# Current Readings: Status of Surgical Treatment for Endocarditis

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Valve endocarditis is associated with high morbidity and mortality and requires a thorough evaluation including early surgical consultation to identify patients who may benefit from surgery. We review 5 recent articles that highlight the current debates related to best treatment strategies for valve endocarditis. Recent publications have focused on neurologic risk assessment, timing of surgery, and prognostic factors associated with native and prosthetic valve endocarditis. The initial patient assessment and management is best performed by a multidisciplinary team. Future investigations should focus on identifying surgical candidates early and the outcomes affected by replacement valve choice in both native and prosthetic valve endocarditis.

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## INTRODUCTION

Controversies in the management of endocarditis remain despite advances in medical and surgical therapies. Patients with valve endocarditis may present with a wide range of acuity, from mild complaints of fatigue to overwhelming sepsis and cardiogenic shock. The diversity of these presentations reflects the complexity of the underlying pathology. Antimicrobial therapy remains the mainstay of prevention as well as the first-line treatment. The decision to operate is less straightforward and requires a multidisciplinary evaluation and stepwise assessment. The American College of Cardiology and American Heart Association published management recommendations in 2006 that focused on the diagnosis and medical management of endocarditis.[1] The Society of Thoracic Surgeons published evidenced-based guidelines in 2011 summarizing surgical treatment focusing on operative indications and intraoperative decisions.[2] The findings of these reports are briefly summarized in Table 1. Questions persist regarding the timing of surgery, neurologic risks, type of valve to implant, and the management of prosthetic vs native valve endocarditis. The following articles highlight current discussions surrounding best therapies for managing valve endocarditis.

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## IMPACT OF A MULTIDISCIPLINARY MANAGEMENT STRATEGY ON THE OUTCOME OF PATIENTS WITH NATIVE VALVE INFECTIVE ENDOCARDITIS

*Chirillo F, Scotton P, Rocco F. Am J Cardiol 112: 1171-1176, 2013*

### Miniabstract

This prospective study assesses the effect of an operative protocol involving a multidisciplinary-team approach on the outcomes for patients with native valve endocarditis (NVE). The study was conducted over 2 consecutive 7-year periods, 1996-2002 and 2003-2009. During the first period, 102 consecutive patients with NVE underwent treatment based on standard of care (not using a multidisciplinary team), whereas during the second 7-year period, all 190 patients received care from an established team consisting of a cardiologist, an infectious disease specialist, and a cardiac surgeon. Patients treated with a multidisciplinary approach had decreased operative, in-hospital mortality, and 3-year mortality rates and less renal failure.

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**Table 1.** ACC-AHA Recommendations (2006) and STS Guidelines (2011) for Infective Endocarditis

| | Valve | Class. of Rec. | ACC-AHA Recommendations | | STS Guidelines |
|---|---|---|---|---|---|
| | | | Medical Management | | Surgical Management |
| | | | Antimicrobrial Therapy | Surgical Evaluation | |
| Aortic | Native | Class I | *Staph species*: 6-wk IV oxacillin ± gentamicin; vancomycin if resistant.<br>*Viridans*: 4-wk IV antibiotics; regimen tailored by PCN susceptibility. | Surgical evaluation necessary for the presence of CHF, continued embolic events, persistent + blood cultures after 1-wk therapy, fungal endocarditis, evidence of valve dehiscence, perforation, rupture, fistula, or abscess. | If multivalve endocarditis present, follow single valve replacement protocol. |
| | | | *Enterococci*: 4-6-wk IV antibiotics if PCN sensitive.<br>*HACEK*: 4-wk IV ceftriaxone. | | If there is a suspicion of stroke, an MRI or CT should be performed with concomitant MRA or CTA to evaluate for presence of a mycotic aneurysm. |
| | | Class II | *Enterococci*: 6-8-wk IV antibiotics if PCN resistant. | Consider surgery for persistent vegetation after systemic embolization or increasing size in vegetation. | Valve choice based on age, life expectancy, comorbidities, and compliance with anticoagulation therapy. Mechanical or stented valve is reasonable if infection is localized to native valve or annulus. Homograft may be considered when infection is limited to native valve or annulus. |
| | | | *Culture negative*: 4-6-wk IV antibiotics with ID specialist consultation. | Surgery should be considered for mobile vegetations >10 mm with or without emboli. | For periannular abscess along with IE, mechanical or stented tissue valve can be used if radical debridement is carried out first.<br>For periannular abscess along with IE and extensive aortic wall destruction or aortic ventricular discontinuity, homograft may be used.<br>If imaging suggests mycotic aneurysm, catheter angiography should be performed before surgery. |