

# Heart valve replacement: the preferred treatment for critical, symptomatic aortic stenosis

Aortic stenosis (AS) is a serious heart problem. And if the aortic valve becomes critically stenotic, severe pressure builds in the left ventricle which can both injure the heart and prevent enough blood from reaching the brain and the rest of the body. When narrowing becomes severe and the patient becomes symptomatic, valve surgery is the preferred treatment to restore normal heart function.

Orange County's highest-volume cardiovascular program and top-rated hospital for valve replacement surgery<sup>1</sup>, Hoag Hospital employs a multidisciplinary approach to valve surgery which minimizes operative risk and optimizes outcomes.

## Surgical contraindications for AS in elderly patients

- CHF (FC IV)
- Calcified aorta
- Renal failure
- Emphysema/COPD
- Active malignancy
- Recent stroke/CVA

## AVR due to AS

Mortality 1/2002 – 5/2007 – Hoag Hospital

Age	70-79	80-89	90-97
Total AVR	129	88	4
Hospital Deaths	3 (2.3%)	4 (4.5%)	0 (0%)

## Diagnosing aortic stenosis

“Aortic stenosis most commonly occurs in patients 65 years of age or older due to calcium deposits that build up on top of the aortic valve over time,” notes Subbarao Myla, MD, medical director of cardiovascular research and vascular intervention at Hoag Hospital. Patients with AS are usually asymptomatic, yet if the condition becomes severe, fatigue, dyspnea, syncope and angina can occur.

“To detect the presence of aortic stenosis and determine its severity, we employ both EKG and echocardiogram,” Dr. Myla explains. “These diagnostic tests can reveal acoustic window, LV dysfunction (diastole, systole) and upper septal hypertrophy, giving us a clear understanding of the extent of calcification.”

## Replacement benefits otherwise healthy octogenarians

When tests reveal critical AS to be present, heart valve replacement is generally recommended. And

“The quality of a person’s health and whether they have an active lifestyle are the most important factors in this surgery, not age.”

although valve replacement is considered a major surgery, elderly patients in good risk categories should be offered surgical intervention for correction of this valvular lesion.<sup>2</sup> Hoag’s surgical outcomes for older patients with few or no major health problems reflect similar statistical outcomes to those of much younger patients. “The quality of a person’s health and whether they have an active lifestyle are the most important factors in this surgery, not age,” asserts Cardiovascular Surgeon Douglas

Zusman, MD. “Heart valve surgery in the elderly can restore an excellent quality of life and a normal life expectancy.”

## Case Presentation

Otherwise healthy 86-year-old male presented with symptomatic aortic stenosis.

**Patient history:** Cardiac arrest at age 59, no surgery required. Patient in good health since. Very active, competitive bicyclist. Became symptomatic as heart valve function began to decline. Deemed good surgical candidate.

**Treatment:** Patient underwent triple bypass and aortic valve replacement utilizing a non-mechanical valve. Normal heart function was restored and patient is doing very well. Anticoagulant therapy was required only for a short time. Patient is participating in cardiac rehab and is expected to make a complete recovery.

## Surgery to replace the aortic valve

Aortic valve replacement surgery involves removing the patient’s damaged valve and replacing it with a prosthetic. The type of valve chosen depends on the patient’s lifestyle, age, medical history and other factors. At Hoag Heart and Vascular Institute, three types of prosthetic

valves are utilized (bioprosthesis, mechanical graft, and homograft). Each prosthetic valve has advantages and disadvantages. Prior to surgery, the patient, cardiologist and cardiac surgeon discuss each of the options and make a joint decision based on the patient’s lifestyle, age, medical history and other factors.

Aortic valve replacement is an open-chest procedure utilizing a heart-lung machine. The surgeon opens the aorta to access the valve. The stenotic valve and its leaflets are removed, along with calcium deposits present. The surgeon then sizes the annulus and sutures in the prosthetic valve in order to restore normal heart function. “As soon as we remove the obstruction and put in the new valve, the stress on the heart is relieved,” asserts Dr. Zusman.

Patients remain in the hospital for four to five days, followed by three months of convalescence in order for the sternum to heal. Cardiac rehabilitation helps patients to return quicker to their active lifestyle.

<sup>1</sup> HealthGrades

<sup>2</sup> Bouma BJ, et al. To operate or not on elderly patients with aortic stenosis: the decision and its consequences. *Heart.* 1999 Aug;82(2):143-8.

## To Refer a Patient

*To refer a patient for consultation, echo review, or surgery, contact Hoag Heart Valve Center at 949/764-8258.*



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