

*Rocky Mountain Valve Symposium*

# Rethinking the Management of Asymptomatic Severe Aortic Valve Stenosis: Embracing Early Intervention for Better Outcomes

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**S**ymptomatic aortic stenosis (AS) is a class I indication for aortic valve replacement.<sup>1</sup> Severe asymptomatic AS, however, has traditionally been managed conservatively using an expectant approach. In the “watchful waiting” strategy, patients are followed up closely with echocardiography, and intervention is triggered by the development of symptoms or left ventricular (LV) systolic dysfunction.<sup>1,2</sup> Recent studies have raised concerns about this watchful waiting strategy because evidence suggests that it may lead to long-term morbidity and premature death, even after valve replacement.<sup>3-5</sup> Studies have unveiled the presence of abnormal global longitudinal strain on echocardiography, even in the setting of preserved LV ejection fraction in severe AS.<sup>5,6</sup> Cardiovascular magnetic resonance imaging has demonstrated evidence of midwall fibrosis, even before the development of symptoms or impaired LV ejection fraction.<sup>5,7,8</sup> These subtle changes indicate underlying myocardial impairment, suggesting that earlier intervention may be warranted to prevent further myocardial damage.

This paradigm shift has been studied in 2 randomized trials in patients with asymptomatic severe AS. The Randomized Comparison of Early Surgery vs Conventional Treatment in Very Severe Aortic Stenosis (RECOVERY) trial, published in 2019, demonstrated a reduction in the composite operative mortality or death from cardiovascular causes for up to 8 years in patients who underwent early surgical intervention.<sup>3</sup> Similarly, the Aortic Valve Replacement Versus Conservative Treatment in Asymptomatic Severe Aortic Stenosis (AVATAR) trial, published in 2021, supported a strategy of early surgical aortic valve replacement and showed a marked reduction in a composite collection of outcomes (death, acute myocardial infarction, stroke, and unplanned hospitalization for heart failure) at 3 years.<sup>9</sup> Both studies recruited a small number of patients, yet these findings underscore the importance of reevaluating current guidelines and considering a proactive approach to managing asymptomatic severe AS.

Recognizing the implications of early intervention, large randomized clinical trials, such as the Evaluation of Transcatheter Aortic Valve Replacement Compared to Surveillance for Patients With Asymptomatic Severe Aortic Stenosis (EARLY-TAVR), Early Valve Replacement Guided by Biomarkers of Left Ventricular Decompensation in Asymptomatic Patients With Severe Aortic Stenosis (EVOLVED), Danish National Randomized Study on Early Aortic Valve Replacement in Patients With Asymptomatic Severe Aortic Stenosis (DANAVR), and Early Valve Replacement in Severe Asymptomatic Aortic Stenosis (EASY AS) trials, are currently underway to study preemptive aortic valve replacement in severe asymptomatic AS, encompassing both surgical and transcatheter methods. These trials aim to provide comprehensive data on the benefits of early intervention, not only surgically but also percutaneously, for patients with asymptomatic severe AS. The results of these trials may strengthen the case for early intervention and pave the way for guidelines that advocate a preemptive approach to managing this condition.

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Asymptomatic severe AS is a common condition affecting older adults and carries a substantial risk of progression to severe disease over time. Current guidelines recommend a strategy of expectant management until symptoms or LV dysfunction develop, but recent evidence challenges this approach. Abnormal global longitudinal strain and myocardial fibrosis demonstrated on cardiovascular magnetic resonance imaging scans suggest subclinical changes despite preserved ventricular function, prompting the need for early intervention. The findings from recent trials, such as RECOVERY and AVATAR, have provided support for early surgical aortic valve replacement. Ongoing research on preemptive aortic valve replacement likely will expand treatment options and further endorse early intervention, transforming the care of patients with asymptomatic severe AS.

## Article Information

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## Abbreviations and Acronyms

AS	aortic stenosis
LV	left ventricular

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