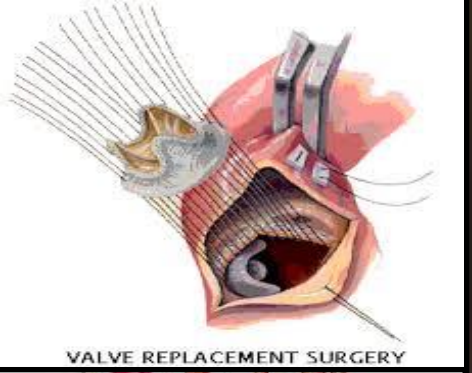
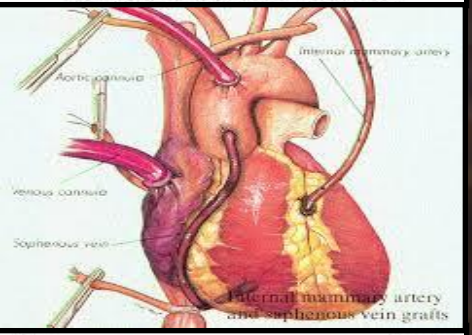
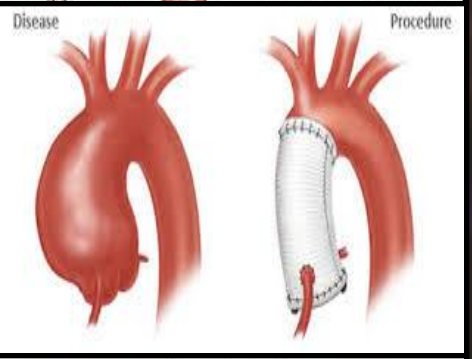
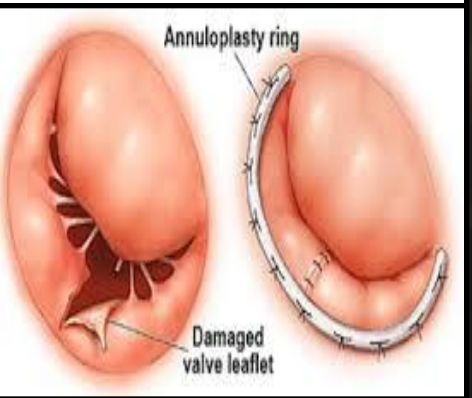




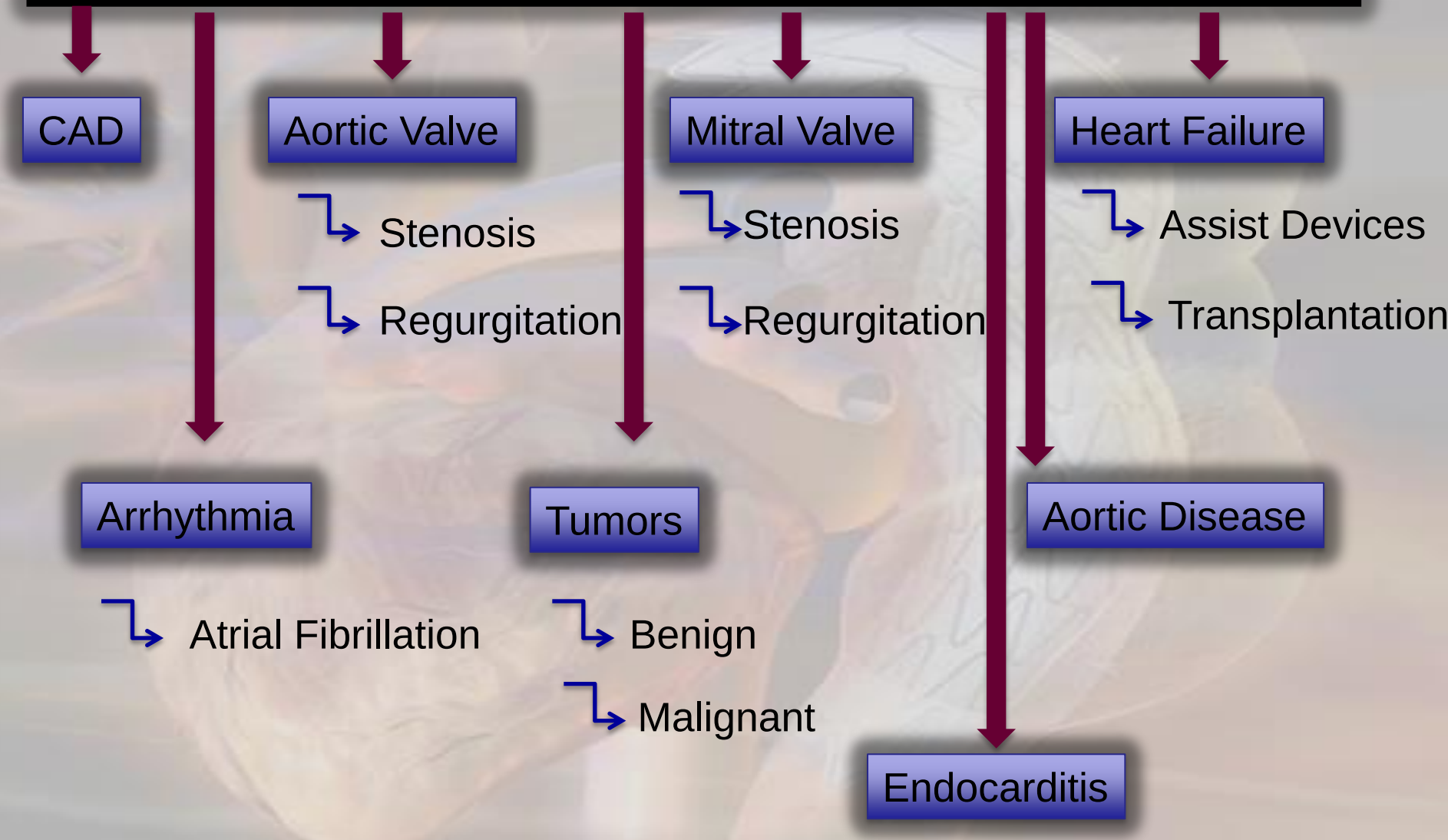




Cardiac Surgical Diseases

Turki B. Albacker, MD, MSc, FRCSC, FACS, FACC
Associate Professor of Cardiac Sciences
Consultant Cardiac & Aortic Surgeon
King Fahad Cardiac Center
College of Medicine, King Saud University

Cardiac Surgical Diseases



Indications

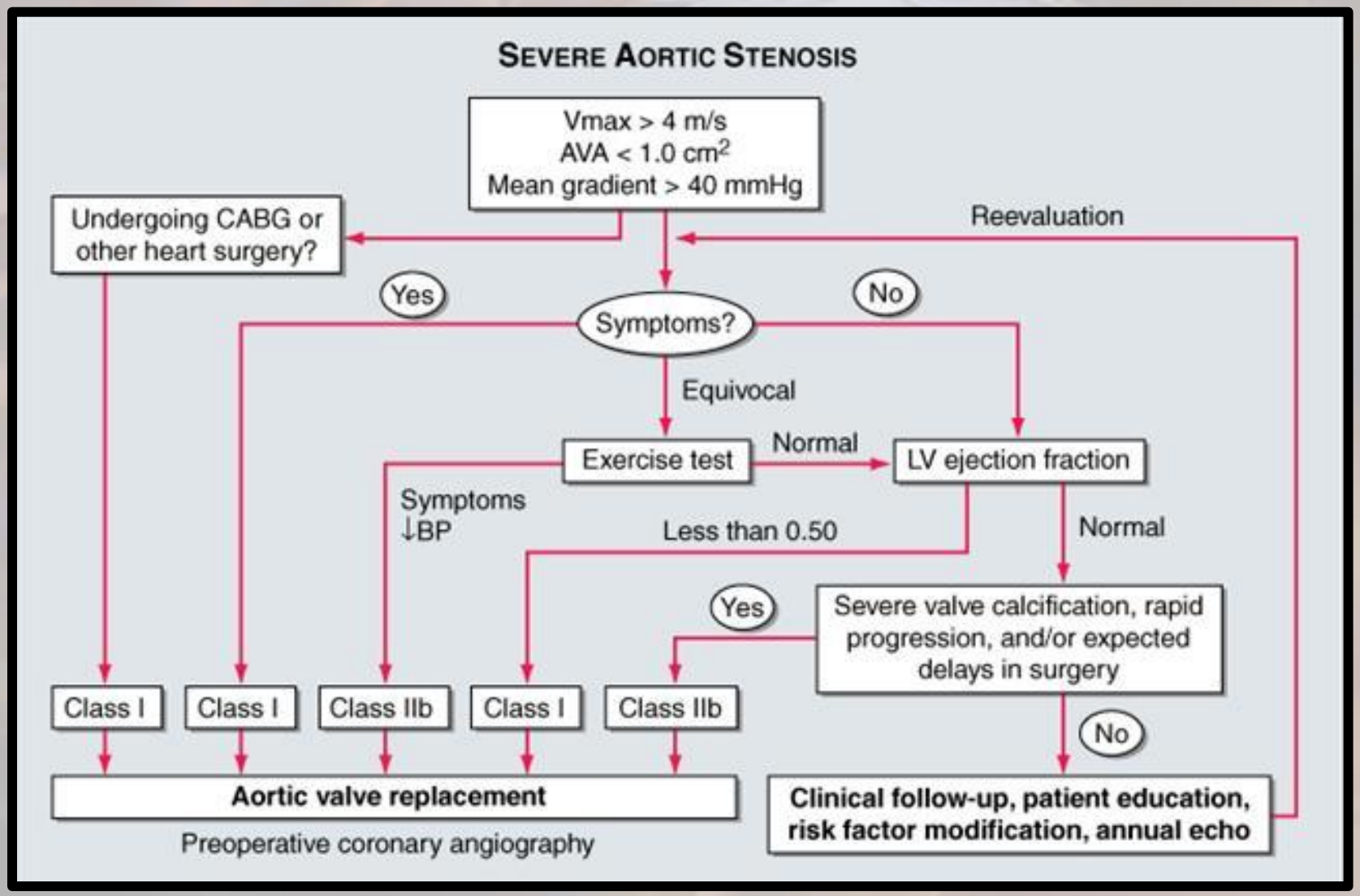
Coronary Artery Bypass Surgery

Indication	Asymptomatic or Mild Angina	Stable Angina	Unstable Angina/ NSTEMI	Poor LV Function
Left main stenosis >50%	Class I	Class I	Class I	Class I
Stenosis of proximal LAD and proximal circumflex >70%	Class I	Class I	Class I	Class I
3-vessel disease	Class I	Class I		Class I, with proximal LAD stenosis
2-vessel disease		Class I if there is large area of viable myocardium in high-risk area	Class IIb	

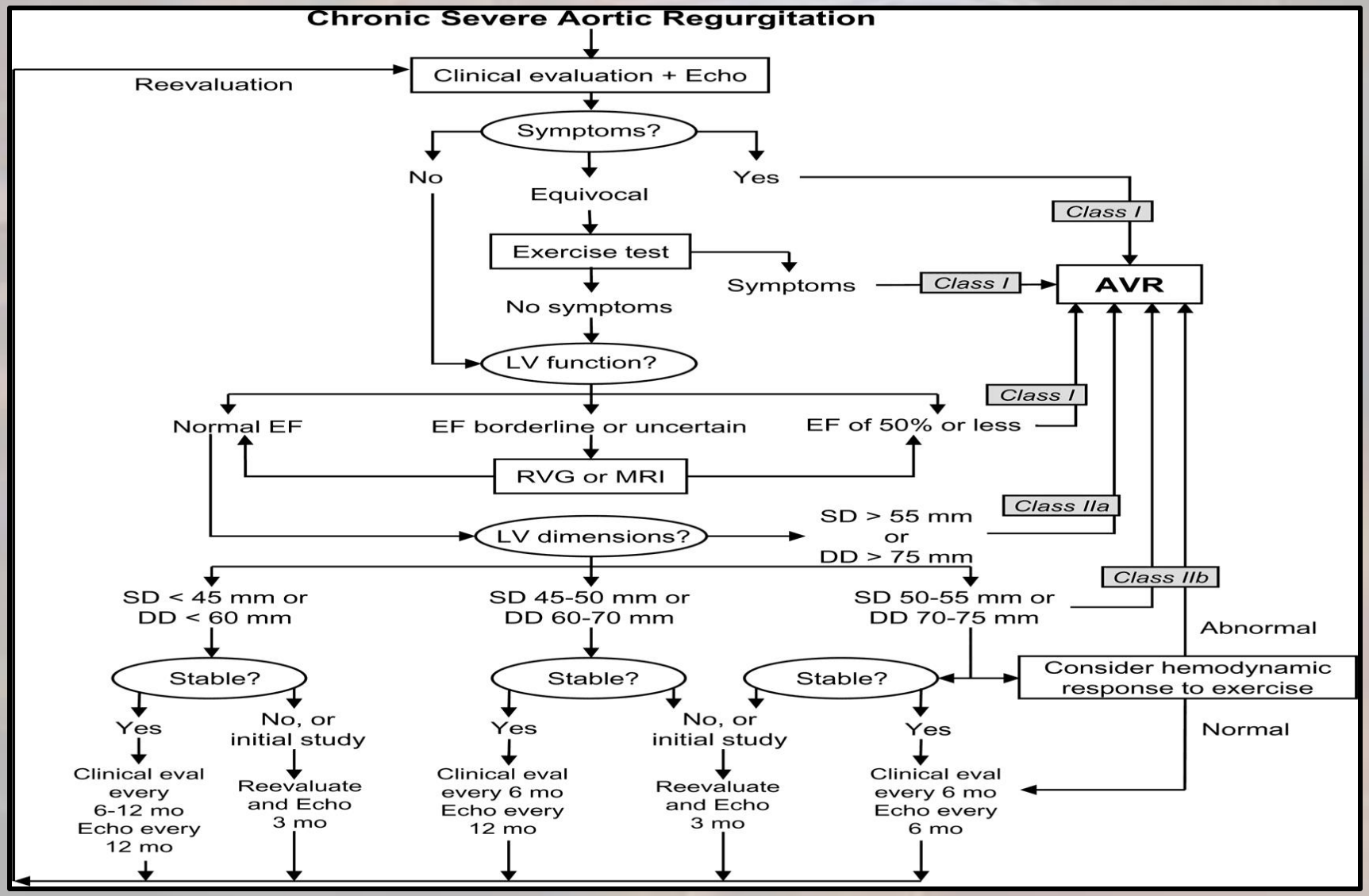
Coronary Artery Bypass Surgery

Revascularization	CABG			DES		
	No-risk	DM	LVD	No-risk	DM	LVD
1-vessel	N	N	N	Y	Y	Y
Proximal LAD	Y	Y	Y	N	N	N
2-vessel without LAD	N	N	N	Y	Y	Y
2-vessel with LAD	Y	Y	Y	Y	Y	Y
2-vessel + proximal LAD	Y	Y	Y	N	N	N
3-vessel	Y	Y	Y	C	C	C
3-vessel + proximal LAD	Y	Y	Y	N	N	N
LMC ± other lesions	Y	Y	Y	N	N	N

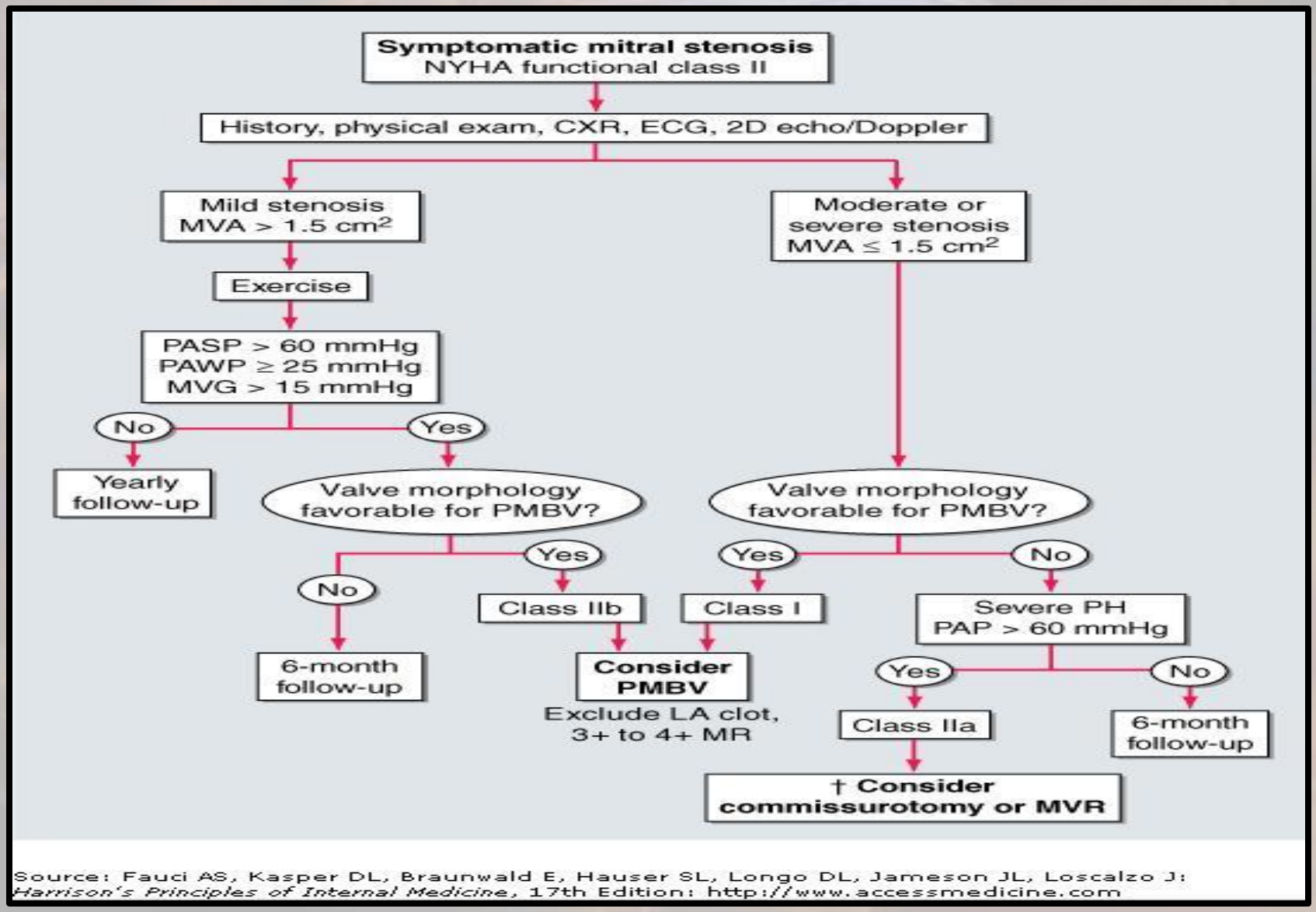
Aortic Valve



Aortic Valve

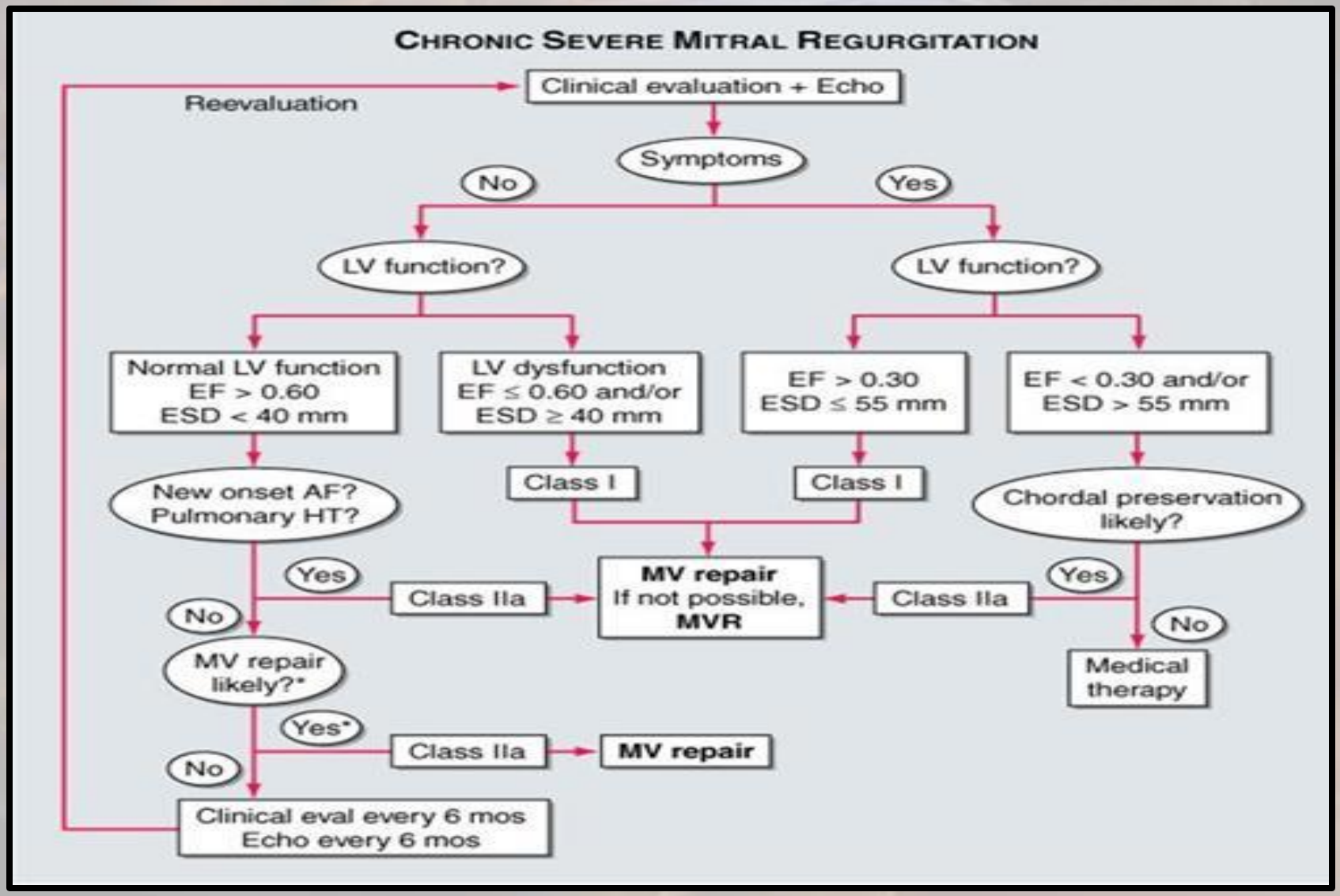


Mitral Valve

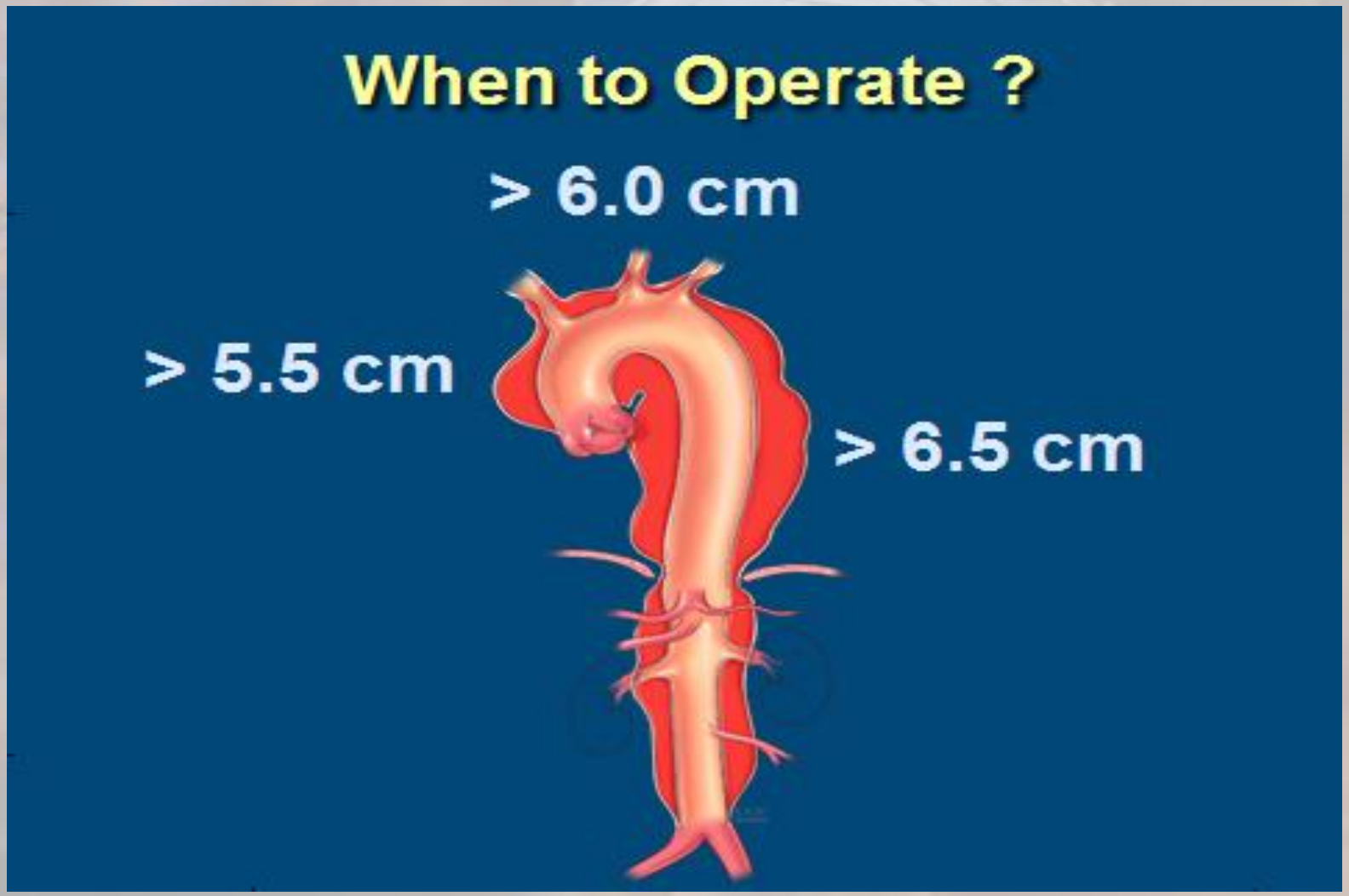


Source: Fauci AS, Kasper DL, Braunwald E, Hauser SL, Longo DL, Jameson JL, Loscalzo J: *Harrison's Principles of Internal Medicine*, 17th Edition: http://www.accessmedicine.com

Mitral Valve

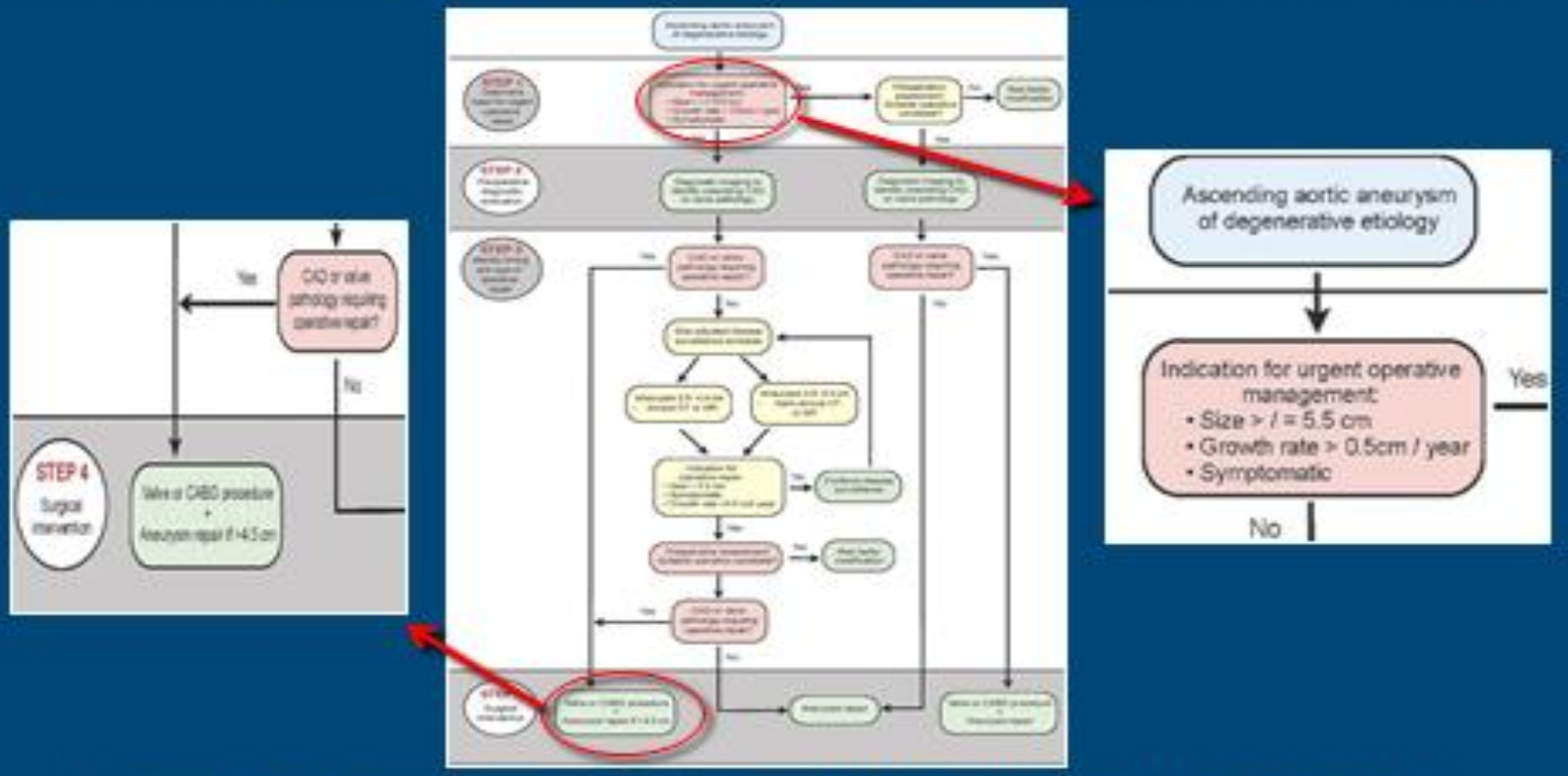


Aortic Disease



Aortic Disease

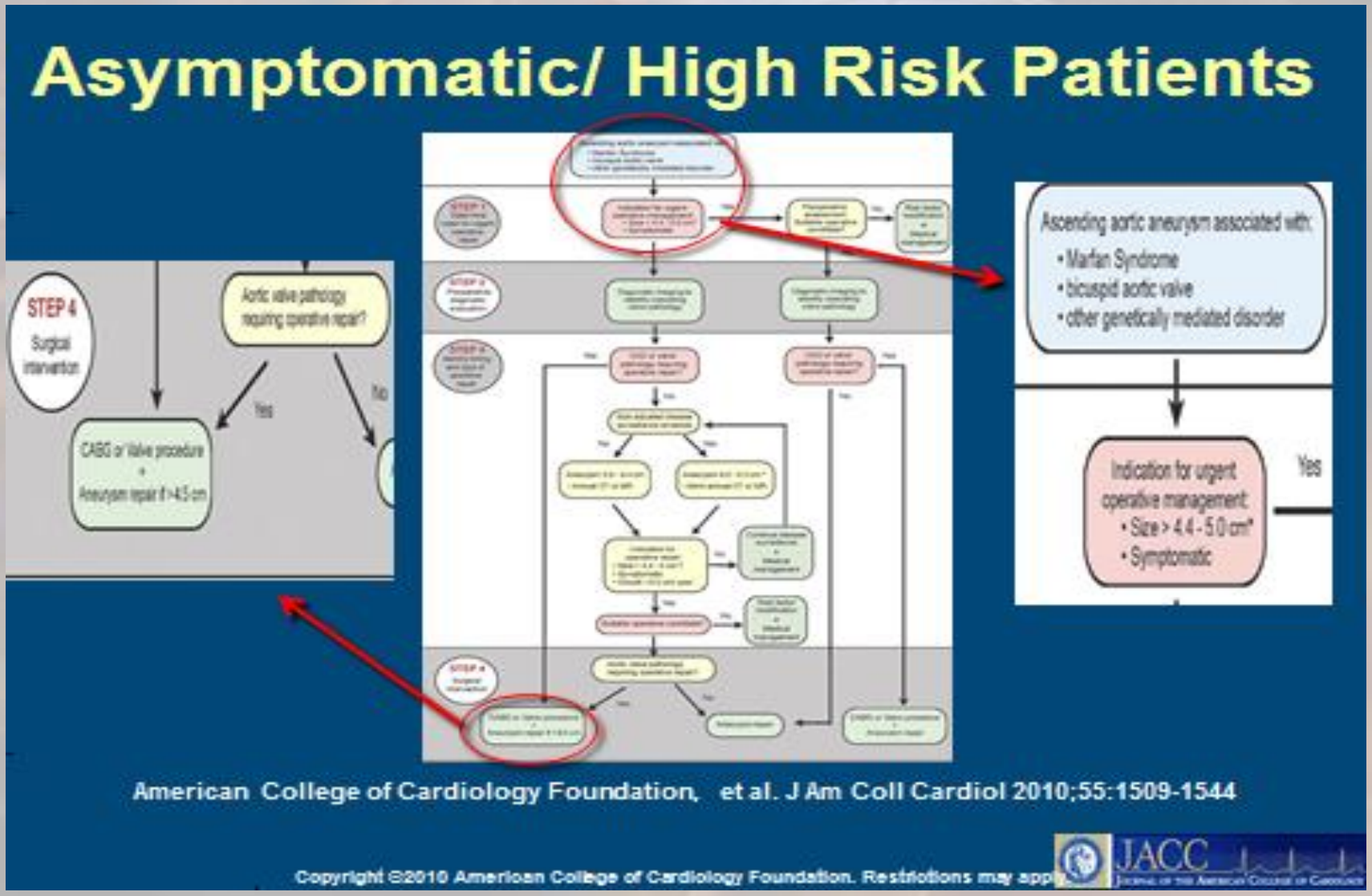
Asymptomatic/ Low Risk Patients



American College of Cardiology Foundation, et al. J Am Coll Cardiol 2010;55:1509-1544

JACC

Aortic Disease



Heart Failure

Indications for Heart Transplant:

- Cardiogenic shock requiring mechanical assistance.
- Refractory heart failure with continuous inotropic infusion.
- NYHA functional class 3 and 4 with a poor 12 month prognosis.
- Progressive symptoms with maximal therapy.
- Severe symptomatic hypertrophic or restrictive cardiomyopathy.
- Medically refractory angina with unsuitable anatomy for revascularization.
- Life-threatening ventricular arrhythmias despite aggressive medical and device interventions.
- Cardiac tumors with low likelihood of metastasis.
- Hypoplastic left heart and complex congenital heart disease.

Heart Failure

Table 3. Contraindications to cardiac transplantation.[5]

- Pulmonary hypertension (TPG > 15 mm Hg, SPAP > 50 mm Hg, PVR > 4 WU, PVRI > 6)
- Systemic disease (anticipated to limit long-term survival)
- Elevated creatinine (> 200 µmol/L)
- Active infection
- Psychosocial (substance abuse, smoking, medical noncompliance)
- Malignancy (within 5 years)
- Morbid obesity (> 140% ideal body weight)
- Marked cachexia (< 60% ideal body weight)
- Osteoporosis
- Peripheral or cerebrovascular disease
- Diabetes mellitus with end organ damage

Heart Failure

Ventricular Assist Devices:

Indications	Absolute Contraindications
Frequent hospitalisations for HF	Irreversible hepatic disease
Intolerance to neurohormonal antagonists	Irreversible renal disease
NYHA IIIb–IV functional limitations despite OMT	Irreversible neurological disease
End-organ dysfunction owing to low CO	Medical nonadherence
Increasing diuretic requirement	Severe psychosocial limitations
CRT nonresponder	
Inotrope dependence	
Low peak Vo_2 (<14mL/kg/min)	

HF = Heart failure; OMT = optimal medical therapy; NYHA = New York Heart Association; CO = cardiac output; CRT = cardiac resynchronisation therapy. Adapted from Peura et al.[11] and published with the permission of the American Heart Association.

Endocarditis

Table 2. Indications for and Timing of Surgery in Patients with Left-Sided, Native-Valve Infective Endocarditis.*

Indication	Timing of Surgery†
Heart failure	
Aortic or mitral-valve infective endocarditis with severe acute regurgitation or obstruction causing refractory pulmonary edema or cardiogenic shock	Emergency
Aortic or mitral-valve infective endocarditis with fistula into a cardiac chamber or pericardium causing refractory pulmonary edema or cardiogenic shock	Emergency
Aortic or mitral-valve infective endocarditis with severe acute regurgitation or obstruction and persistent heart failure or signs of poor hemodynamic tolerance (early mitral-valve closure or pulmonary hypertension)	Urgent
Aortic or mitral-valve infective endocarditis with severe regurgitation and heart failure easily controlled with medical treatment	Elective
Uncontrolled infection	
Locally uncontrolled infection (abscess, false aneurysm, fistula, enlarging vegetation, or dehiscence of prosthetic valve)	Urgent
Persistent fever and positive blood cultures for >5–7 days	Urgent
Infection caused by fungi or multidrug-resistant organisms, such as *Pseudomonas aeruginosa* and other gram-negative bacilli	Elective
Prevention of embolism	
Aortic or mitral-valve infective endocarditis with large vegetations (>10 mm in length) after one or more embolic episodes, despite appropriate antibiotic therapy, especially during the first 2 weeks of therapy	Urgent
Aortic or mitral-valve infective endocarditis with large vegetations (>10 mm) and other predictors of complicated course (heart failure, persistent infection, or abscess)	Urgent
Isolated, very large vegetations (>15 mm); surgery may be preferred if a procedure preserving the native valve is feasible	Urgent

Arrhythmia

Recommendations	Class[a]	Level[b]
Surgical ablation of AF should be considered in patients with symptomatic AF undergoing cardiac surgery.	IIa	A
Surgical ablation of AF may be performed in patients with asymptomatic AF undergoing cardiac surgery if feasible with minimal risk.	IIb	C
Minimally invasive surgical ablation of AF without concomitant cardiac surgery is feasible and may be performed in patients with symptomatic AF after failure of catheter ablation.	IIb	C

Cardiac Tumors

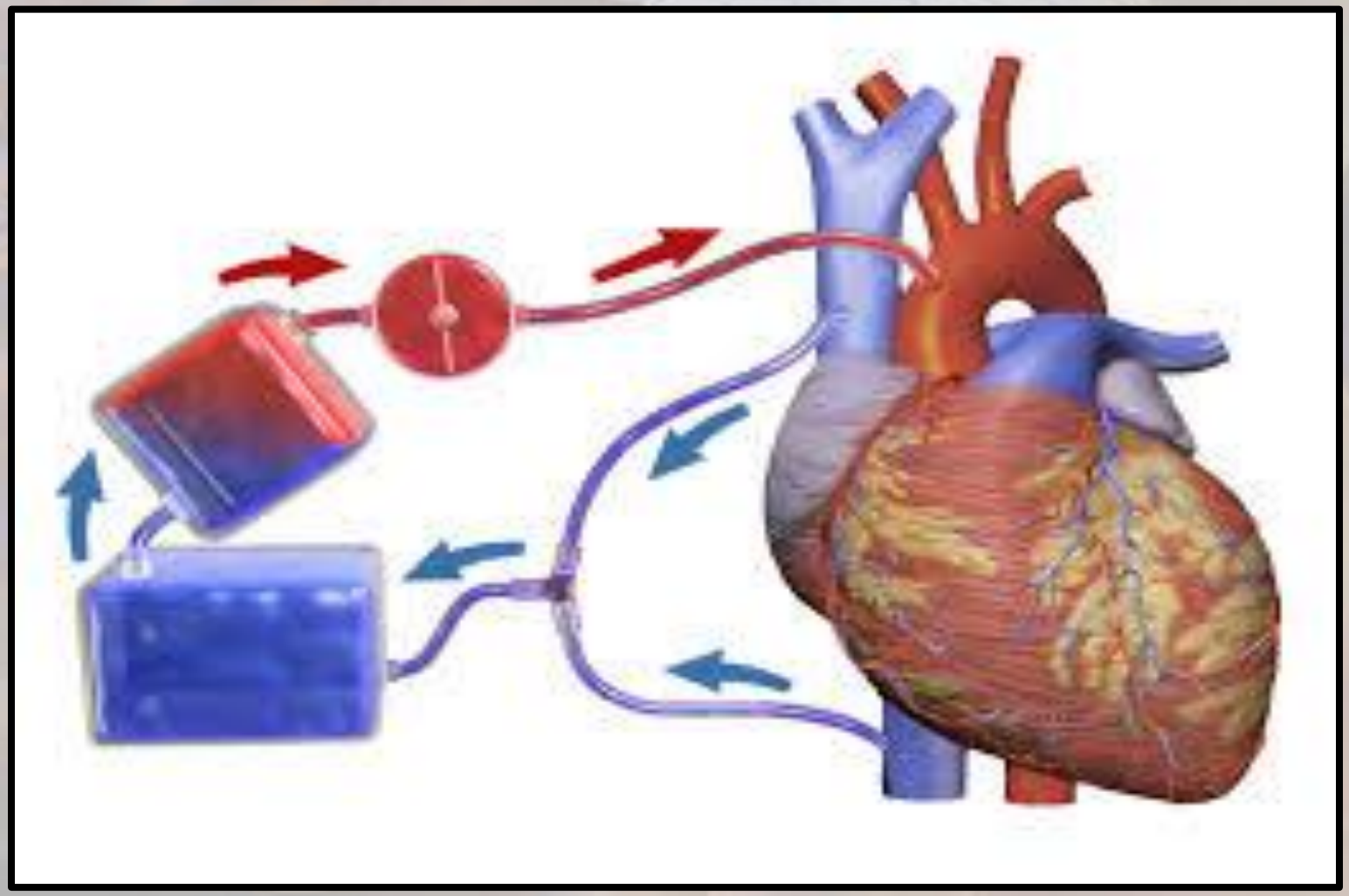
Table I – Primary cardiac tumors

Benign (75% of the cases)	Myxoma
	Rhabdomyoma
	Fibroma
	Lipoma
	Atrioventricular node tumor
	Papillary fibroelastoma
	Hemangioma
Malign (25% of the cases)	Angiosarcoma
	Rhabdomyosarcoma
	Fibrosarcoma

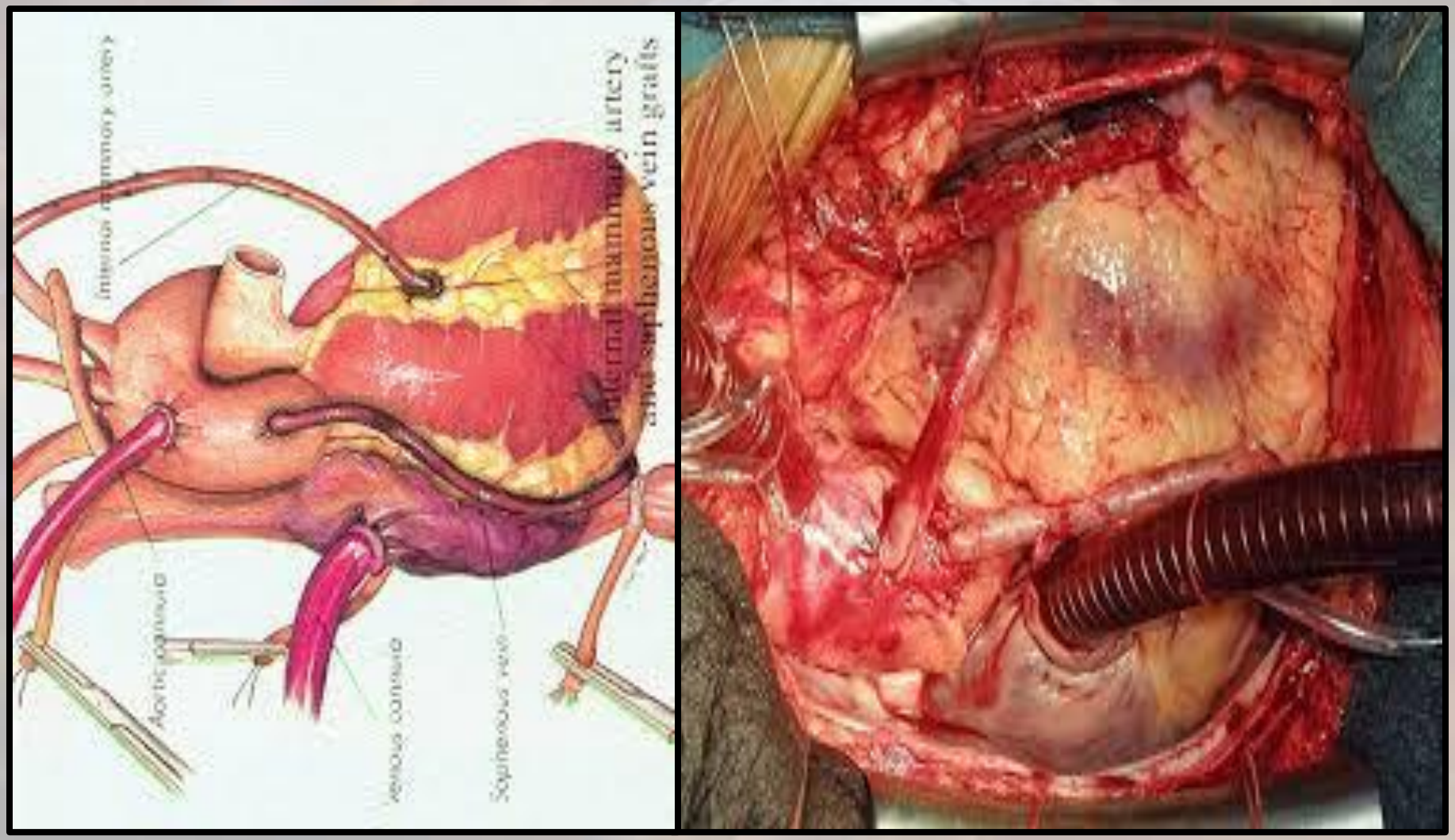
Surgical Treatment

Coronary Artery Bypass Surgery

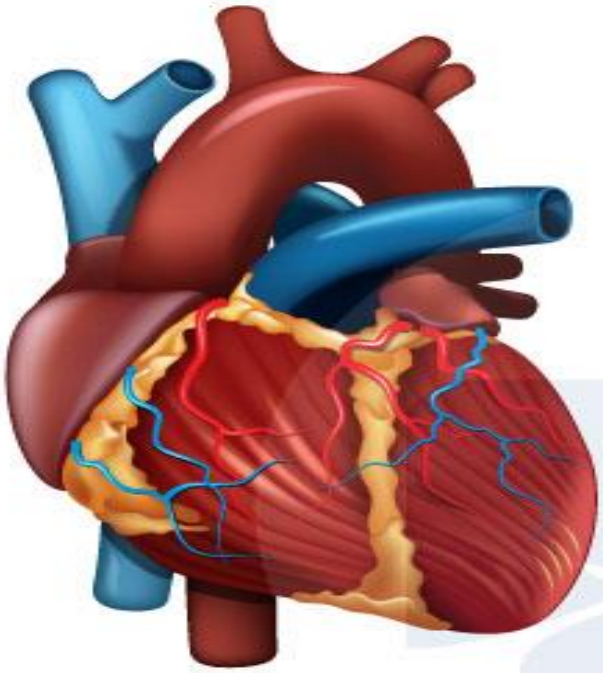
Coronary Artery Bypass Surgery



Coronary Artery Bypass Surgery



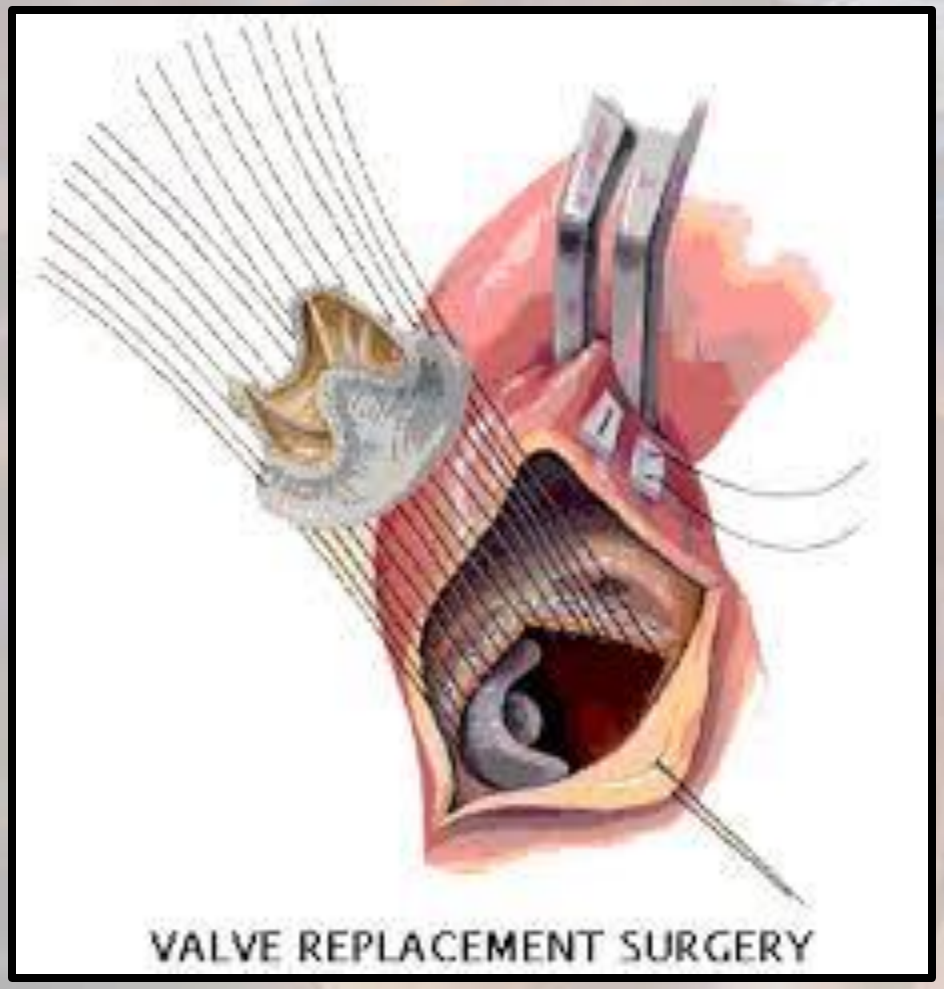
Coronary Artery Bypass Surgery

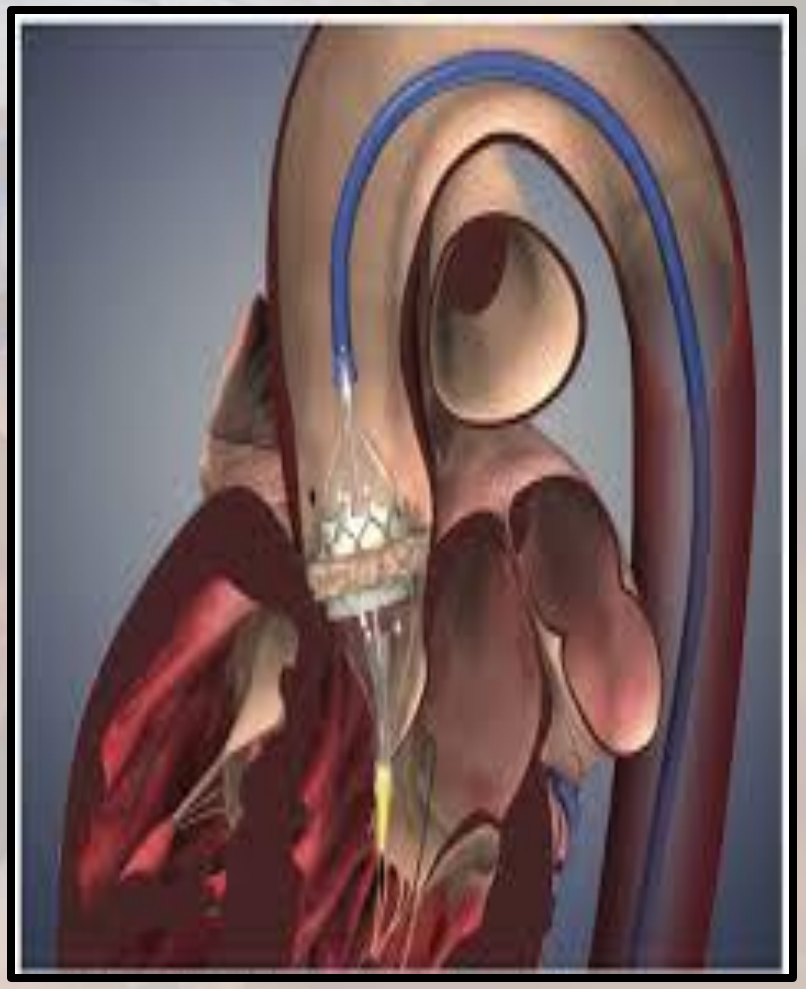


BENEFITS OF OFF PUMP CABG

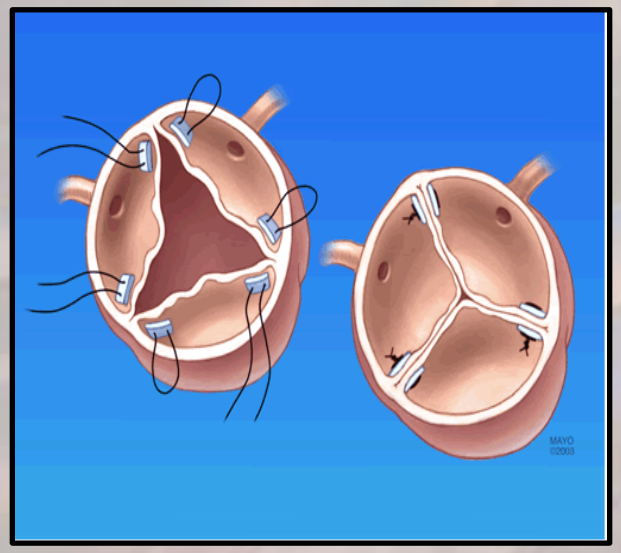
- Reduced incidence of stroke & cognitive problems
- Lesser renal dysfunction
- Reduced inflammatory response
- Lesser coagulopathy & requirement of blood transfusion
- Reduced length of time in intensive care & hospital stays
- Reduced morbidity & mortality rates

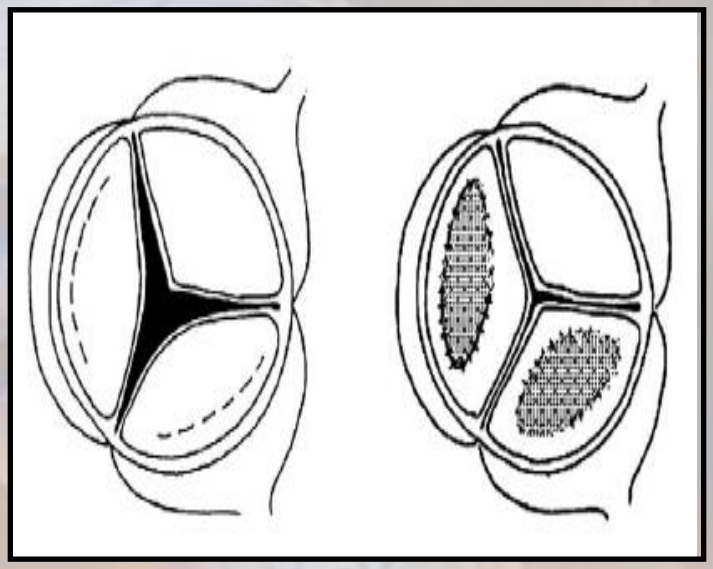
Aortic Stenosis

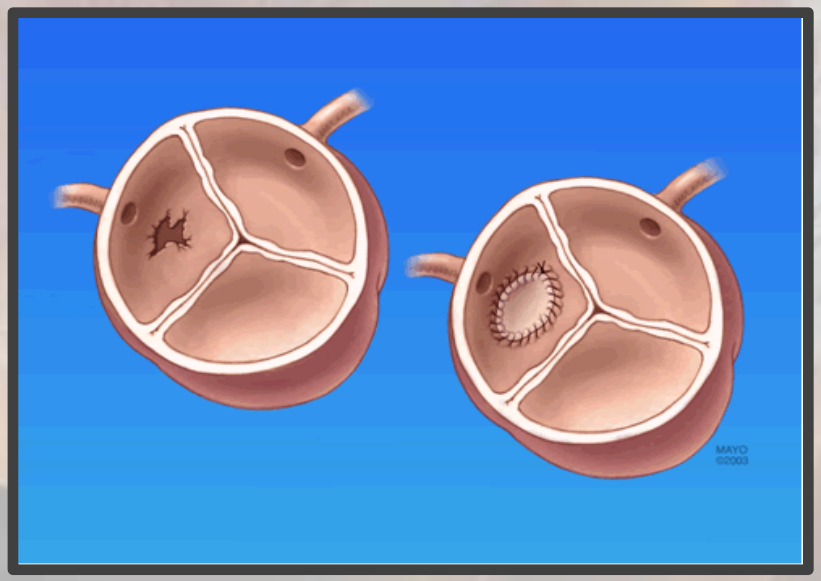




Aortic Regurgitation

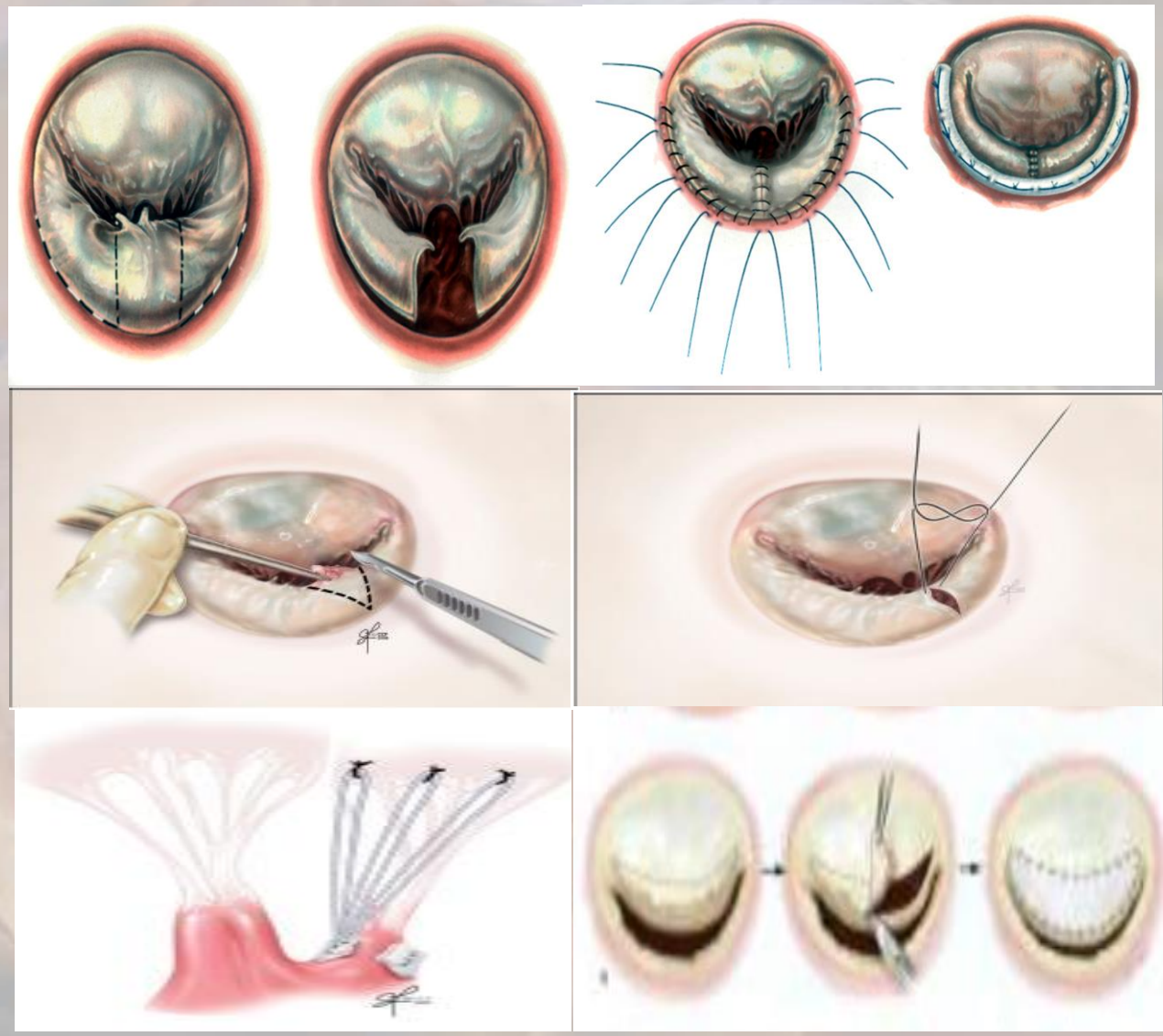




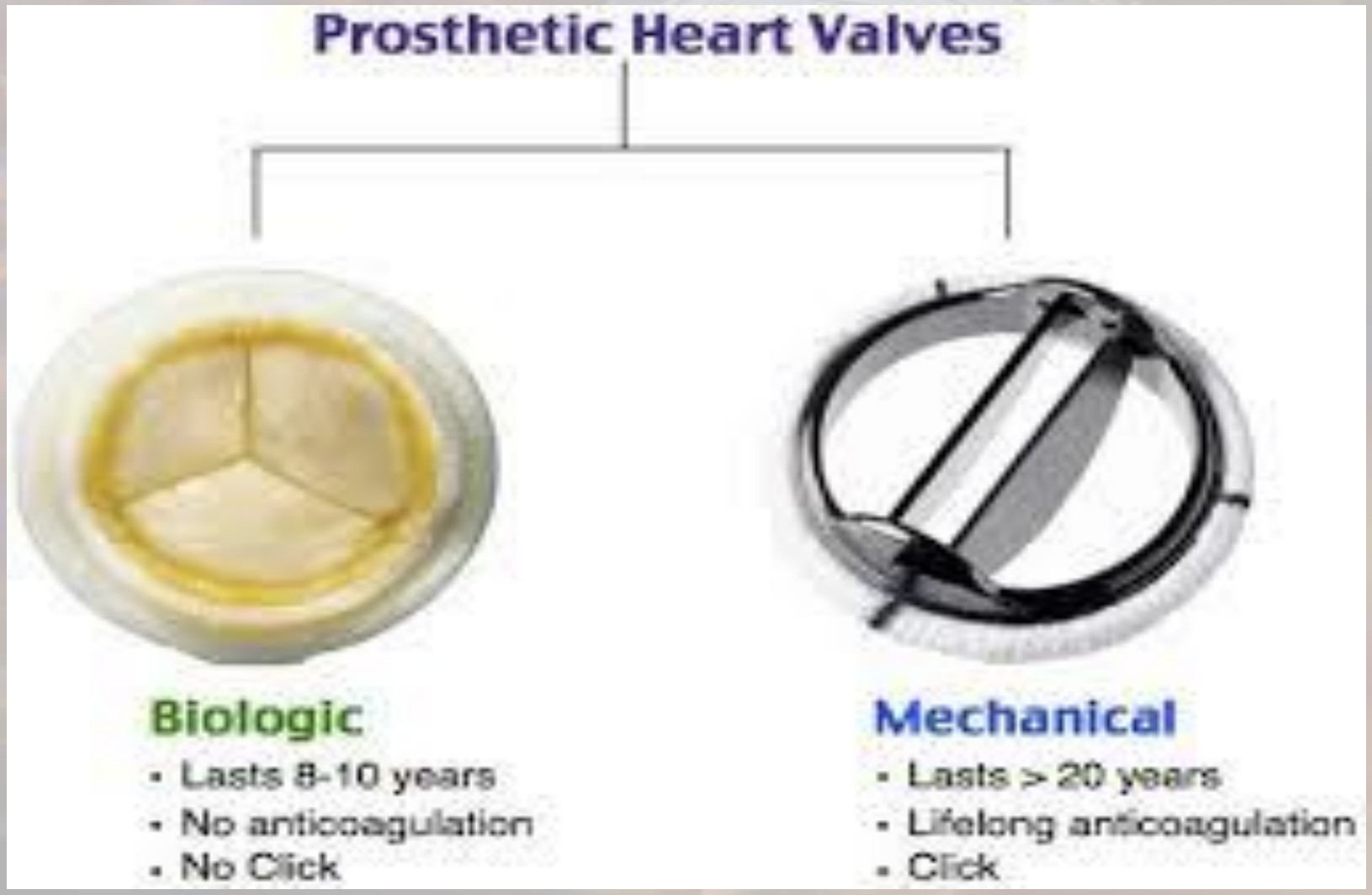


Mitral Stenosis

Mitral Regurgitation



Valvular Prostheses



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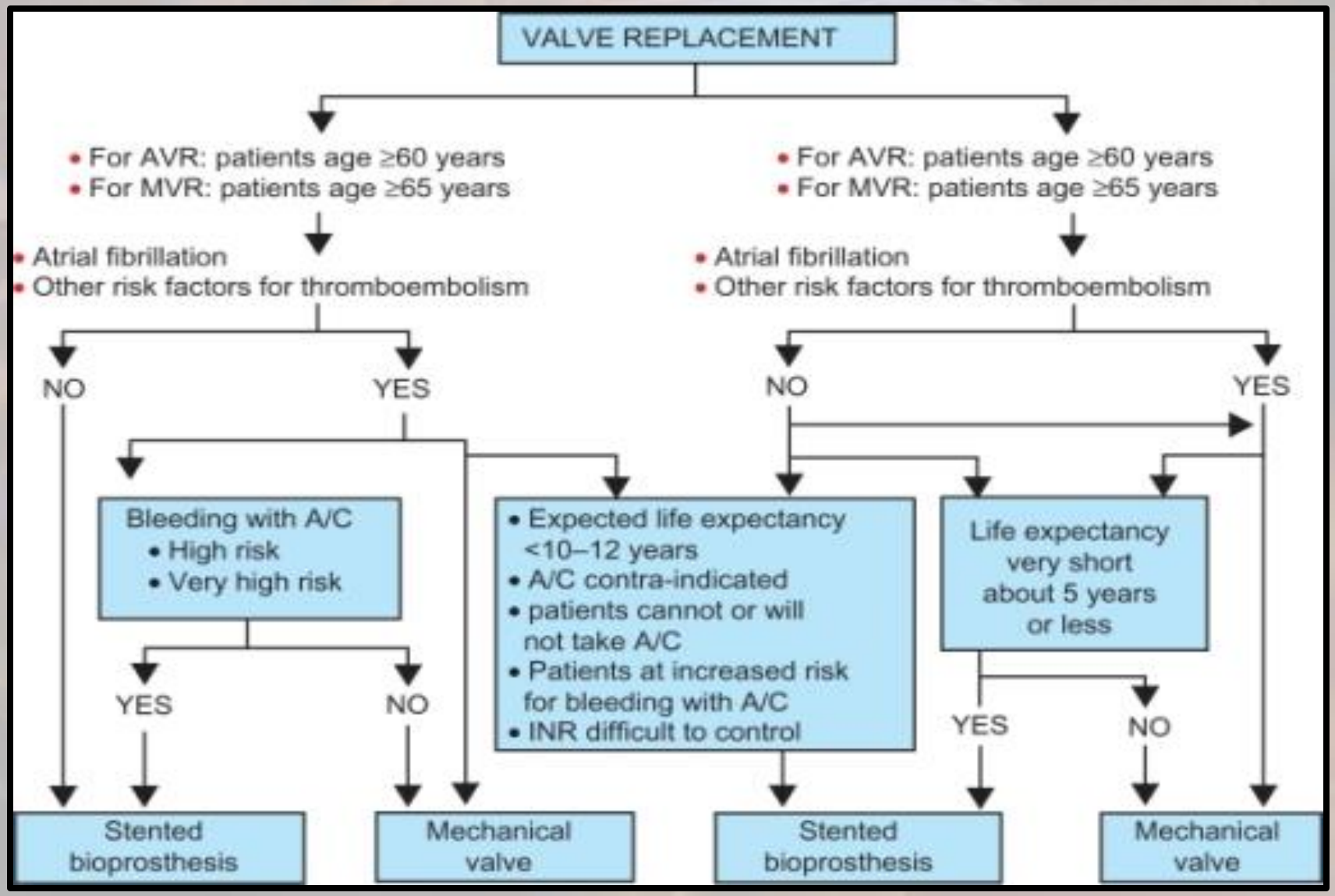
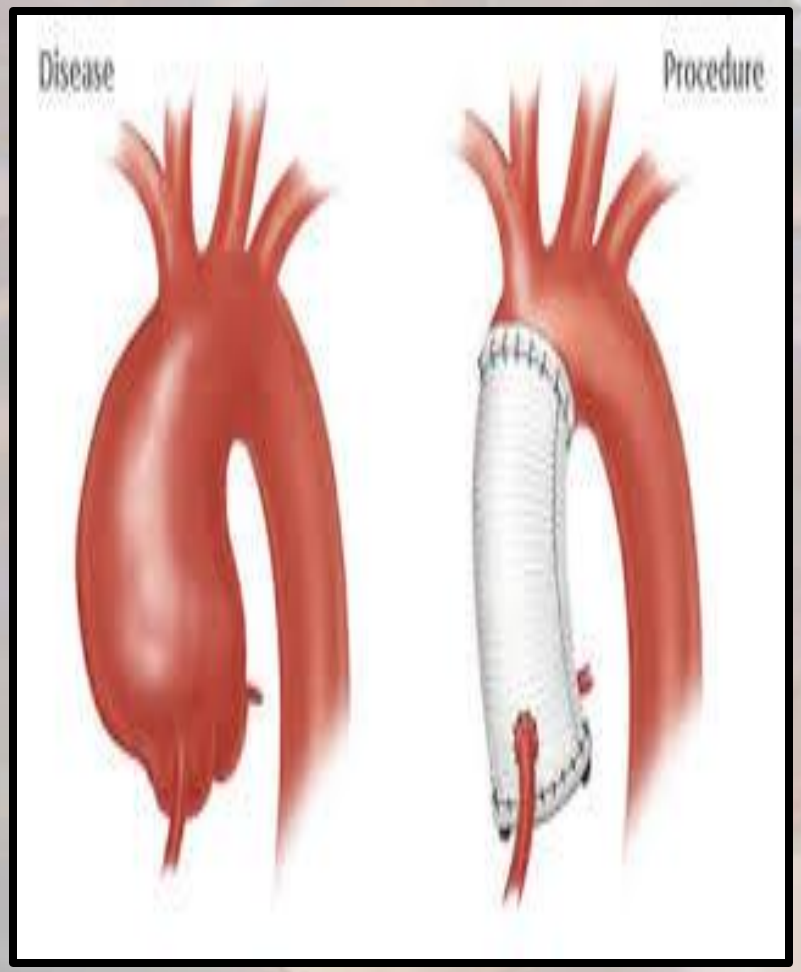
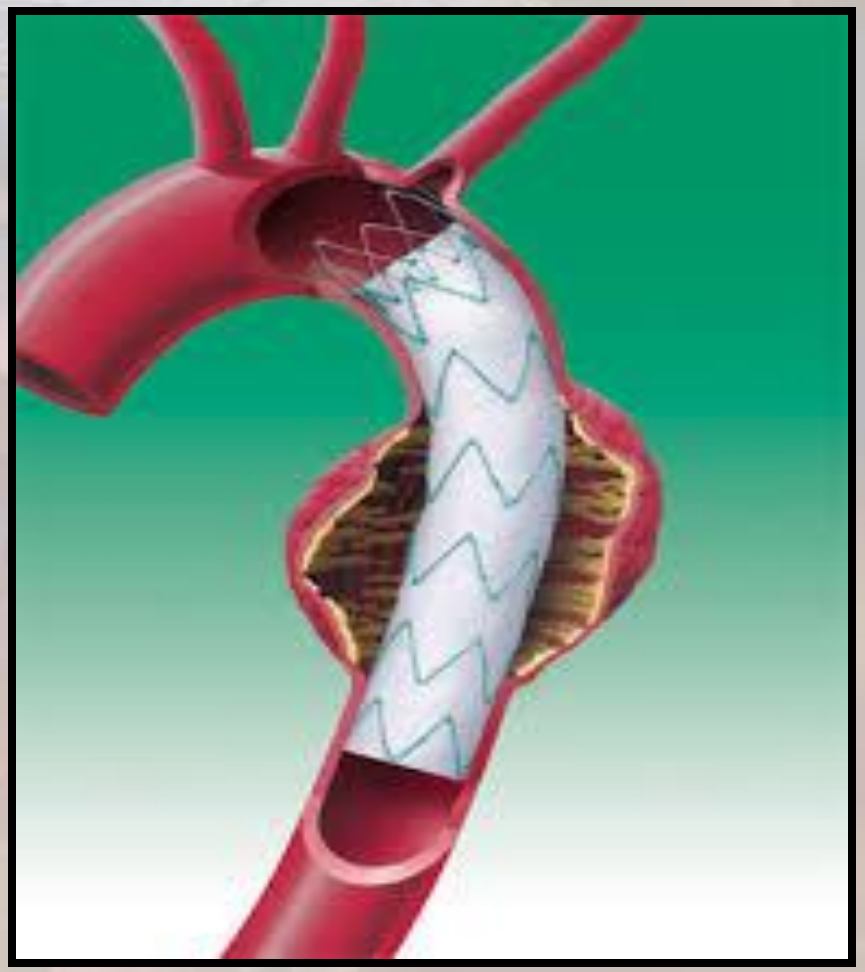
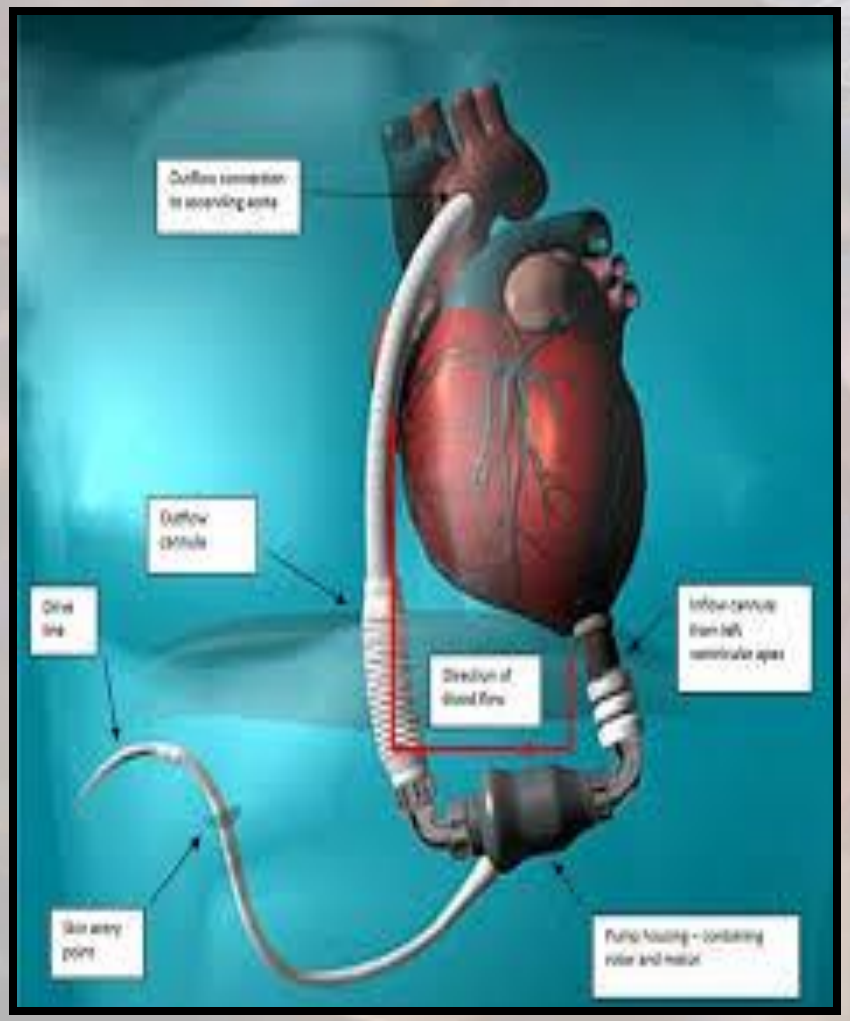


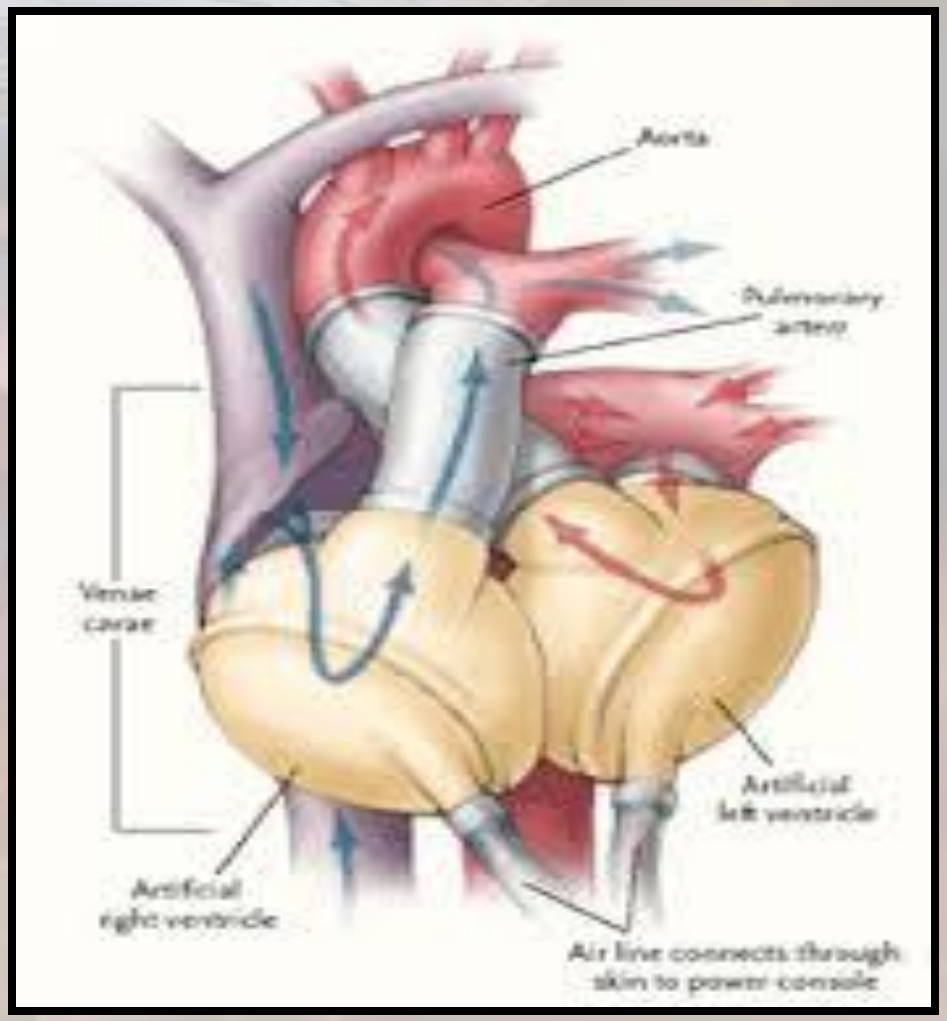
Aortic Surgery



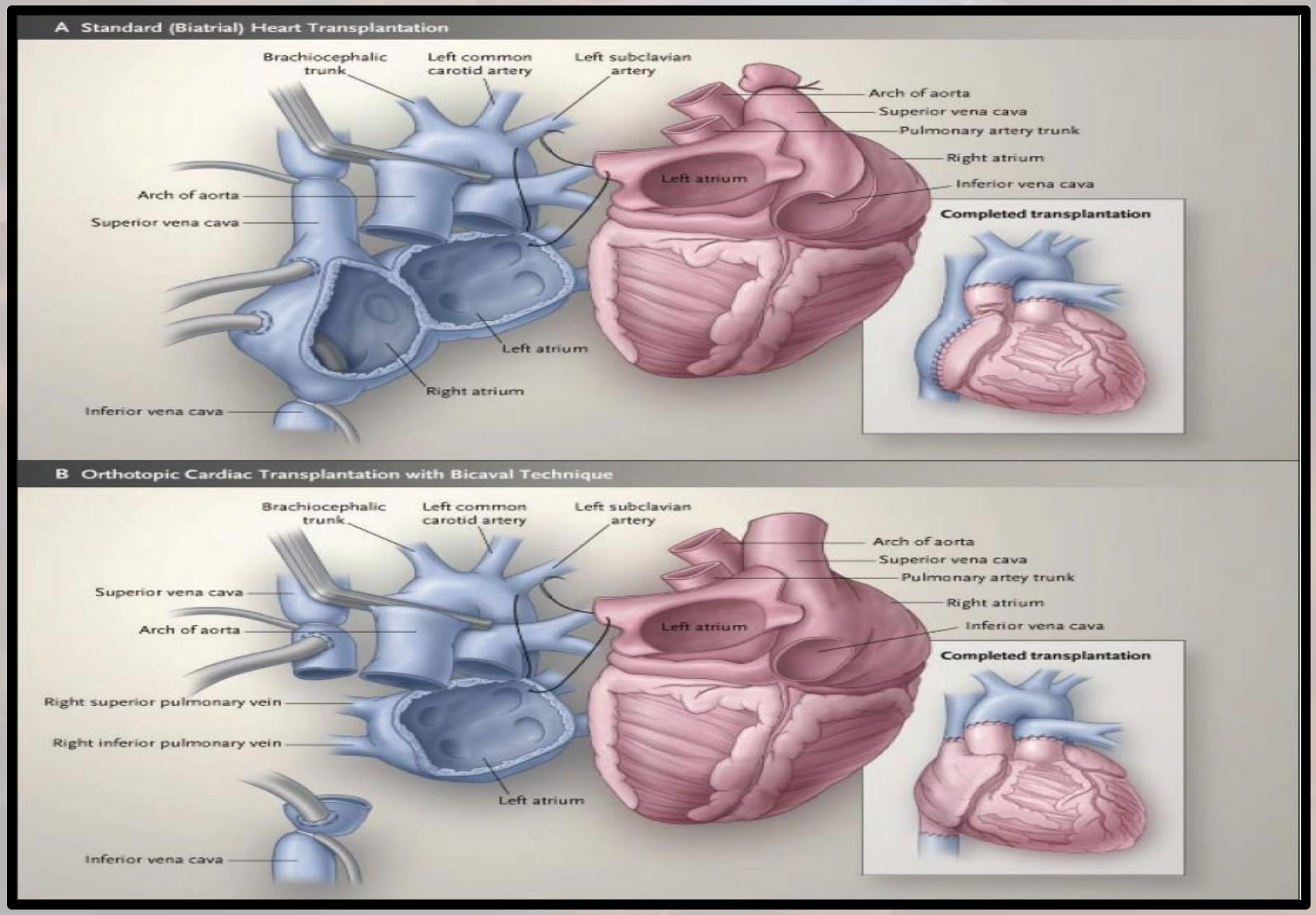


Heart Failure

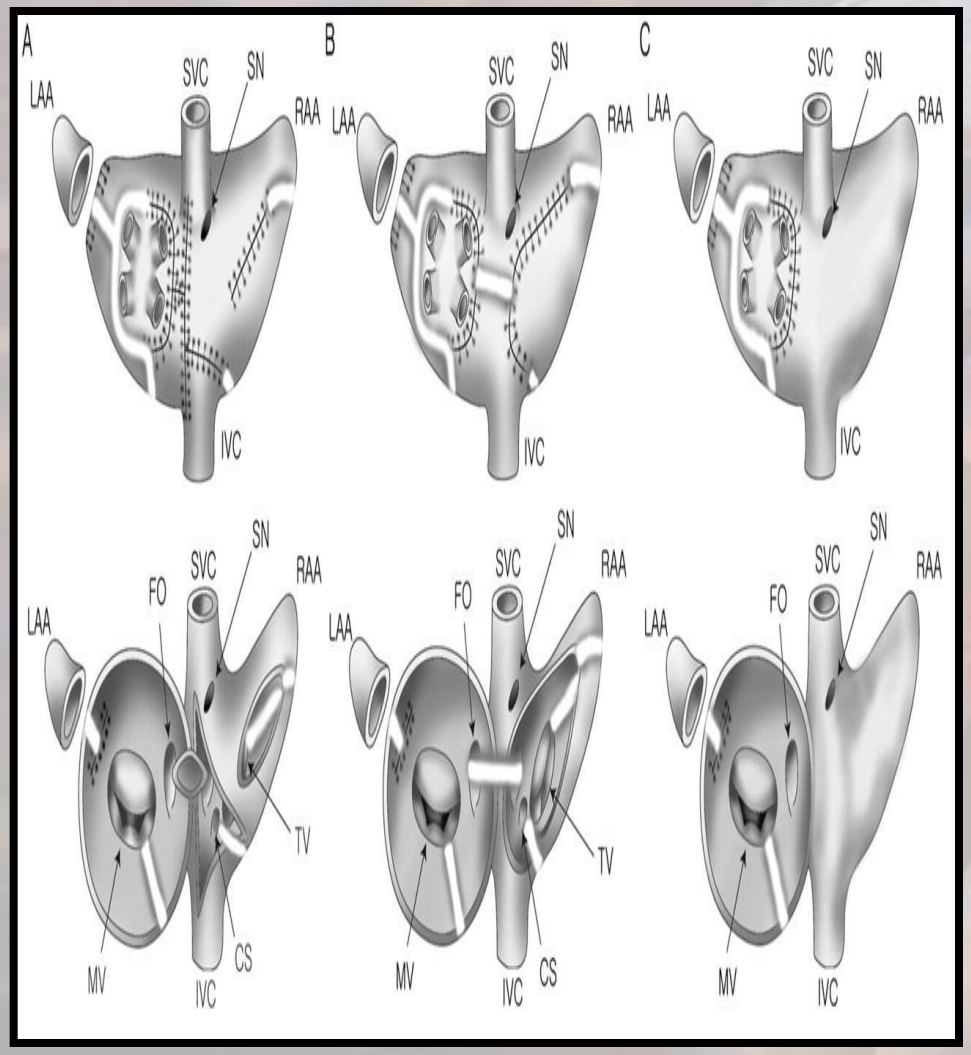


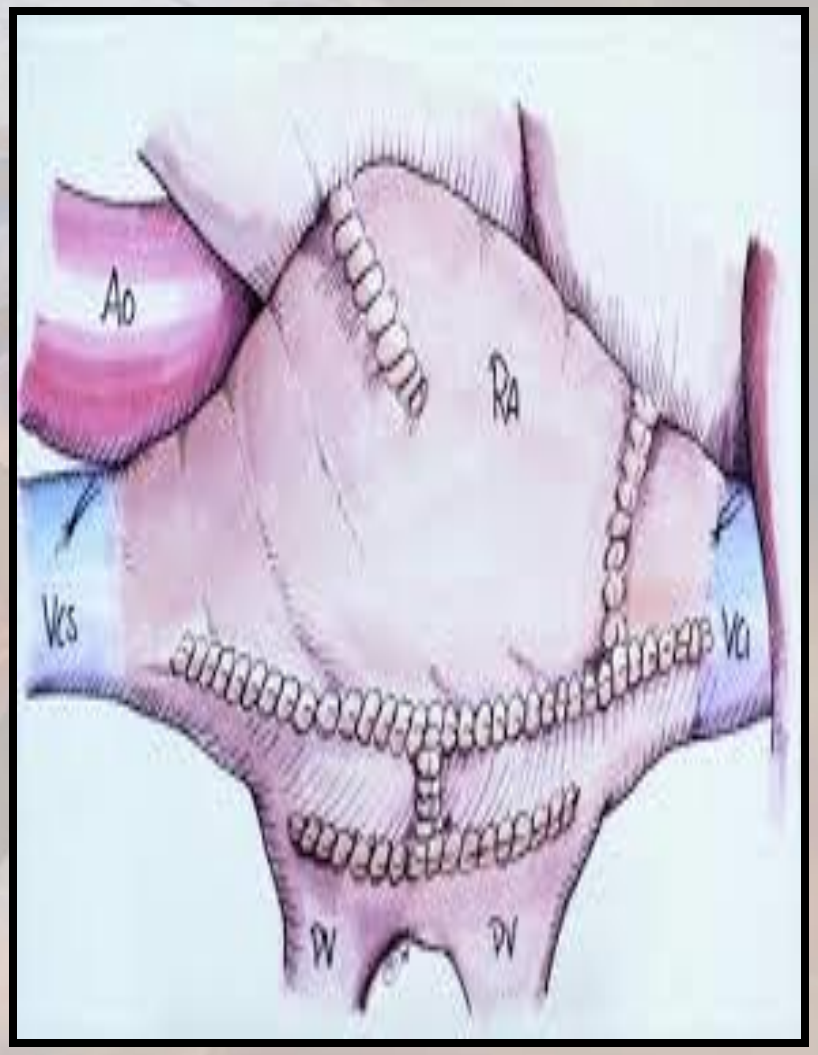


Heart Failure

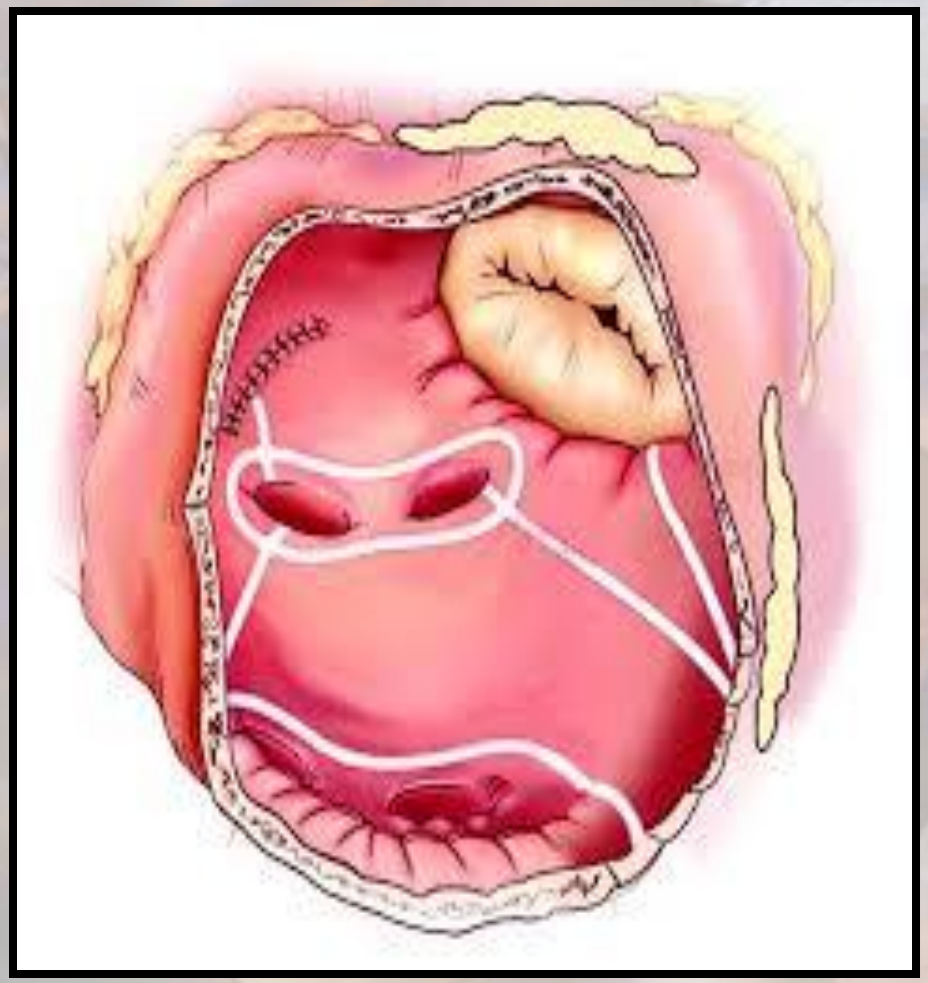


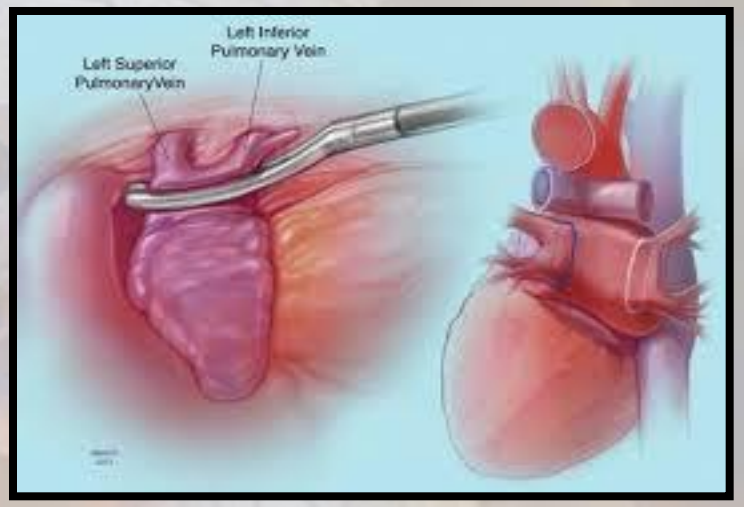
Arrhythmia Surgery

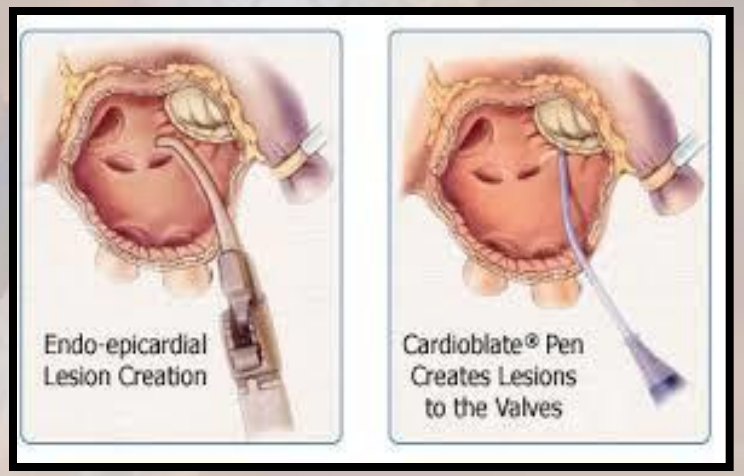


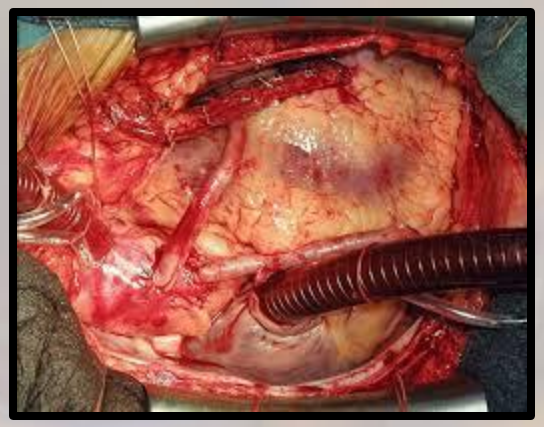
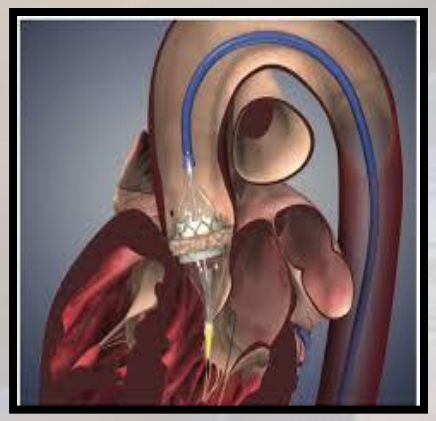
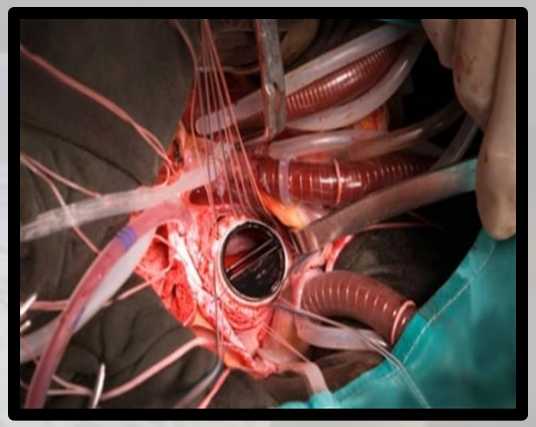


Arrhythmia Surgery







Thank You