

Sinagoghè “Glaukias”

Update in Imaging

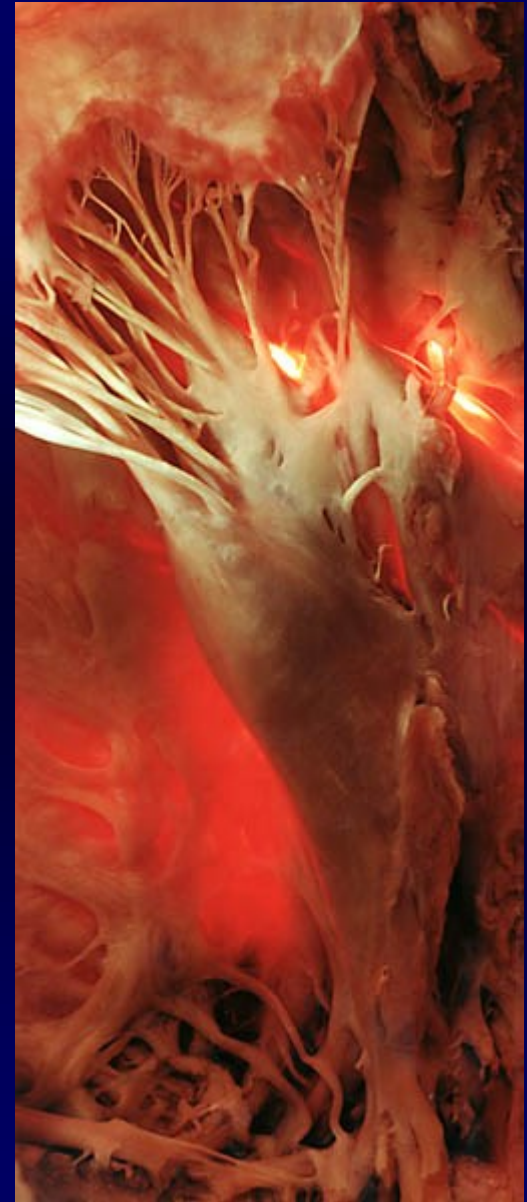
**Chirurgia valvolare:
Quali nuovi dati deve
trasmettere il Clinico al
Chirurgo**

G.Casolo

Dipartimento Cardiologico

Ospedale di Careggi

Firenze



Panorama attuale della Chirurgia Cardiaca

- Riduzione dell'etiologia reumatica
- Aumento patologia degenerativa
- Aumento dell'età della popolazione
- Migliorata sopravvivenza Chirurgia Cardiaca
- Correzione in aumento
- Sostituzione in diminuzione

Valvola mitrale: Insufficienza

Eziologia

Patologia dei lembi

Degenerazione mixomatosa

Malattia reumatica

Endocarditi

Cleft congeniti

Patologia delle corde

Infiammatoria

Traumatica

Degenerativa

Patologia dell'anulus

Calcificazioni/ascessi

Malattia dei papillari

Malattia coronarica

HCOM

Patologia infiltrativa

**Dilatazione del ventricolo
sinistro**

Traumi

Valvola mitrale: Insufficienza

Serie Chirurgiche

Prolasso mitralico 20-70%

Ischemica 13-40%

Reumatica 3-40%

Endocardite 10-12%

Mitral Regurgitation Natural History: **High Morbidity**



Valvola mitrale: Insufficienza

Indicazioni alla Chirurgia AHA/ACC

Paziente sintomatico

Asintomatico con:

**Disfunzione ventricolare
Fibrillazione atriale
Ipertensione polmonare
Valvola riparabile
TV ricorrente**

NYHA Class III-IV

EF <60%

EF >60% in diminuzione

LVIDs >45mm

ESVI >50cc/m²

Valvola Mitrale: Riparazione vs Sostituzione

Sostituzione

Mortalità 2-7%

Anticoagulazione

Ridotta LVEF

Degenerazione protesica

Disfunzione protesi/trombosi

Riparazione

Mortalità 2-3%

Niente anticoagulazione

Conservata LVEF

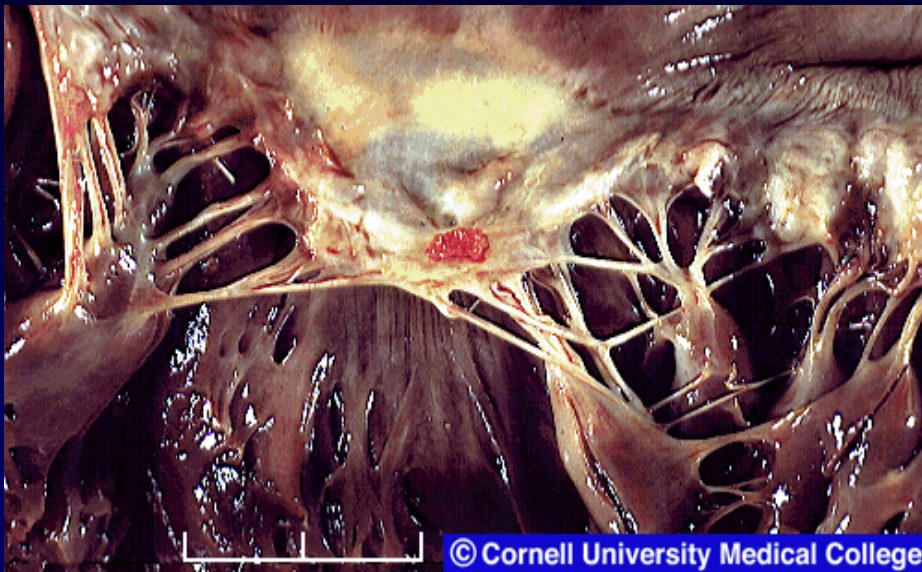
**Riparazione fattibile nel
70-90% dei casi**

Sostituzione valvolare

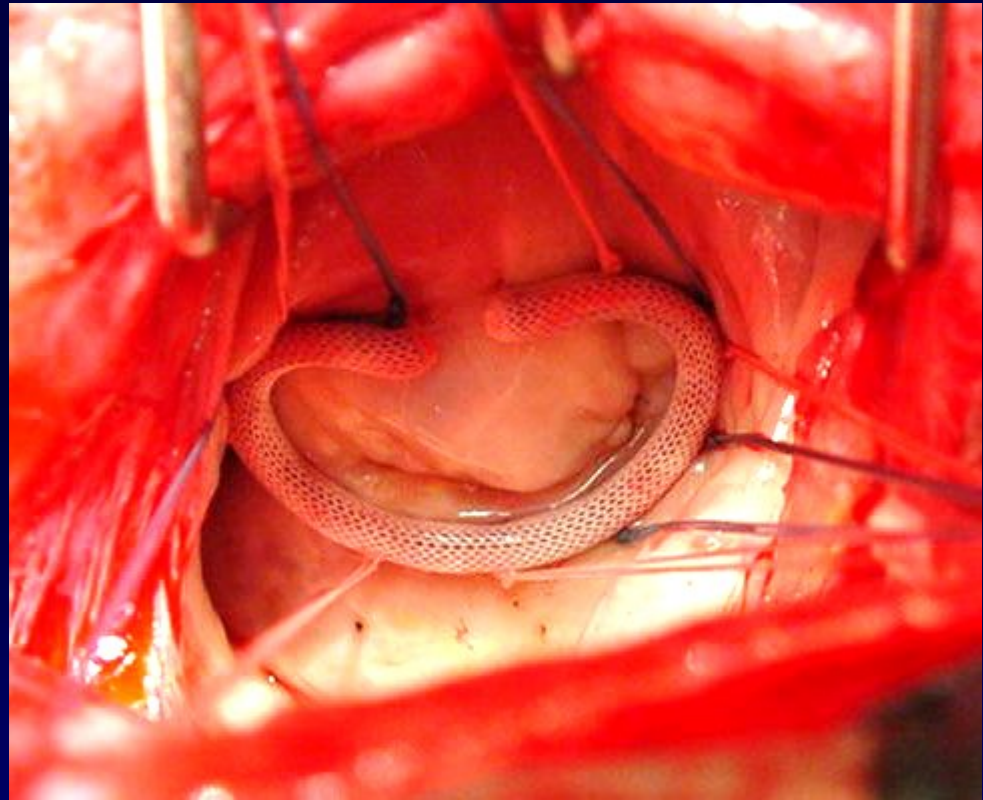
- Patologia presente
- Gravità della malattia
- Clinica di accompagnamento
- Parametri strumentali
 - » Ecocardiografia
 - » Medicina Nucleare
 - » Angiografia
 - » Risonanza Magnetica

Parametri ecocardiografici

- Stato della valvola mitrale
- Dimensioni atrio e ventricolo sinistro
- Picco di velocità E
- Energia del flusso Doppler continuo
- Confronto di integrali di velocità del LVOT e transmitralico
- PISA combinato con M-mode
- Determinazione della pressione polmonare a riposo e da sforzo
- Volume rigurgitante, Frazione rigurgitante, ERO
- Larghezza del jet prossimale e Vena contracta
- Direzione del Flusso sistolico venoso polmonare



Annuloplastica riduttiva



Annuloplastica riduttiva

SEPTUM

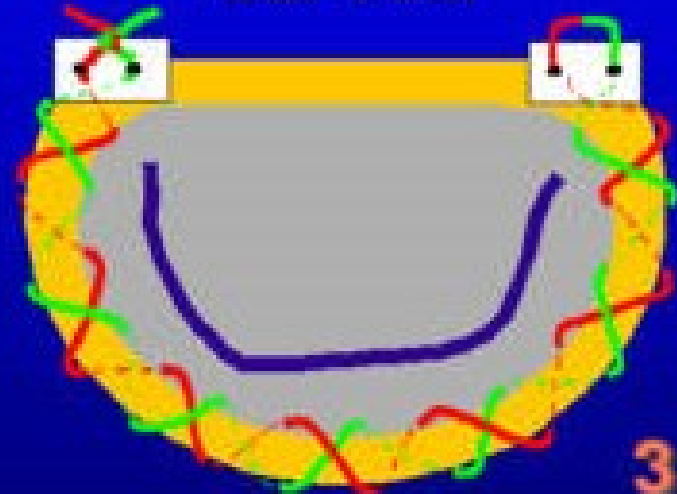


740 \$

A. CARPENTIER





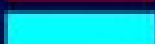
SEPTUM

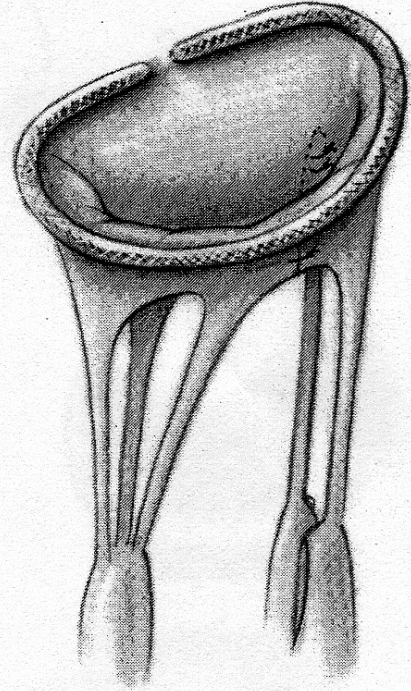
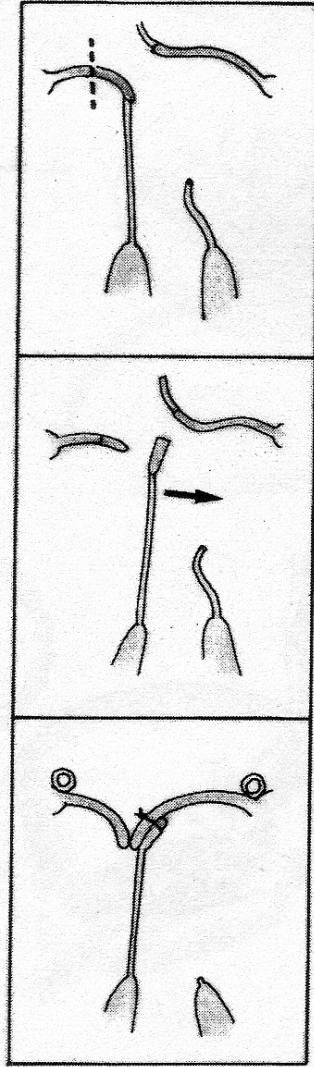


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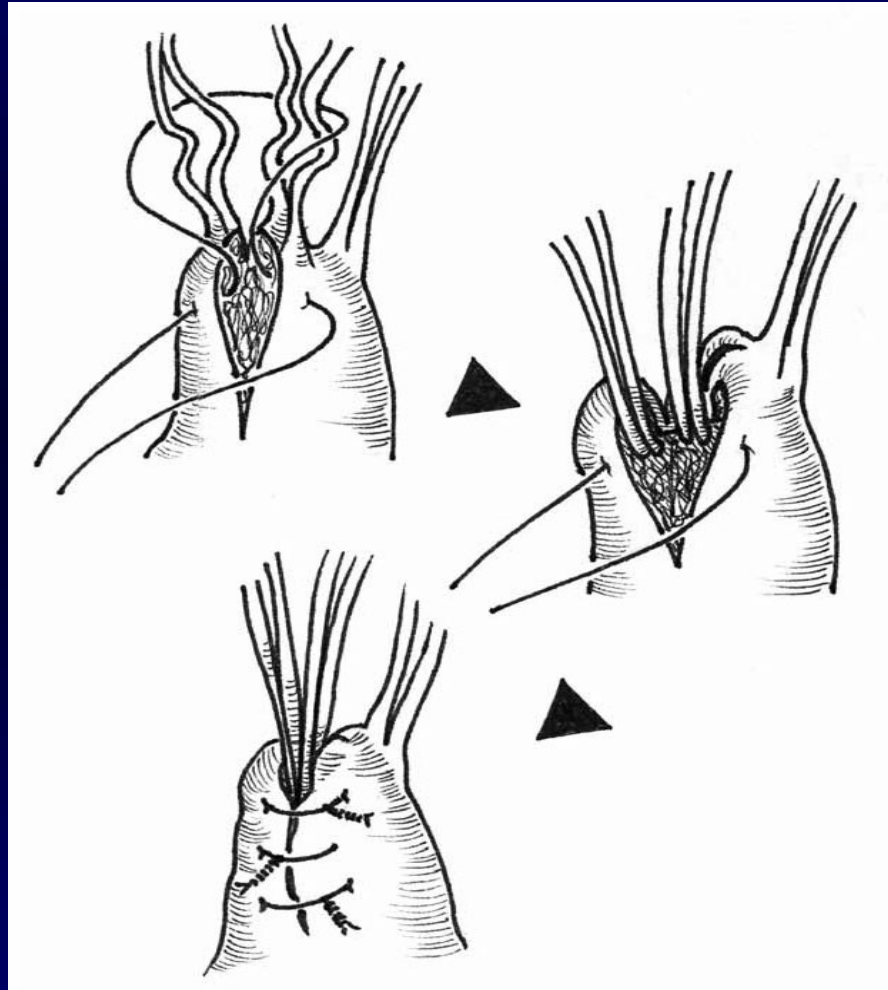
N. RADOVANOVIĆ



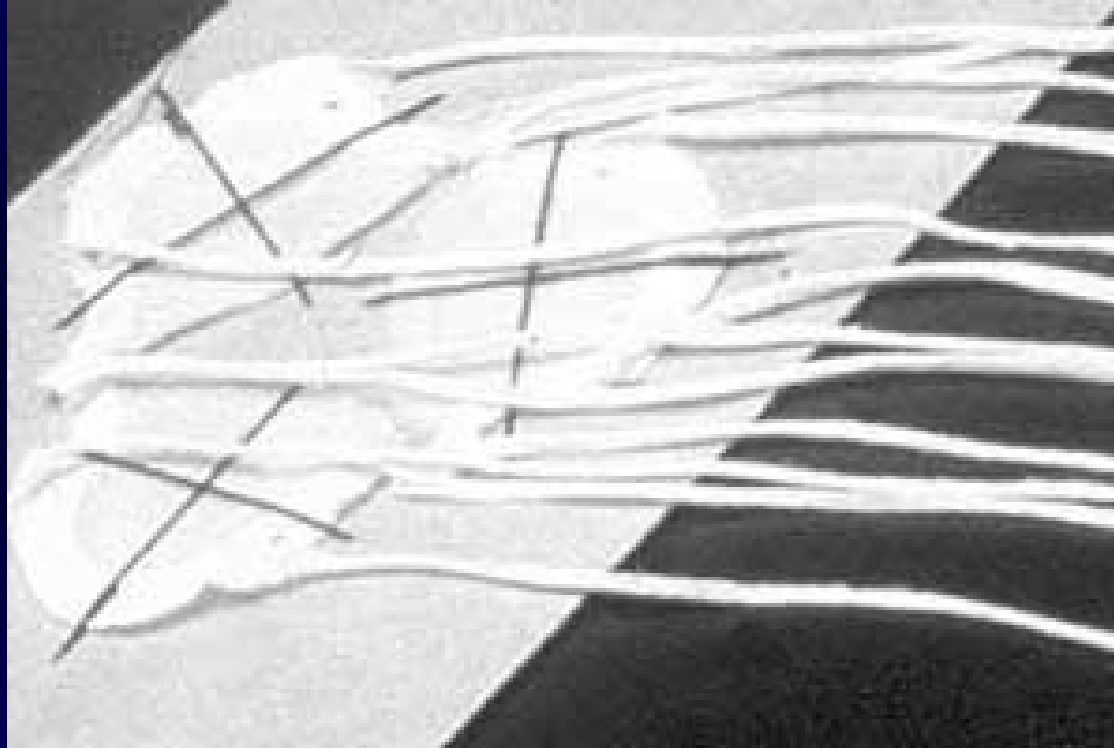
-  REDUCTION
-  REMODULATION
-  RIGIDITY

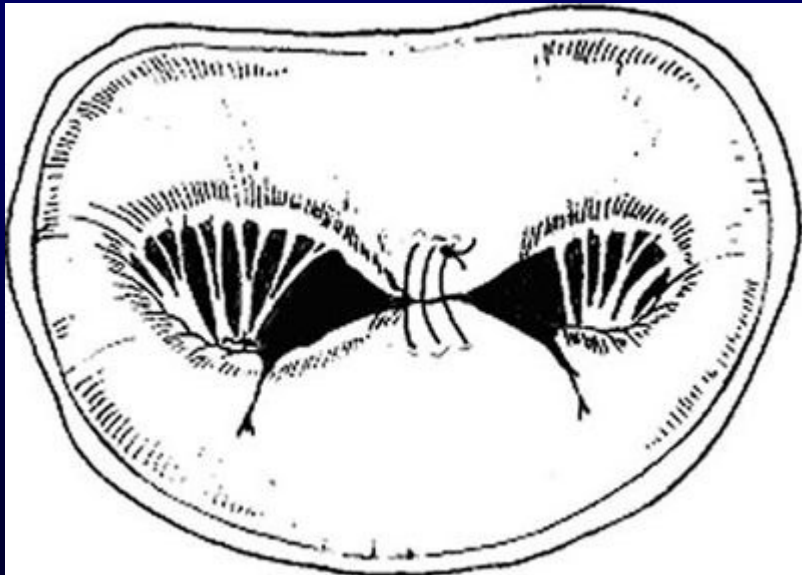


Reimpianto cordale



Artificial Chordae





1: 1.6
R 47
NOV 02
11:37:40
PROC 2/0/E/F3
RVH

UCR CR ??:1

NO JM
GAIN 55
COMP 75
120HZ

0:17.35

SCM

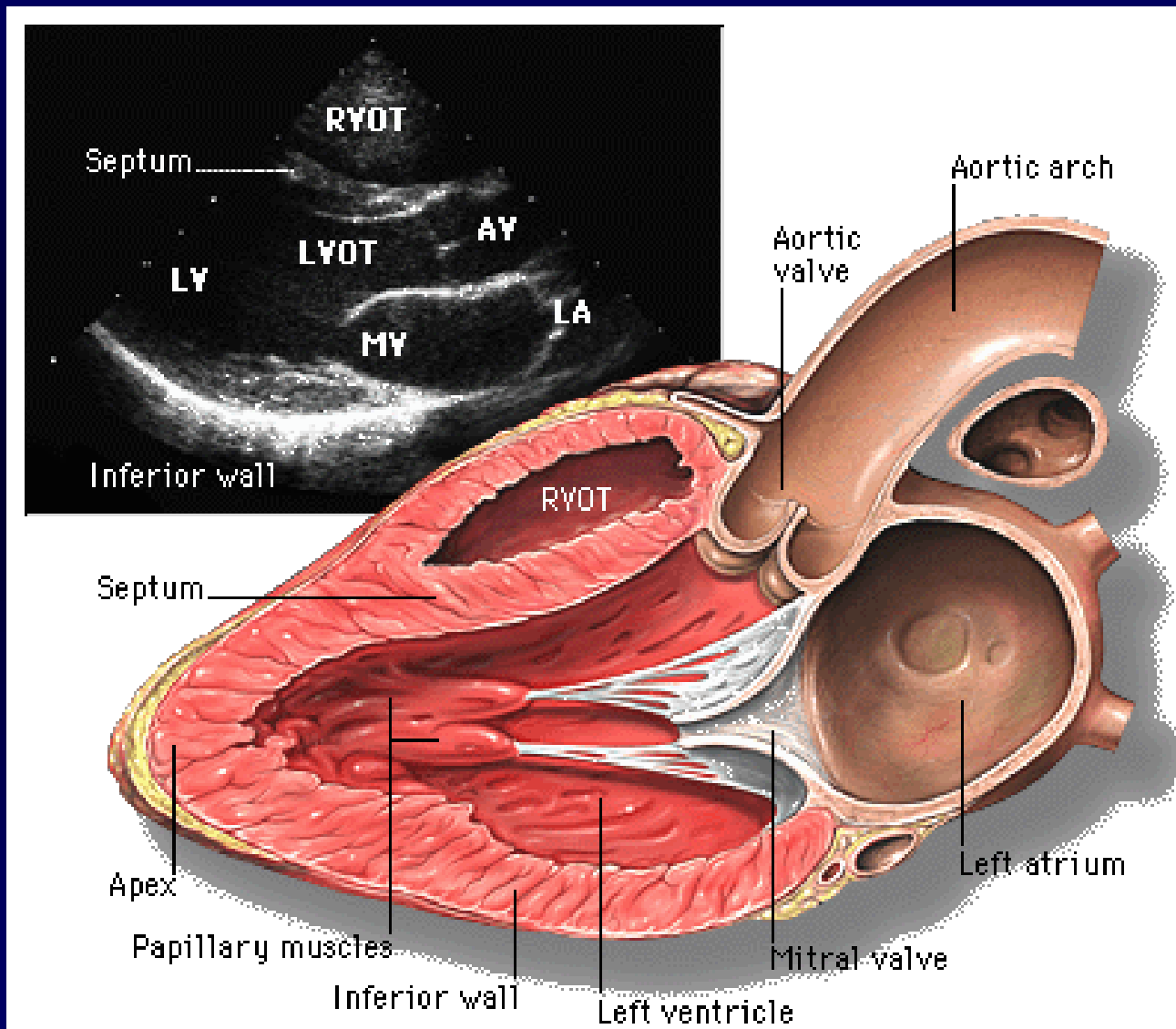
[hp]

P A
S 12

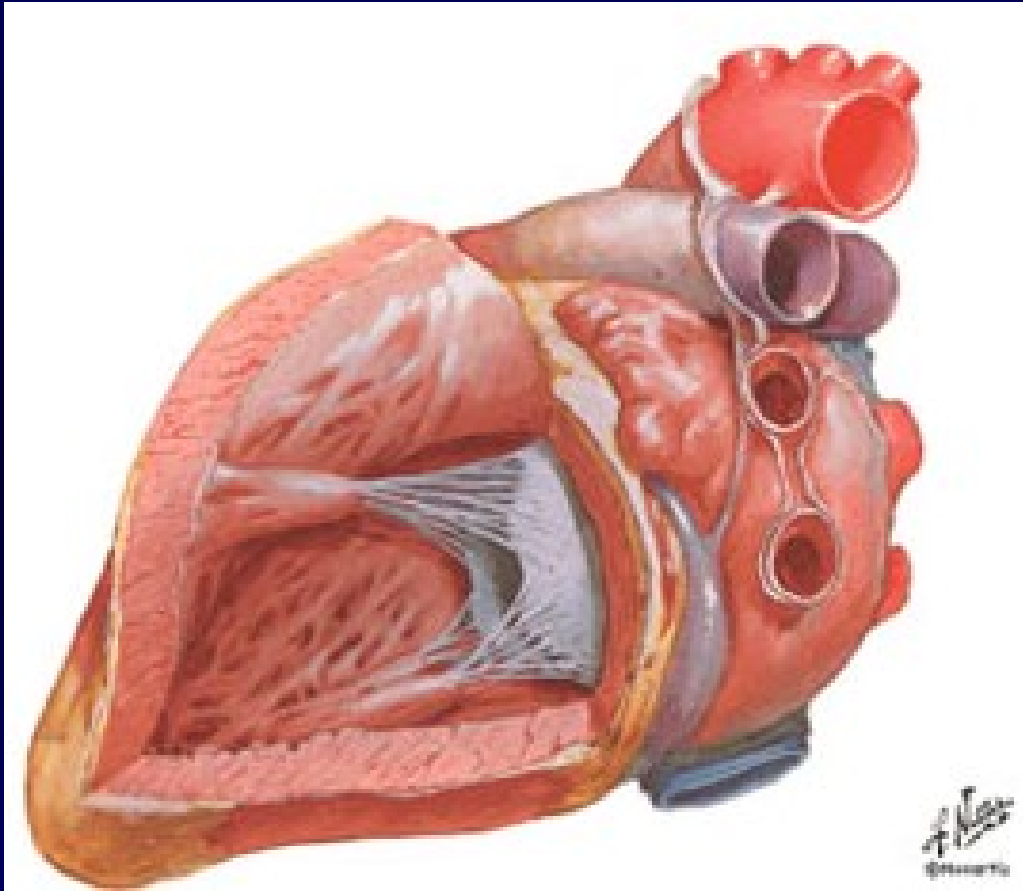
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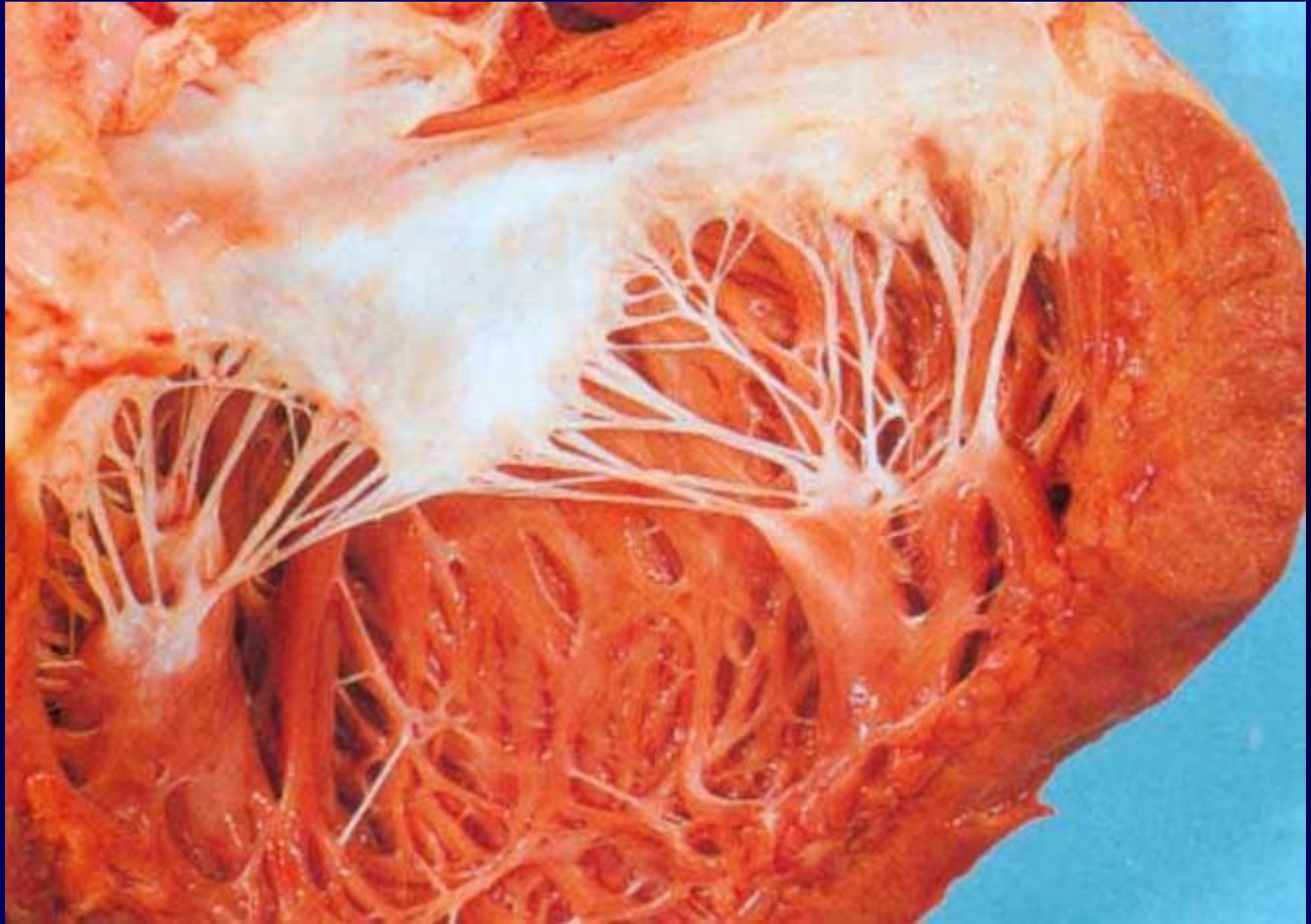


Valvola mitrale



Valvola mitrale





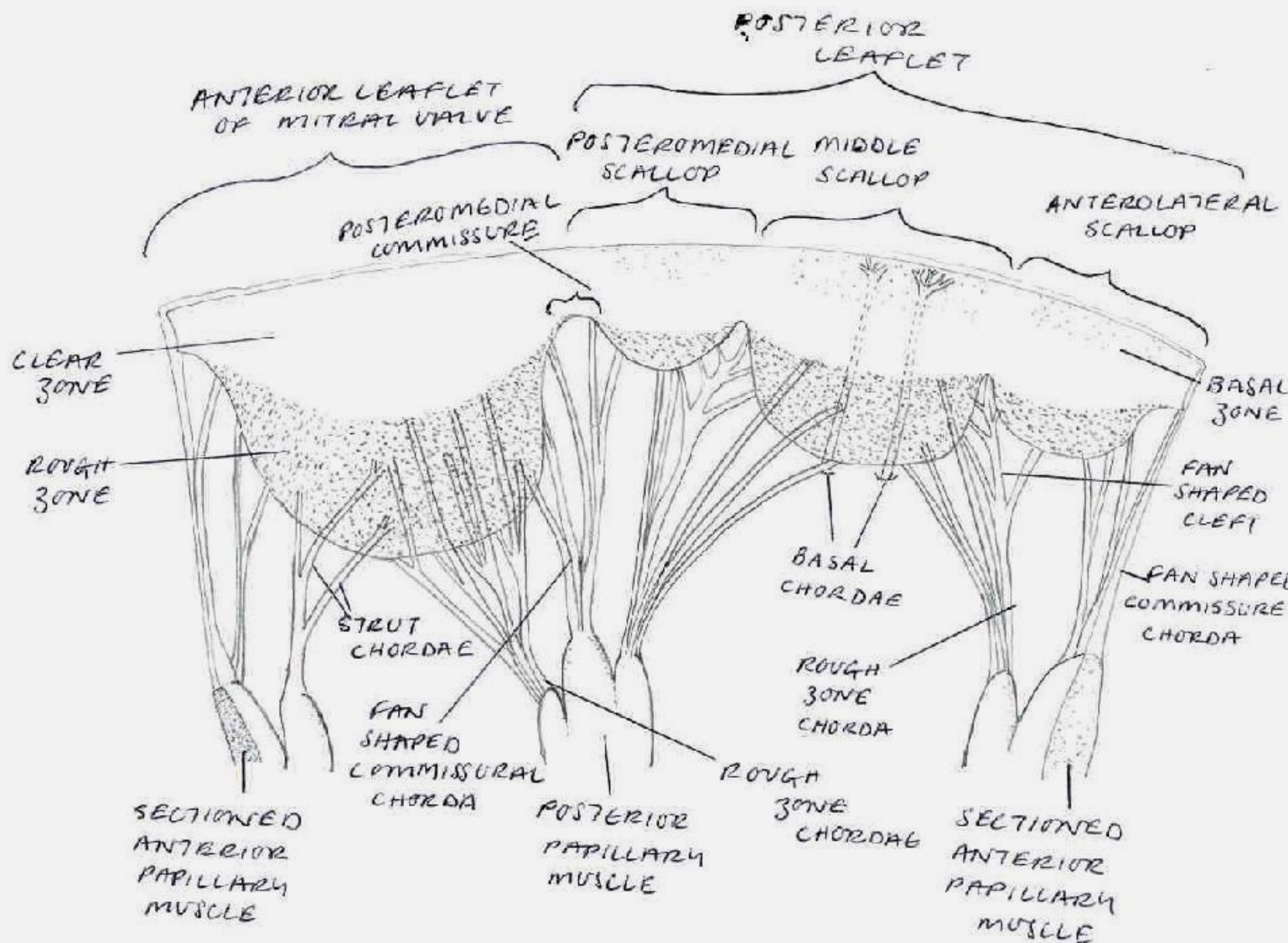
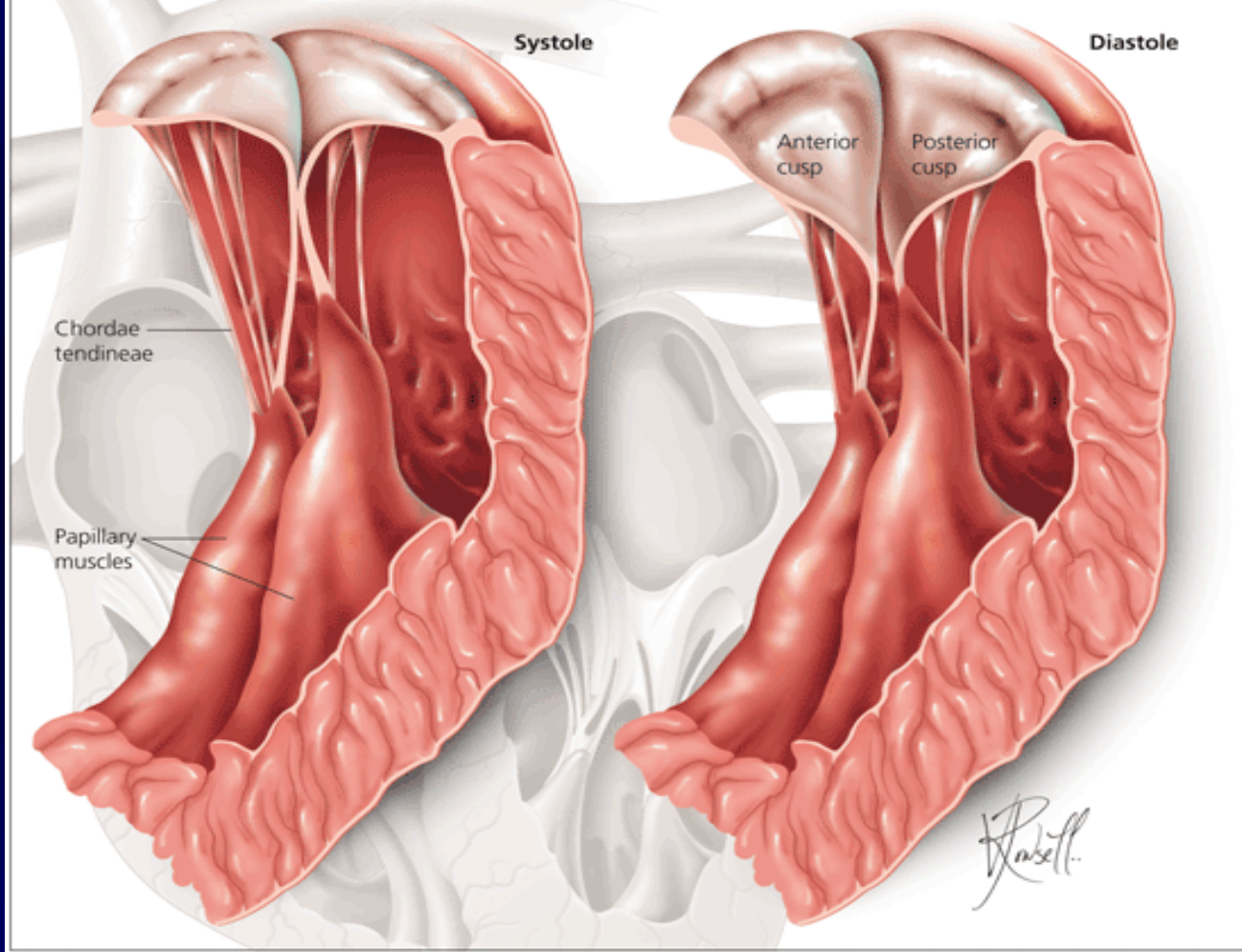
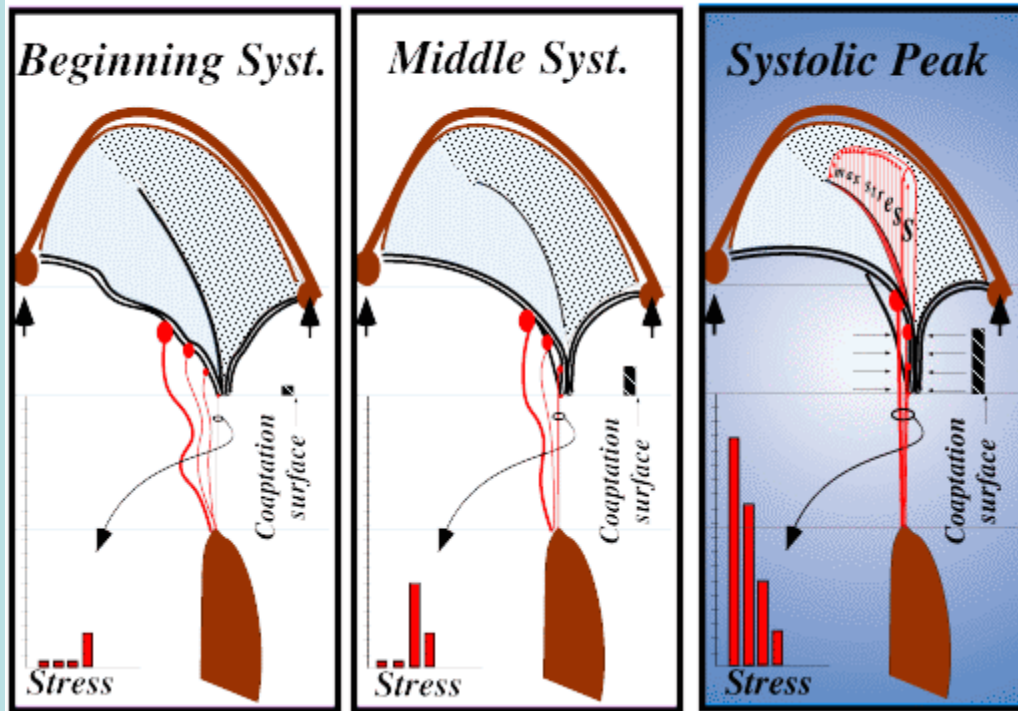


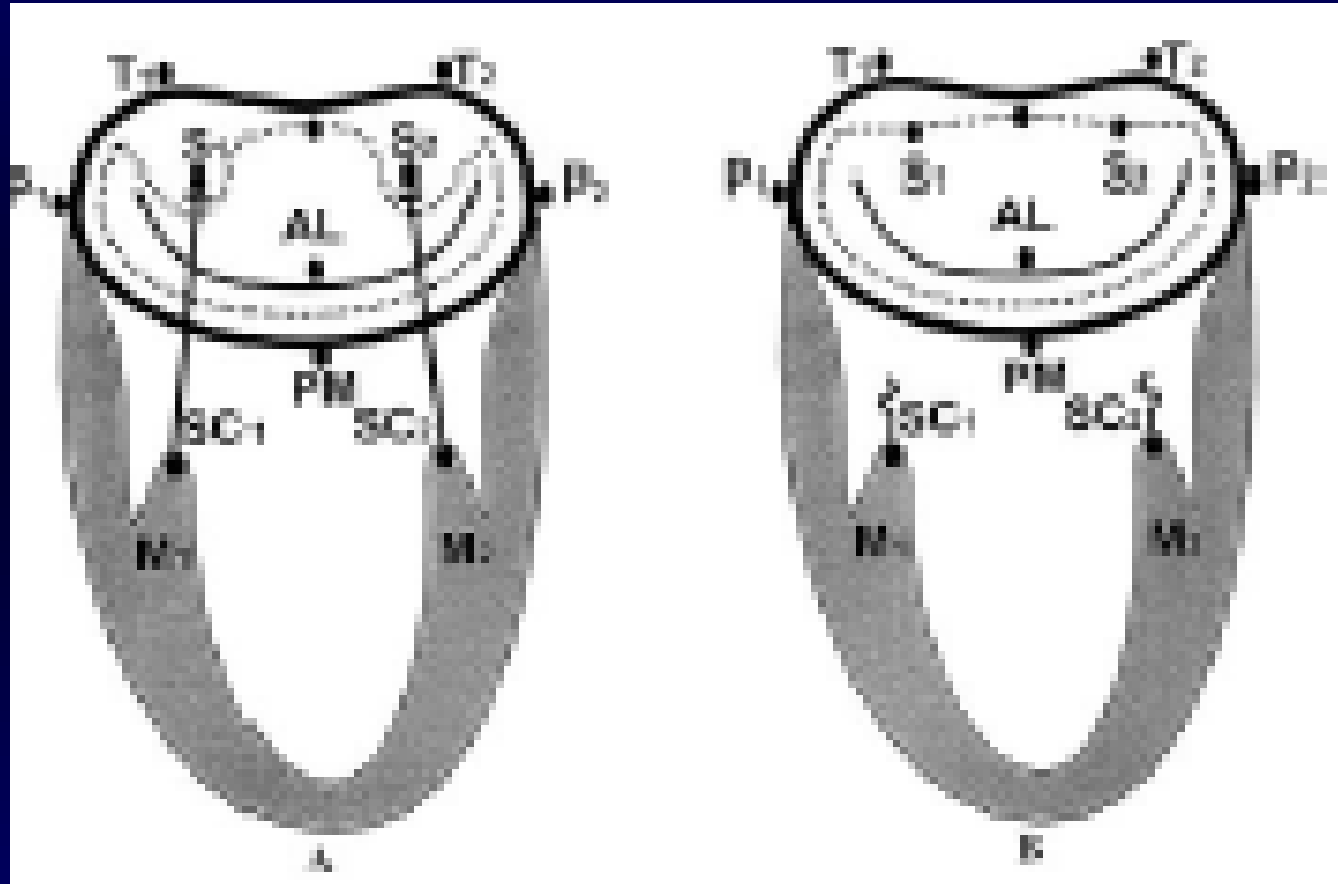


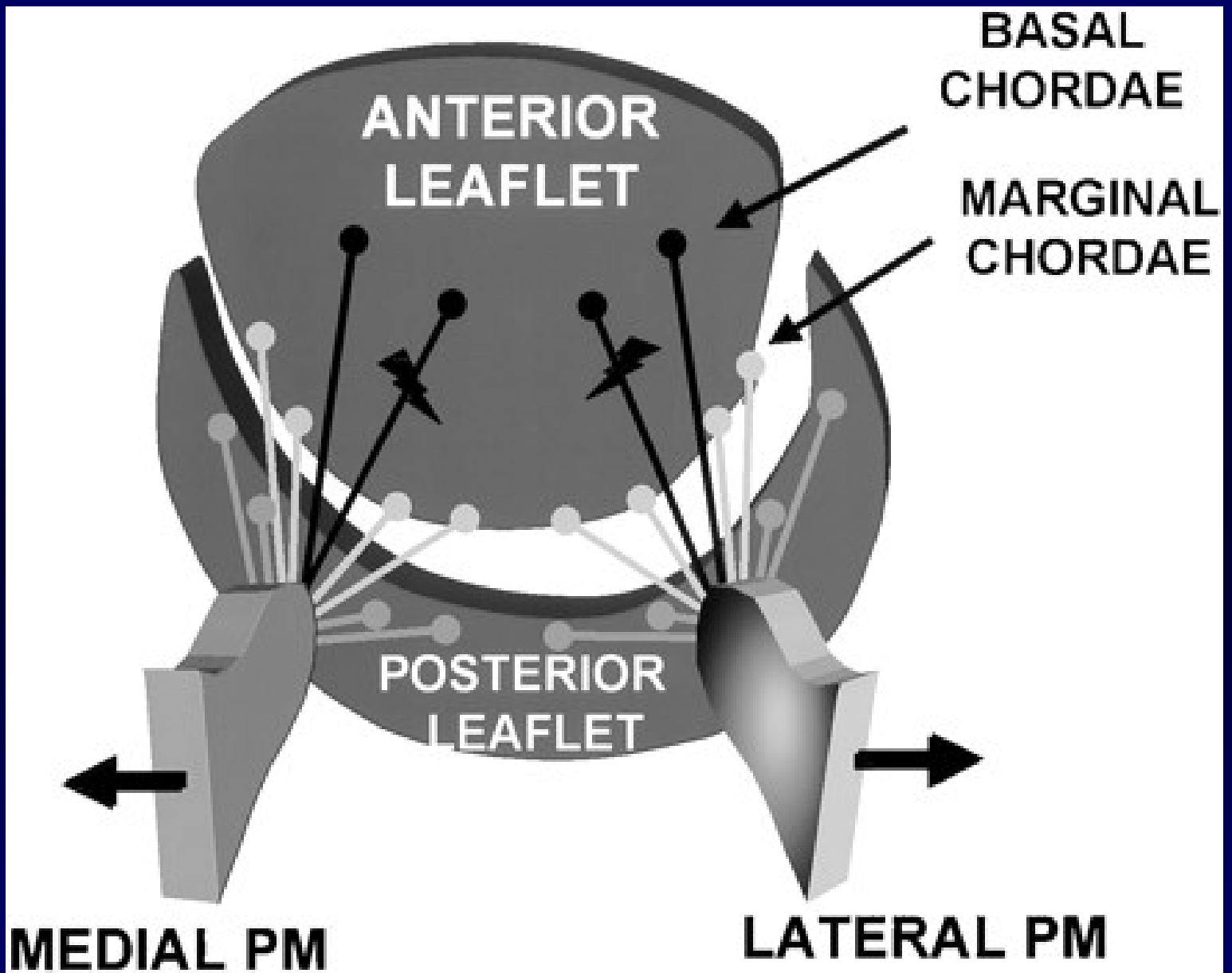
Figure 1. Components of the Mitral Apparatus

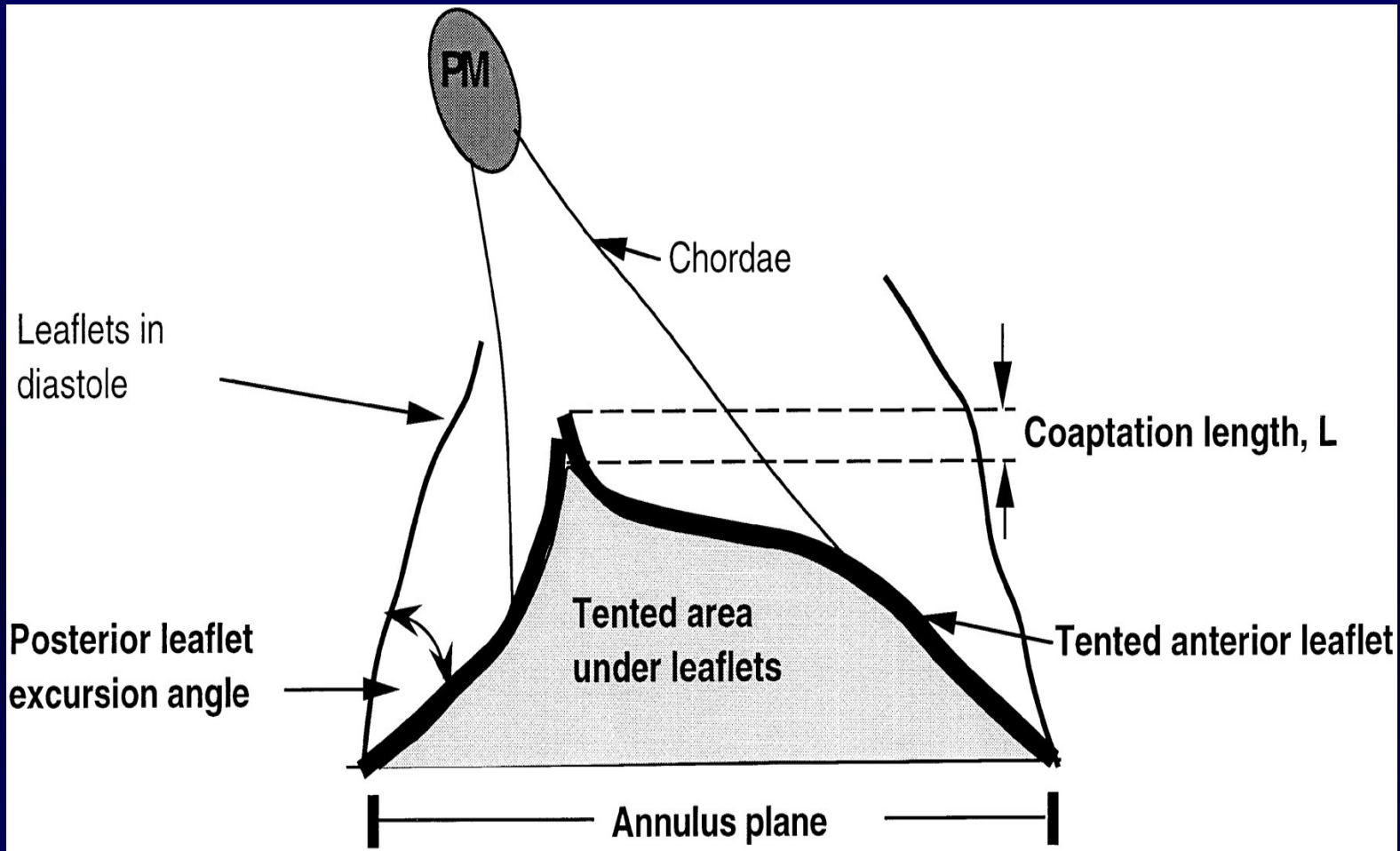


Normal valve

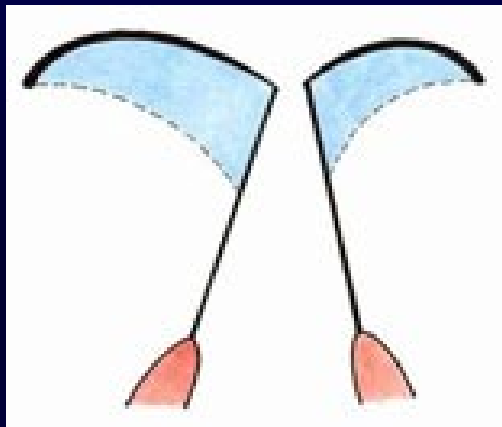




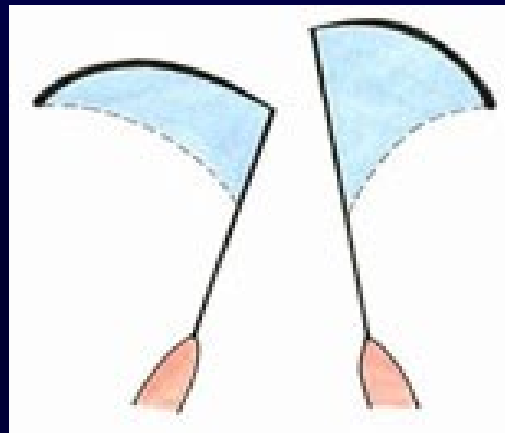




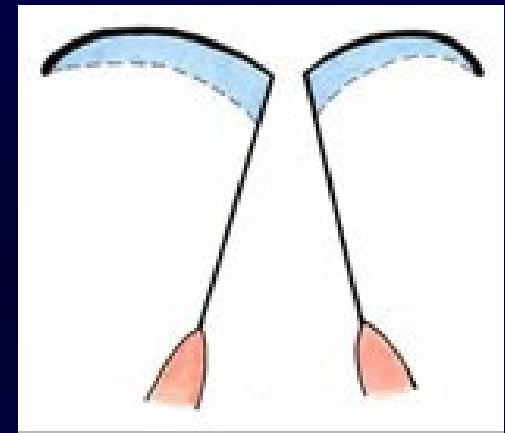
Classificazione di Carpentier



Tipo I



Tipo II



Tipo III

Classificazione di Carpentier



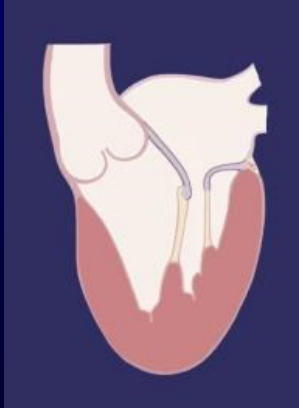
Tipo 1



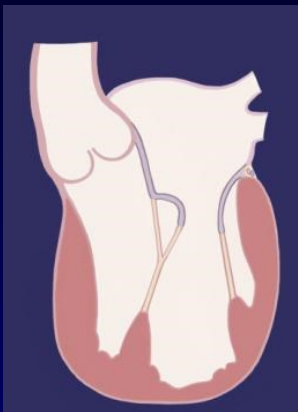
Tipo 2



Classificazione di Carpentier



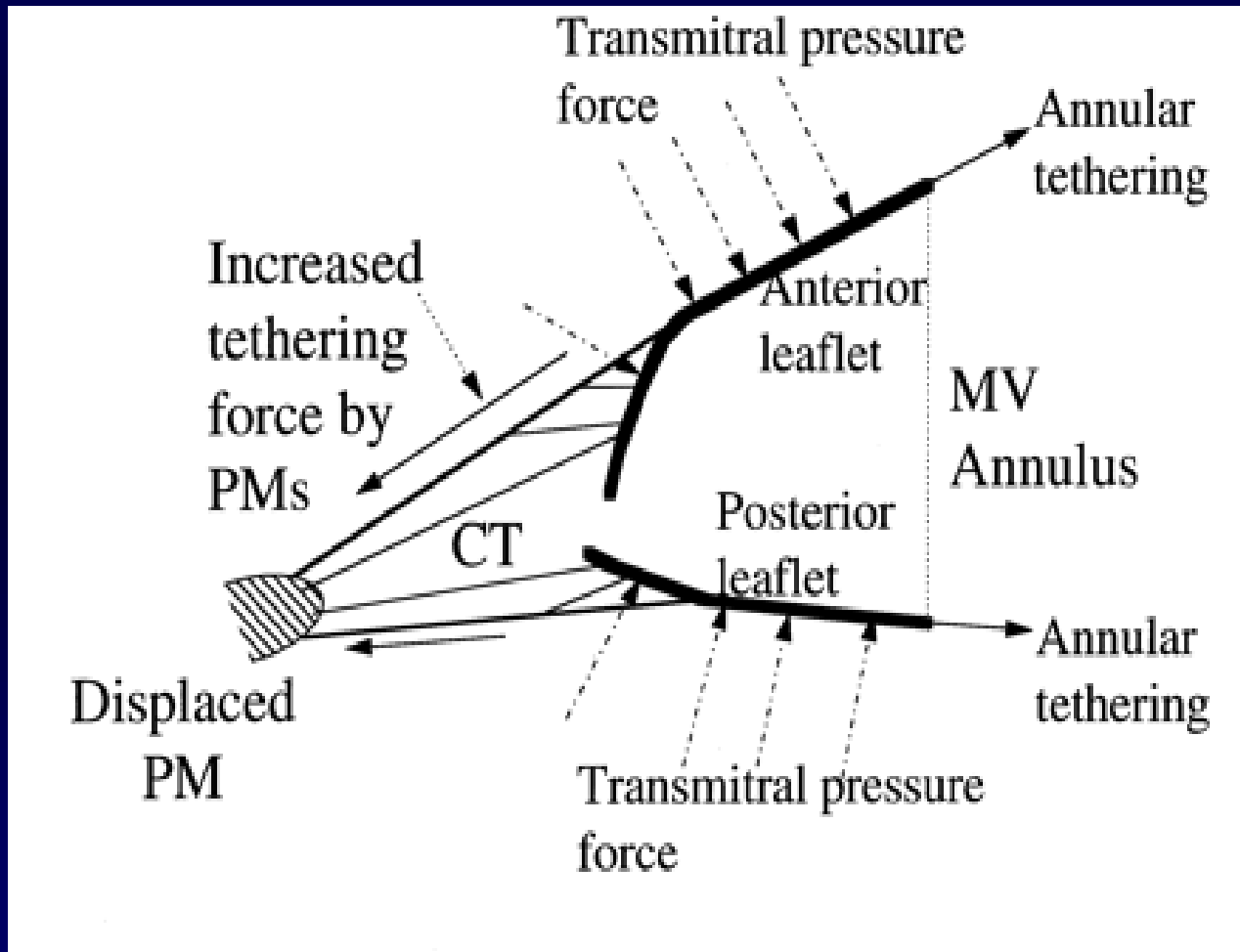
Tipo 3a



Tipo 3b

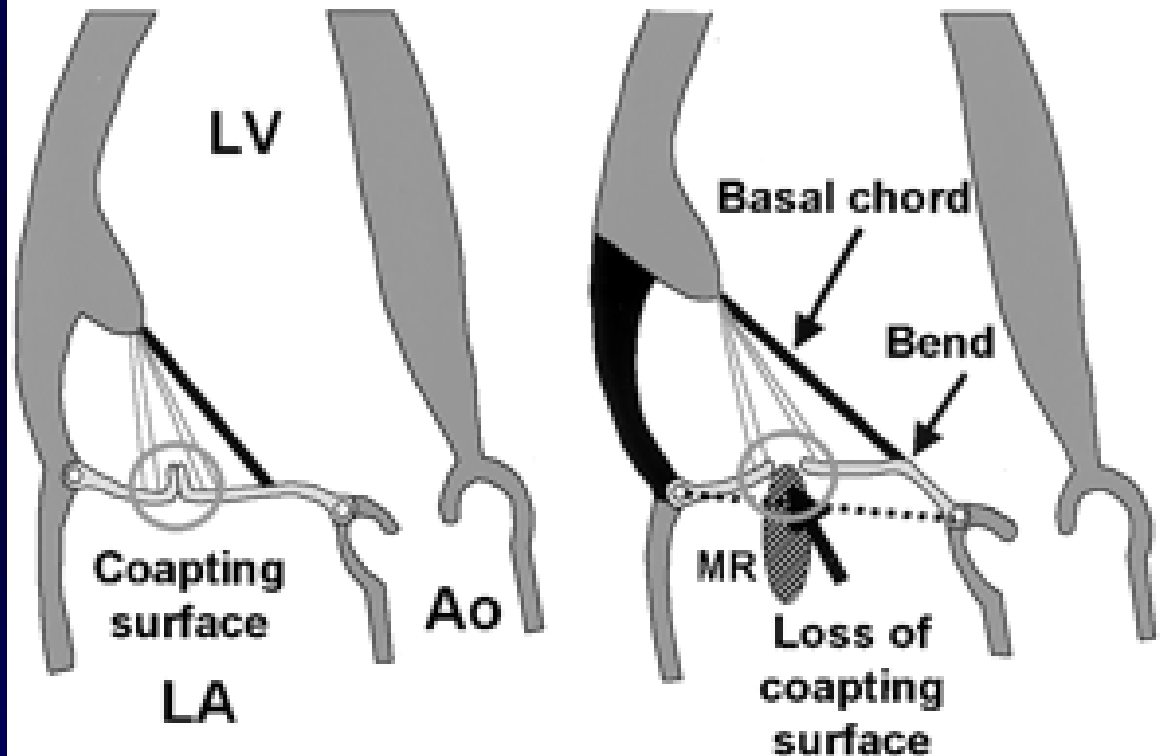


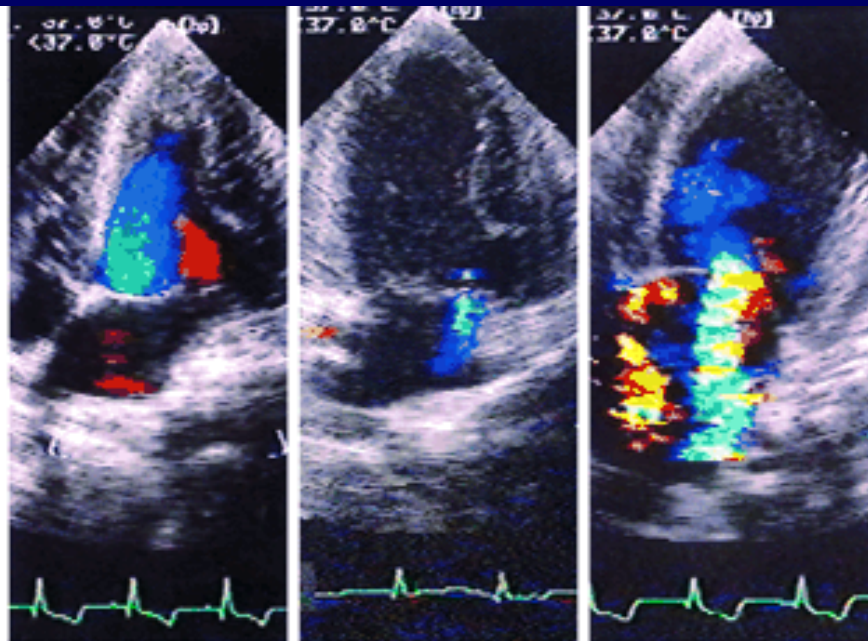
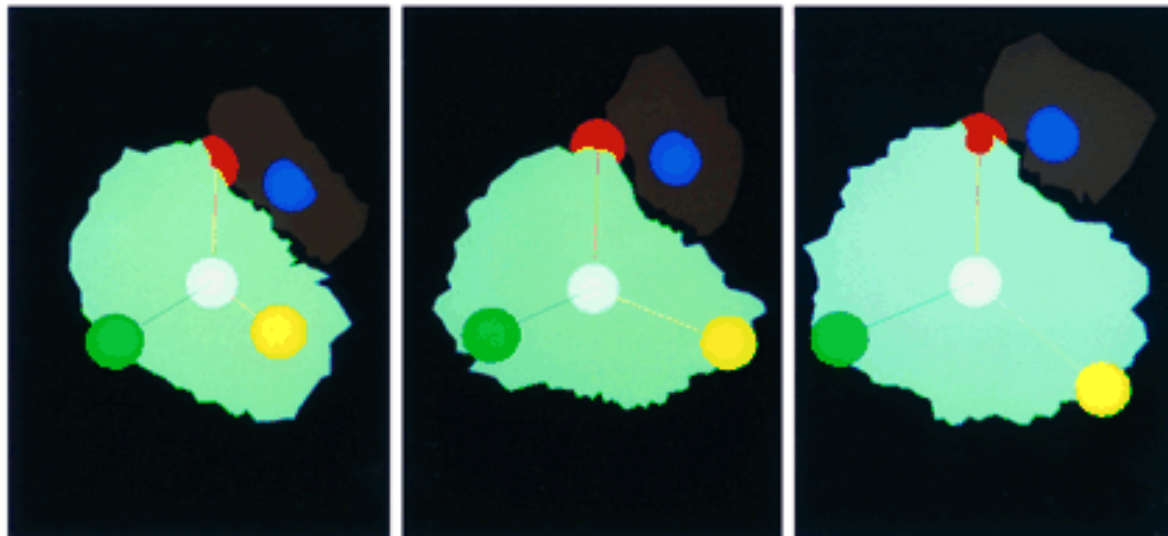
Insufficienza mitralica funzionale (ischemica)



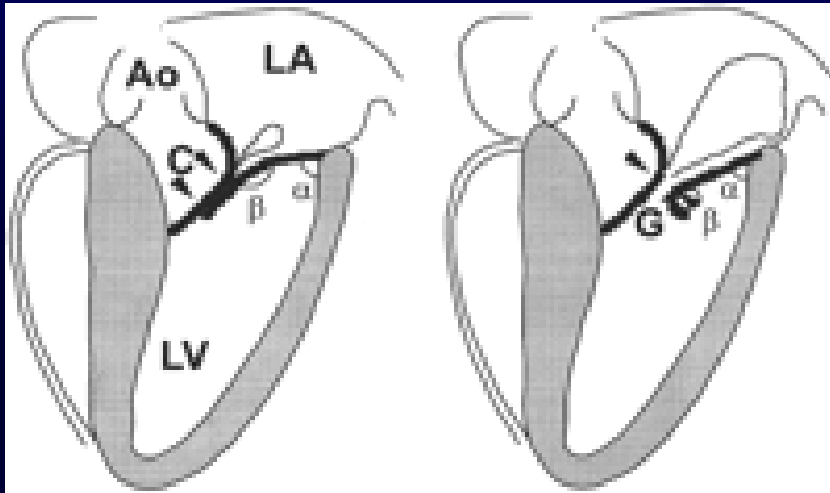
Normal

Post-Infarct



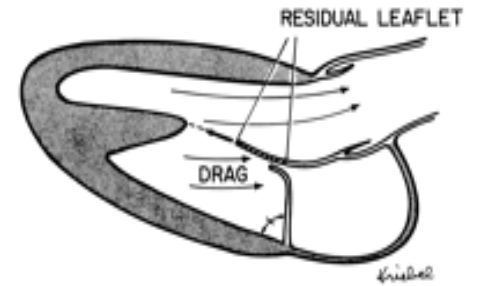
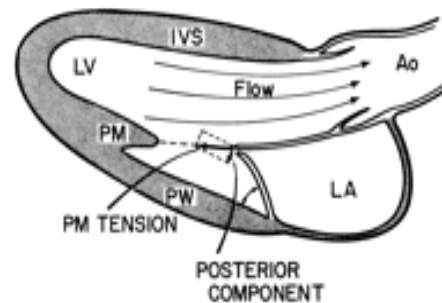
A**B**

Insufficienza mitralica funzionale (HCOM)

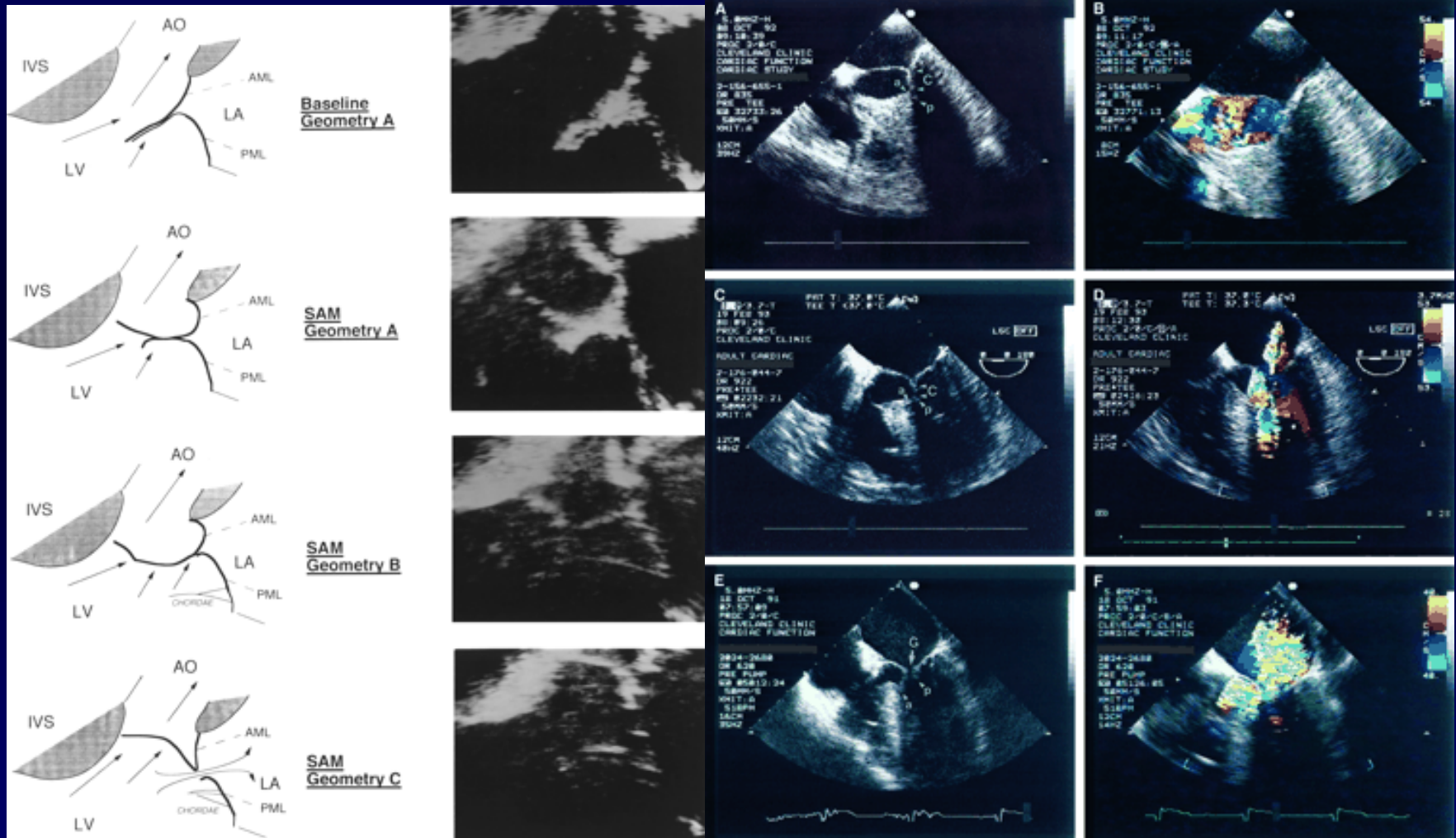


NORMAL

PAPILLARY MUSCLE DISPLACEMENT



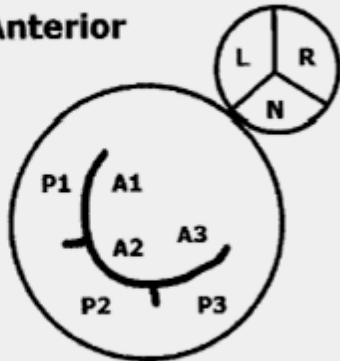
Insufficienza mitralica funzionale (HCOM)



Classificazione delle scallops

Carpentier

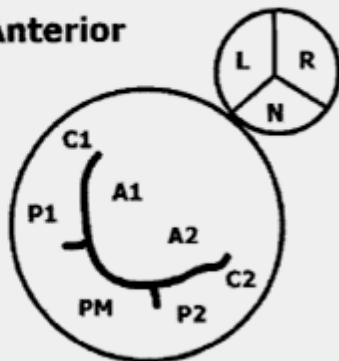
Anterior



Posterior

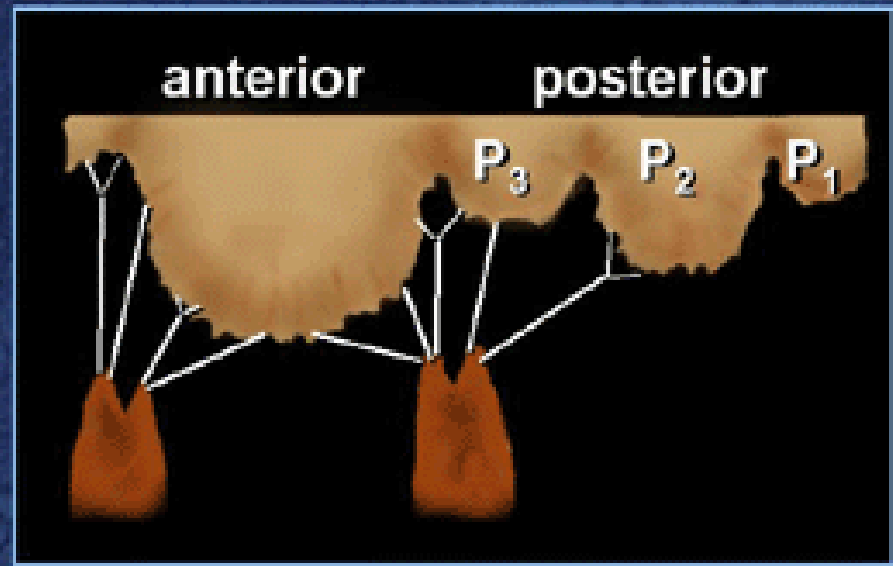
Duran

Anterior



Posterior

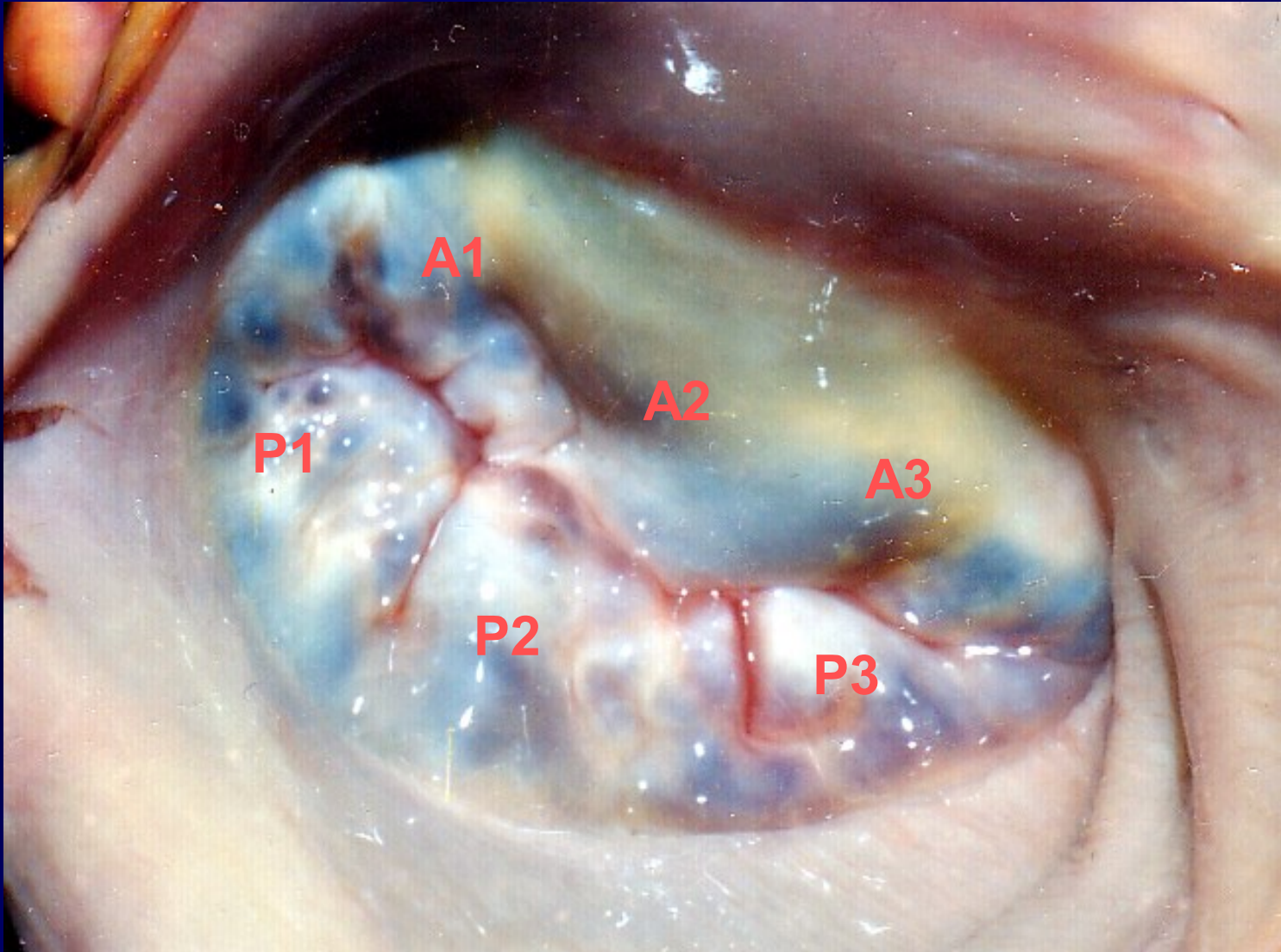
Mitral Valve



ECHO in Context

A3

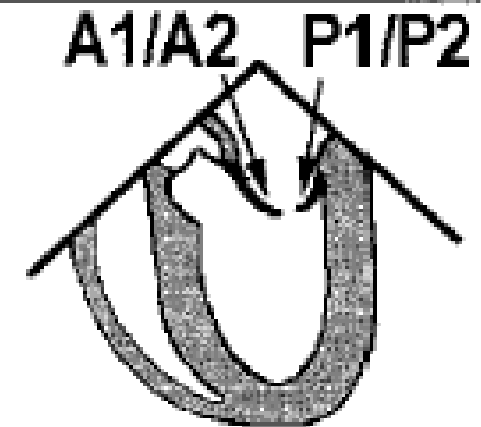
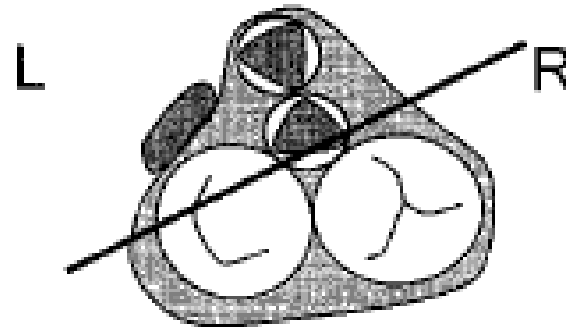




Proiezioni ecografiche (TEE)

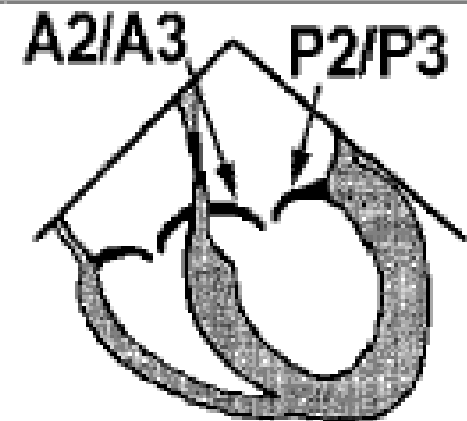
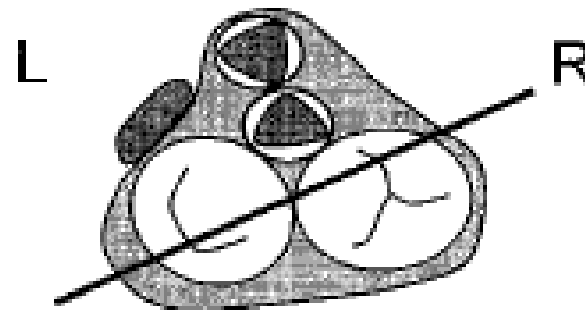
5-Chamber

Allows localization of pathology to the anterior or posterior leaflet. Specific scallops difficult to identify based only on this view, but generally shows anterior elements of the valve.



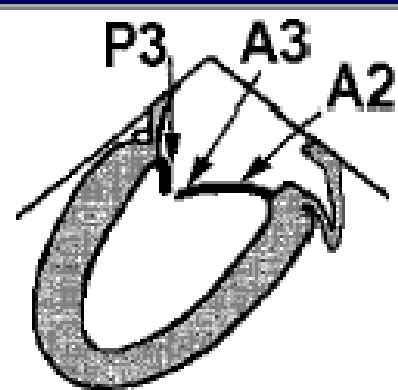
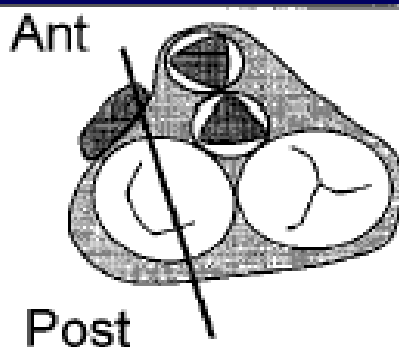
4-Chamber

Allows localization of pathology to the anterior or posterior leaflet. Specific scallops difficult to identify based only on this view, but generally shows posterior elements of the valve.



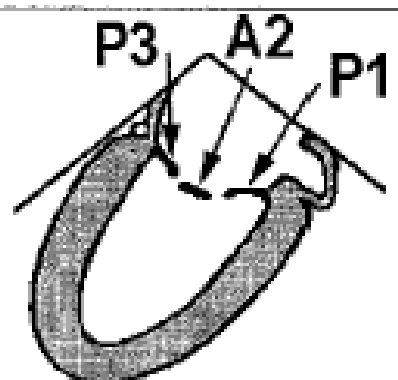
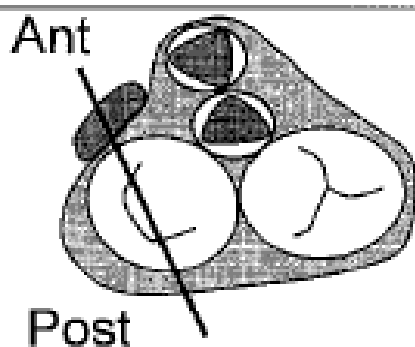
2-Chamber Anterior

Shows a long anterior leaflet (A2/A3) and a short segment of the posterior leaflet (P3). Note that the part of the anterior leaflet that coapts with the P3 scallop is the A3 segment.



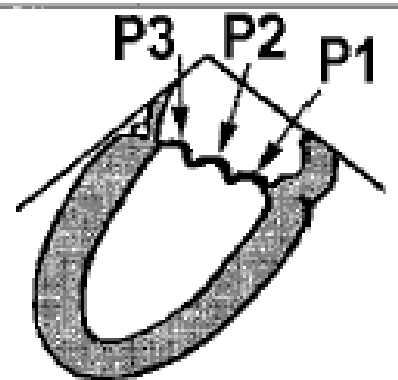
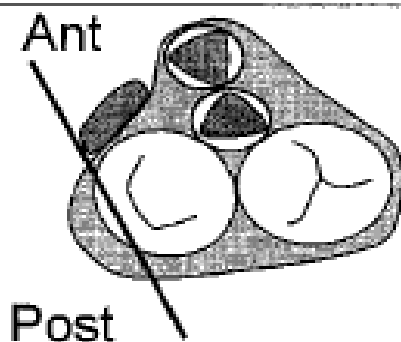
2-Chamber Mid

Three scallops and two coaptation points are seen: P3, P1, and a variable amount of A2, which disappears during diastole.

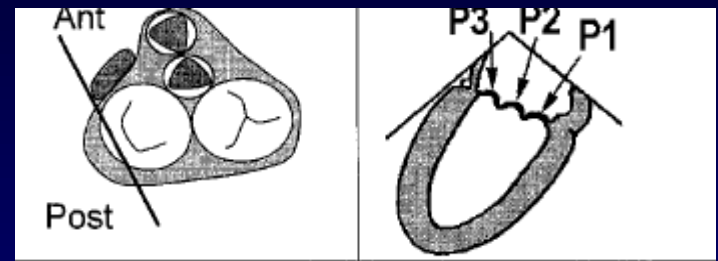
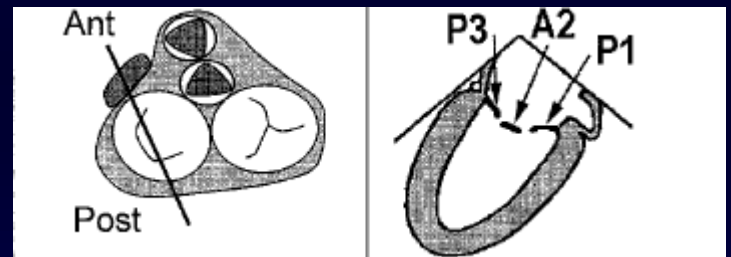
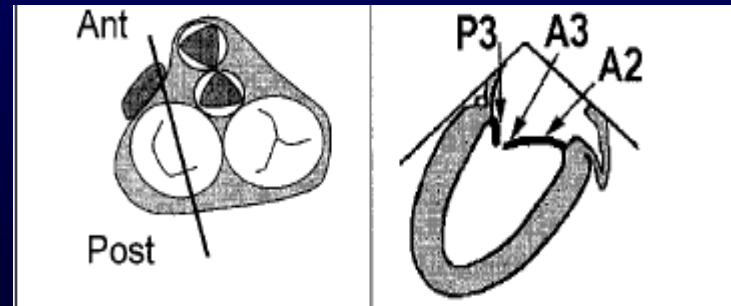
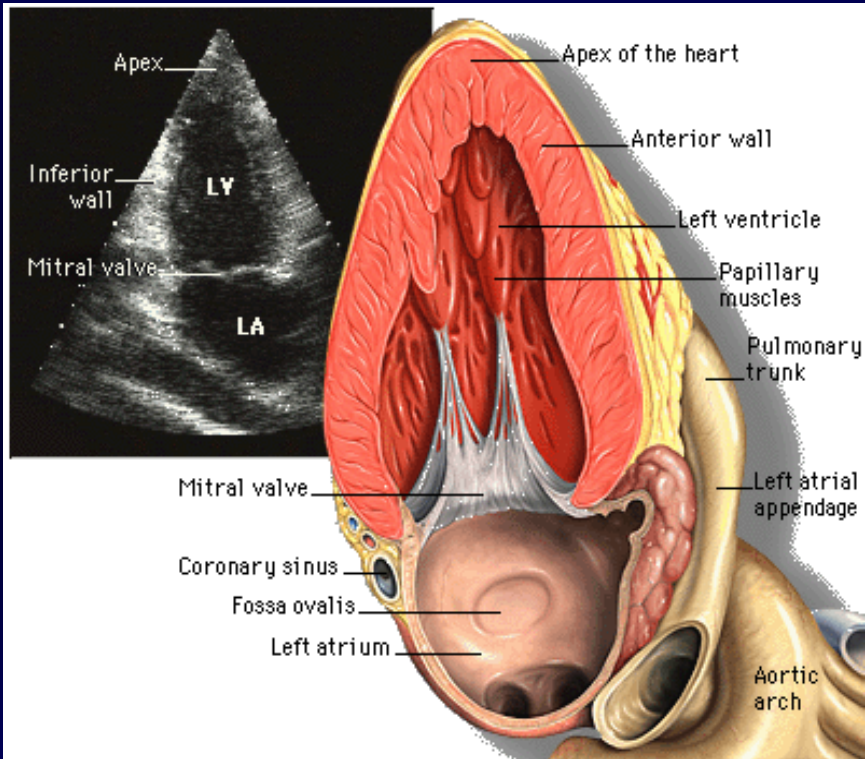


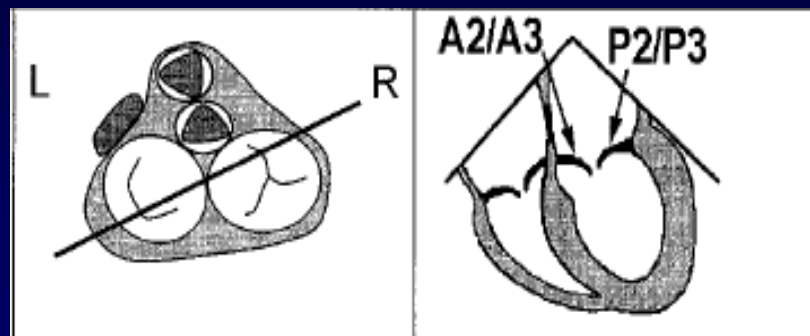
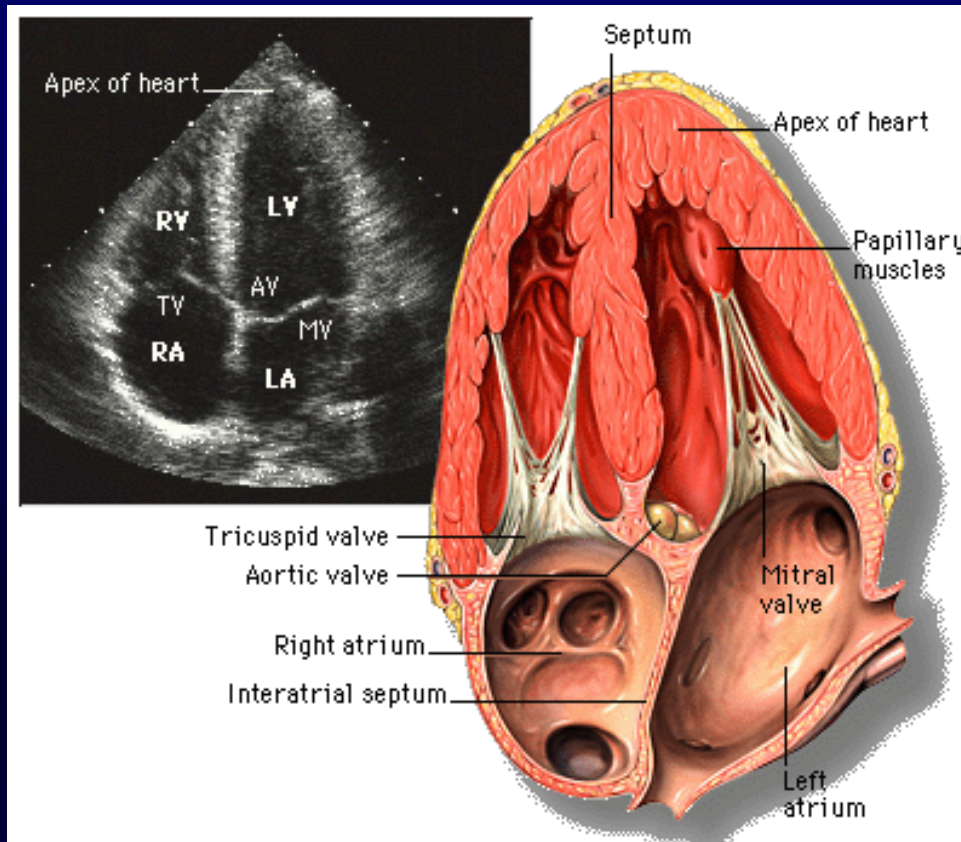
2-Chamber Posterior

No coaptation point seen. The plane cuts through the posterior leaflet only. Usually demonstrates mostly P2, with some P1 and P3.

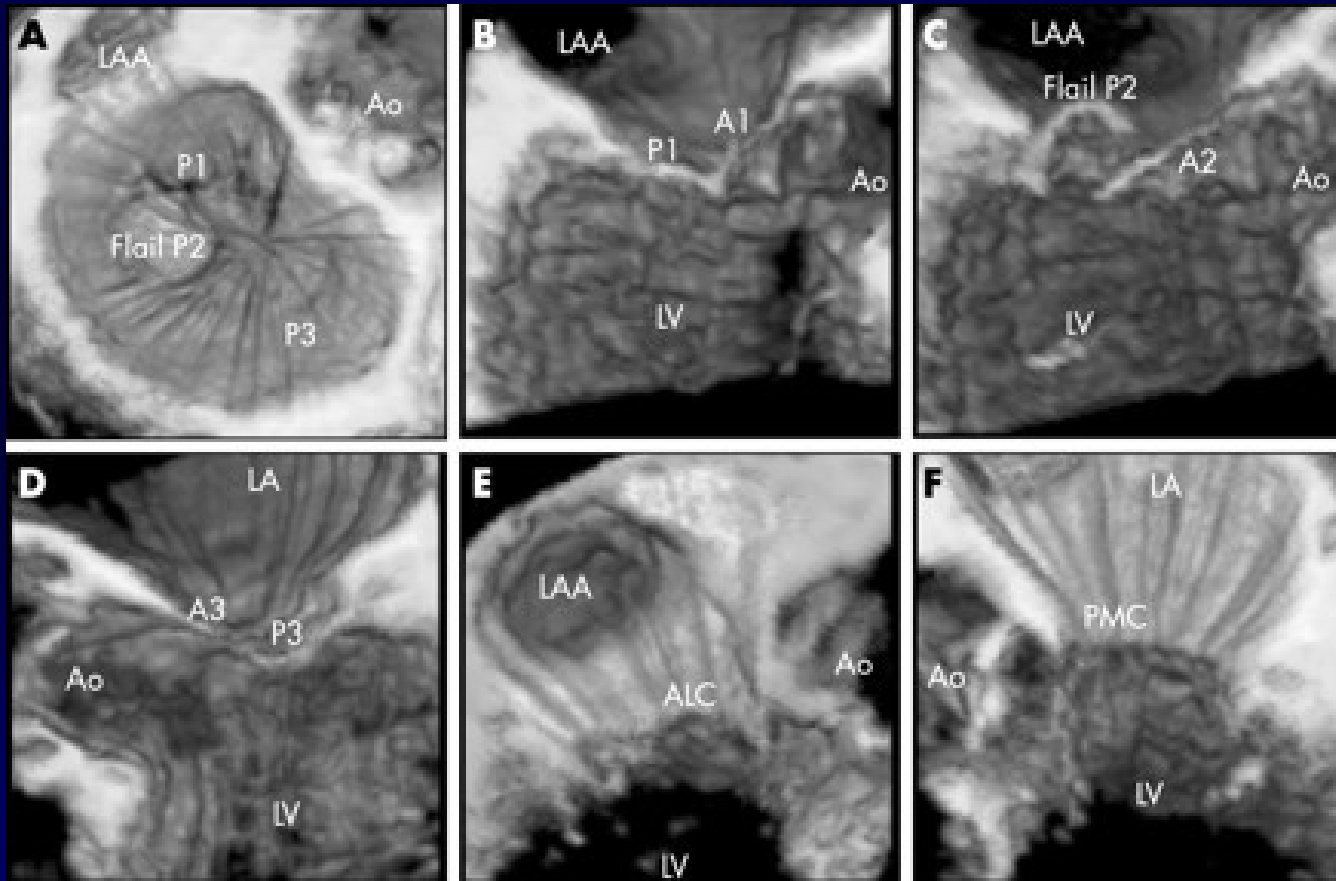


Ecocardiografia

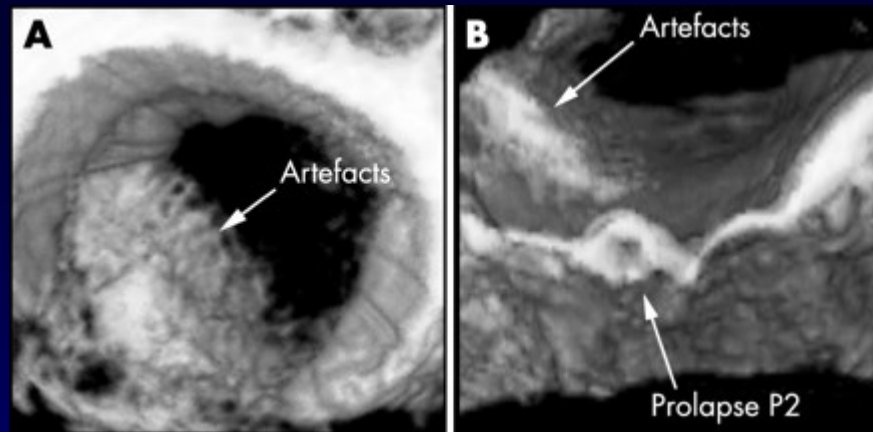
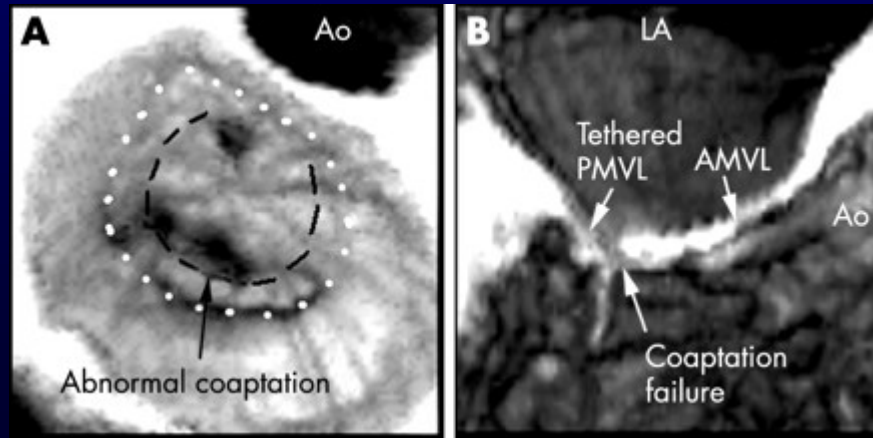




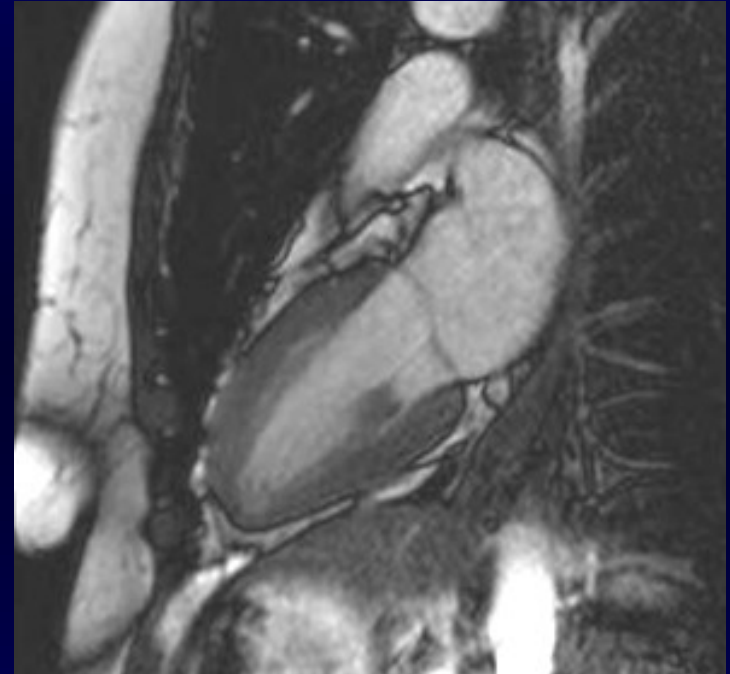
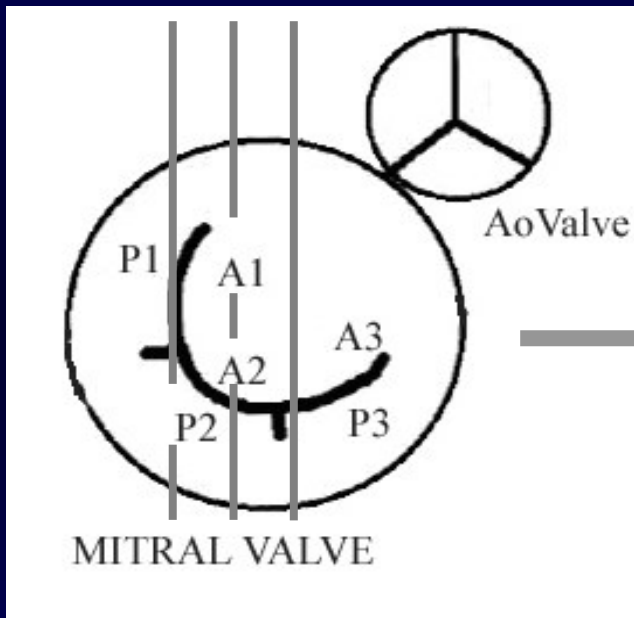
Ecocardiografia 3D



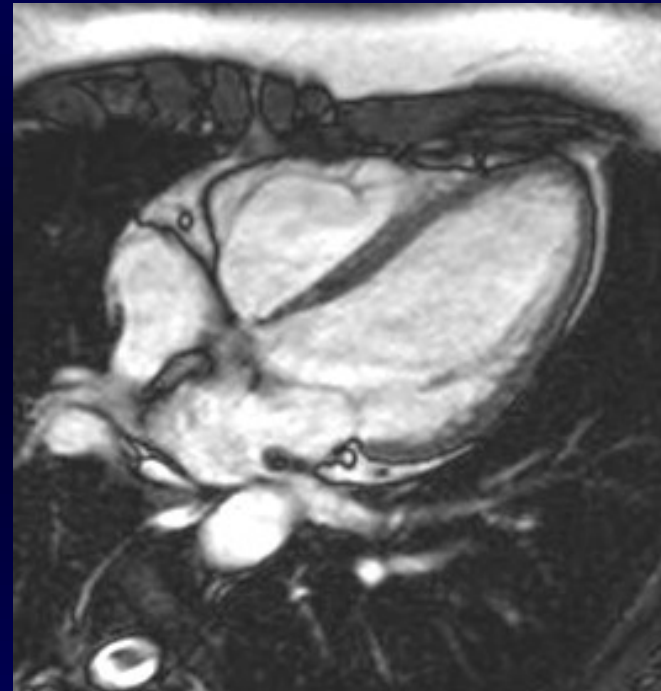
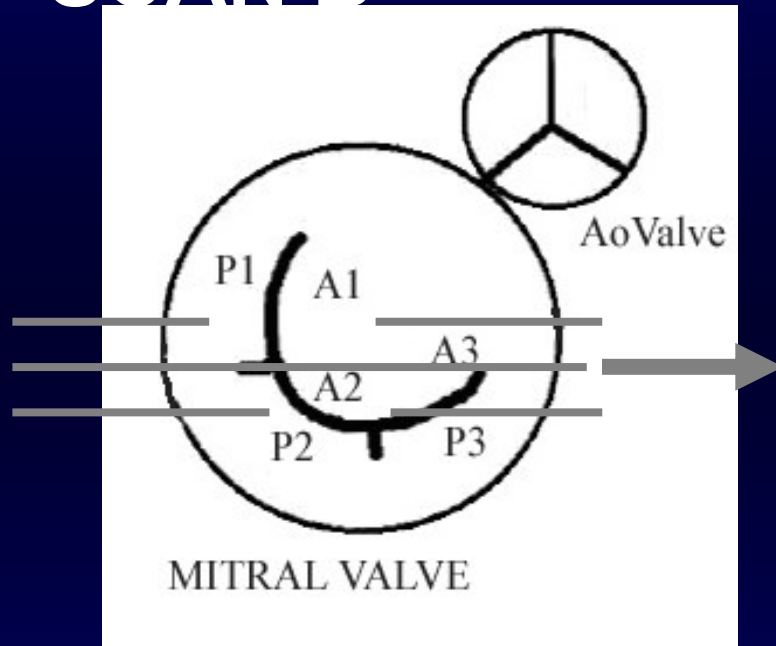
Ecocardiografia 3D



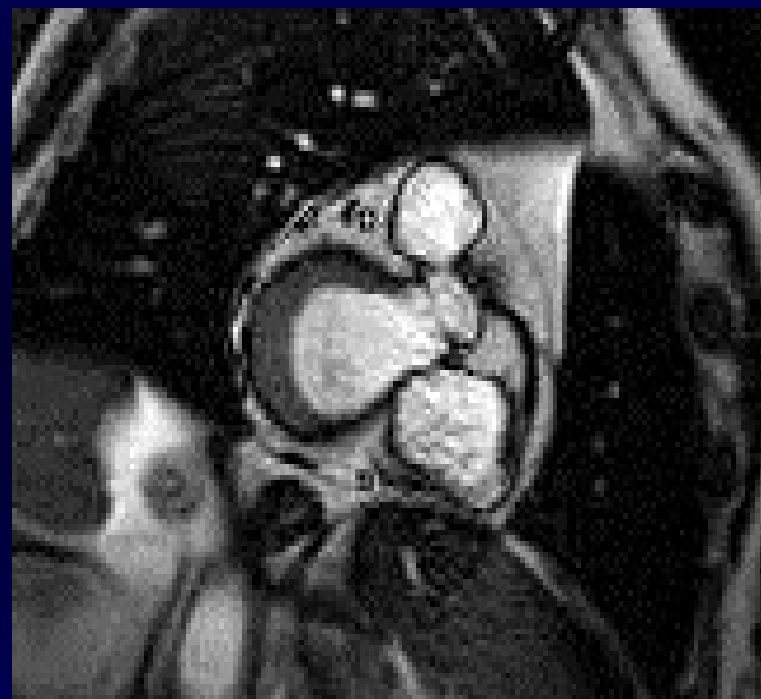
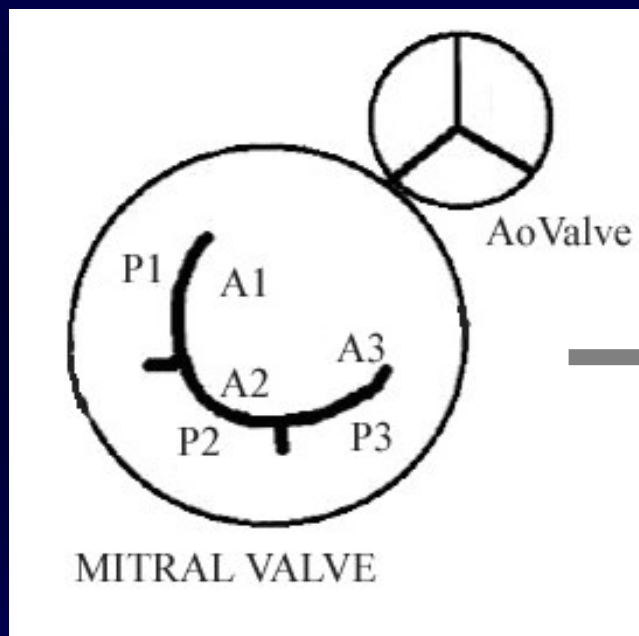
SCAN A

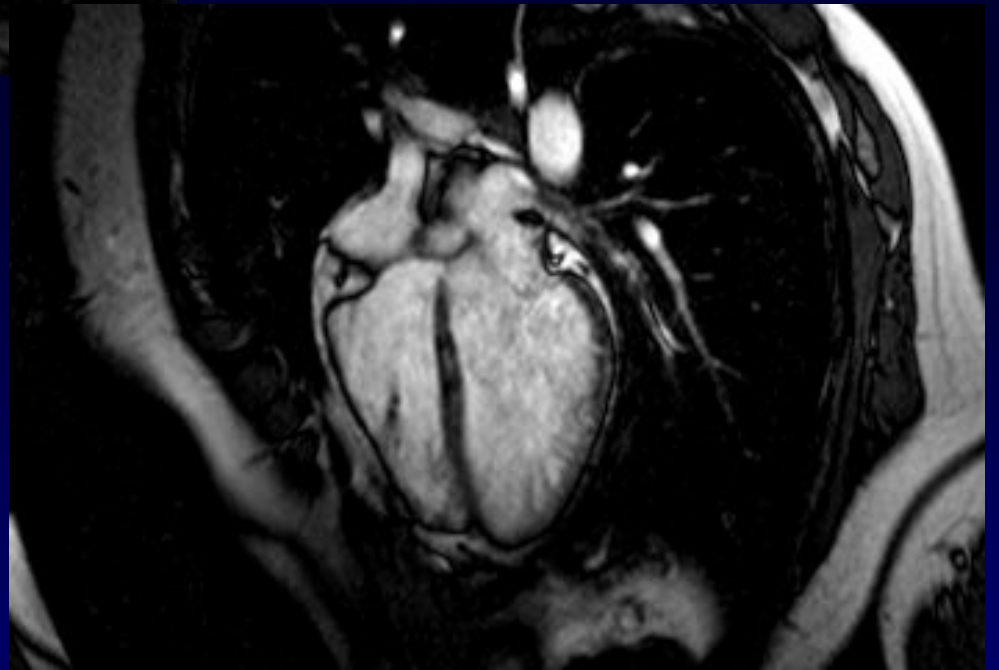
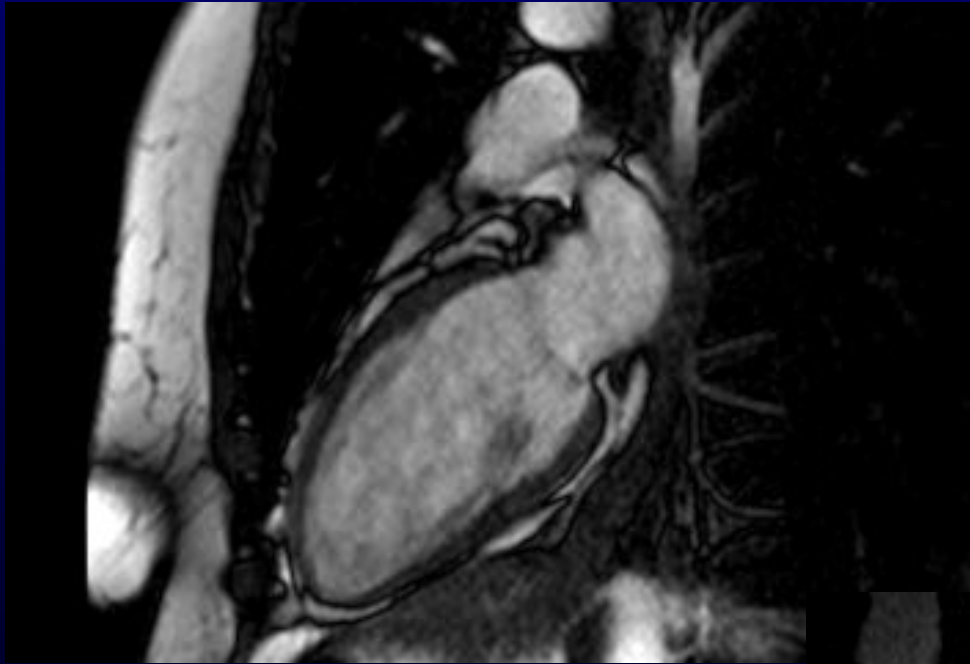


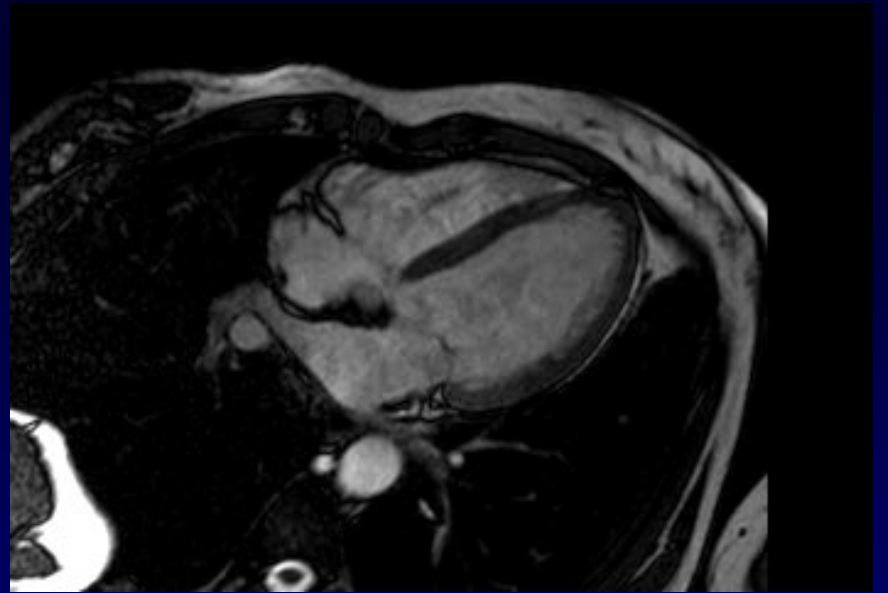
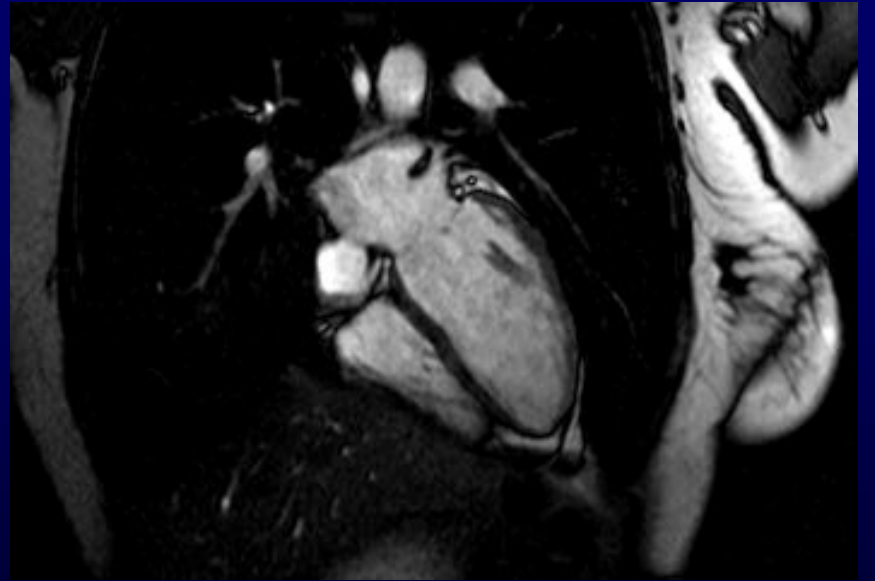
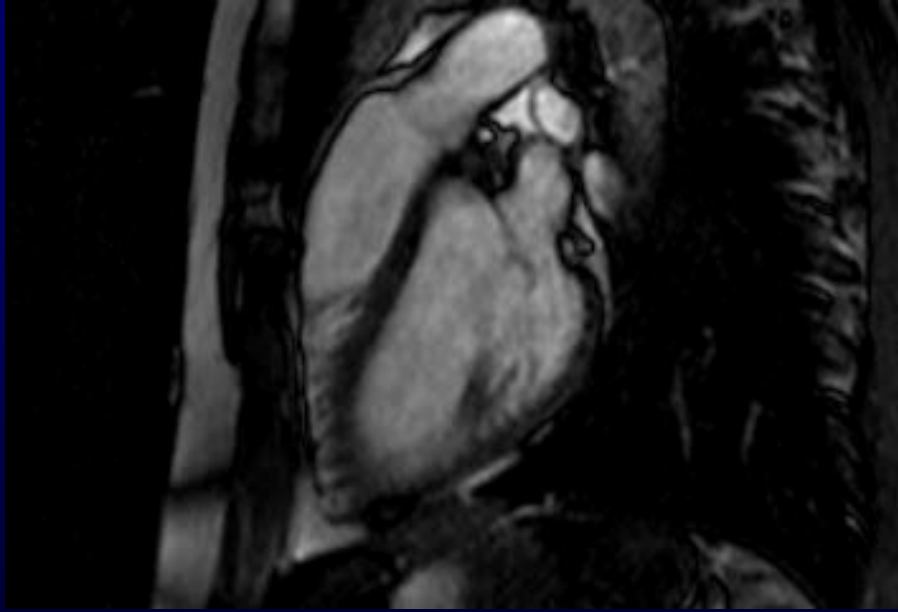
SCAN B



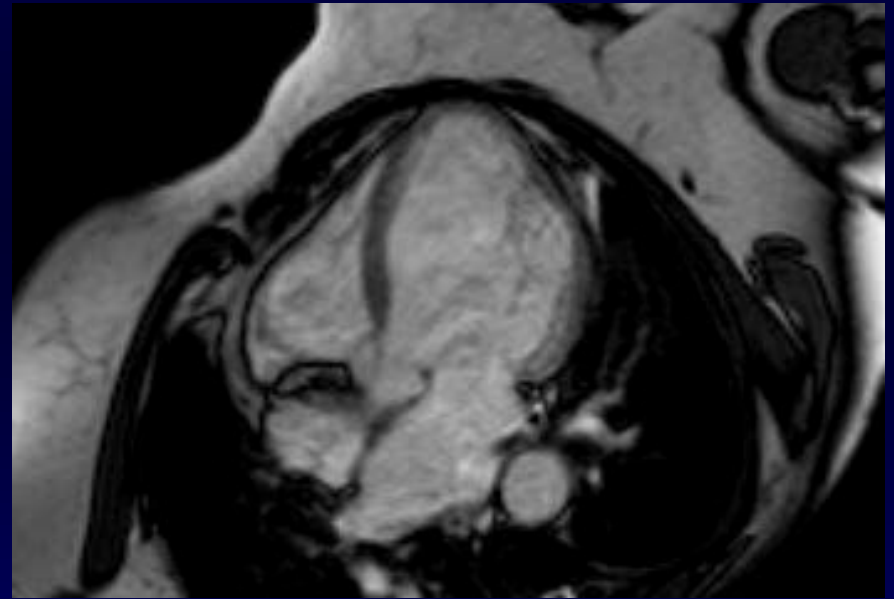
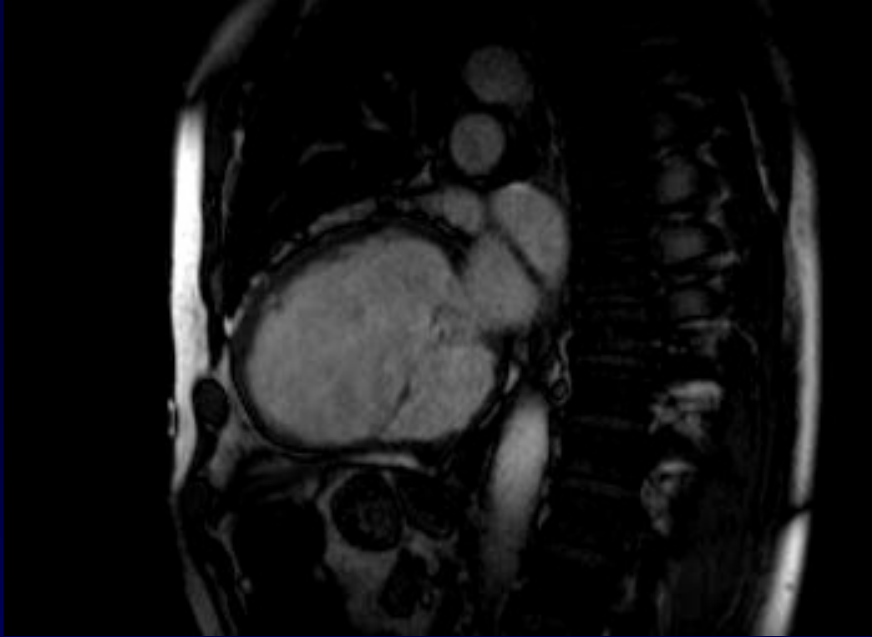
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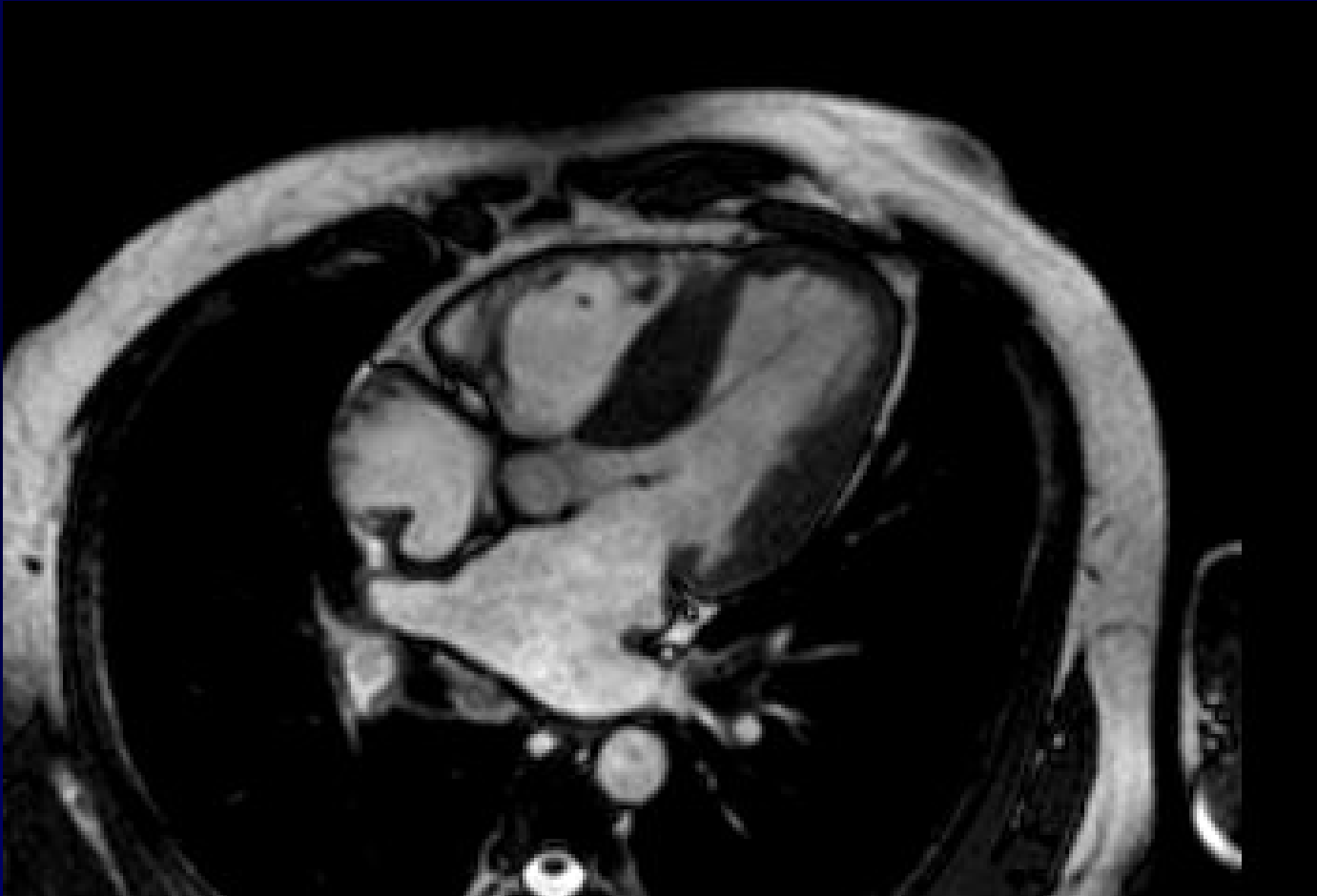


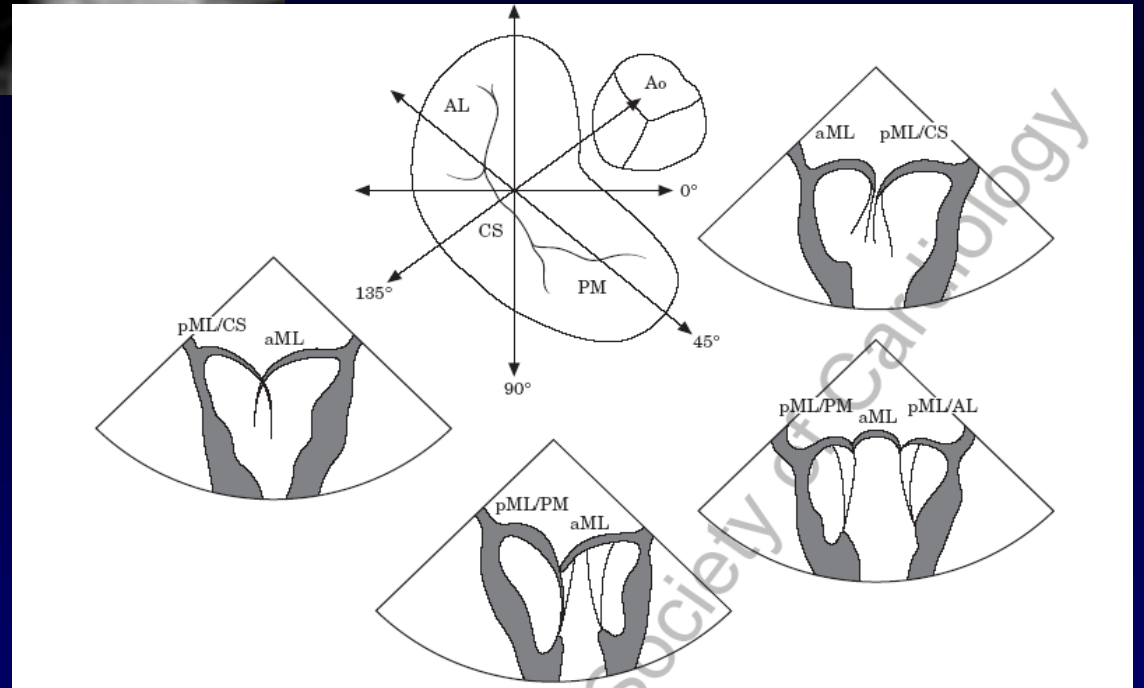
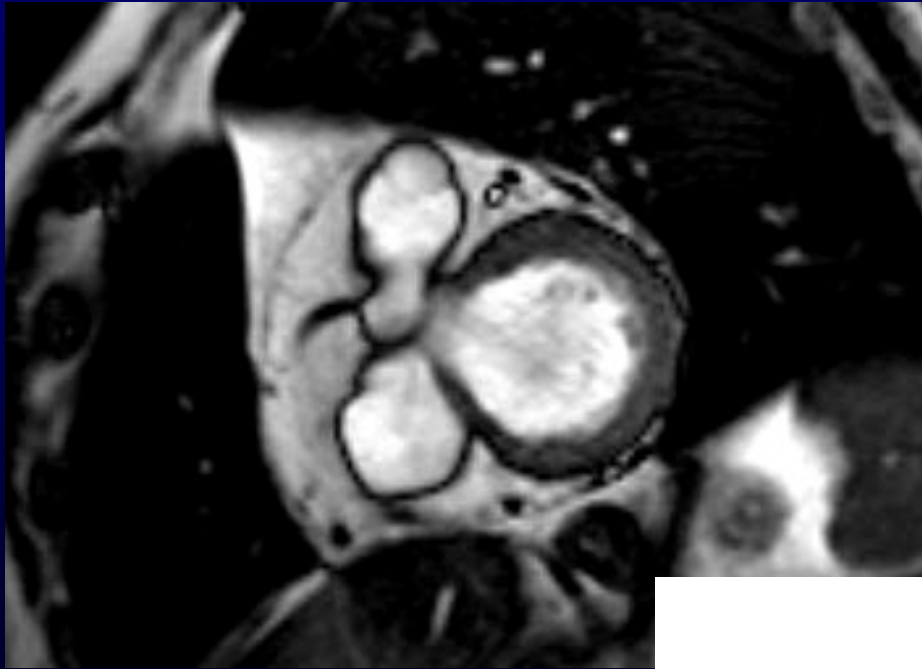


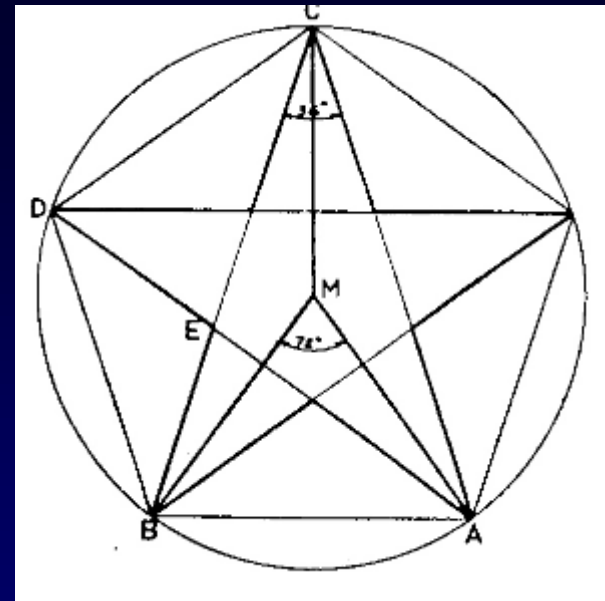
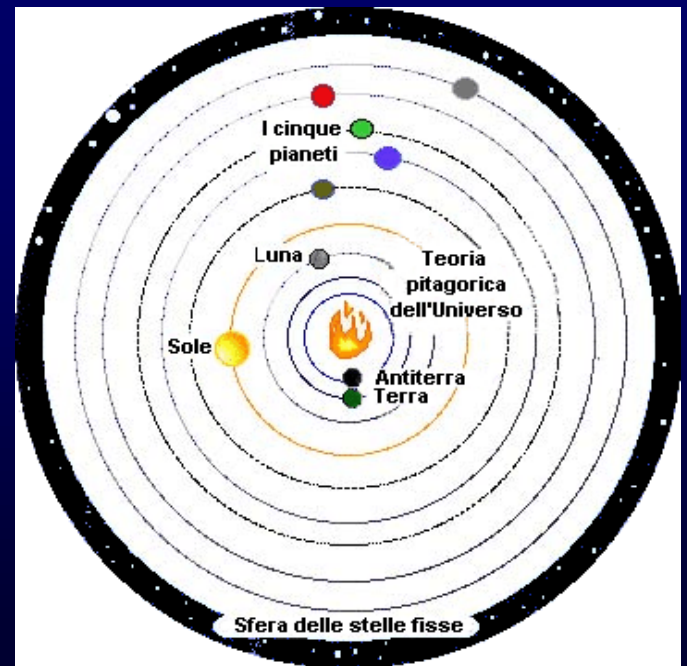
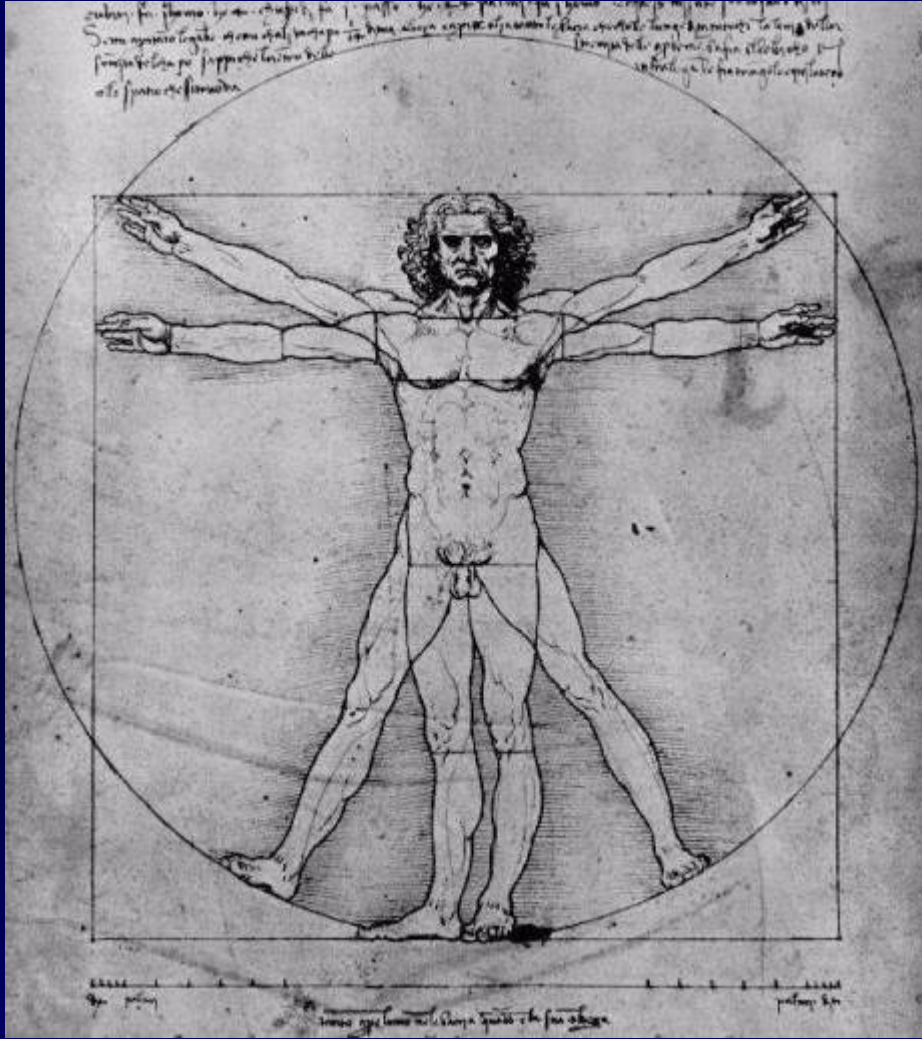
Mitrale ischemica



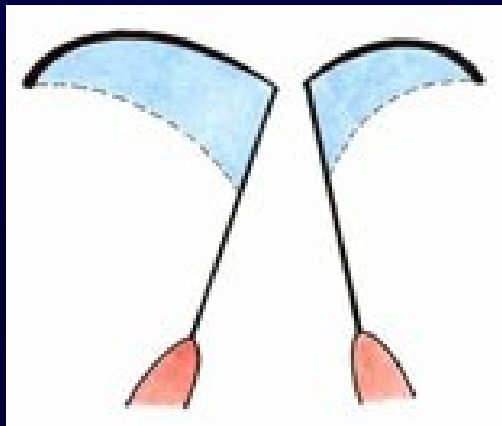
Mitrale HCOM



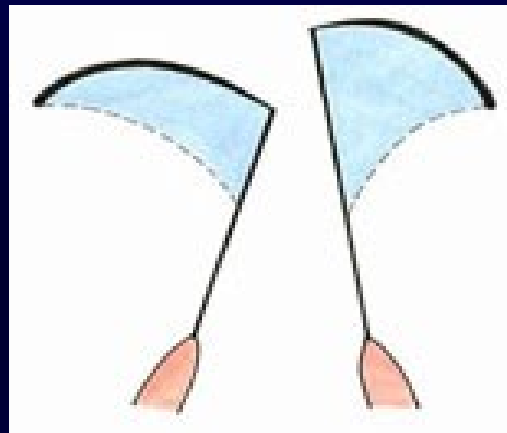




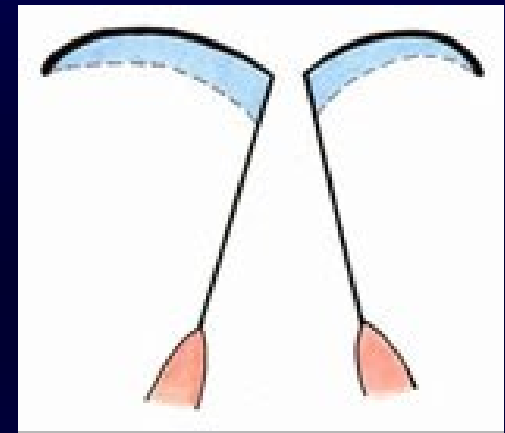
Classificazione di Carpentier



Tipo I



Tipo II



Tipo III



Parametri utili nella riparazione

Dimensioni dell'anulus (vn ED 2.9 ± 0.34 cm; ES 2.68 ± 0.39 cm)

Lunghezza delle corde tendinee (LAM 2 ± 0.31 cm; LPM 1.45 ± 0.22 cm)

Spessore dei lembi mitralici (<5mm in diastole e <1.4 vv spessore aorta)

Lunghezza corde tendinee

Conclusioni

La valvola mitrale o meglio l'apparato mitralico è un insieme complesso e difficile da descrivere con parametri singoli

Al Chirurgo sono necessarie differenti informazioni che possono rendere del tutto insufficiente la diagnostica comune

Possiamo spingerci avanti nella diagnostica migliorando il nostro modo di descrivere l'apparato valvolare

Non sempre sono necessarie apparecchiature sofisticate

***Ogni cosa osserva, distingui e valuta, l'intelletto dall'alto
eleggendo per guida adeguata.***

***Allora, lasciato il corpo, salirai al libero etere. Sarai un
iddio immortale, incorruttibile, invulnerabile***



.....Pytagora, Versi Aurei

