



Revised AHA and ACC Guidelines for VHD

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Patrick T. O’Gara, MD, Brigham and Women’s Hospital, Boston, Massachusetts, USA, discussed the recently released updated guidelines of the American Heart Association (AHA) and American College of Cardiology (ACC) for the management of valvular heart disease (VHD) in adults [Nishimura RA et al. *Circulation*. 2014; *J Am Coll Cardiol*. 2014], emphasizing several new items.

A NEW CLASSIFICATION SYSTEM FOR VHD

The updated guidelines now include a new classification of VHD that describes 4 stages of progression of stenotic and regurgitant valve lesions, according to features such as valve anatomy, hemodynamics, and associated symptoms (Table 1): A, at risk; B, progressive; C, asymptomatic severe; and D, symptomatic severe. This new system is concordant with the classification system used for heart failure and is considered to be a useful means of accounting for the natural history of various VHD lesions.

A NEW SYSTEM FOR EVALUATING PREPROCEDURE INTERVENTIONAL RISK

A new and more complex risk-scoring system is now described that takes into account the previously used Society of Thoracic Surgeons (STS) Predicted Risk of Mortality (PROM) score, and 3 additional indices of patient frailty, the number of compromised major organ systems, and procedure-specific impediments (Table 2). While the STS risk score alone was limited for determining risk in patients being considered for nonsurgical treatment, including less invasive catheter-based procedures, the updated scoring system allows a more individualized approach to assessing risk in all patients.

RECOMMENDATIONS FOR LESS INVASIVE CATHETER-BASED THERAPIES

The updated guidelines also make recommendations for newer, less invasive catheter-based therapies for aortic and mitral valve disease.

Transcatheter aortic valve replacement (TAVR) receives a class I recommendation for patients with an indication for AVR with a prohibitive surgical risk and a predicted post-TAVR survival > 12 months.

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Table 1. Stages of Valvular Heart Disease

Stage	Definition	Description
A	At risk	Patients with risk factors for development of VHD
B	Progressive	Patients with progressive VHD that is of mild to moderate severity and asymptomatic
C	Asymptomatic severe	Asymptomatic patients who have reached the criteria for severe VHD: C1: Asymptomatic patients who have severe VHD with compensation of the left or right ventricle C2: Asymptomatic patients with severe VHD with decompensation of the left or right ventricle
D	Symptomatic severe	Patients who have developed symptoms as a result of VHD

VHD, valvular heart disease.

Adapted from Nishimura RA et al. *Circulation* 2014.



Table 2. Risk Assessment Criteria

	Low Risk (Must Meet all Criteria)	Intermediate Risk (Any 1 Criterion)	High Risk (Any 1 Criterion)	Prohibitive Risk (Any 1 Criterion)
STS PROM	< 4% AND	4% to 8% OR	> 8% OR	Predicted risk, with surgery, of death or major morbidity (all-cause) > 50% at 1 year OR
Frailty	None AND	1 index (mild) OR	2 or more indices (moderate to severe) OR	
Major organ system compromise not to be improved postoperatively	None AND	1 organ system OR	No more than 2 organ systems OR	
Procedure-specific impediment	None	Possible	Possible	

STS PROM, Society of Thoracic Surgeons Predicted Risk of Mortality score.

Adapted from Nishimura RA et al. *Circulation* 2014.

TAVR is also considered a reasonable alternative to surgical AVR (class IIa) for patients with aortic stenosis who meet an indication for AVR but have high surgical risk.

AN EMPHASIS ON HEART TEAMS AND CENTERS OF EXCELLENCE

An emphasis is now placed on the importance of both multidisciplinary heart valve teams and heart valve centers of excellence in the management of patients with VHD. In particular, the guidelines recommend (class IIa) that consultation with, or referral to, a heart valve center of excellence is reasonable for patients with severe VHD who are asymptomatic, patients with VHD who may benefit from valve repair instead of replacement, and patients with multiple comorbidities for whom valve intervention is considered and whom would be referred to a center of excellence for evaluation and adjudication.

Heart valve centers of excellence are defined in the guidelines by the following criteria:

- Composition of experienced providers from multiple disciplines
- Ability to offer all available options for diagnosis and management
- Participation in regional or national outcome registries
- Demonstration of adherence to national guidelines
- Participation in continued evaluation and quality improvement processes to enhance patient outcomes
- Public reporting of their available mortality and success rates

In his concluding remarks, Dr O’Gara stressed that the guidelines make a clear distinction between patients with chronic secondary (functional) and chronic primary (degenerative) mitral regurgitation (MR). He emphasized the high threshold for surgical intervention in patients with functional MR and the guideline recommendations that these patients must remain severely symptomatic despite optimal medical therapy.

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