

**¿Son Quirúrgicas TODAS las Endocarditis Protésicas
Precoces?**

**¿Son Quirúrgicas TODAS las Endocarditis Protésicas
Tardías?**

José J. Cuenca Castillo.

Jefe de Servicio de Cirugía Cardíaca. CHUAC. A Coruña.

2015 ESC Guidelines for the management of infective endocarditis

Major criteria

1. Blood cultures positive for IE

- a. Typical microorganisms consistent with IE from 2 separate blood cultures:
 - *Viridans streptococci*, *Streptococcus gallolyticus* (*Streptococcus bovis*), *HACEK group*, *Staphylococcus aureus*; or
 - Community-acquired enterococci, in the absence of a primary focus; or
- b. Microorganisms consistent with IE from persistently positive blood cultures:
 - ≥ 2 positive blood cultures of blood samples drawn >12 h apart; or
 - All of 3 or a majority of ≥ 4 separate cultures of blood (with first and last samples drawn ≥ 1 h apart); or
- c. Single positive blood culture for *Coxiella burnetii* or phase I IgG antibody titre $>1:800$

2. Imaging positive for IE

- a. Echocardiogram positive for IE:
 - Vegetation;
 - Abscess, pseudoaneurysm, intracardiac fistula;
 - Valvular perforation or aneurysm;
 - New partial dehiscence of prosthetic valve.
- b. Abnormal activity around the site of prosthetic valve implantation detected by ^{18}F -FDG PET/CT (only if the prosthesis was implanted for >3 months) or radiolabelled leukocytes SPECT/CT.
- c. Definite paravalvular lesions by cardiac CT.

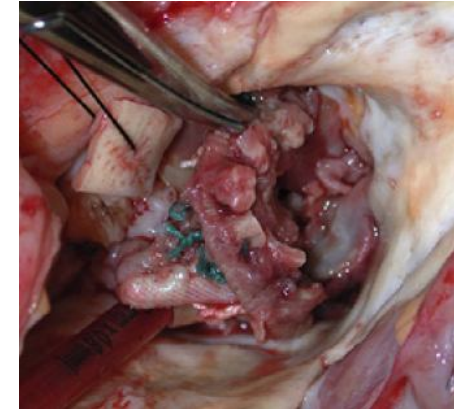
2015 ESC Guidelines for the management of infective endocarditis

Table 22 Indications and timing of surgery in left-sided valve infective endocarditis (native valve endocarditis and prosthetic valve endocarditis)

Indications for surgery	Timing ^a	Class ^b	Level ^c	Ref. ^d
1. Heart failure				
Aortic or mitral NVE or PVE with severe acute regurgitation, obstruction or fistula causing refractory pulmonary oedema or cardiogenic shock	Emergency	I	B	111,115, 213,216
Aortic or mitral NVE or PVE with severe regurgitation or obstruction causing symptoms of HF or echocardiographic signs of poor haemodynamic tolerance	Urgent	I	B	37,115, 209,216, 220,221
2. Uncontrolled infection				
Locally uncontrolled infection (abscess, false aneurysm, fistula, enlarging vegetation)	Urgent	I	B	37,209, 216
Infection caused by fungi or multiresistant organisms	Urgent/ elective	I	C	
Persisting positive blood cultures despite appropriate antibiotic therapy and adequate control of septic metastatic foci	Urgent	IIa	B	123
PVE caused by staphylococci or non-HACEK gram-negative bacteria	Urgent/ elective	IIa	C	
3. Prevention of embolism				
Aortic or mitral NVE or PVE with persistent vegetations > 10 mm after one or more embolic episode despite appropriate antibiotic therapy	Urgent	I	B	9,58,72, 113,222
Aortic or mitral NVE with vegetations > 10 mm, associated with severe valve stenosis or regurgitation, and low operative risk	Urgent	IIa	B	9
Aortic or mitral NVE or PVE with isolated very large vegetations (> 30 mm)	Urgent	IIa	B	113
Aortic or mitral NVE or PVE with isolated large vegetations (> 15 mm) and no other indication for surgery ^e	Urgent	IIb	C	

2016 The American Association for Thoracic Surgery (AATS) consensus guidelines: Surgical treatment of infective endocarditis: Executive summary

damaged tissue and valves. Surgery mechanically disrupts biofilm and removes vegetations, infected necrotic tissue, and foreign material and drains the infected areas, thereby exposing residual live microorganisms to antimicrobials, antibodies, and immune cells. In addition, surgery restores valve function and cardiac integrity. Microbiologic examination of operative specimens also can help identify the causative microorganism.^{57,58} Still, the final cure always is the result of antimicrobial treatment and the patient's own defenses.



¿Cambia la Cirugía la Historia Natural de TODOS los Pacientes con Endocarditis Protésica?

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2015 ESC Guidelines for the management of infective endocarditis

The Task Force for the Management of Infective Endocarditis of the European Society of Cardiology (ESC)

Table 15 Predictors of poor outcome in patients with infective endocarditis

Patient characteristics

- Older age
- Prosthetic valve IE
- Diabetes mellitus
- Comorbidity (e.g., frailty, immunosuppression, renal or pulmonary disease)

Clinical complications of IE

- Heart failure
- Renal failure
- >Moderate area of ischaemic stroke
- Brain haemorrhage
- Septic shock

Microorganism

- *Staphylococcus aureus*
- Fungal
- Non-HACEK Gram-negative bacilli

Echocardiographic findings

- Periannular complications
- Severe left-sided valve regurgitation
- Low left ventricular ejection fraction
- Pulmonary hypertension
- Large vegetations
- Severe prosthetic valve dysfunction
- Premature mitral valve closure and other signs of elevated diastolic pressures

Complejidad Técnica.

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The 'Endocarditis Team'

Surgical Versus Medical Therapy for Prosthetic Valve Endocarditis: A Meta-Analysis of 32 Studies

(Ann Thorac Surg 2017;103:991–1004)

outcomes. Second, the patients were heterogeneous with respect to their clinical risk profiles and infectious pathogens, and it is unknown how many patients were denied operative treatment in favor of medical therapy based on their operative risk. It is likely that these differences did indeed impact the selection of a treatment strategy, which may have resulted in preferential outcomes for valve reoperation and represents an uncontrollable confounder. Third, a fair proportion of the pooled studies

2015 ESC Guidelines for the management of infective endocarditis

12.1 Prosthetic valve endocarditis

The best therapeutic option in PVE is still debated.^{221,354–359} Although surgery is generally considered the best option when PVE causes severe prosthetic dysfunction or HF,²²⁰ it was performed in only 50% of patients with PVE in the Euro Heart Survey,⁵⁴ a similar

tive and prosthetic valve IE complicated by HF.²¹⁶ Conversely, after adjustment for differences in clinical characteristics and survival bias, early valve replacement was not associated with lower mortality compared with medical therapy in a large international cohort.³⁷

JAMA Intern Med 2013;**173**:1495–1504.

Outcomes for endocarditis surgery in North America: A simplified risk scoring system

(J Thorac Cardiovasc Surg 2011;141:98-106)

TABLE 4. Simplified model and point estimate for postoperative mortality

Parameter	Standard estimate	Probability	OR	CI	Points
Prior CABG	0.48958	<.0001	1.63163	(1.60, 1.67)	7
Status: urgent or emergency, no cardiogenic shock	0.42207	<.0001	1.52511	(1.50, 1.55)	6
Status: emergency, salvage, or cardiogenic shock	1.15279	<.0001	3.167	(3.03, 3.31)	17
Preoperative IABP or Inotropes	0.67227	<.0001	1.95869	(1.89, 2.03)	10
Multiple valve procedure	0.602	<.0001	1.82577	(1.79, 1.86)	9
Prior valve surgery	0.47119	<.0001	1.6019	(1.57, 1.64)	7
IDDM	0.54652	<.0001	1.72723	(1.68, 1.78)	8
NIDDM	0.43098	<.0001	1.53877	(1.50, 1.58)	6
Hypertension	0.342	<.0001	1.40776	(1.38, 1.43)	5
Chronic lung disease	0.34443	<.0001	1.41119	(1.38, 1.44)	5
Active endocarditis	0.69541	<.0001	2.00453	(1.97, 2.04)	10
Renal failure or Cr > 2.0	0.82723	<.0001	2.28698	(2.24, 2.33)	12
Arrhythmia	0.5043	<.0001	1.65582	(1.62, 1.69)	8

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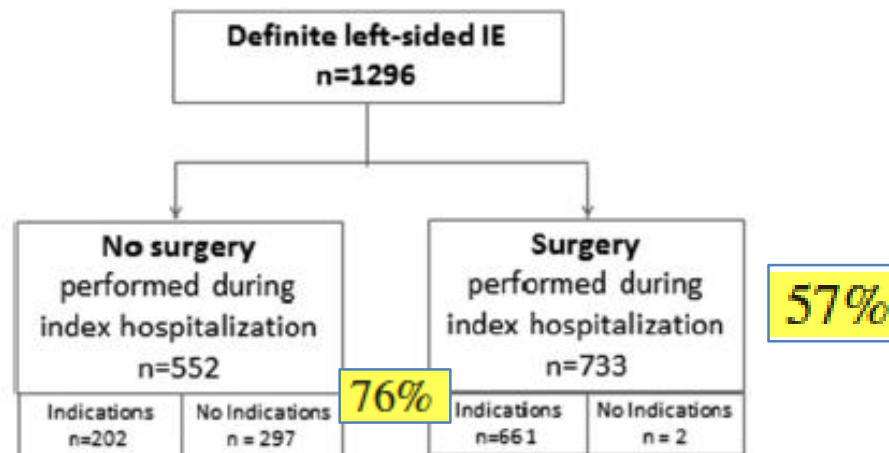
Association Between Surgical Indications, Operative Risk, and Clinical Outcome in Infective Endocarditis

A Prospective Study From the International Collaboration on Endocarditis

Circulation. 2015;131:131-140.

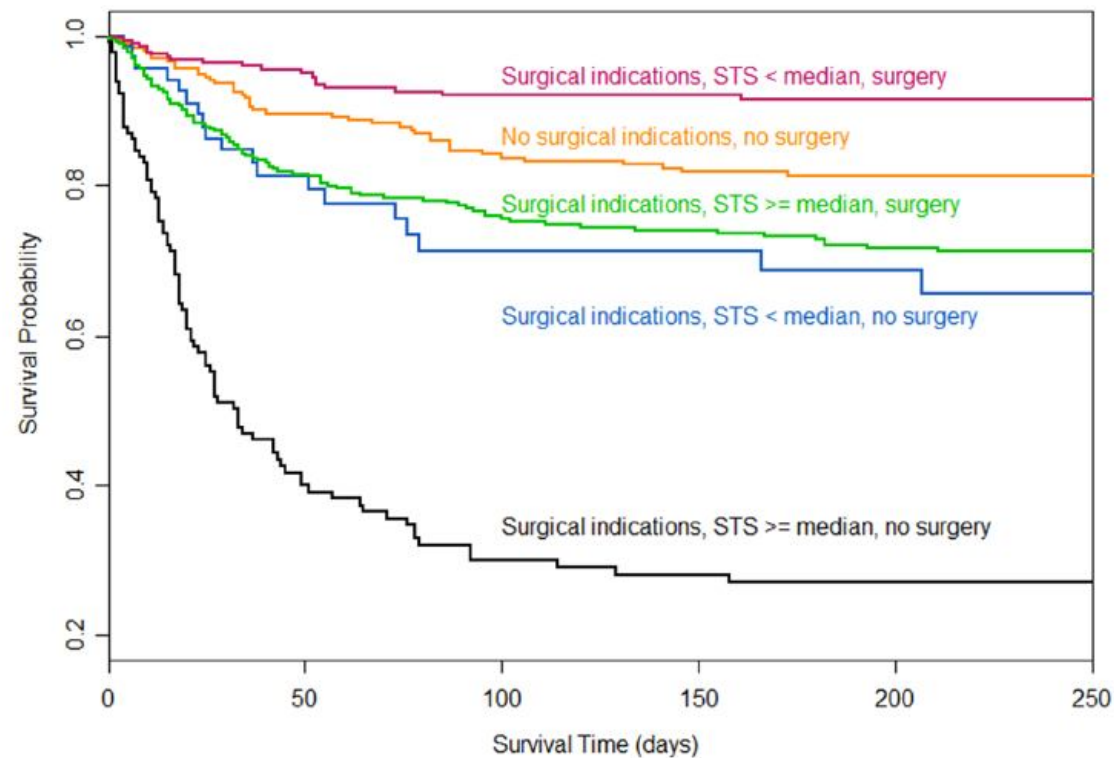
Overall Cohort

The study schema is depicted in Figure 1. There were a total of 1296 patients with left-sided, definite IE, including 314 (25%) with prosthetic valve IE. Patients were characterized by



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Challenges in Treating Prosthetic Valve Endocarditis

Ann F. Bolger, MD

JAMA Intern Med. 2013;173(16):1495-1504.

The echographic findings of prosthetic valve infections are often impressive. The anatomic distortions of abscesses, fistulae, and prosthetic dehiscence are dramatic and intuitively seem important to treat given that they are unlikely to improve with antibiotic therapy alone. Debriding the infection, removing the source of potential emboli and ongoing sepsis, and eliminating fistulous shunting or paravalvular leak would seem an appealing “root cause” solution.

Prompt imaging of patients presenting with PVE is essential to identify paravalvular extension of infection and prosthetic dysfunction. However, we must not let the images overpower our respect for the overall clinical picture, and we should consider host factors.

Fistulae, paravalvular leak, or transprosthetic leak create functional challenges to the heart via abnormal load and turbulence. In some situations, they are associated with heart failure and are harbingers of poor outcome, such as ventricular arrhythmia. For some patients, however, the functional impact of these lesions may be medically tolerable and/or non-progressive in the short term. By definition, patients with PVE have had a prior reason to undergo valve surgery. It is reasonable to anticipate that their ventricles are no strangers to volume or pressure overload and might be more capable of handling the incremental load imposed by these abnormalities by virtue of prior compensatory remodeling. This may provide

“GRUPO MULTIDISCIPLINAR ENDOCARDITIS”: Más Arte que Ciencia.

- **Cirugía en paciente, según comorbilidades, con EIP con curso clínico o anatómico complicado originada por gérmenes agresivos.**
- **Pronóstico quirúrgico es tanto mejor cuanto “menos complicado” esté el curso clínico y los daños anatómicos.**
- **Si el paciente ES o ESTA “excesivamente complicado” se rechazará la cirugía.**
- **Se valora la indicación de “única oportunidad”.**

