncope
- Chest pain
- Edema
- Dizziness
- S3

ECHO
(refer to cardiologist if any below criteria met)

Refer to Cardiologist
Call 404-605-2800

Establish the diagnosis of Moderate Aortic Stenosis
Moderate AS Management Pathway or Consider Referral to Valve Clinic

Establish the diagnosis of Severe/High Risk Aortic Stenosis
Severe/High Risk AS Management Pathway or Refer to Valve Clinic

Reference: ACC/AHA 2006 Guidelines for the Management of Patients with Valvular Heart Disease http://circ.ahajournals.org
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Piedmont Heart Clinical Pathway: Moderate Aortic Stenosis

MODERATE AORTIC STENOSIS MANAGEMENT PATHWAY
V peak 3-4 m/s, Mean Gradient 25 - 40 mmHg, AVA 1.0 – 1.5 cm², Indexed EOA 0.6 - 0.9 cm²/m² {Energy loss index 0.6-0.9 cm²/m²}

CABG or other heart surgery procedure?

Class IIa

Treat Condition

Persistant Symptoms?

NO

Symptoms

YES

Suspect Low Flow Low Gradient?

Consider several factors

- Women or small BSA
- Small LV cavity (small EDV)
- History of hypertension

Valvuloarterial impedance (Zva)

- Zva > 3.5 mmHg·ml⁻¹·m⁻²: severe AS likely
- Zva > 4.5 mmHg·ml⁻¹·m⁻²: severe AS very likely

Evolving indexes:

- Global longitudinal strain
- E' velocity < 8 cm/s

6-12 mo Follow-up {ECHO, BNP?}

Re-evaluation

YES

Establish Severe/High Risk Aortic Stenosis

See Severe/High Risk AS (Valve Clinic) Management Pathway


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Piedmont Heart Clinical Pathway: Severe Aortic Stenosis

SEVERE AORTIC STENOSIS MANAGEMENT PATHWAY (Valve Clinic)
V peak > 4m/s, Mean Gradient > 40mmHg, EOA < 1.0 cm, Indexed EOA < 0.6 cm²/m² {Energy loss index < 0.5-0.6 cm²/m²}

CABG or other heart surgery procedure?

No Symptoms with LV EF < 50%?

Symptoms

Symptoms ↓ BP (+) ST (↑ Mean Gradient)

Exercise Stress Test

Normal ST

High Risk

• AVA < 0.6 cm²
• Vpeak > 5.0 m/s
• Mean gradient ≥ 60 mmHg
• Severe valve calcification {ECHO 4/4, CT score > 1650}
• Rapid stenosis progression {Vpeak > 0.3 m/s}

NO

YES

Equivocal

(ESC)

(ACC/AHA)

(ESC)

(ACC/AHA)

Class I

Class IIb

Class IIa

Class IIb

Symptoms ↓ BP (+) ST (↑ Mean Gradient)

Exercise Stress Test (ST)

Normal ST

6-12 mo Follow-up {ECHO, BNP?}

Aortic Valve Replacement


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