IL SISTEMA CIRCOLATORIO

DEFINIZIONE:

Sistema chiuso (circolazione ematica) o aperto (circolazione linfatica) di tubi che trasportano il sangue e la linfa

Sistema vascolare ematico

COMPONENTI:

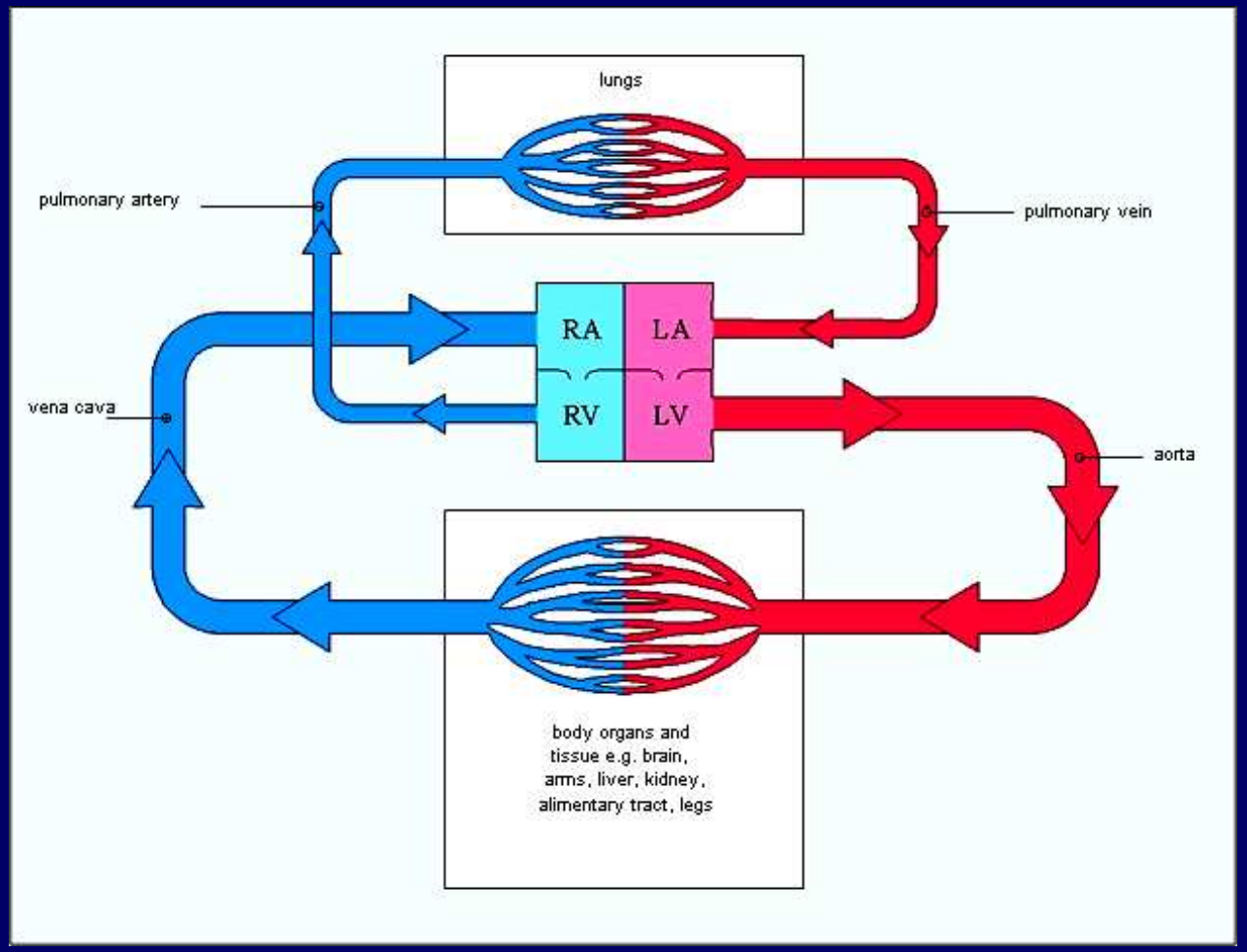
- cuore
- arterie
- vene
- capillari

di vario calibro

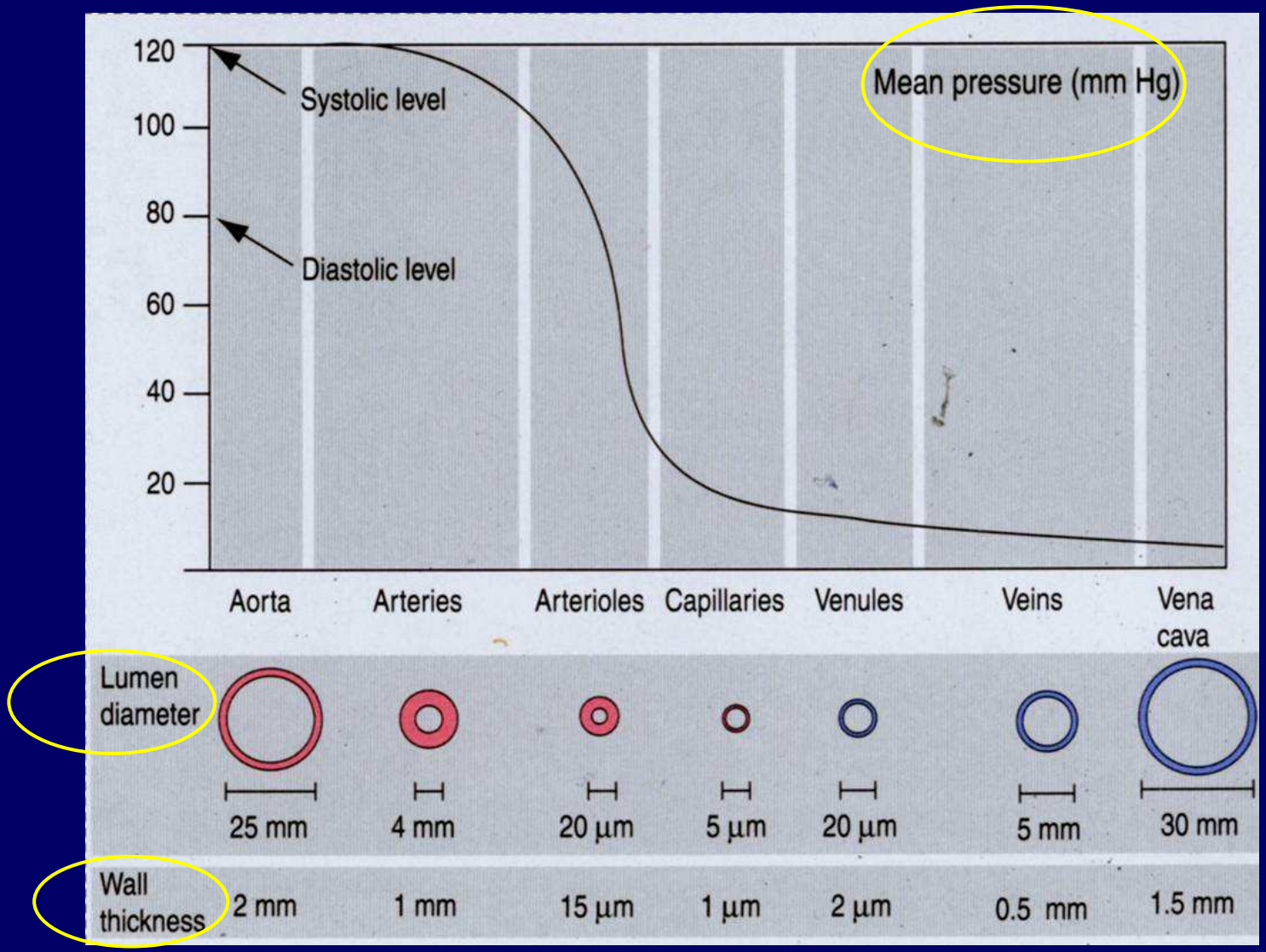
Il sistema circolatorio linfatico

- Drena il liquido extracellulare dai tessuti
- Trasporta la linfa ai linfonodi
- Assorbe i trigliceridi dall’intestino

Sistema vascolare ematico



Il sistema vascolare

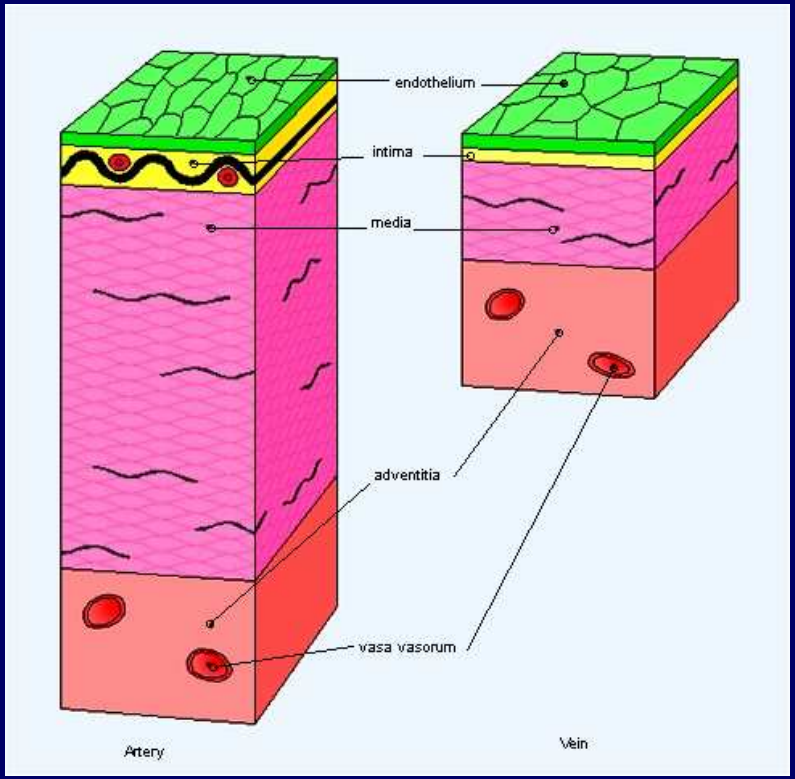


Sistema vascolare ematico

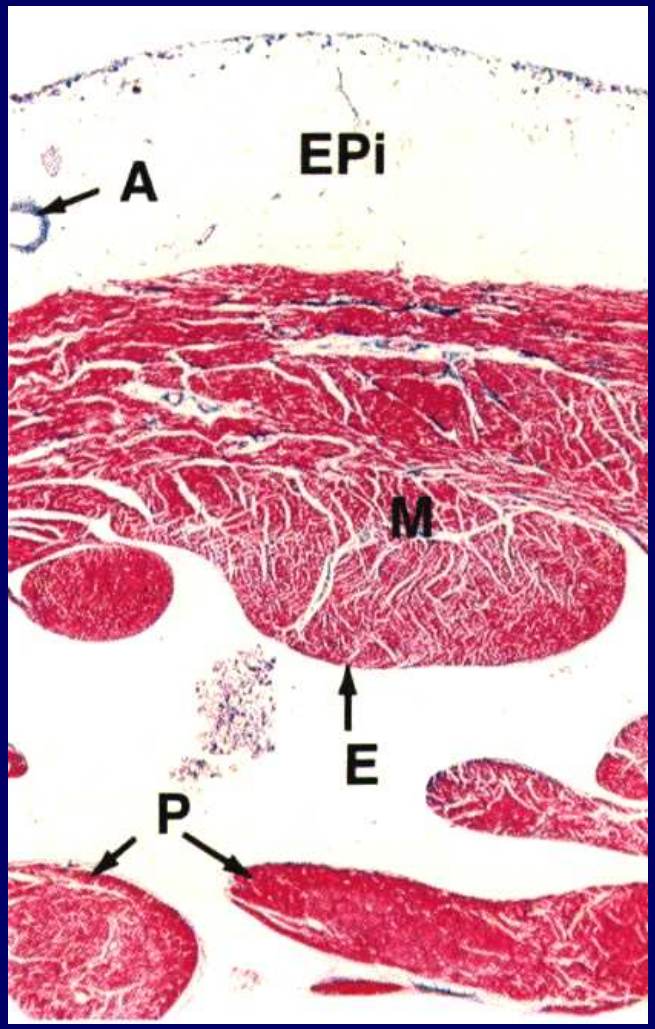
STRUTTURA DI BASE COMUNE:

tre strati

- tonaca intima interna
  (endotelio)
- tonaca media
  (muscolare, elastica)
- tonaca avventizia
  (connettivo)



Il cuore

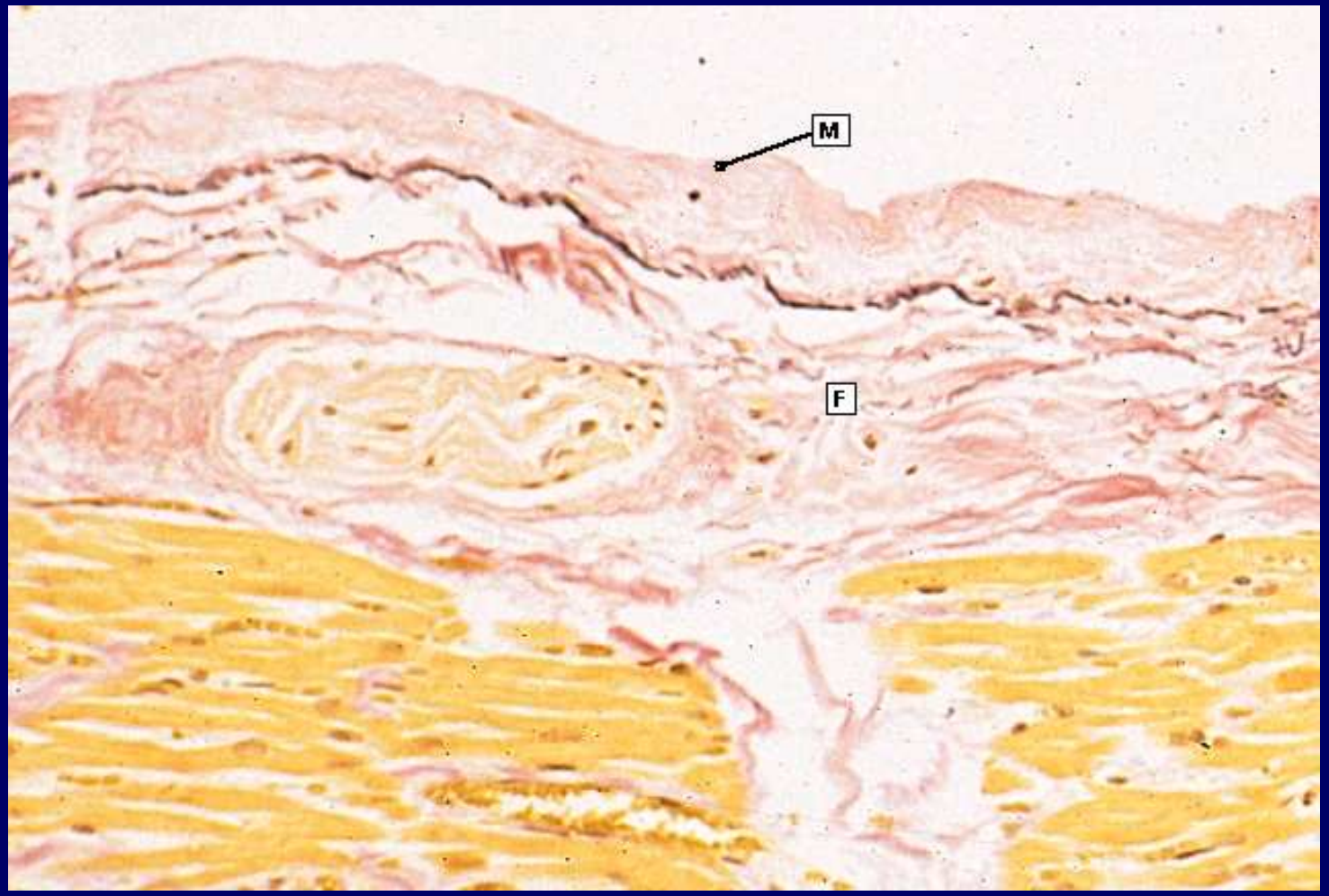


epicardio: connettivo, mesotelio

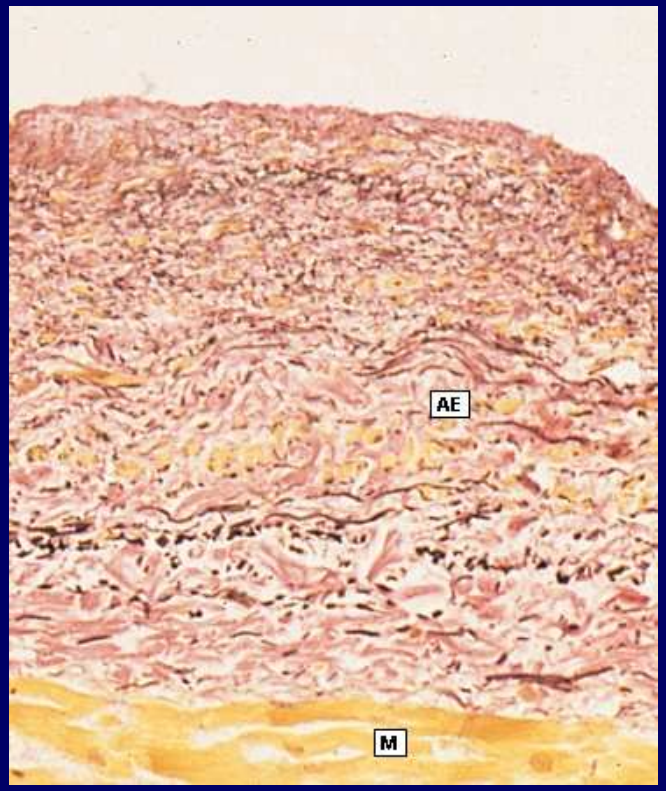
miocardio: muscolare

endocardio: endotelio, membrana basale, connettivo

Epicardio (pericardio viscerale)



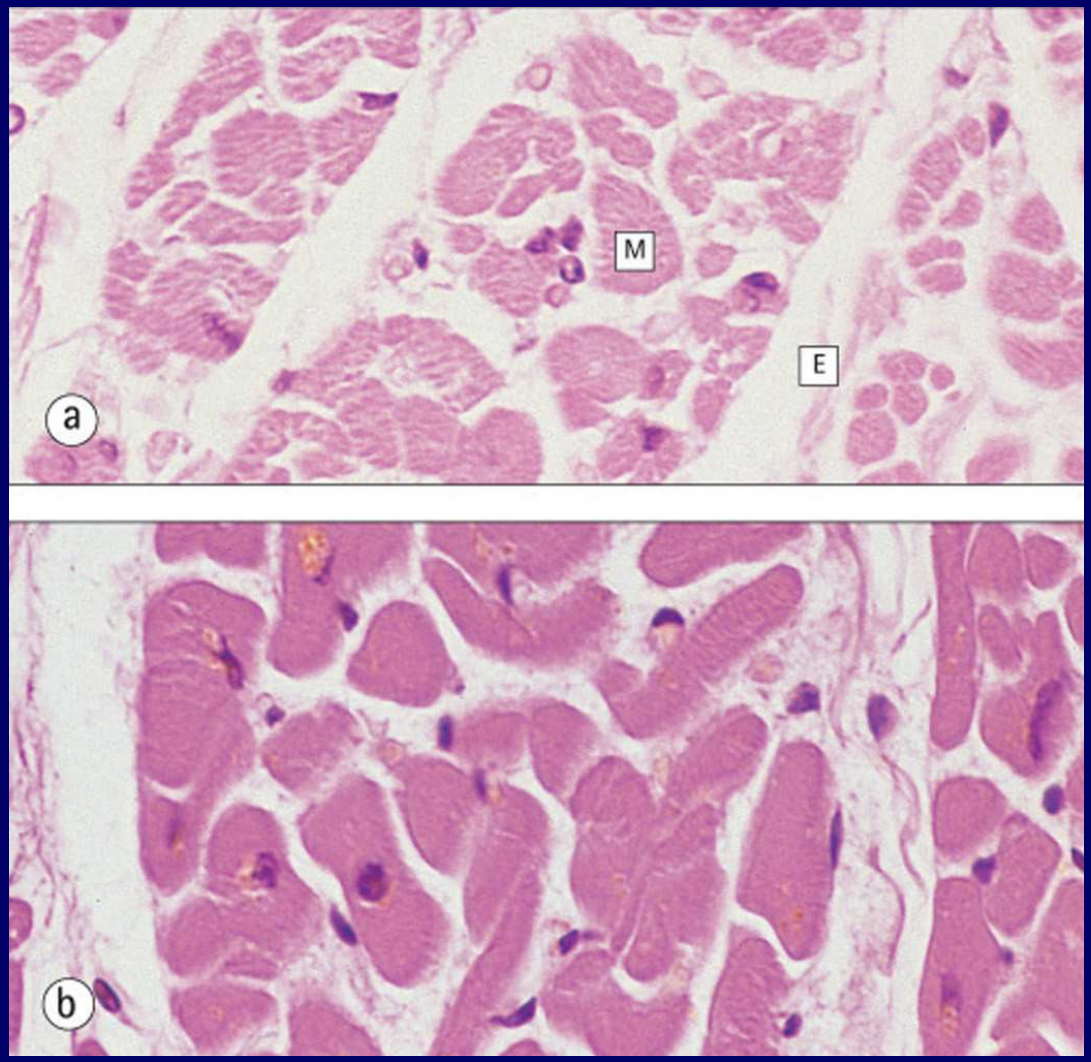
Endocardio e miocardio



Atrio destro

Ventricolo sinistro

Le cellule del miocardio



Atrio sinistro

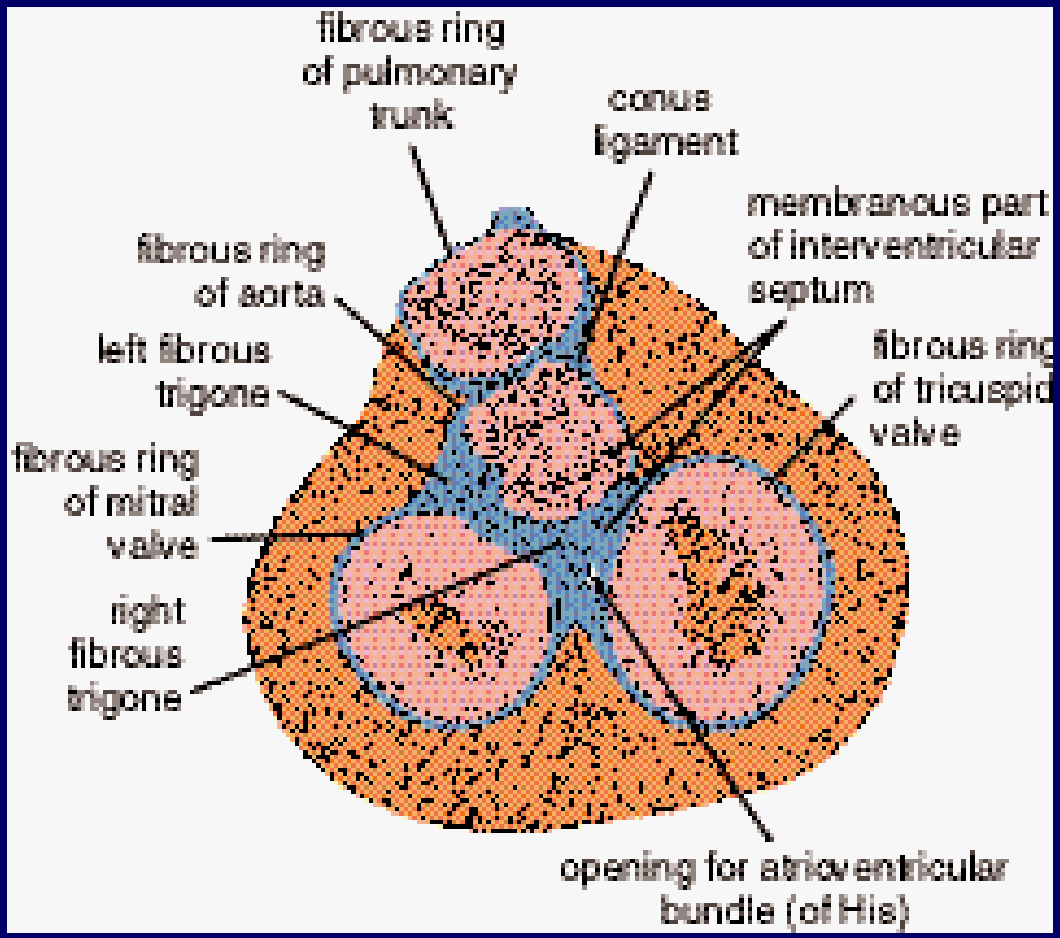
Ventricolo sinistro

Scheletro fibroso del cuore

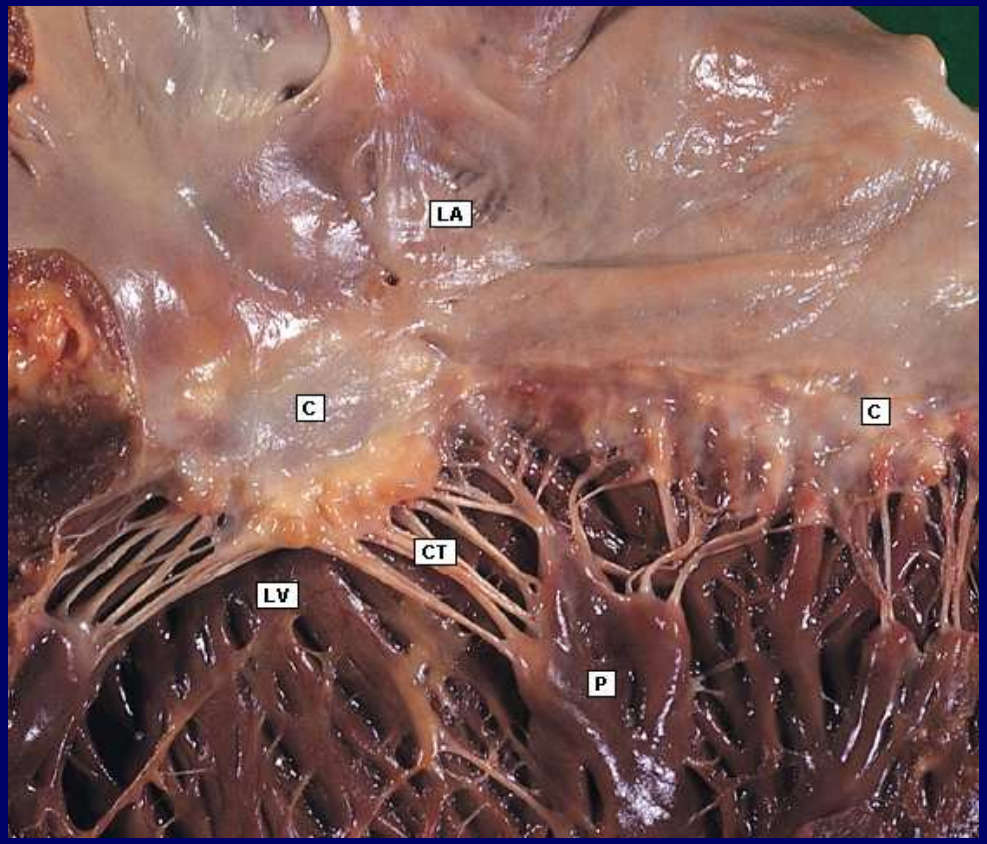
- Corpo fibroso centrale
- Anelli valvolari
- Valvole
- Setto membranoso interventricolare

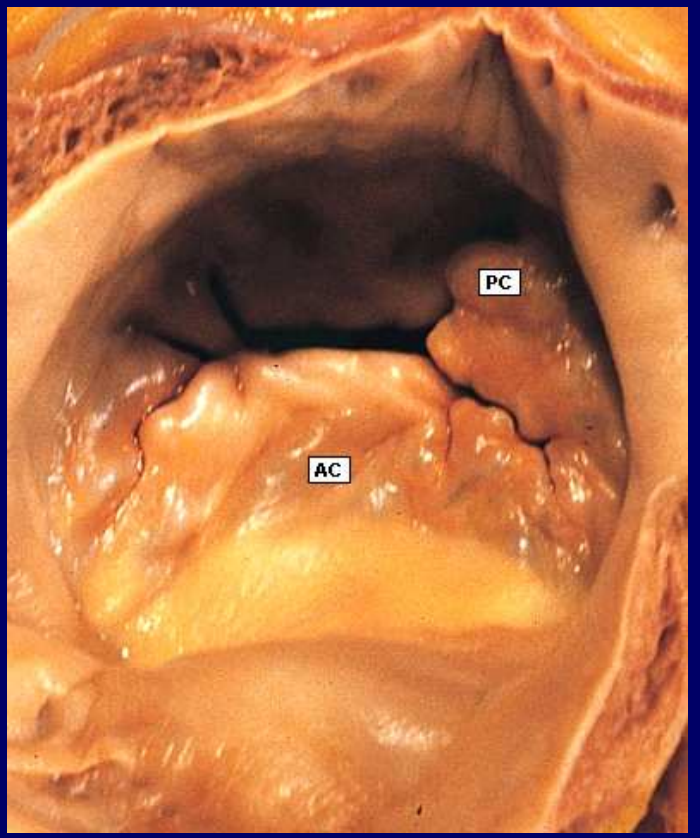
- Corde tendinee delle valvole
- fibroblasti

Scheletro fibroso del cuore

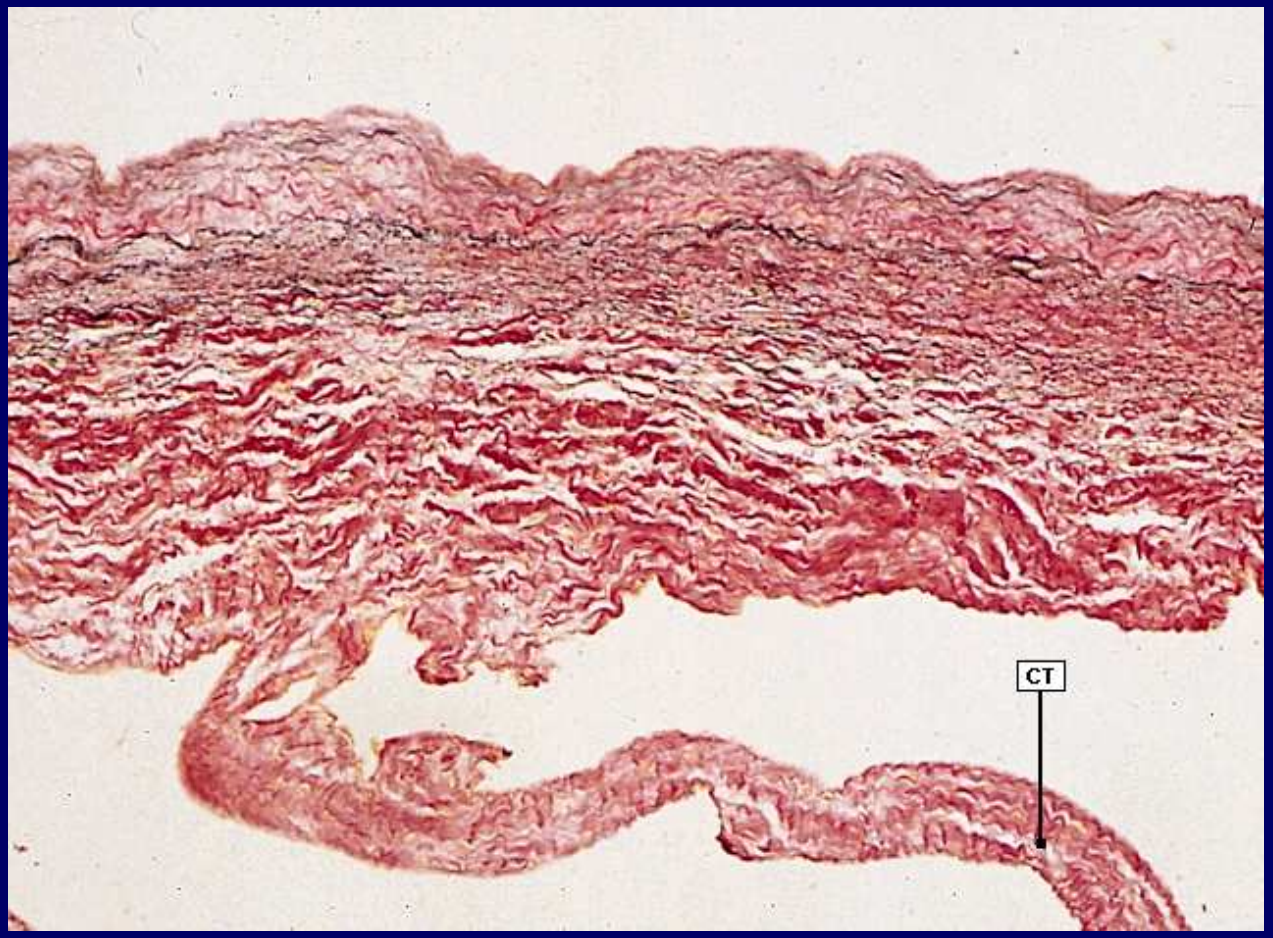


Valvola mitrale del cuore





Valvola mitrale del cuore



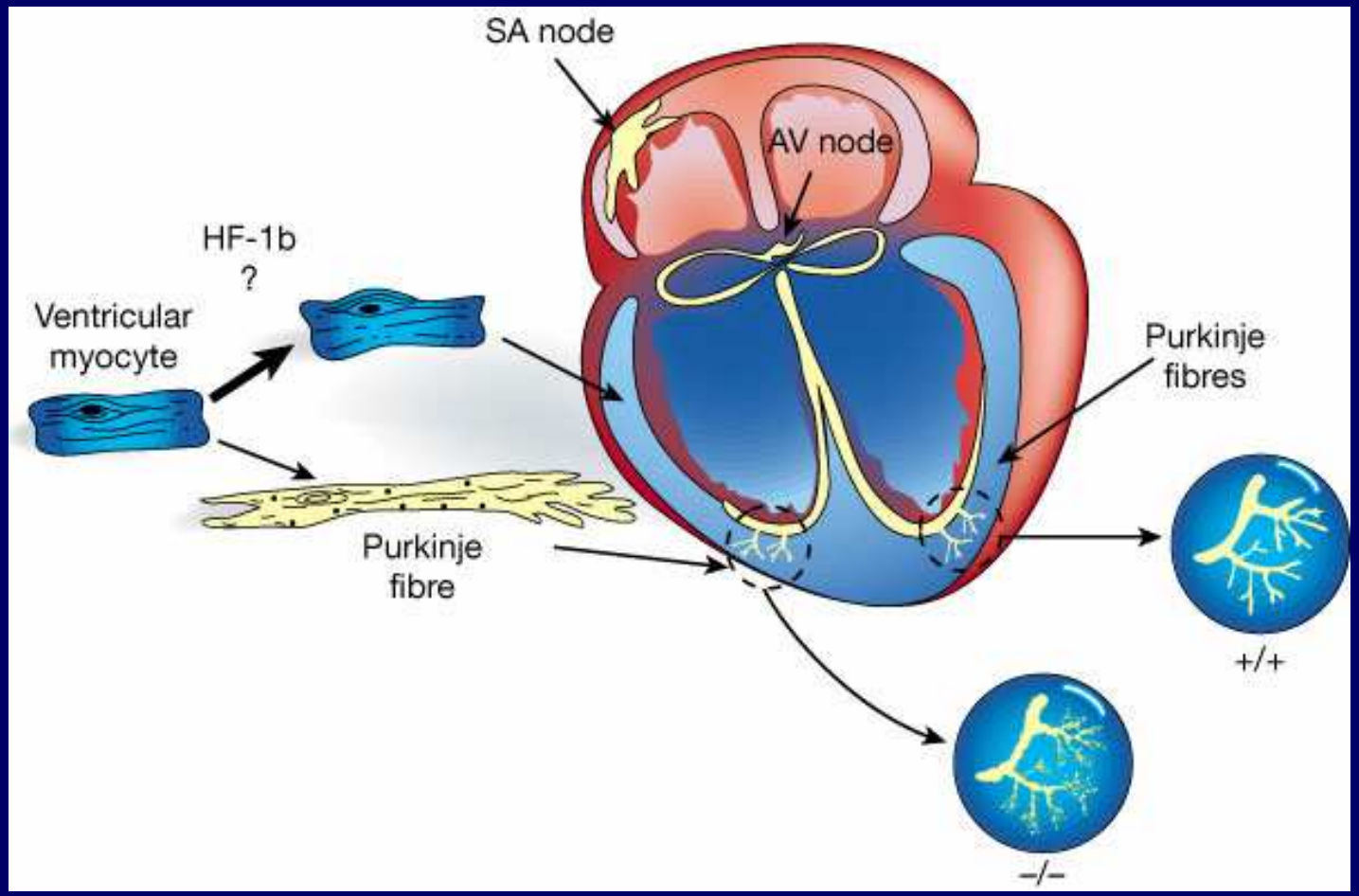
endotelio

fibre elastiche

fibre collagene

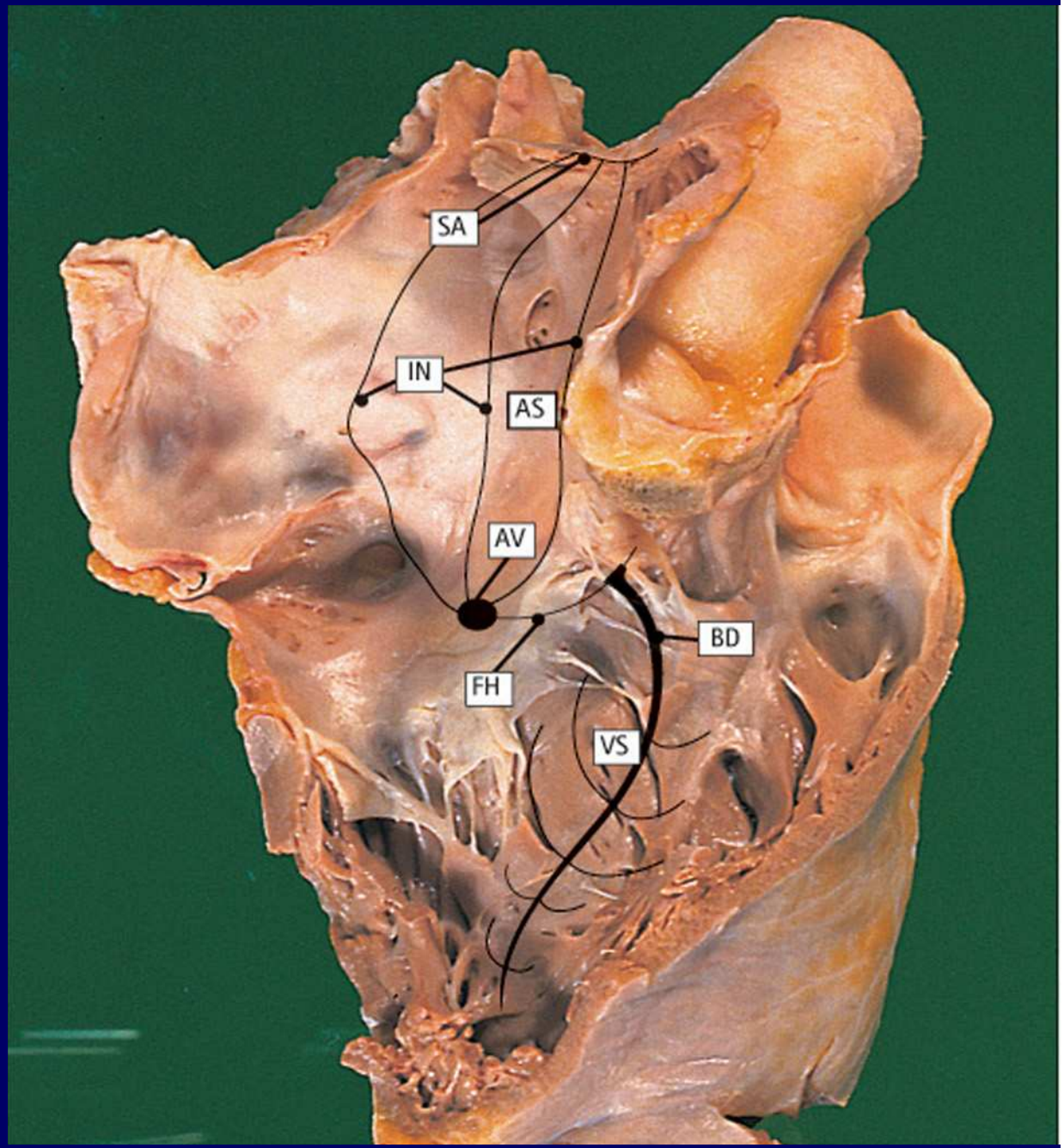
corde tendinee

Sistema di conduzione del cuore

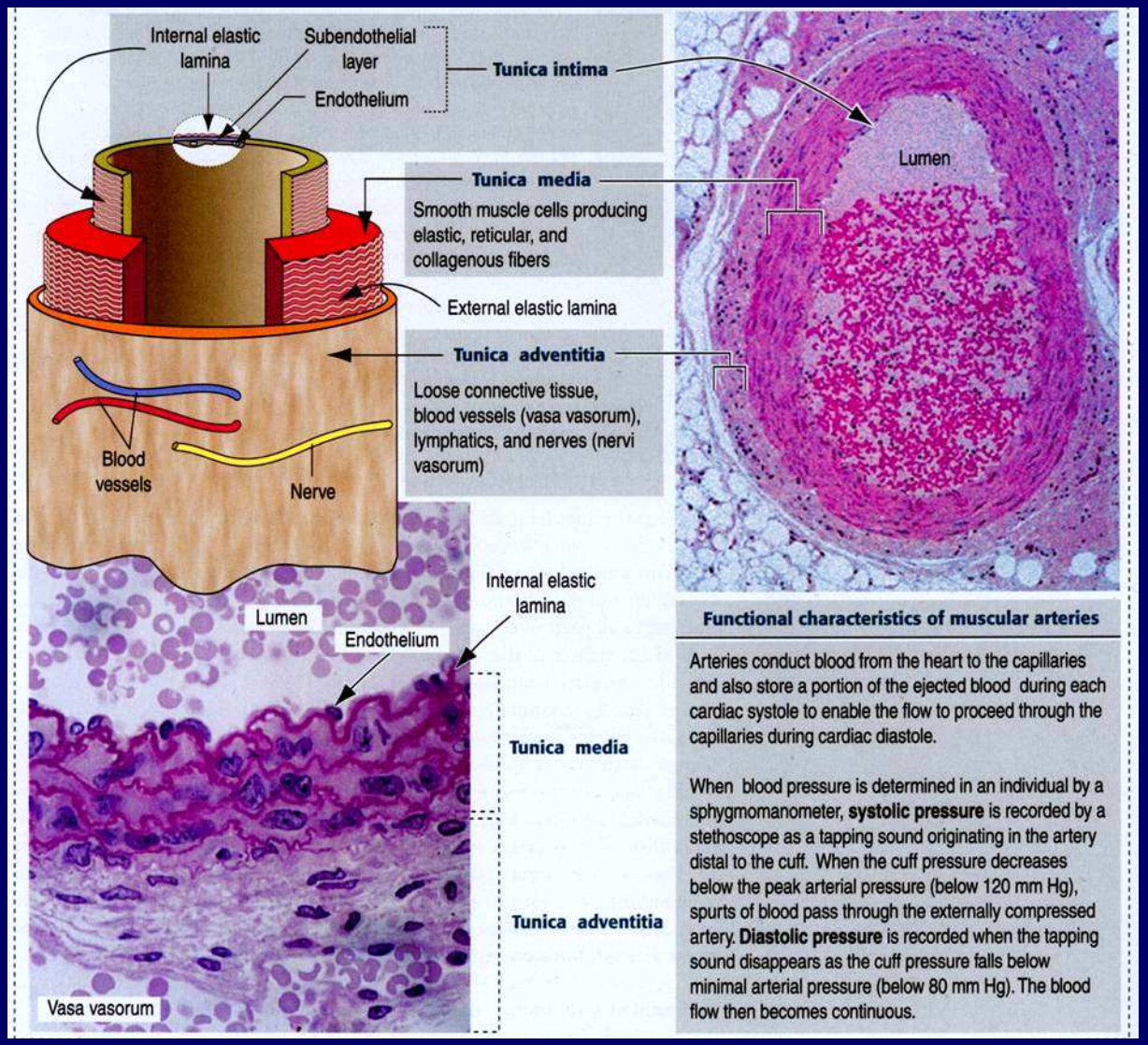


Chien- Nature2000

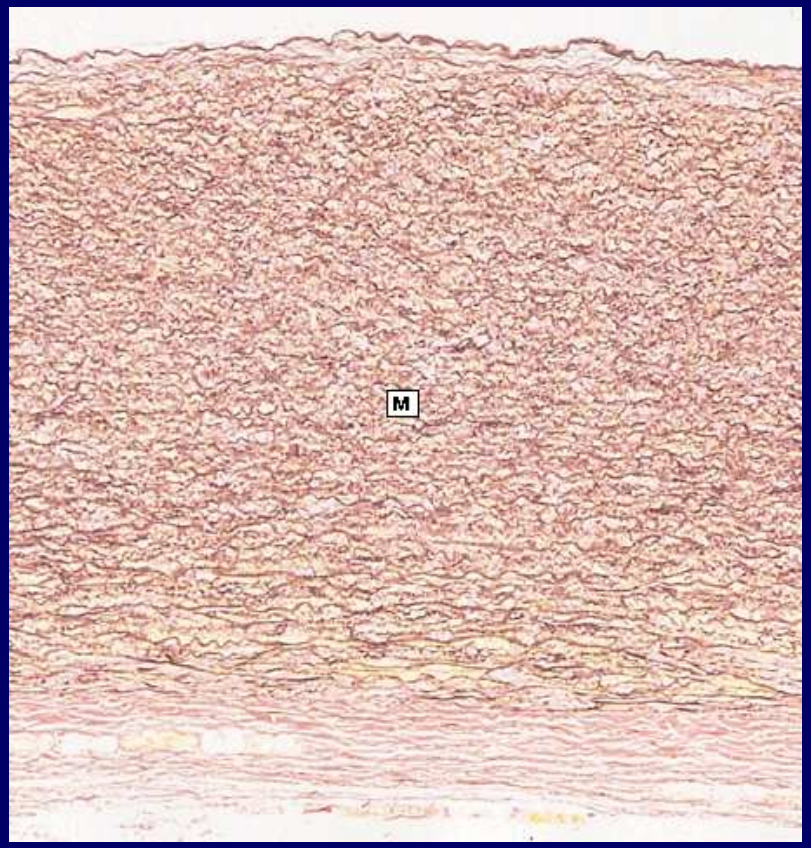
Sistema di conduzione del cuore



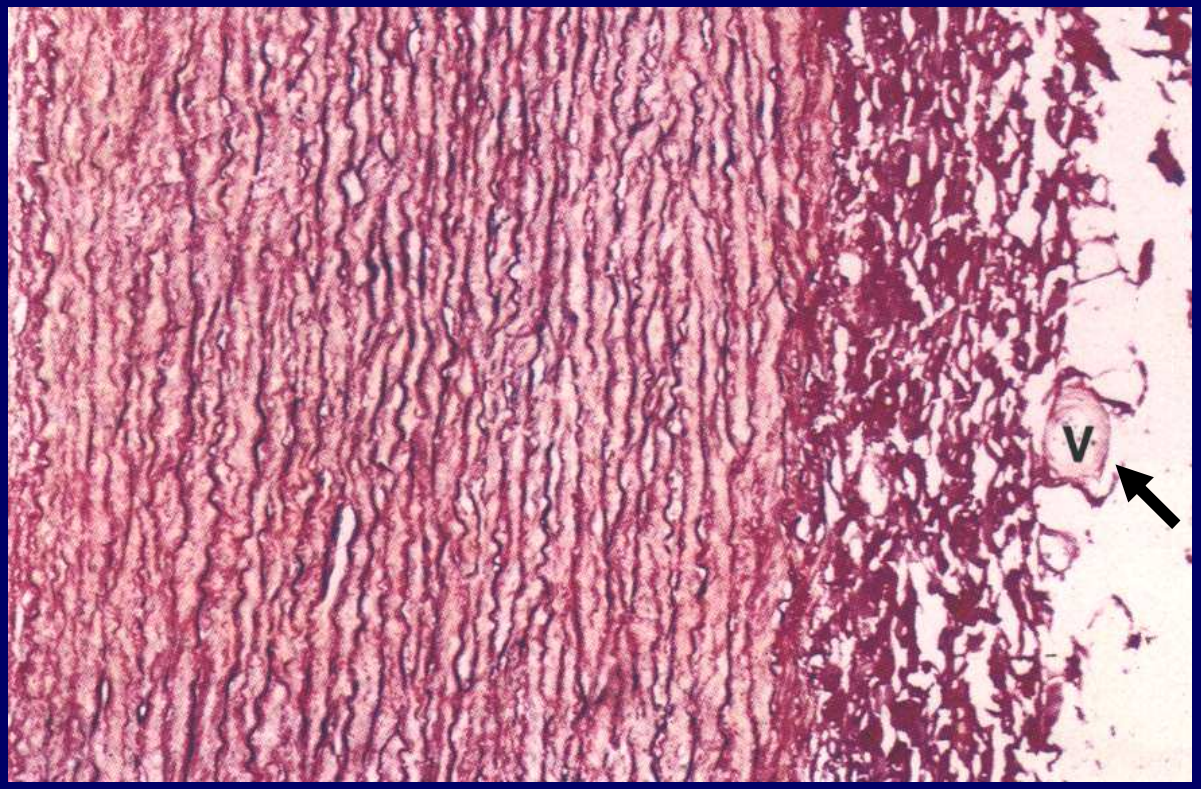
Struttura di un’arteria



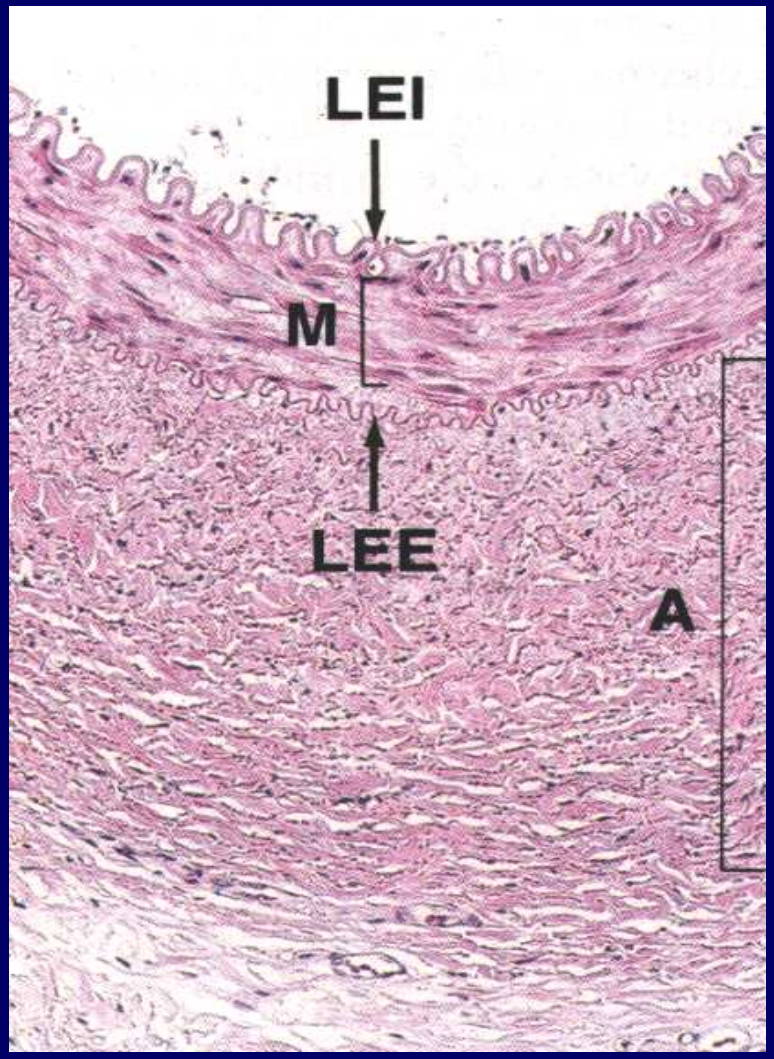
Arteria elastica (aorta)

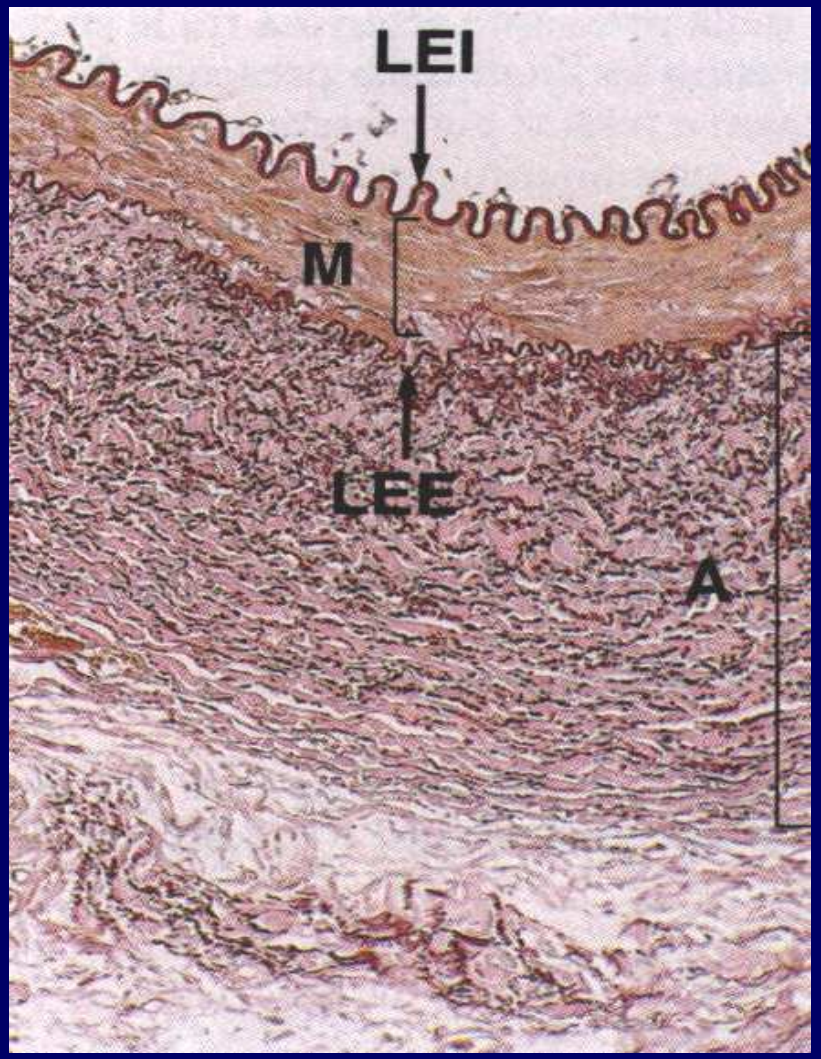


Arteria elastica

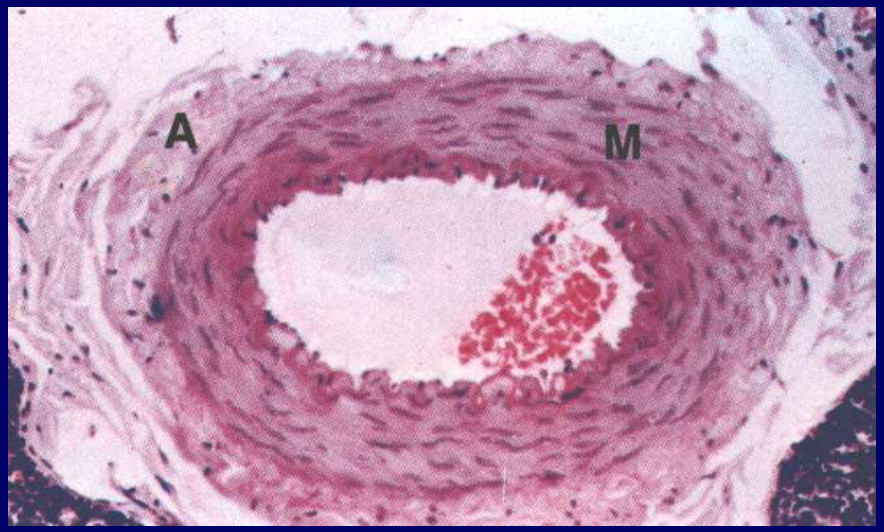


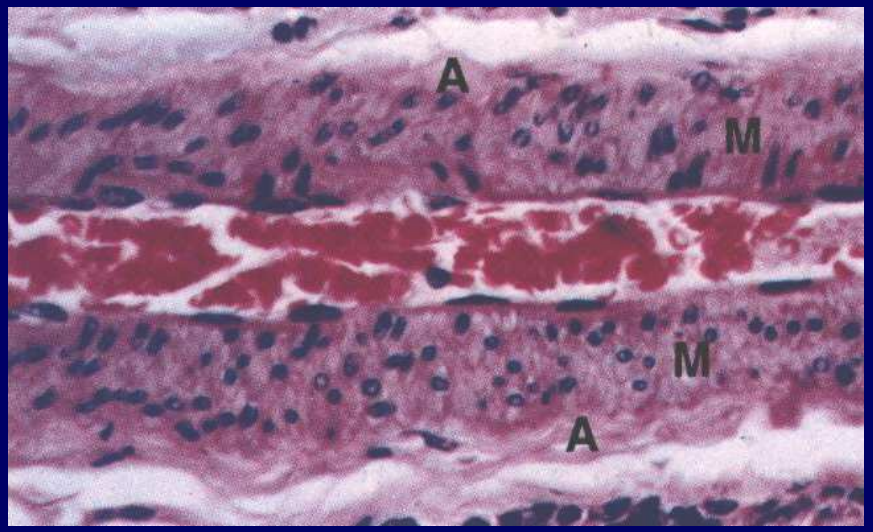
Arteria muscolare

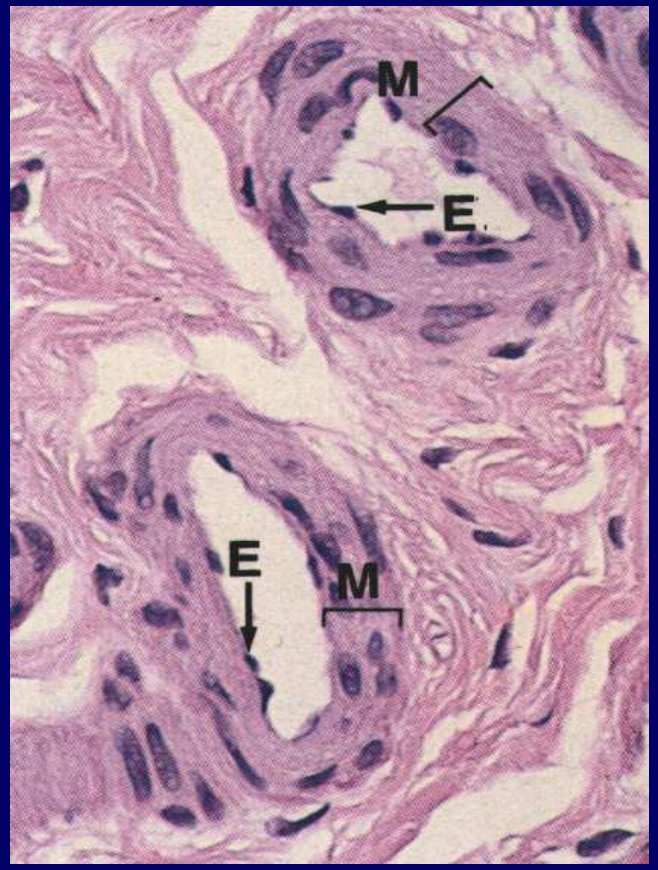




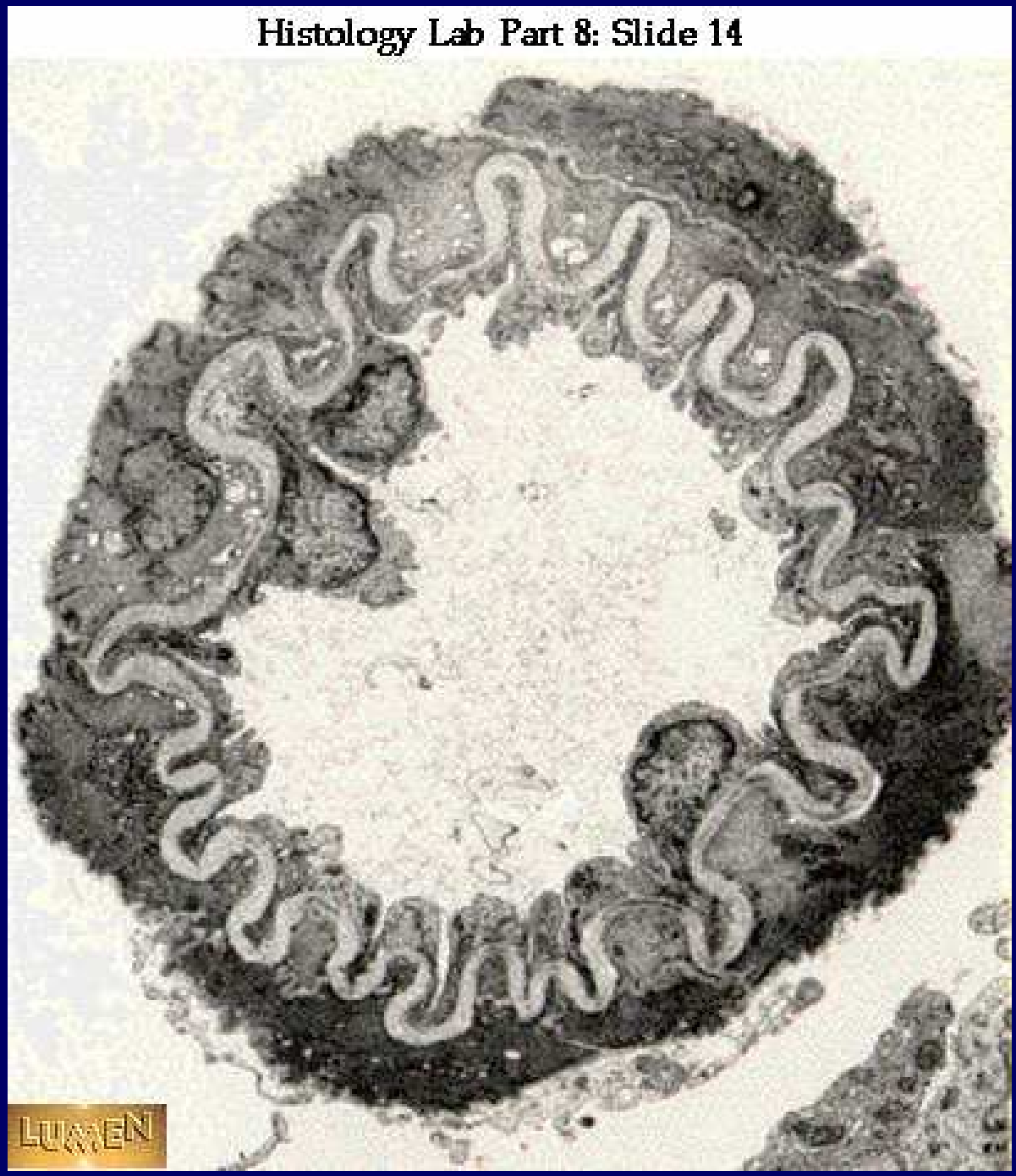
Arteriole (muscolari)



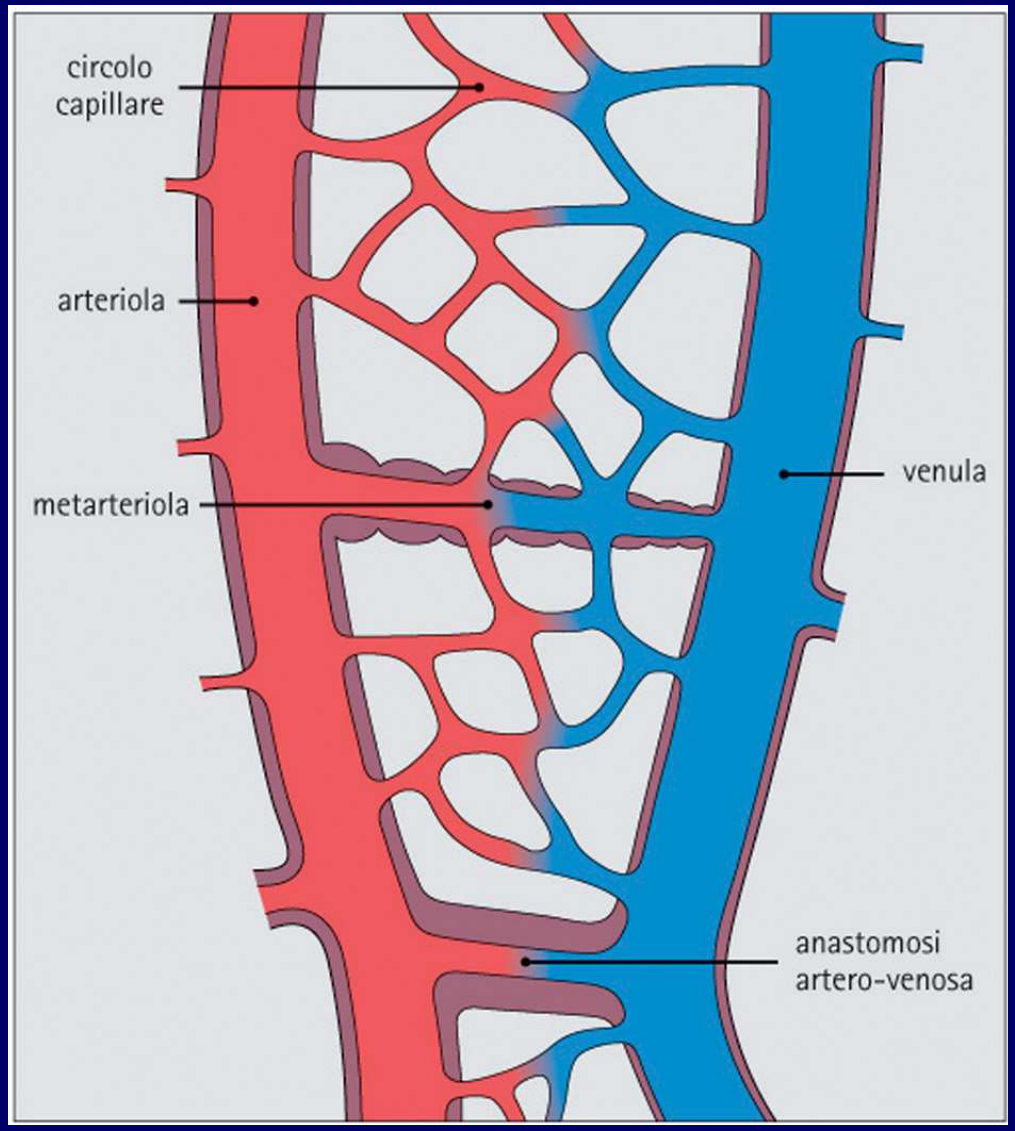




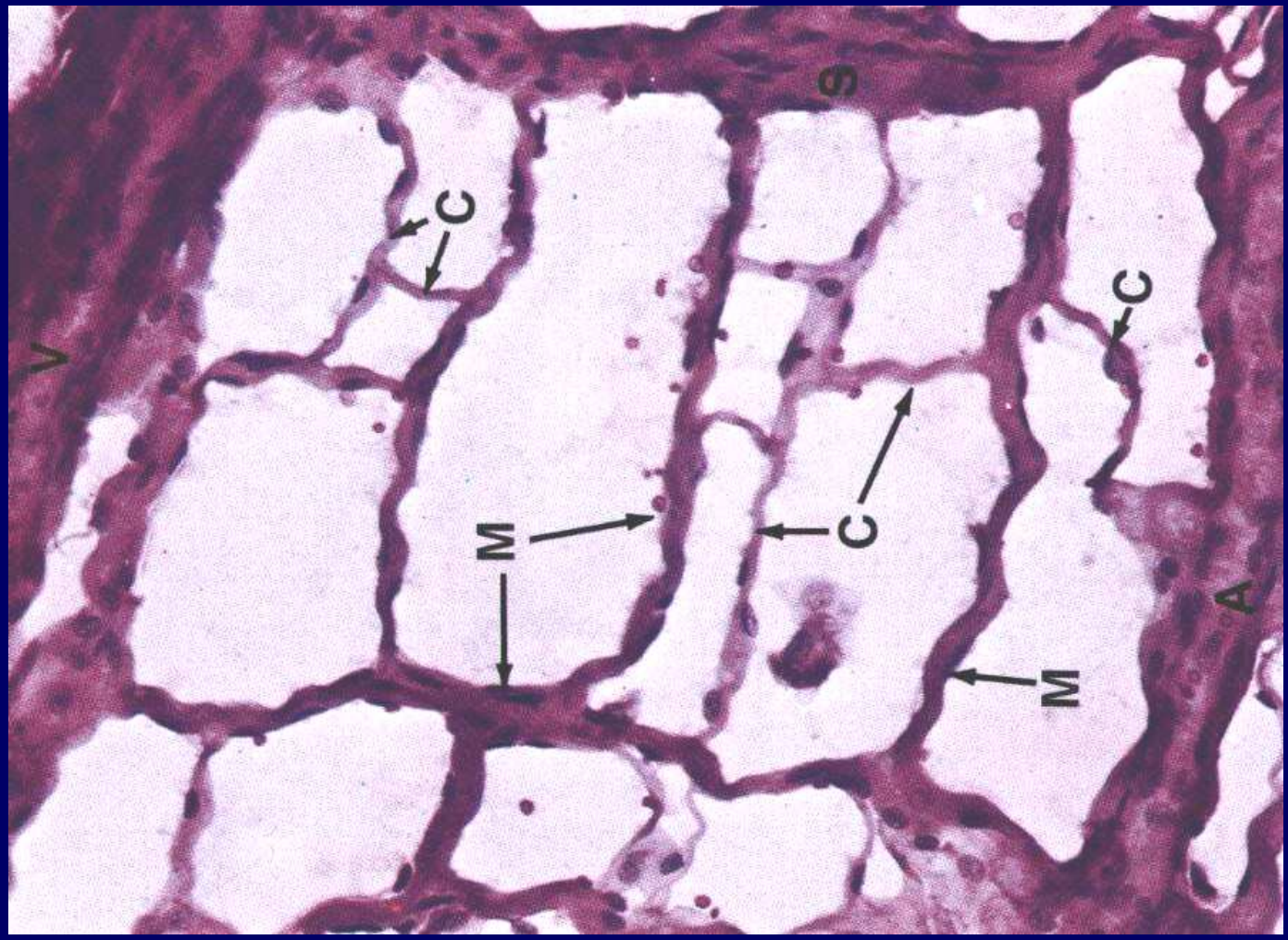
Arteriola (ME)



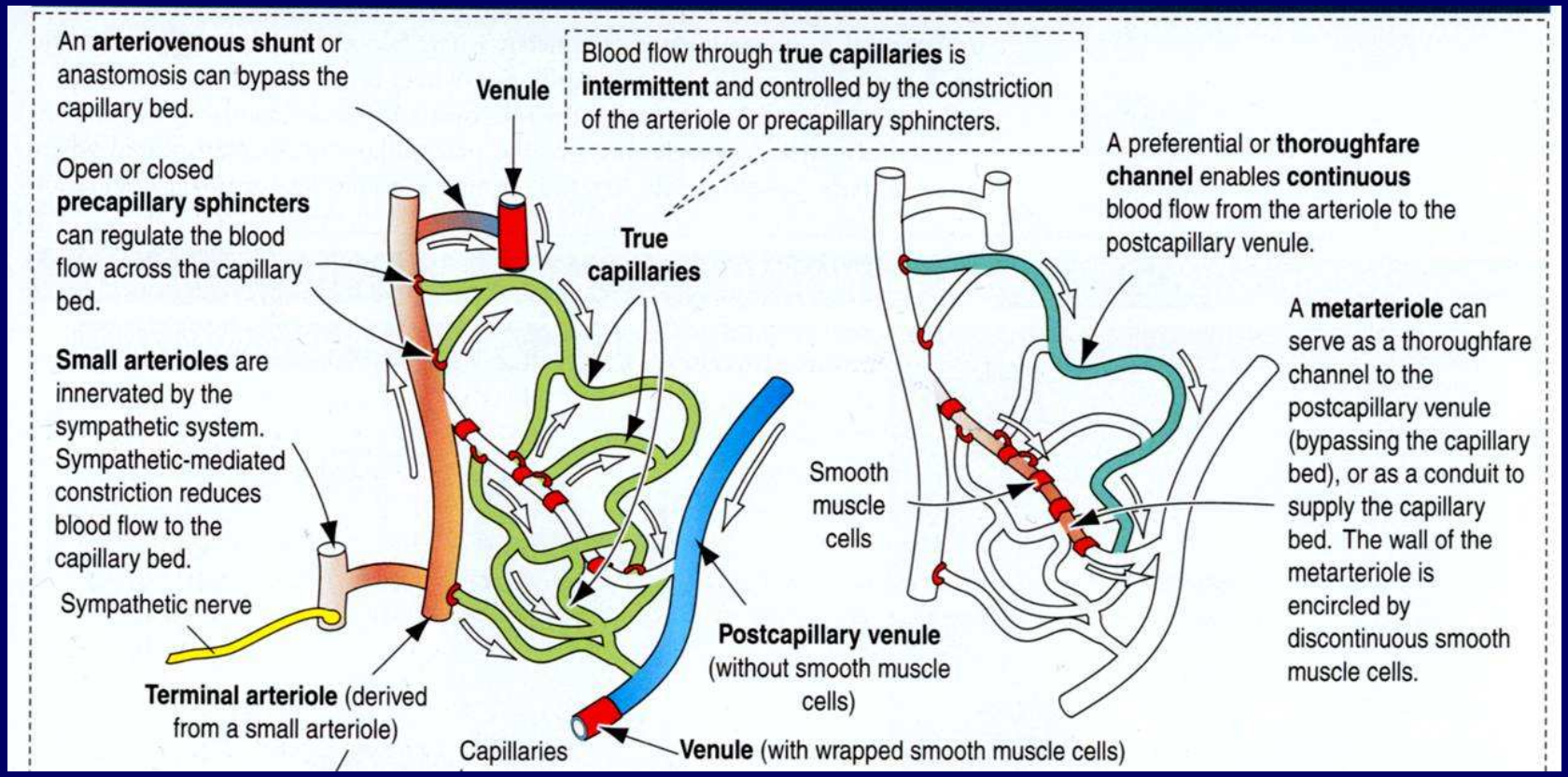
Microcircolo



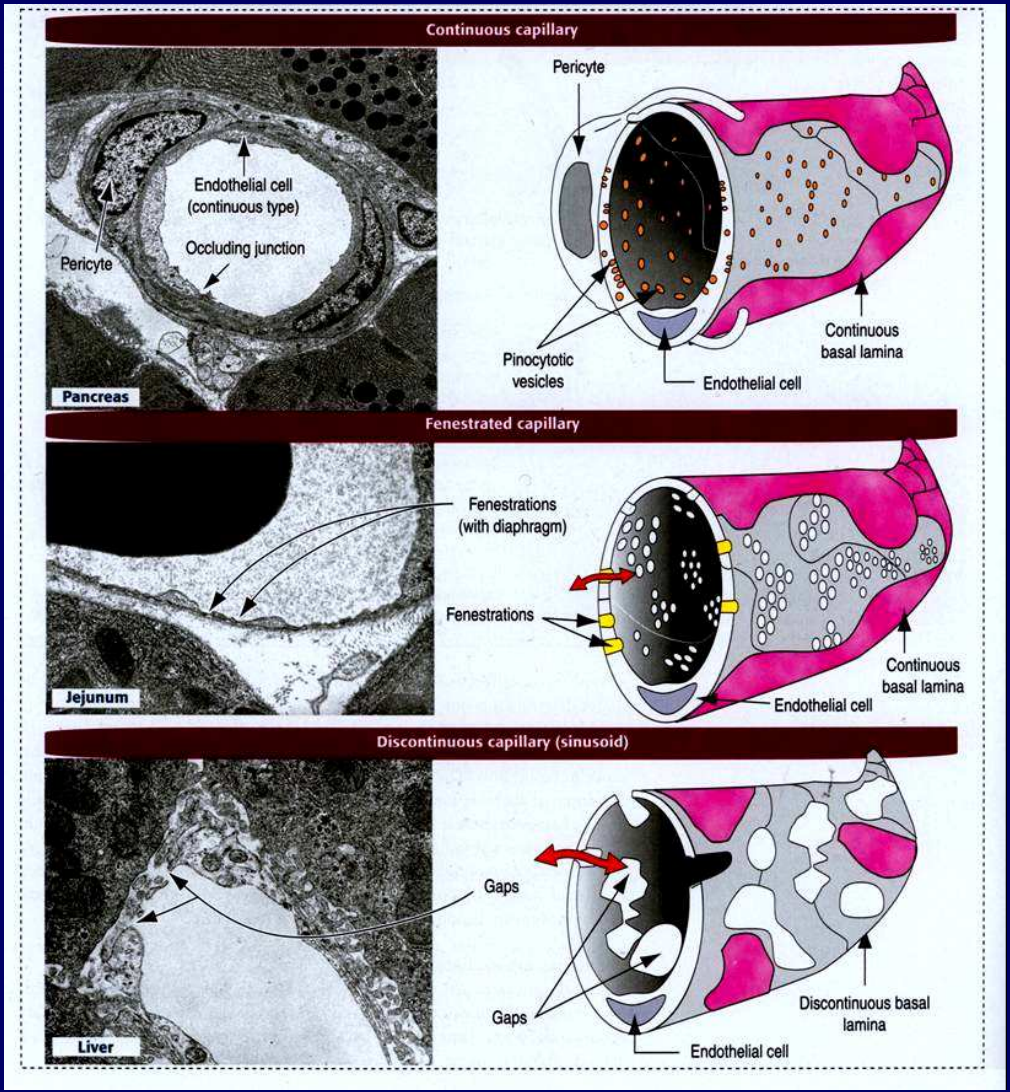
Microcircolo

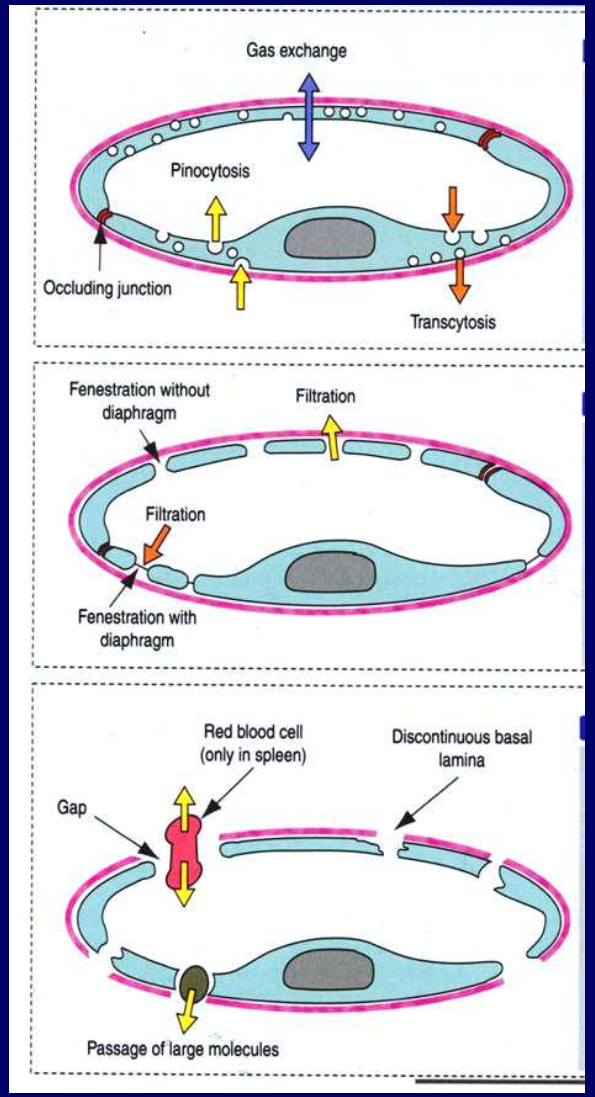


Microcircolazione: componenti e funzione

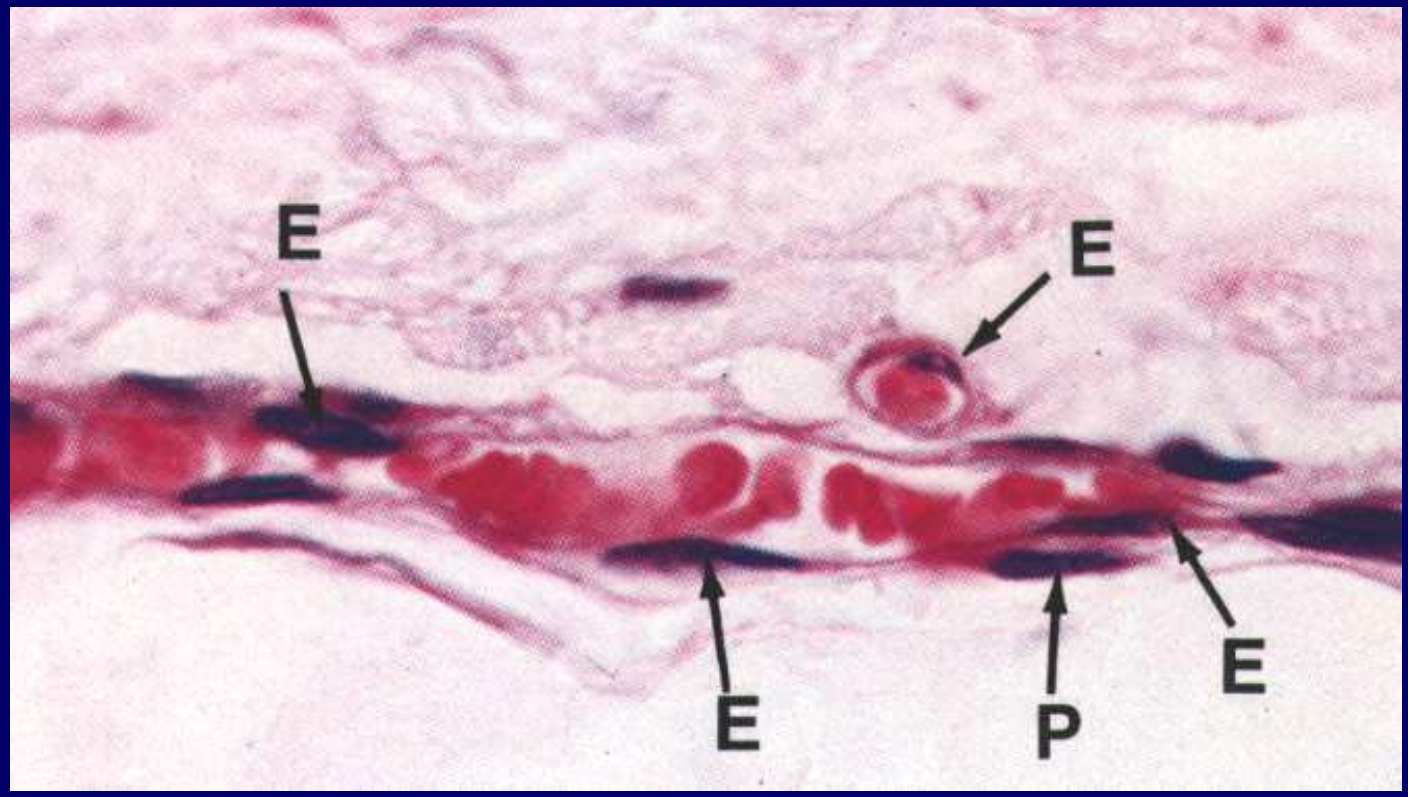


I diversi tipi di capillari



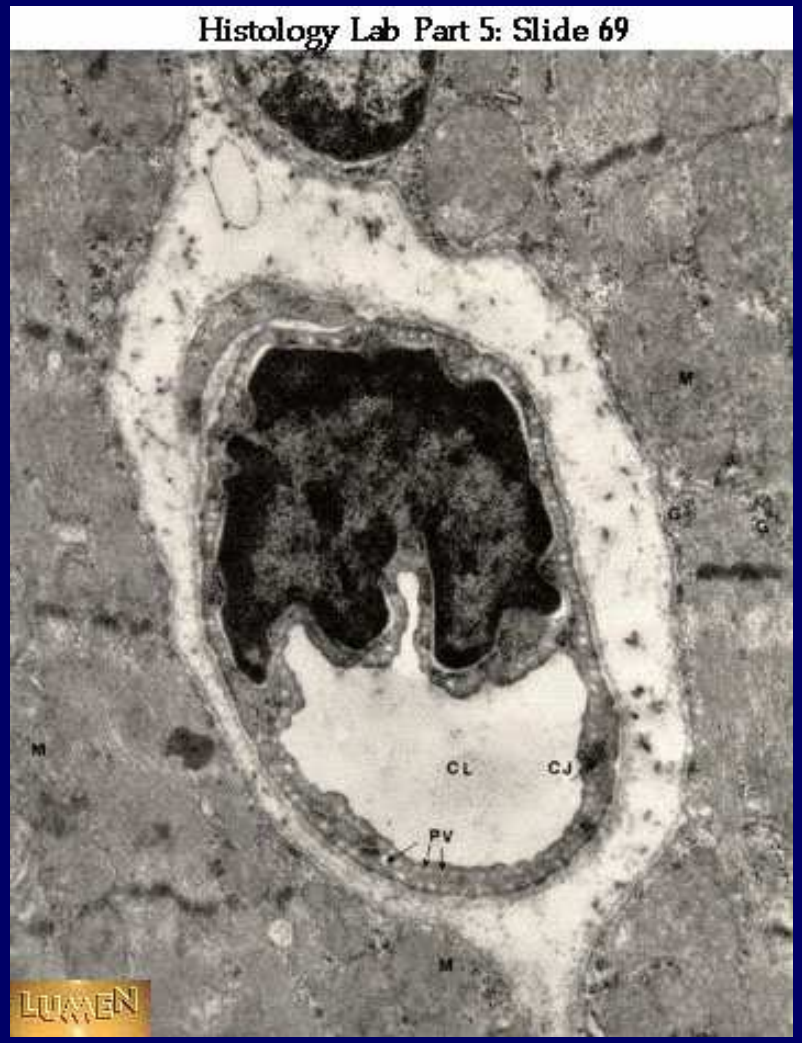


Capillari



PERICITI: avvolgono endotelio capillare: funzione contrattile.

Capillari


Histology Lab Part 5: Slide 69
M
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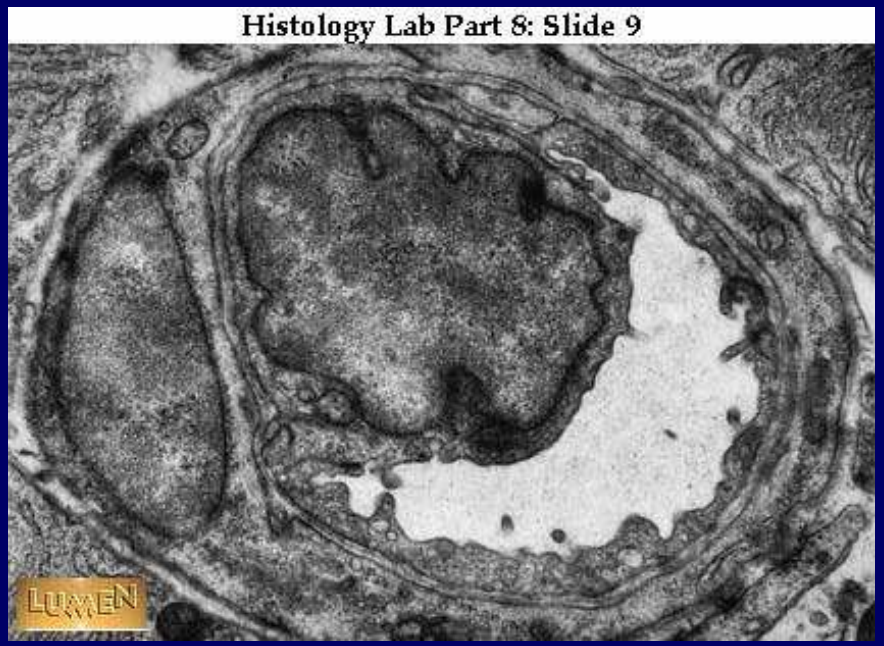
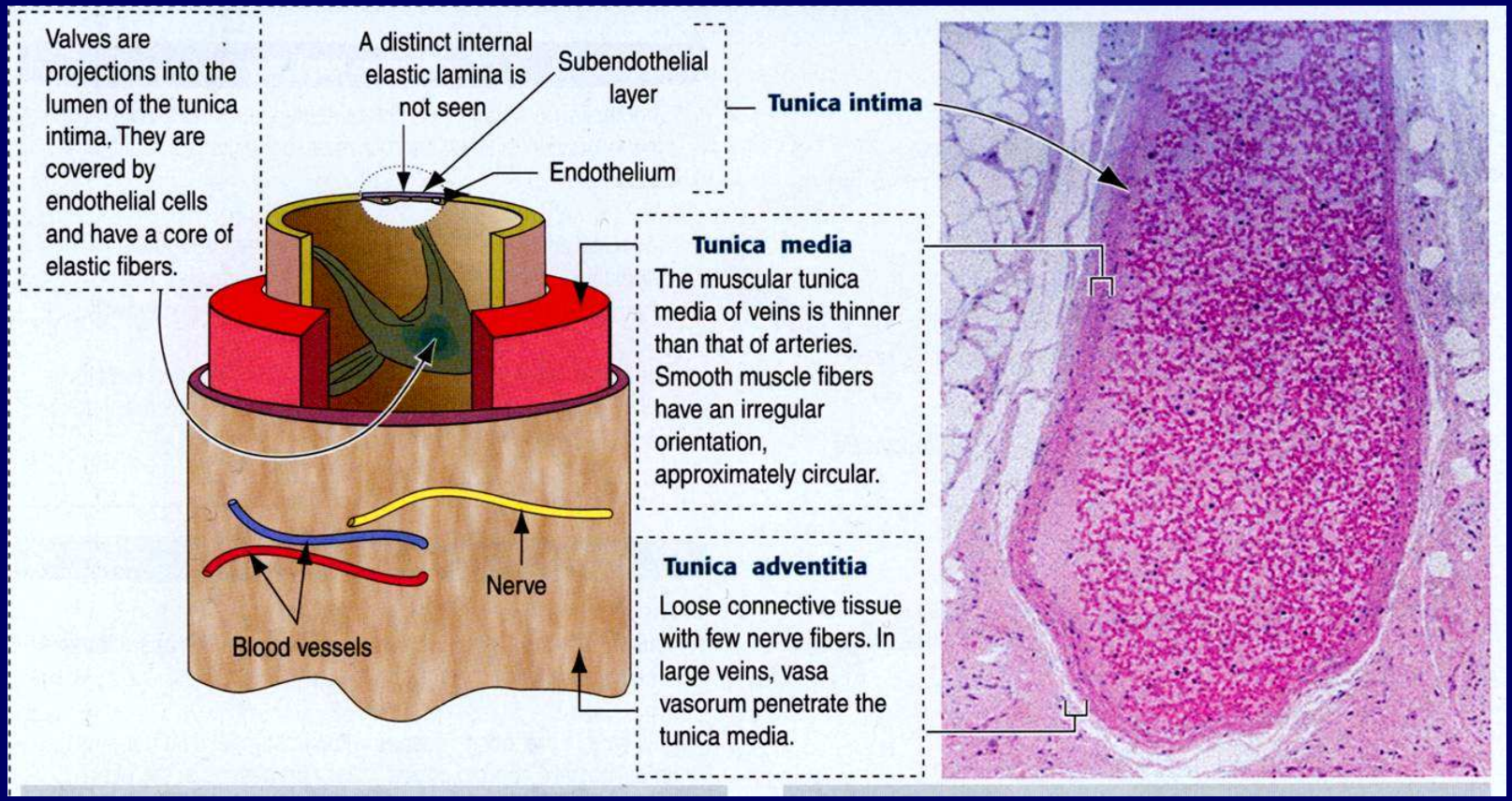
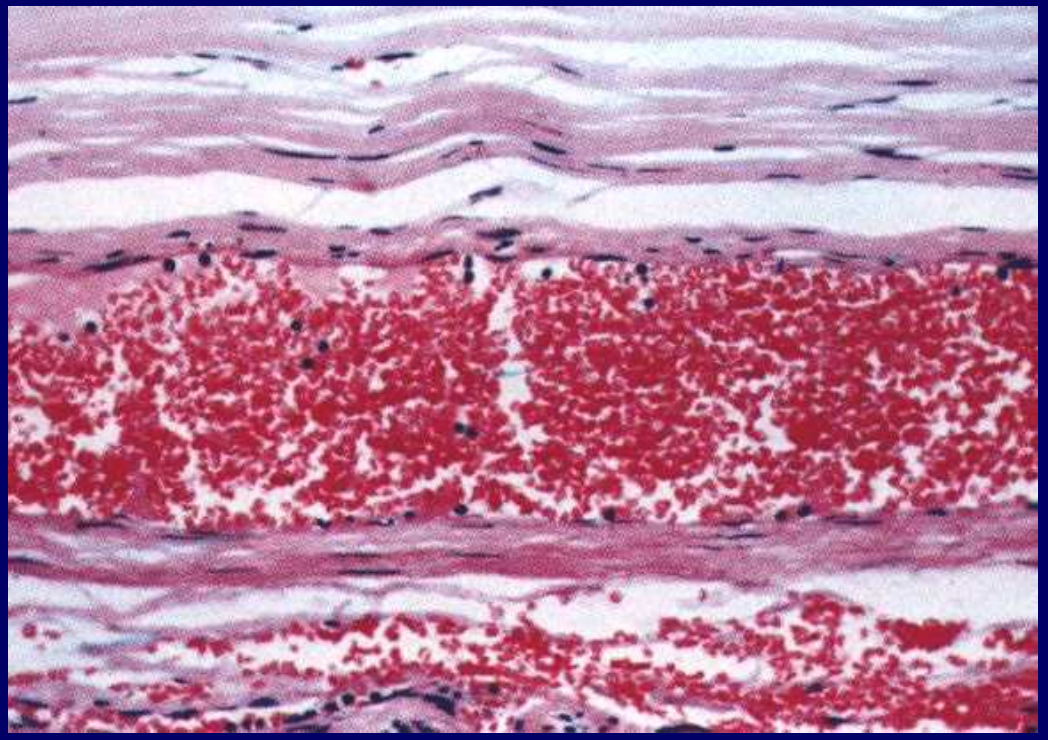
LUMEN


Histology Lab Part 8: Slide 9
LUMEN

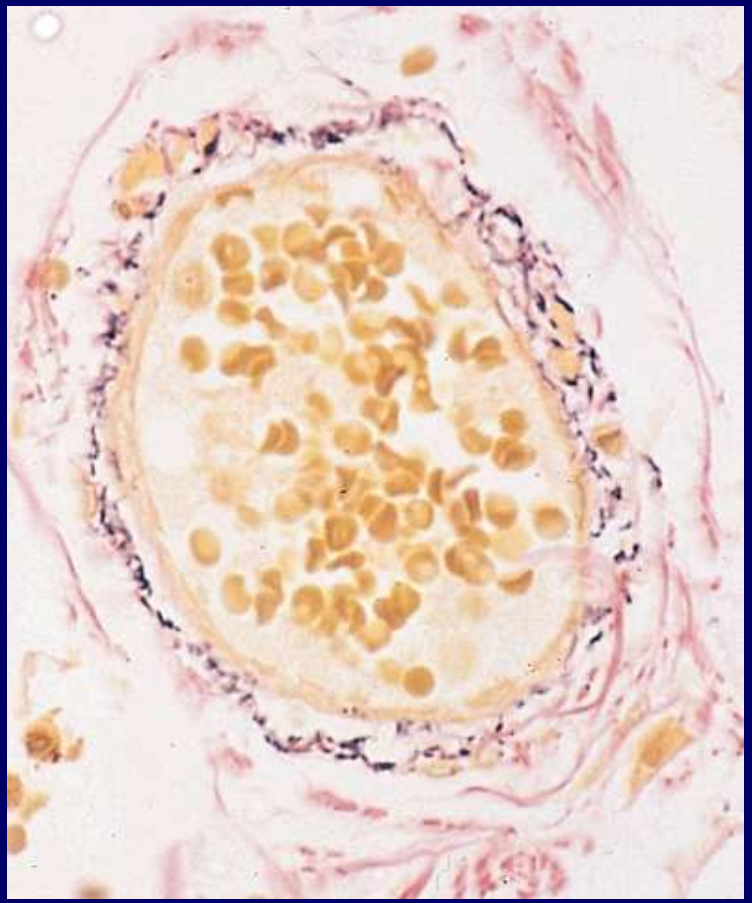
Struttura di una vena

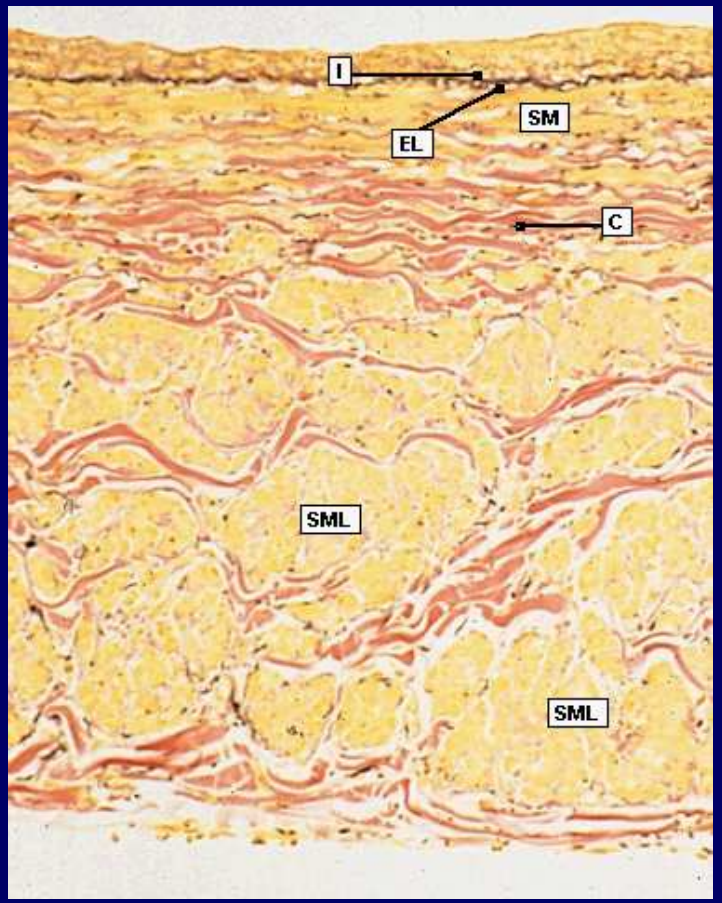


Venula



Vene

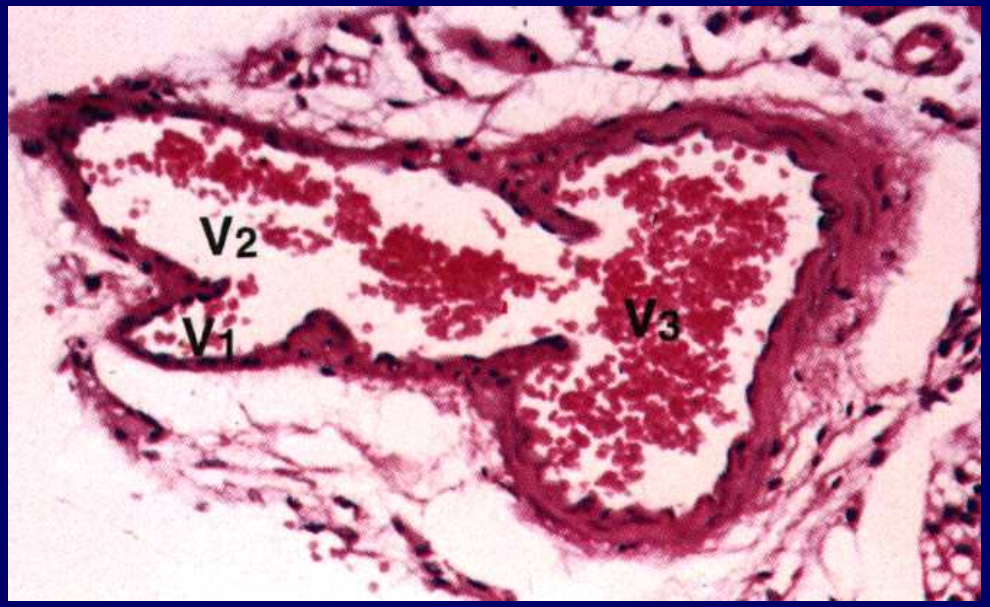




Piccola vena

Grande vena (cava inf)

Valvola venosa



Vasi

a = linfatico

b = venula

c = arteriola

Funzioni dell’endotelio

- Barriera con permeabilità selettiva
- Barriera non trombogenica
- Modula flusso sanguigno e resistenza vascolare
- Regola la proliferazione cellulare
- Regola le risposte immuni
- Mantiene la matrice extracellulare
- Ruolo in metabolismo delle lipoproteine (LDL)

Attività dell'endotelio

- Rilascia fattori anti-aggreganti (prostacicline)
- Rilascia fattori pro-coagulazione (fattore tissutale, FVW, PAF)
- Controlla la crescita/formazione dei vasi
- Modula l'attività delle cellule muscolari liscie (produce NO → vasodilatazione;
  produce endotelina 1 → vasocostrizione)
- Regola il traffico delle cellule infiammatorie
- Produce citochine infiammatorie e fattori di crescita

Formazione di un ateroma con trombo