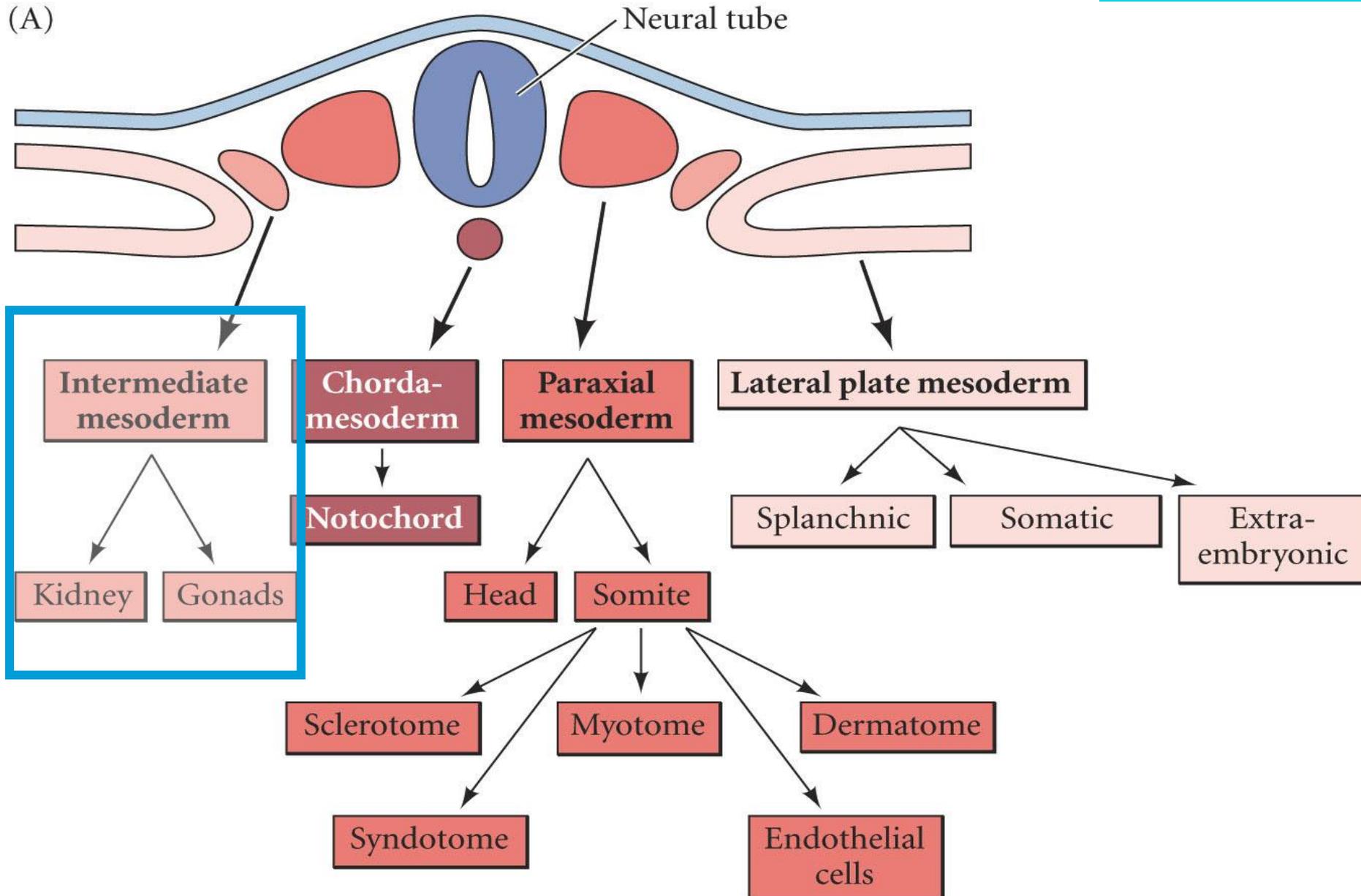
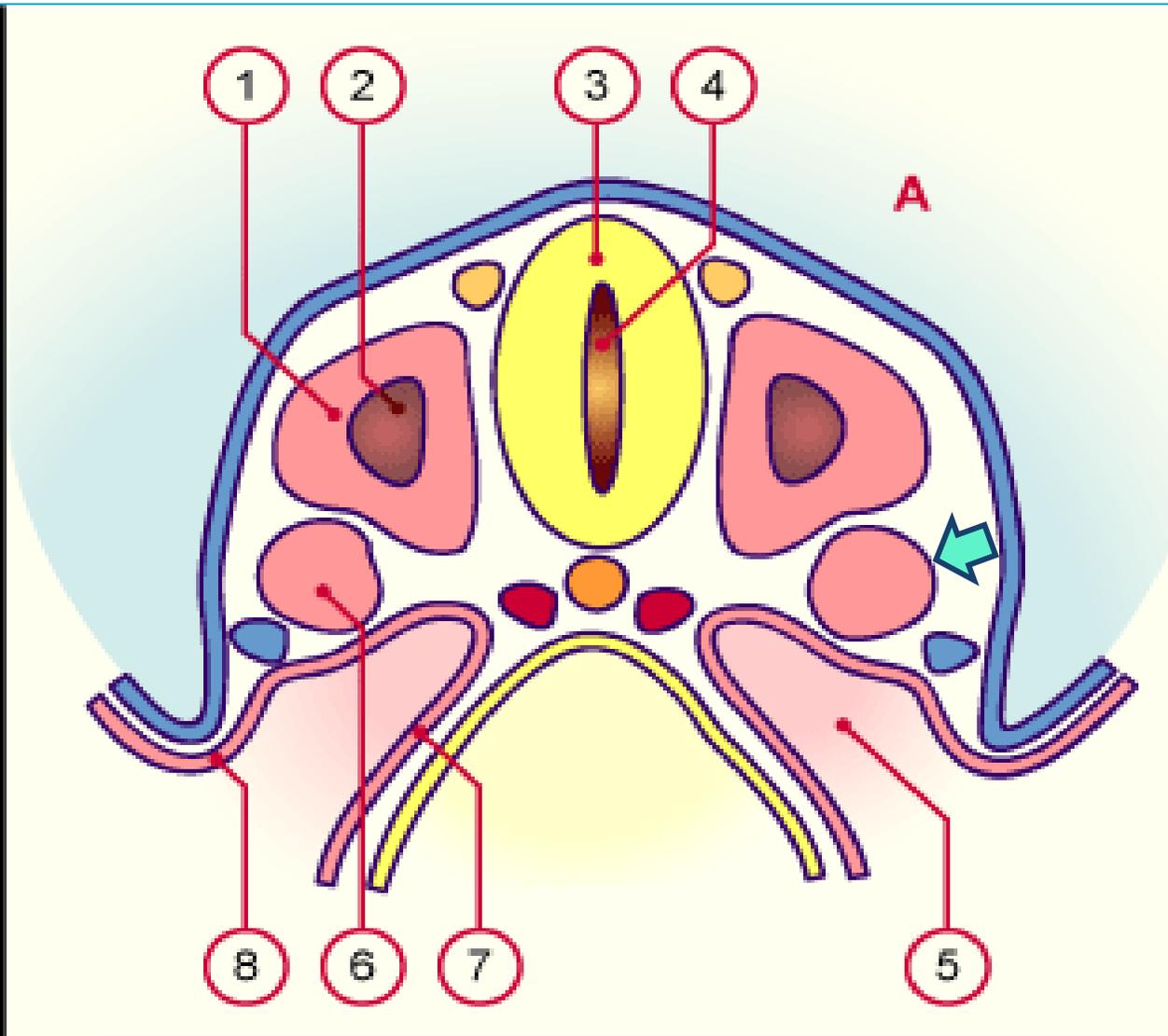


Neurulación



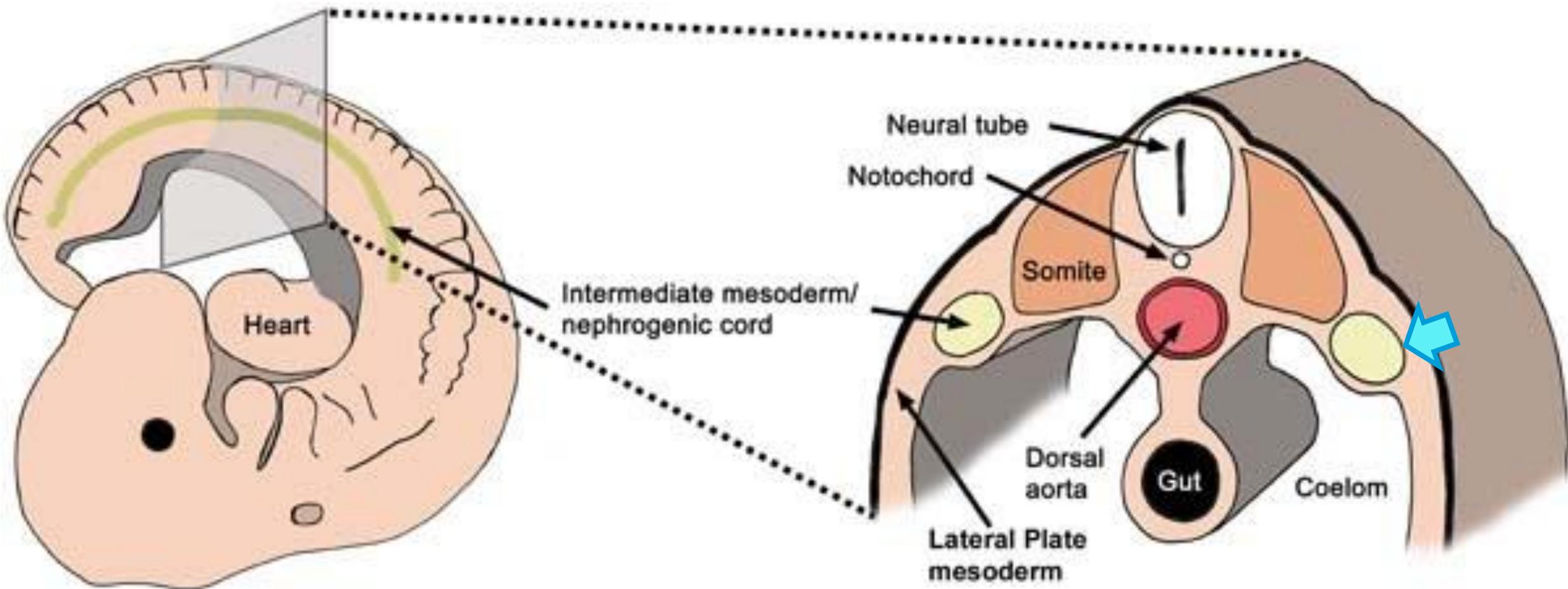
(A)



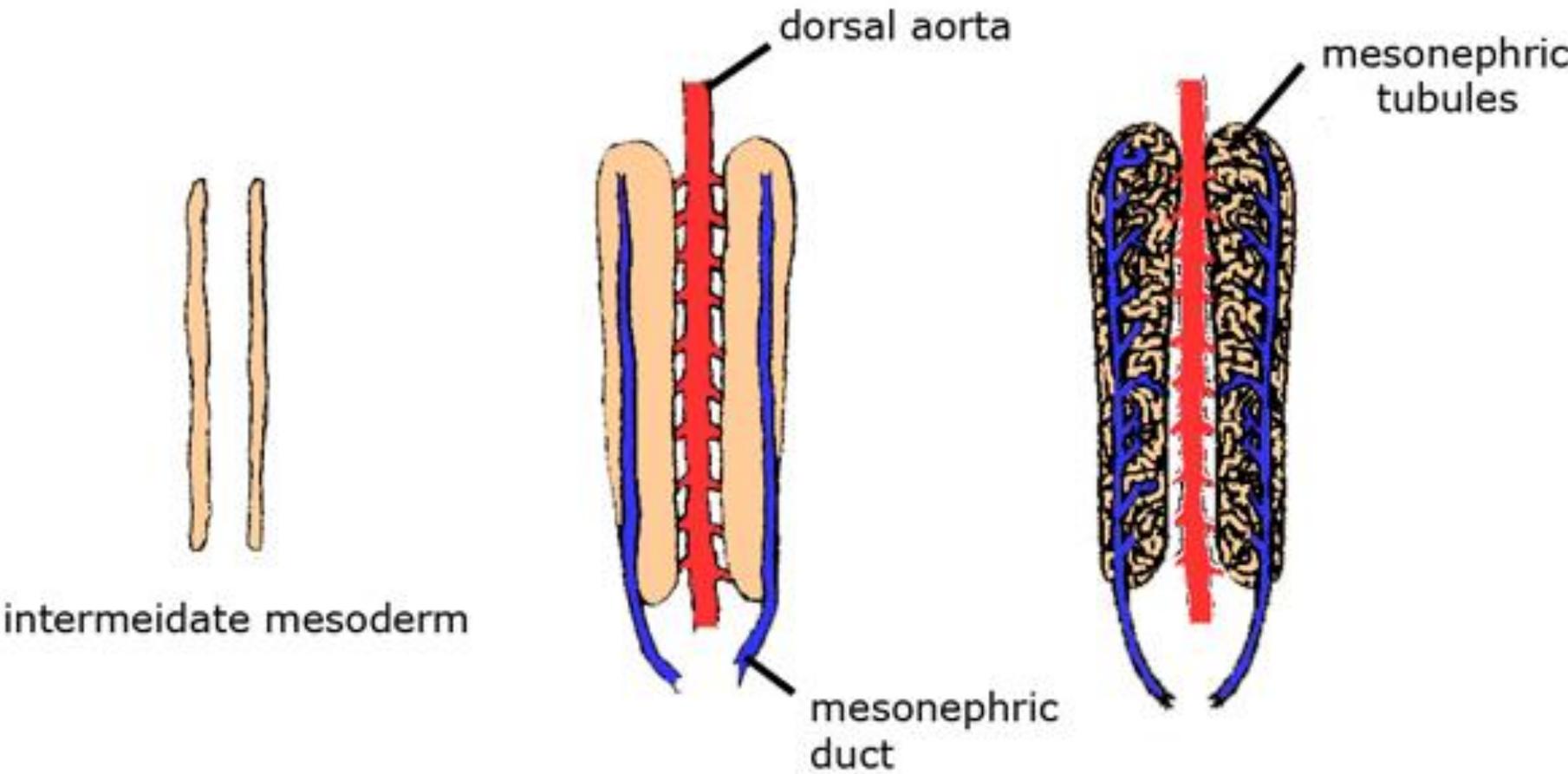


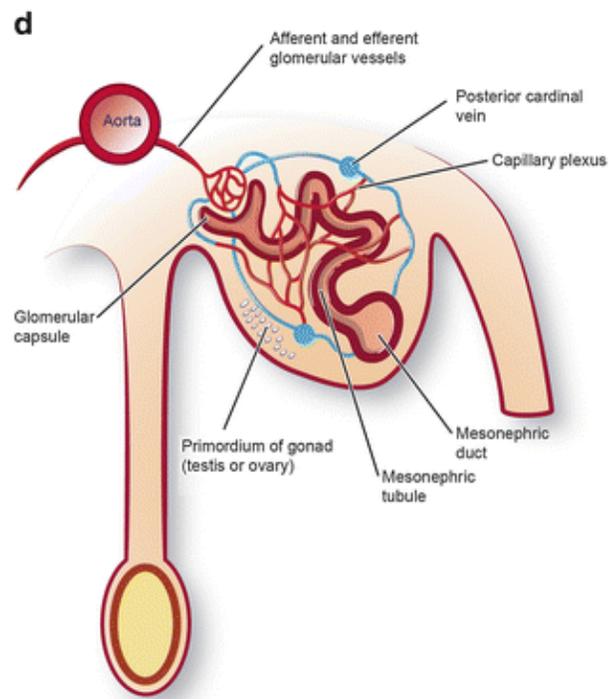
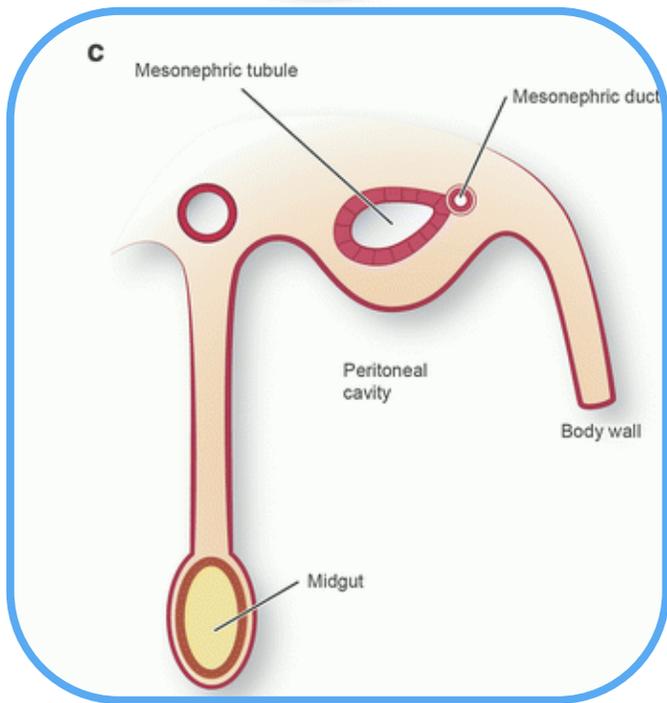
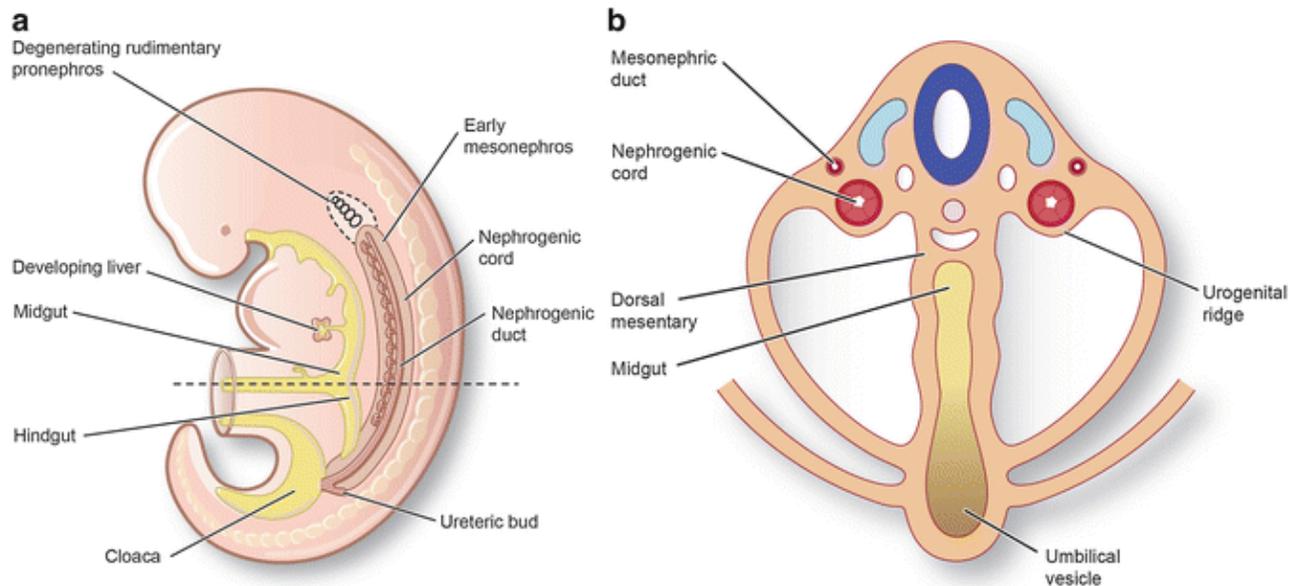
1. Somita
2. Lumen de cada somita
3. Tubo neural
4. Canal endodimal
5. Celoma
6. **Mesodermo intermedio**
7. Esplacnopleura
8. Somatopleura

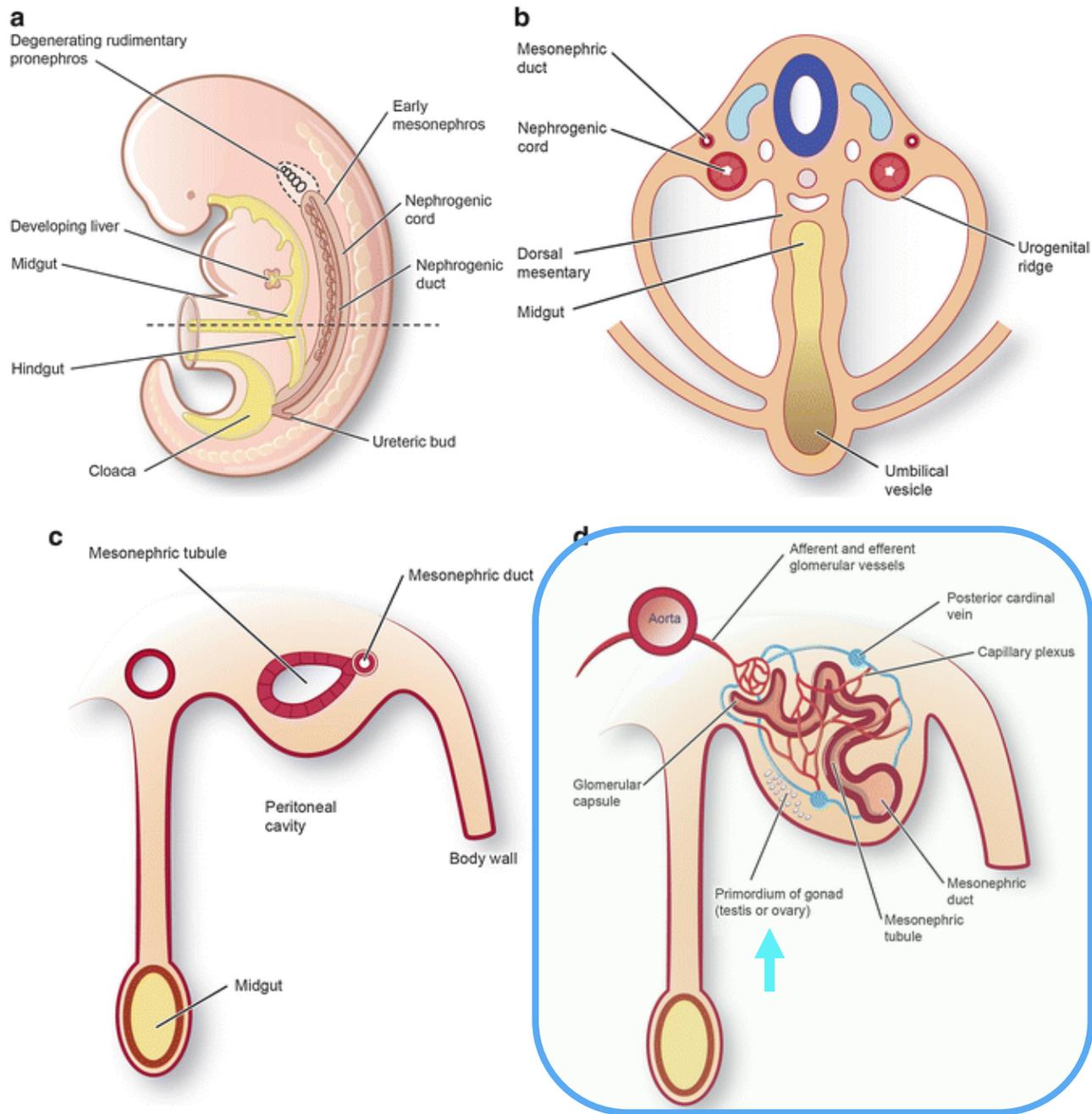


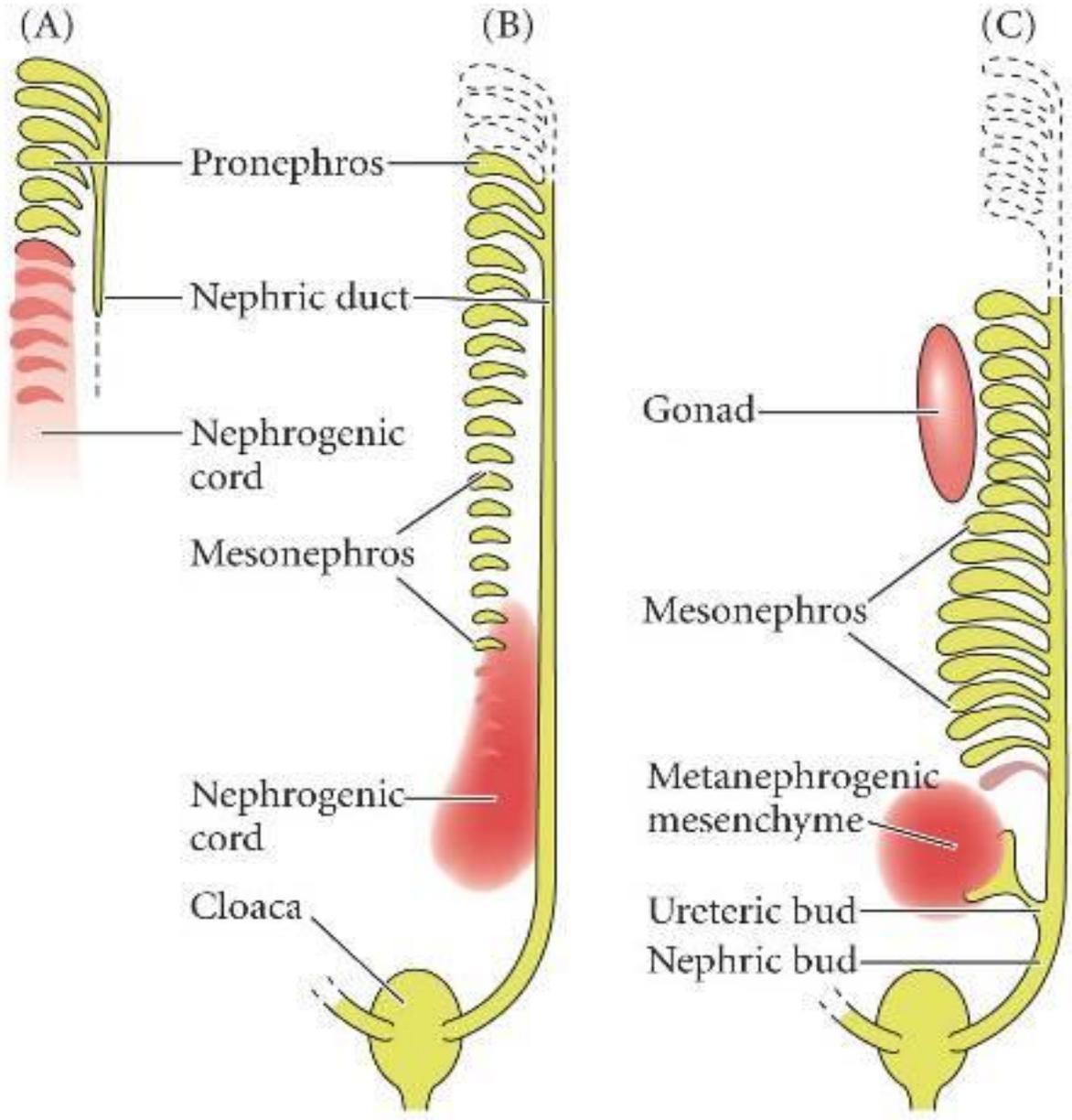


Embryonic progress of mesonephros development

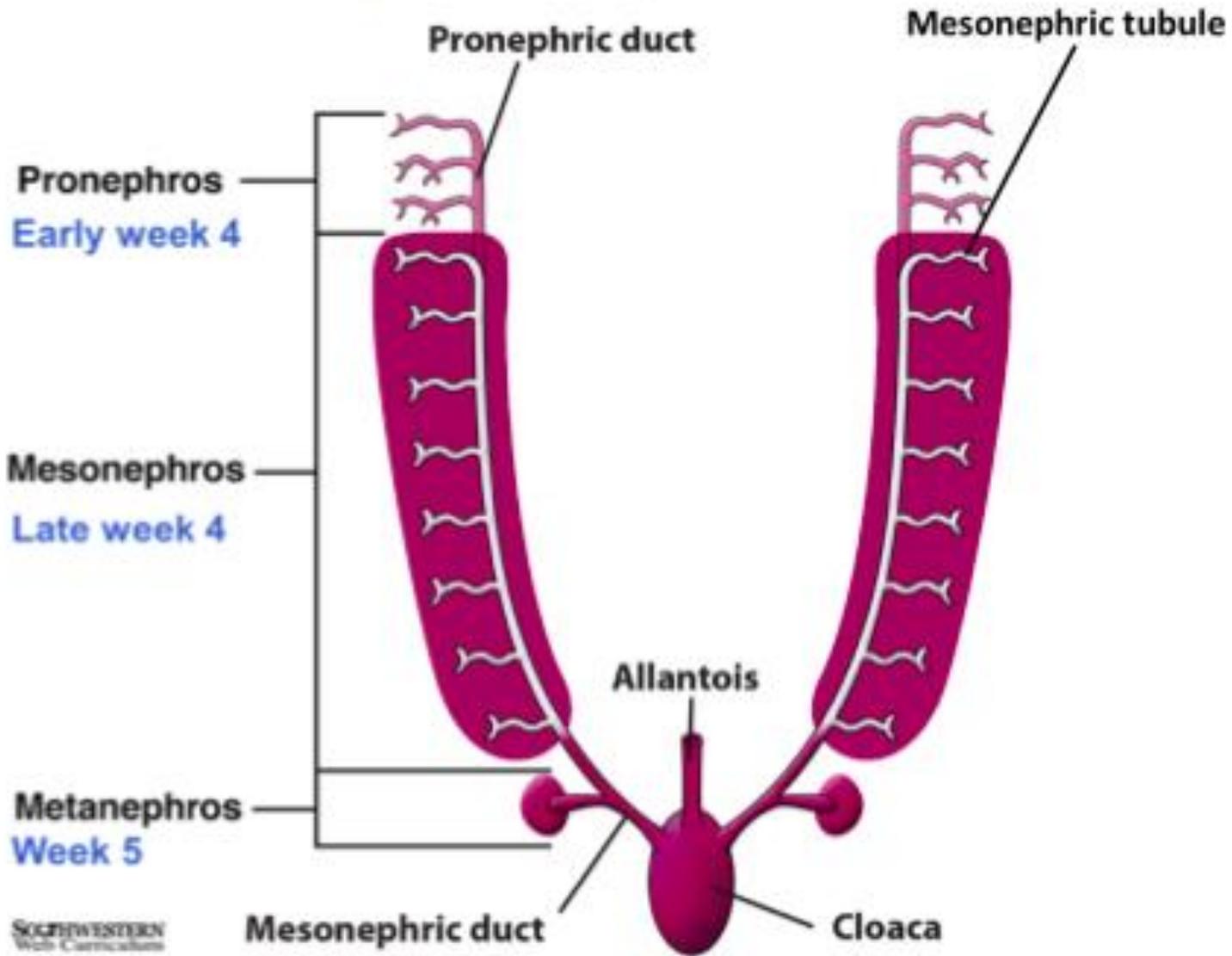


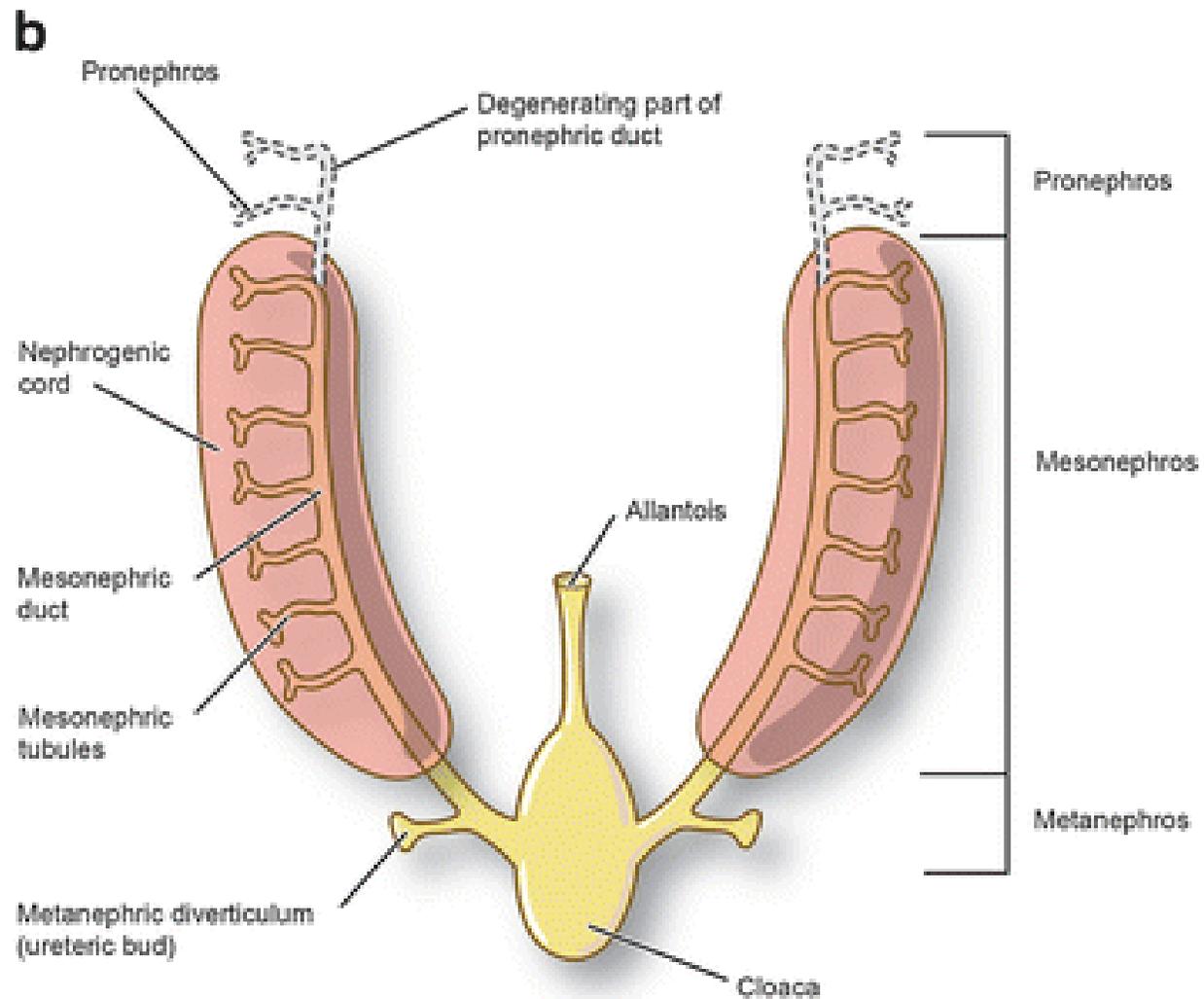
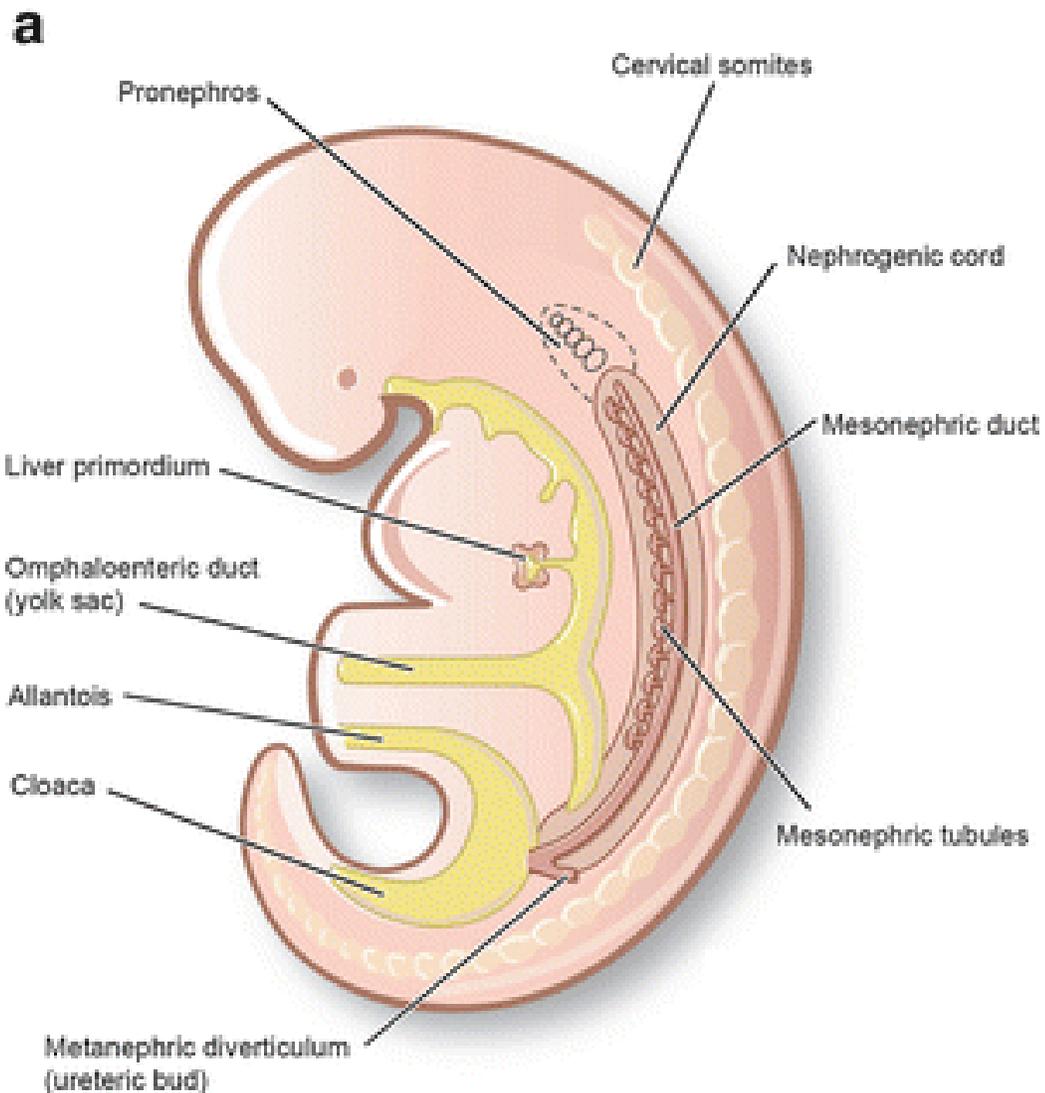


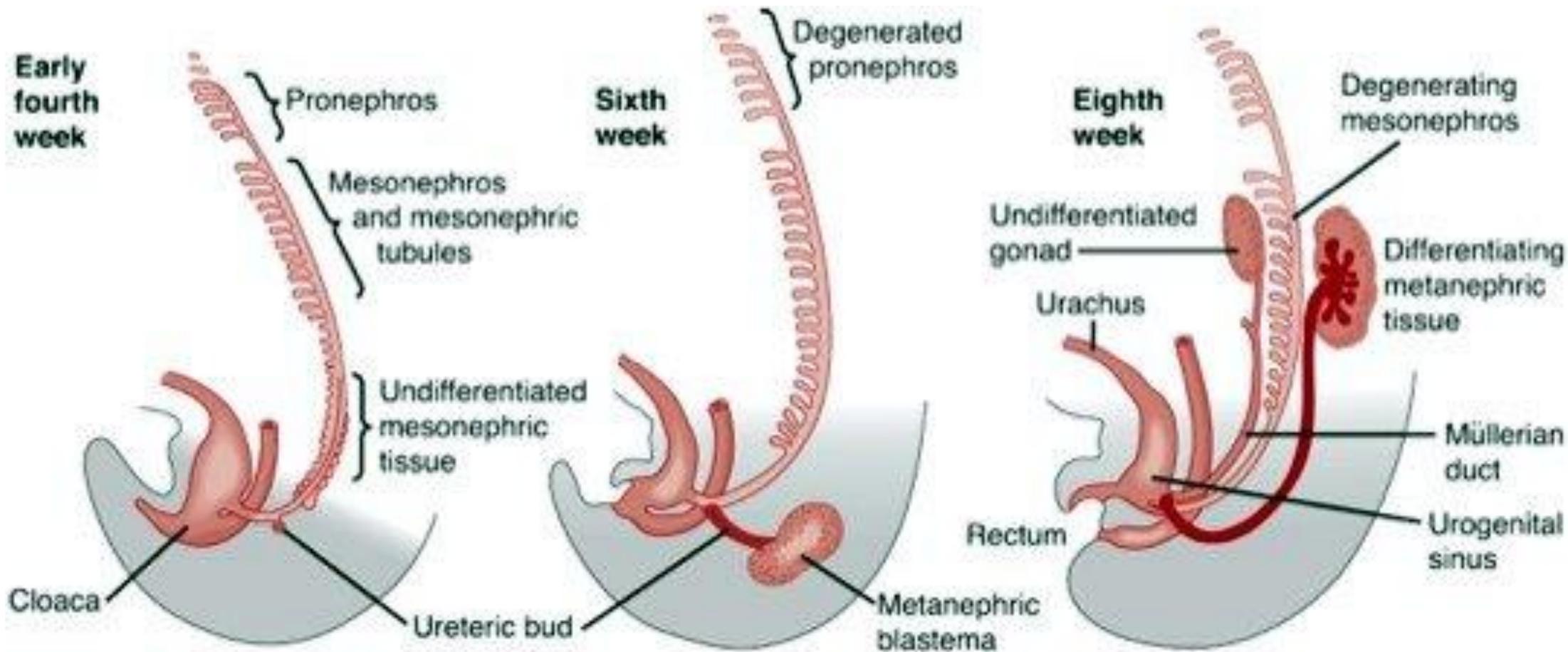




Kidney development



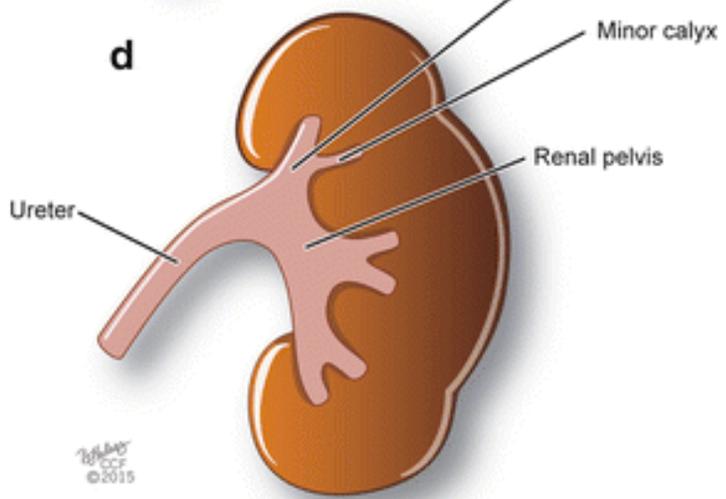
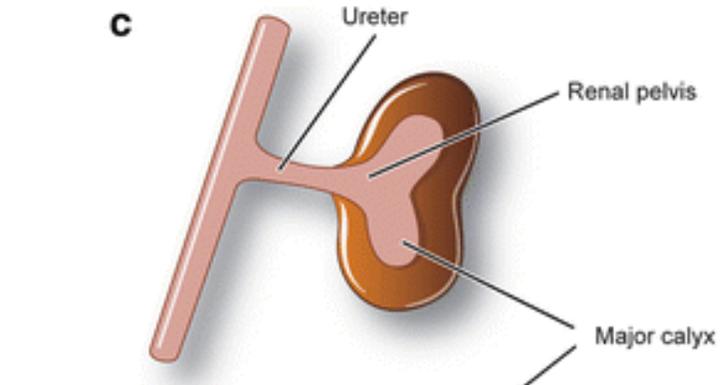
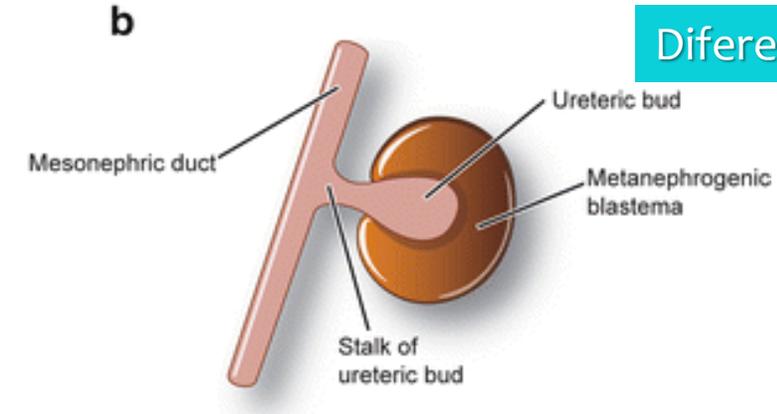
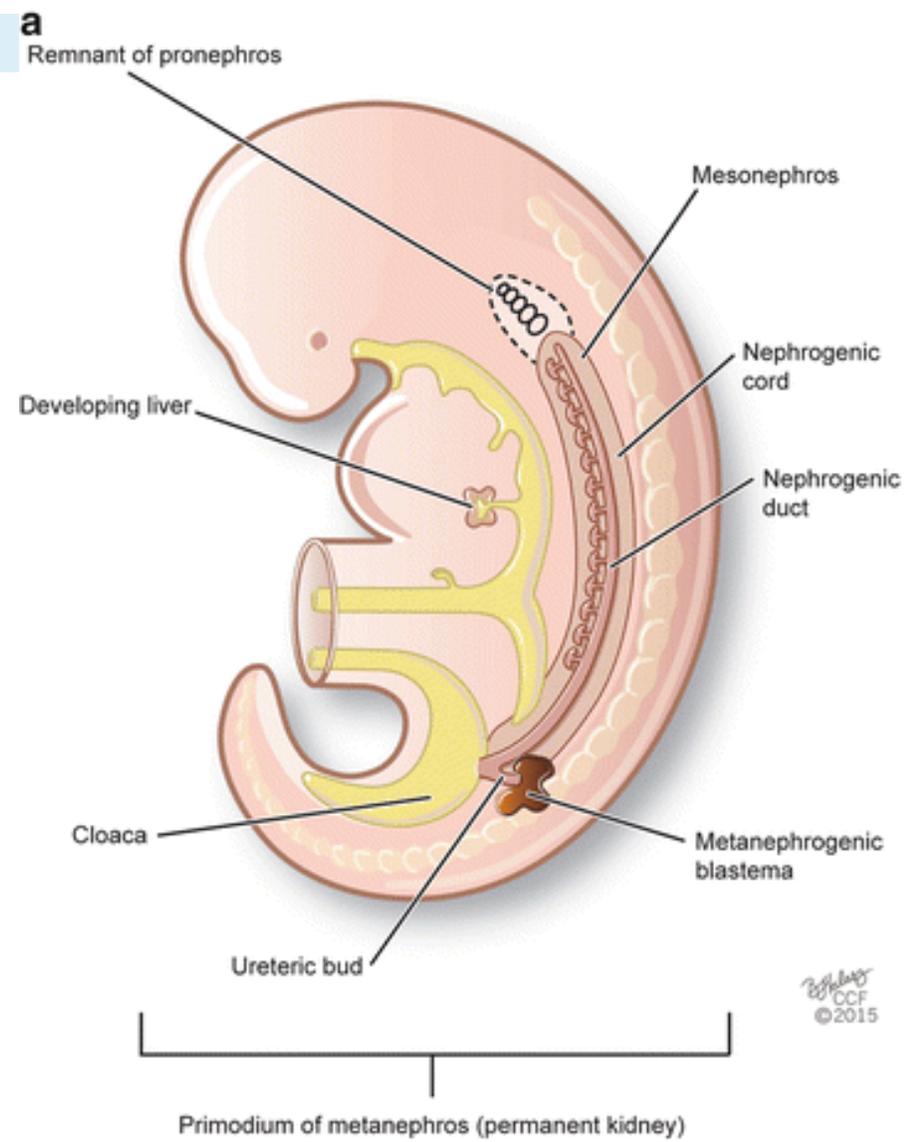




Source: Gerard M. Doherty; *CURRENT Diagnosis & Treatment: Surgery, 13th Edition*: <http://www.accessmedicine.com>

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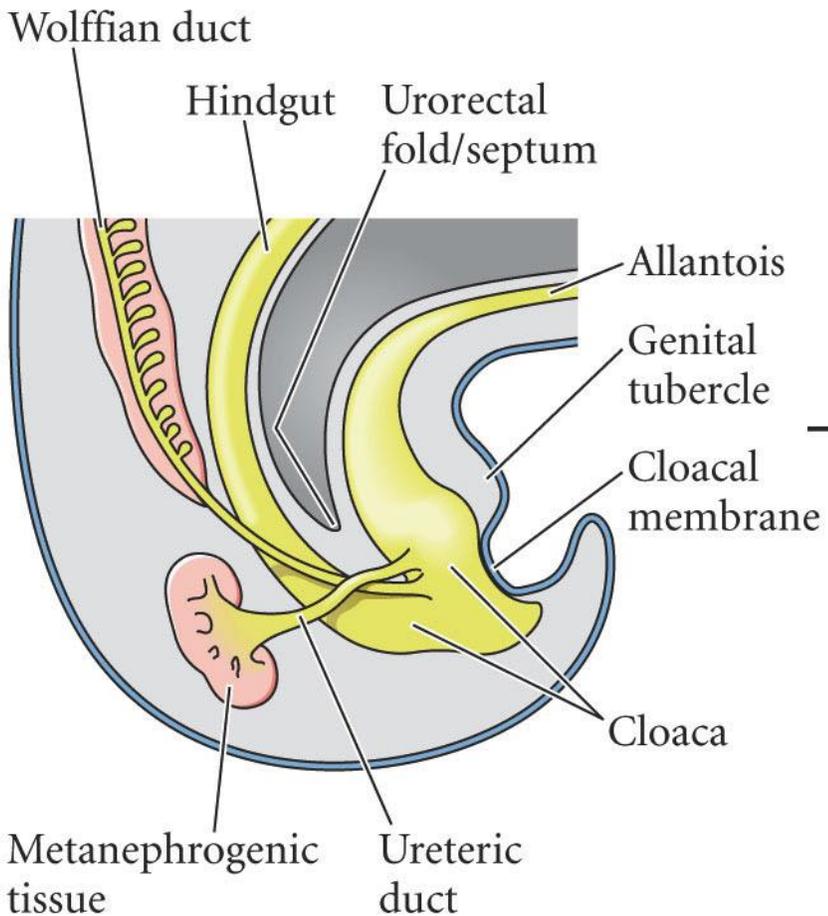


© 2015

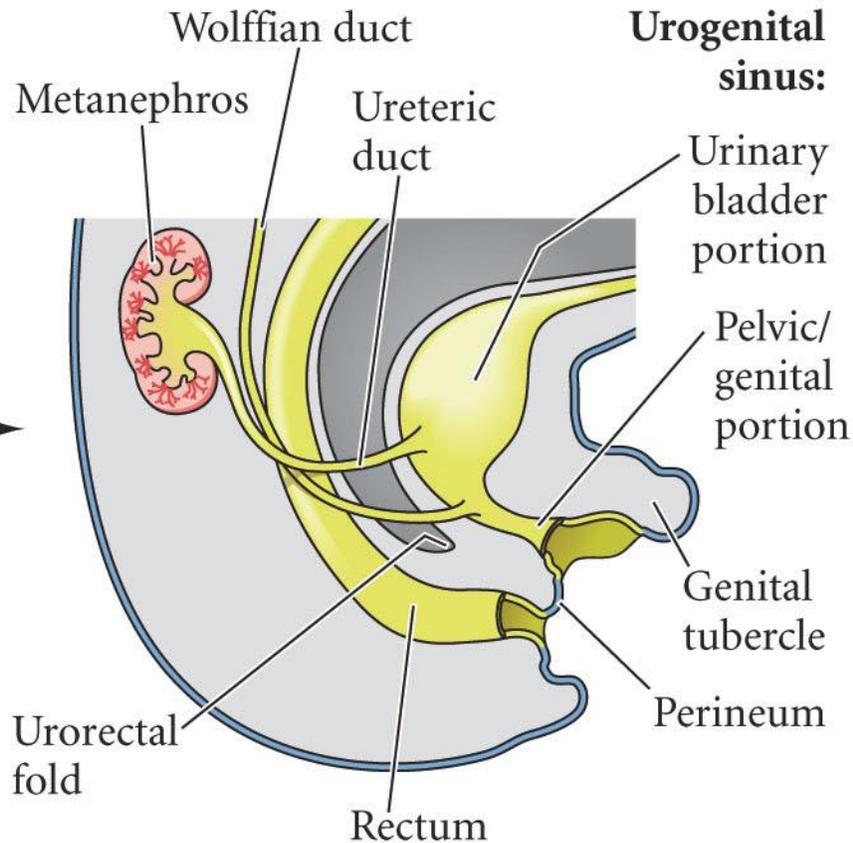
© 2015

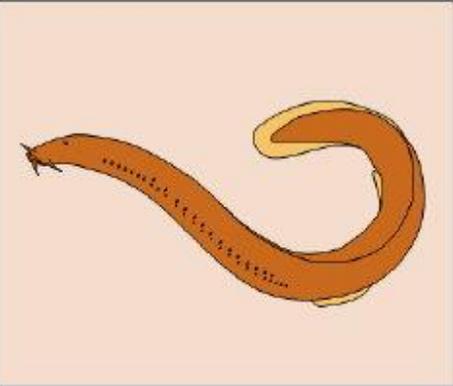
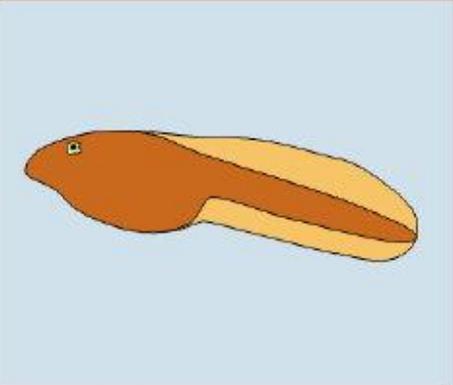
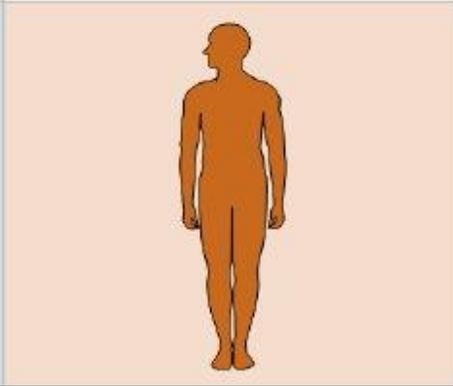


(A)

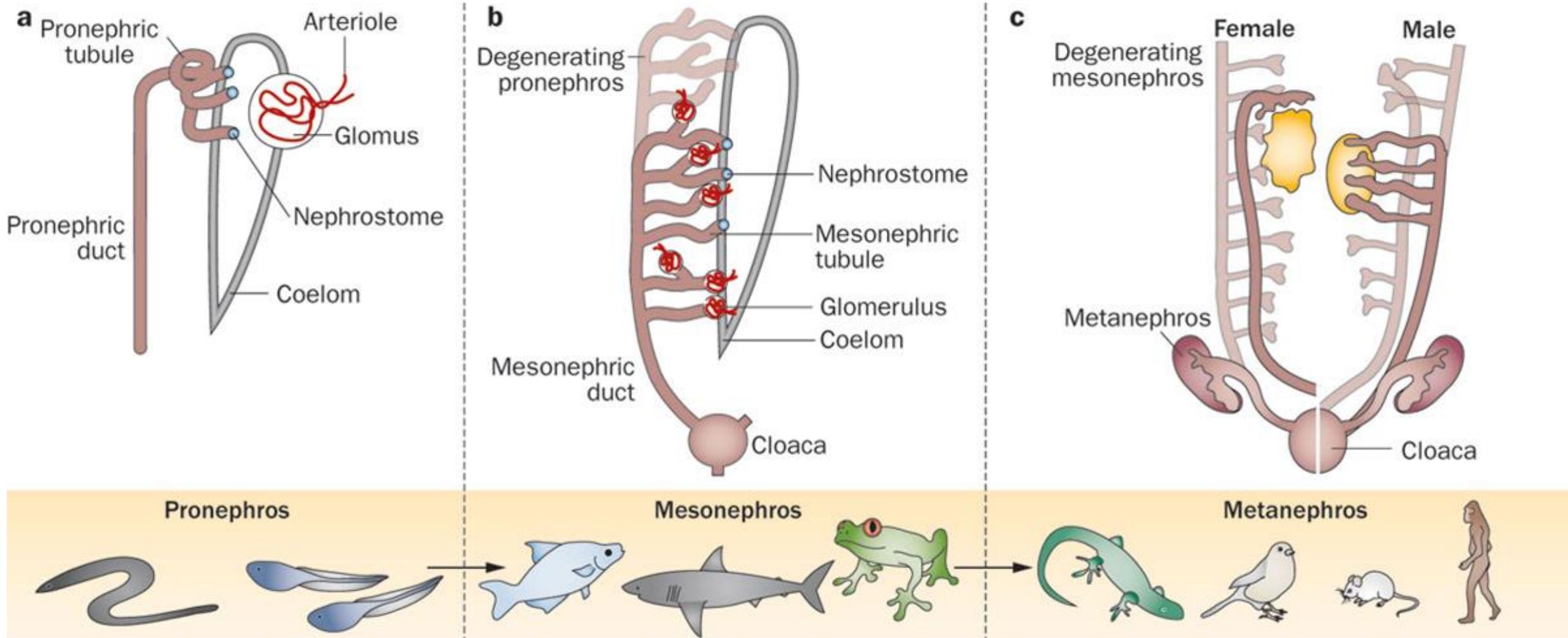


(B)

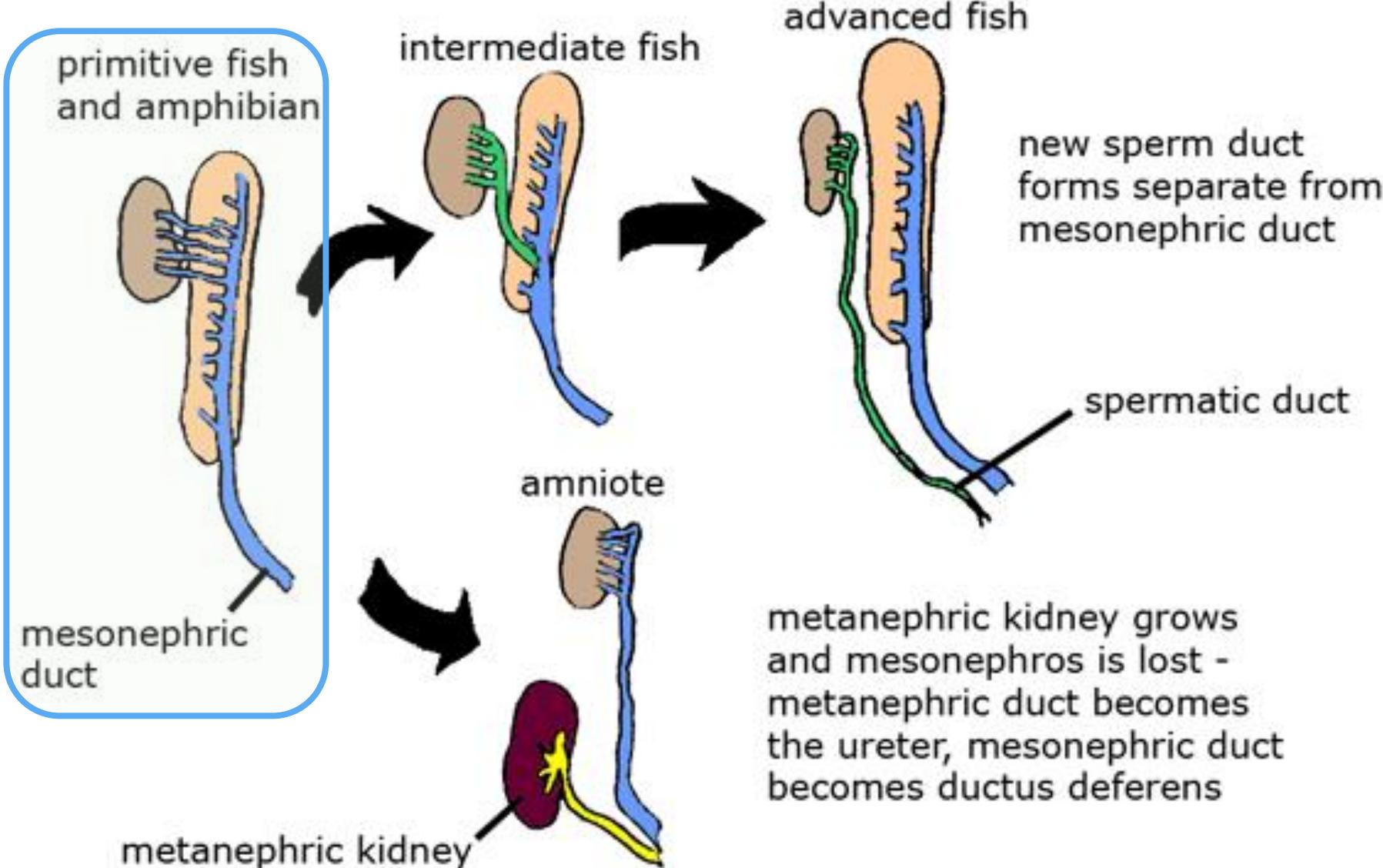


	Pronephros	Mesonephros	Metanephros
Jawless fish			
Teleosts & Anamniotes			
Amniotes			

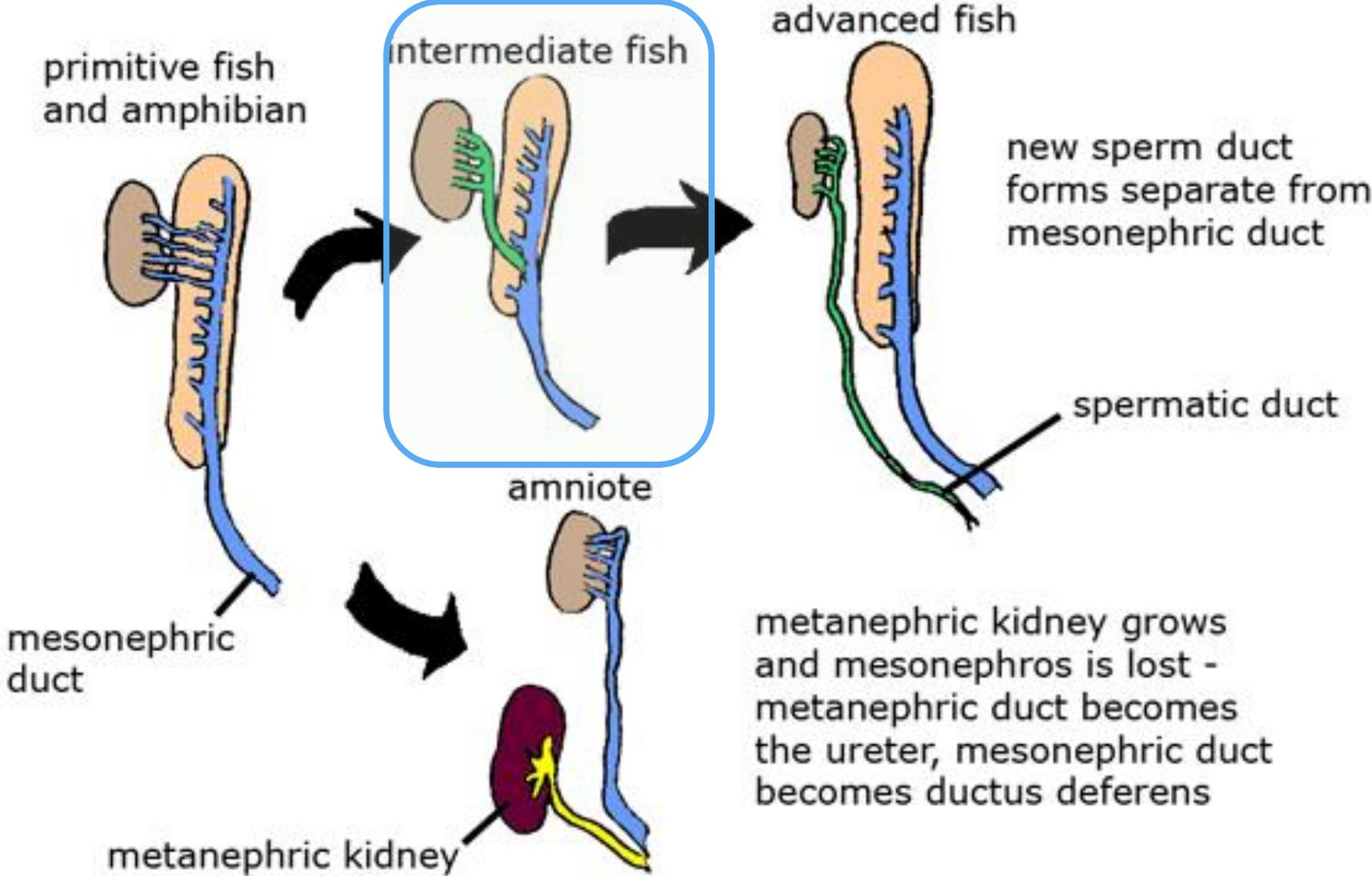




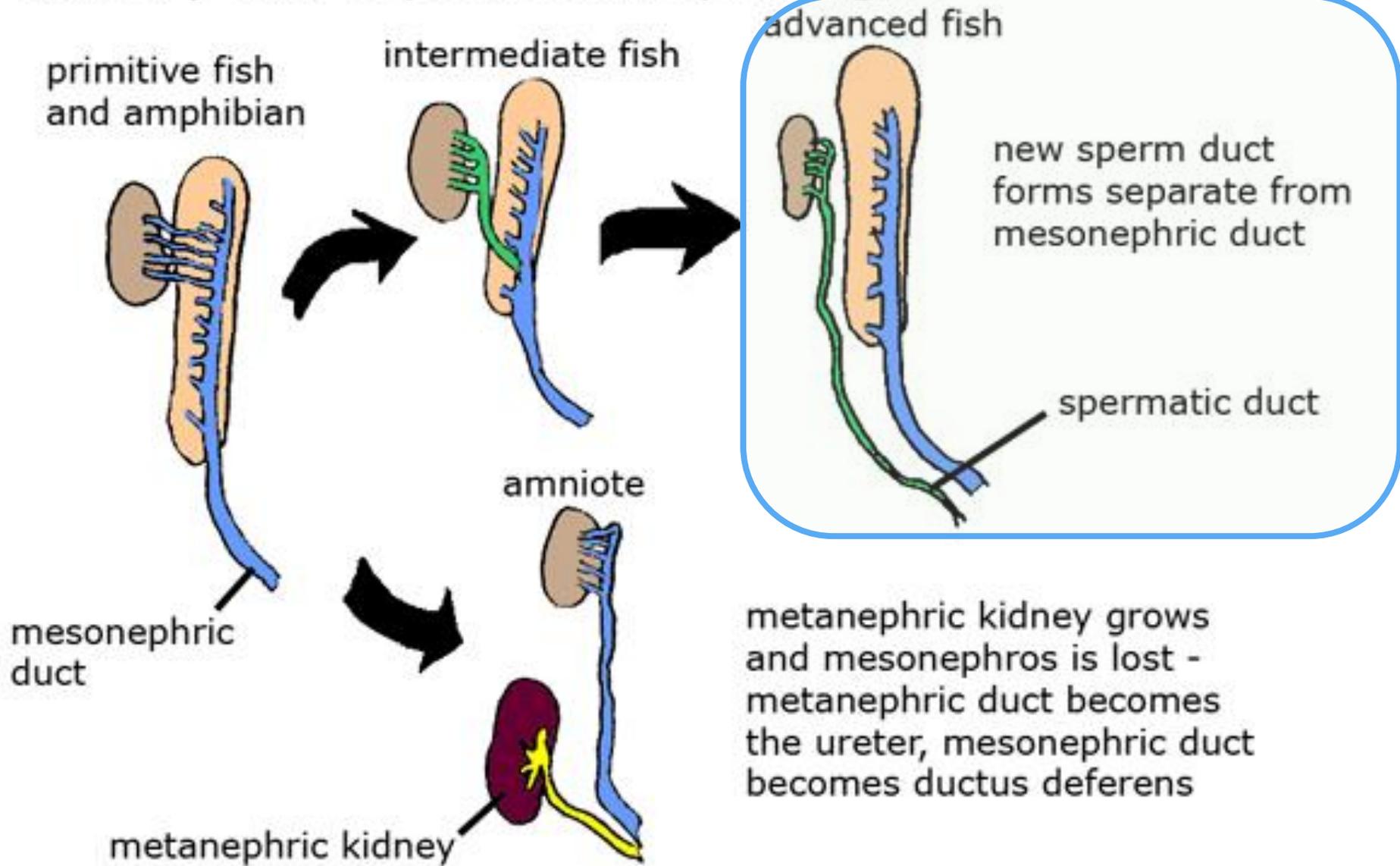
Phylogenetic trends in the separation of the male urinary and reproductive passages



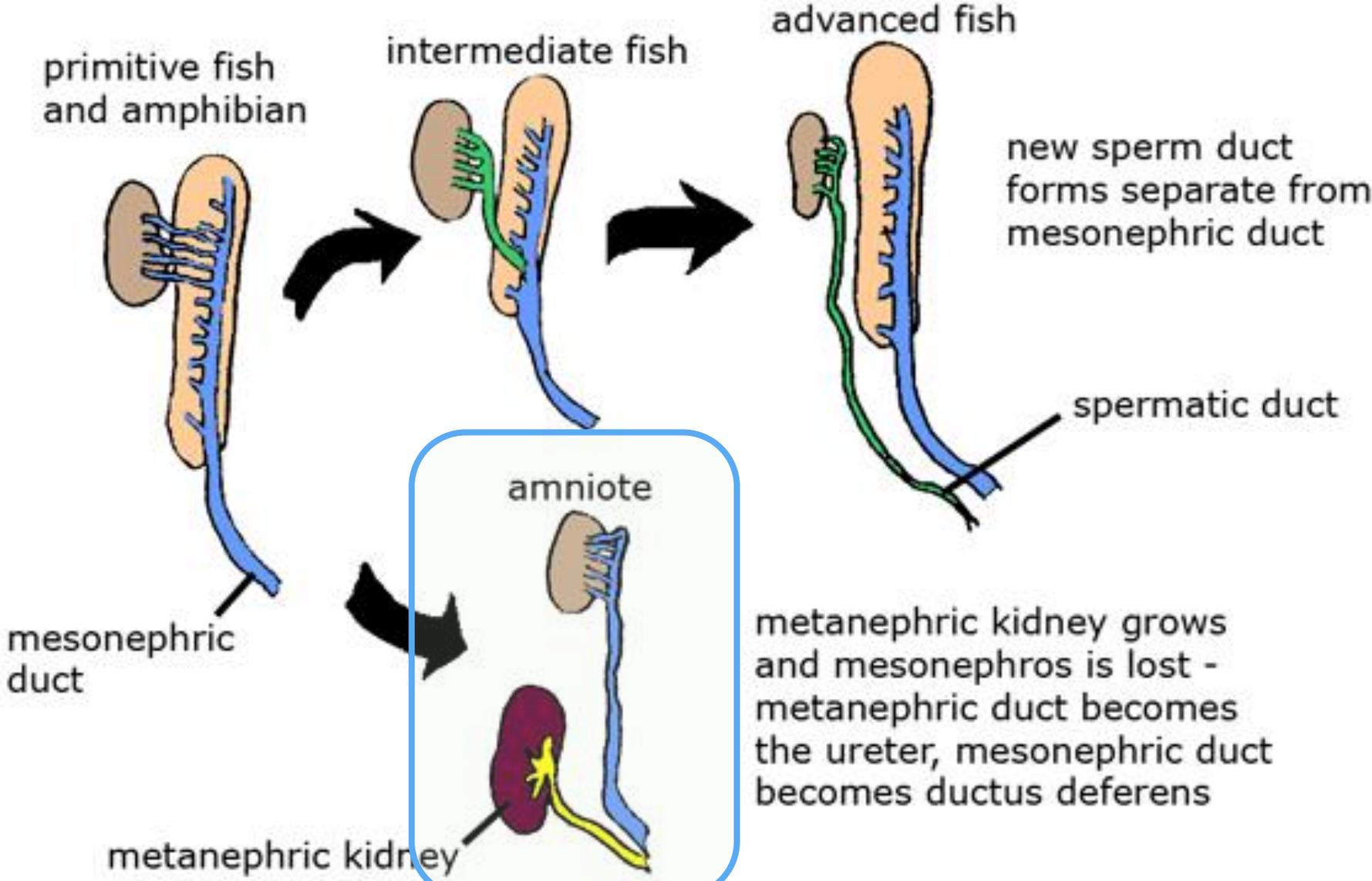
Phylogenetic trends in the separation of the male urinary and reproductive passages



Phylogenetic trends in the separation of the male urinary and reproductive passages

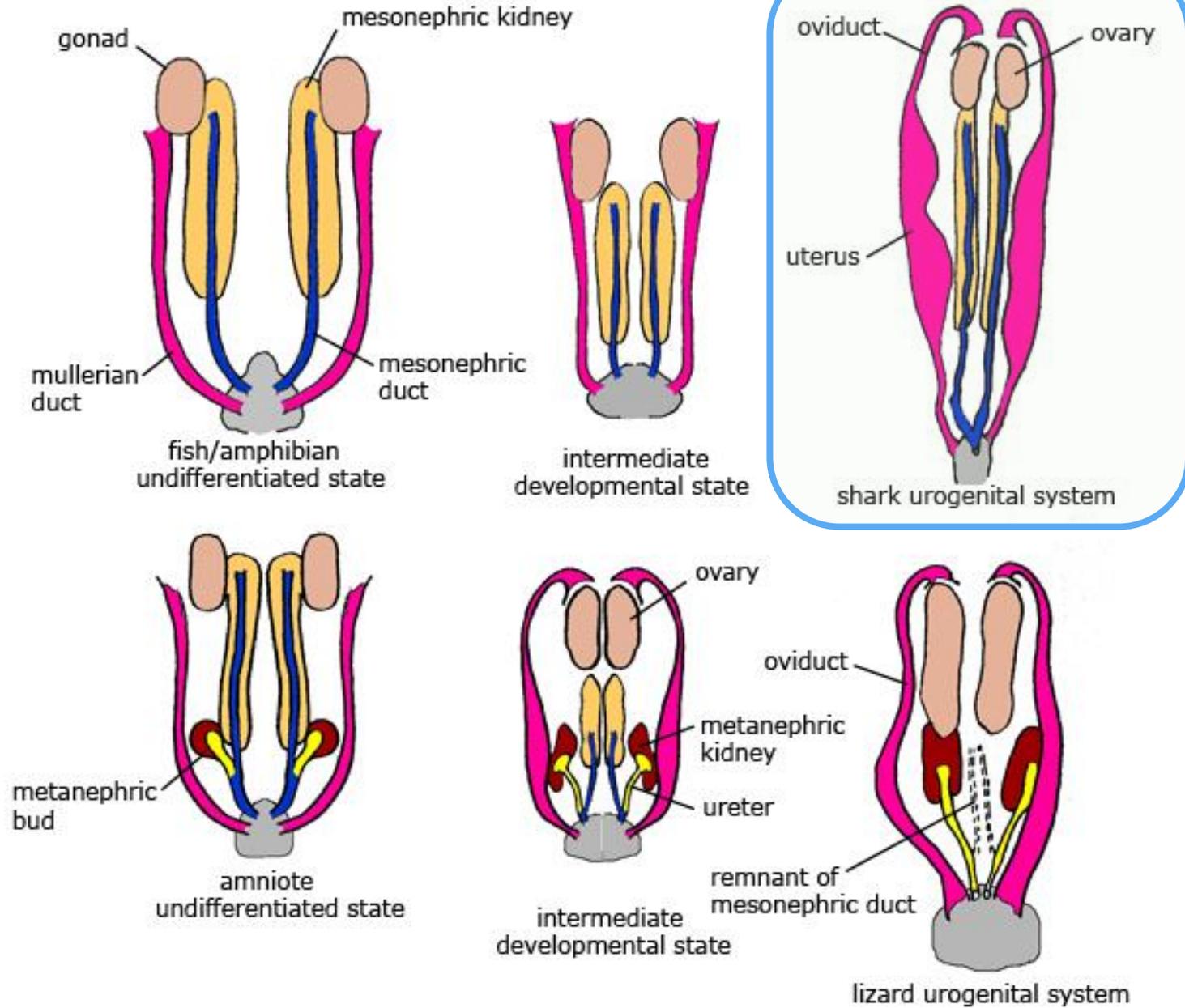


Phylogenetic trends in the separation of the male urinary and reproductive passages



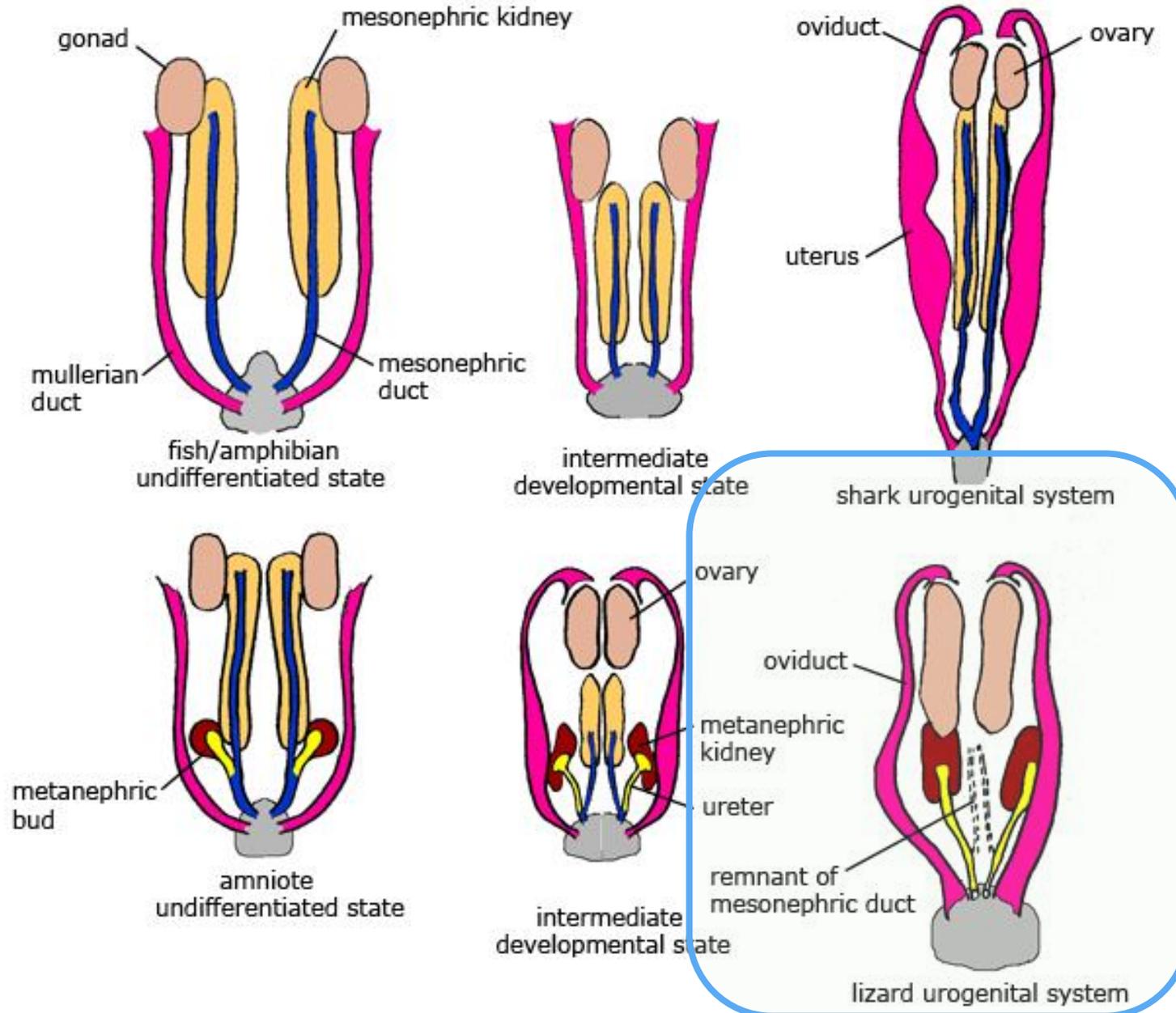
Comparison of the development of urogenital organs in fish and amniote vertebrates

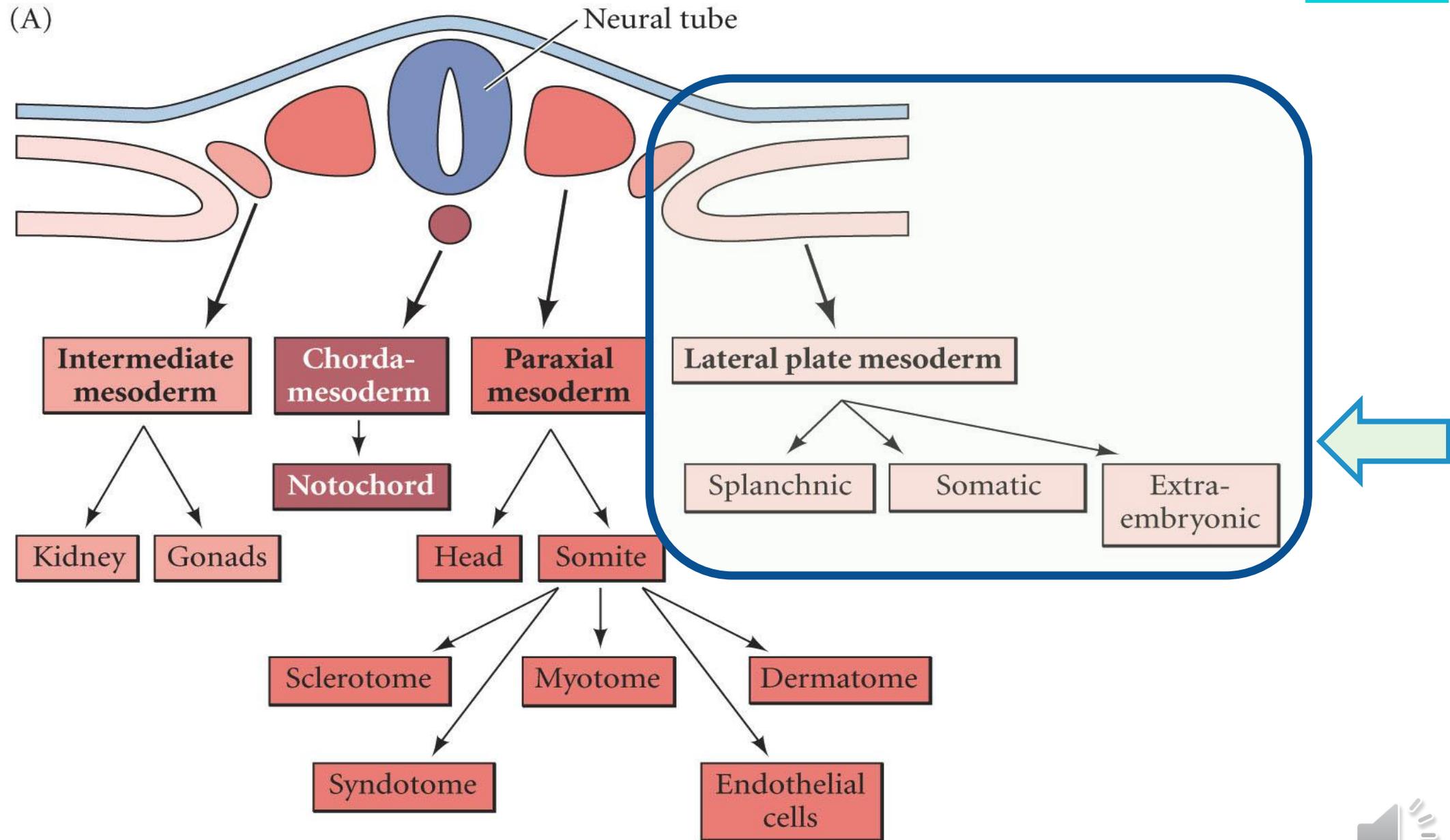
erenciación mesodérmica

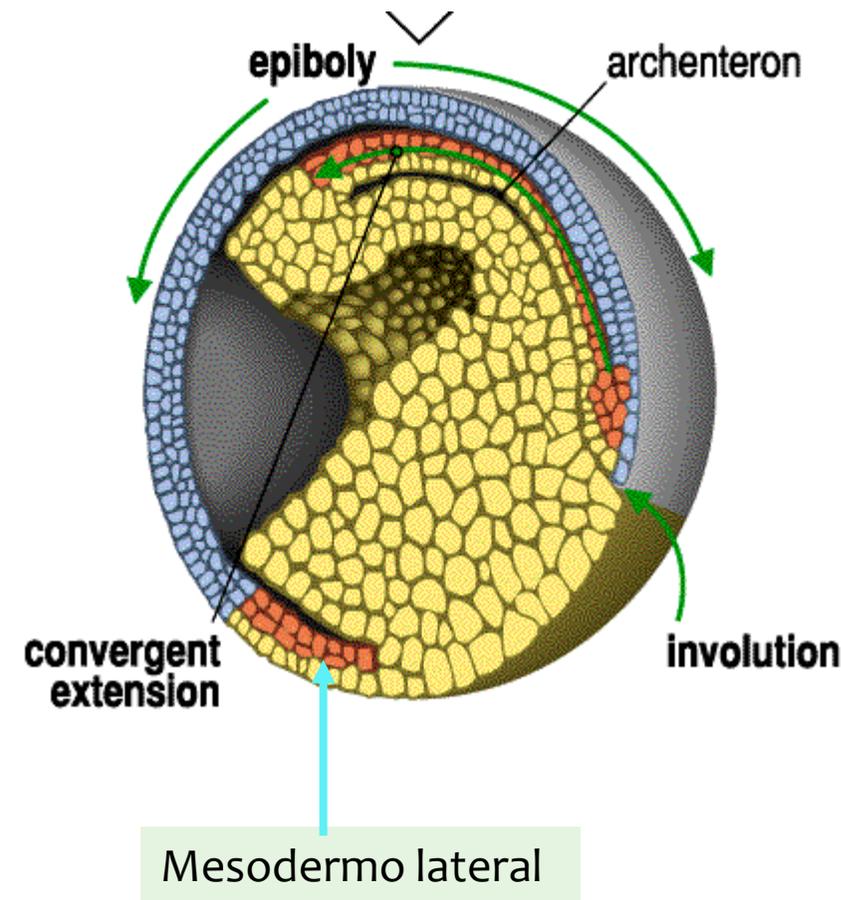
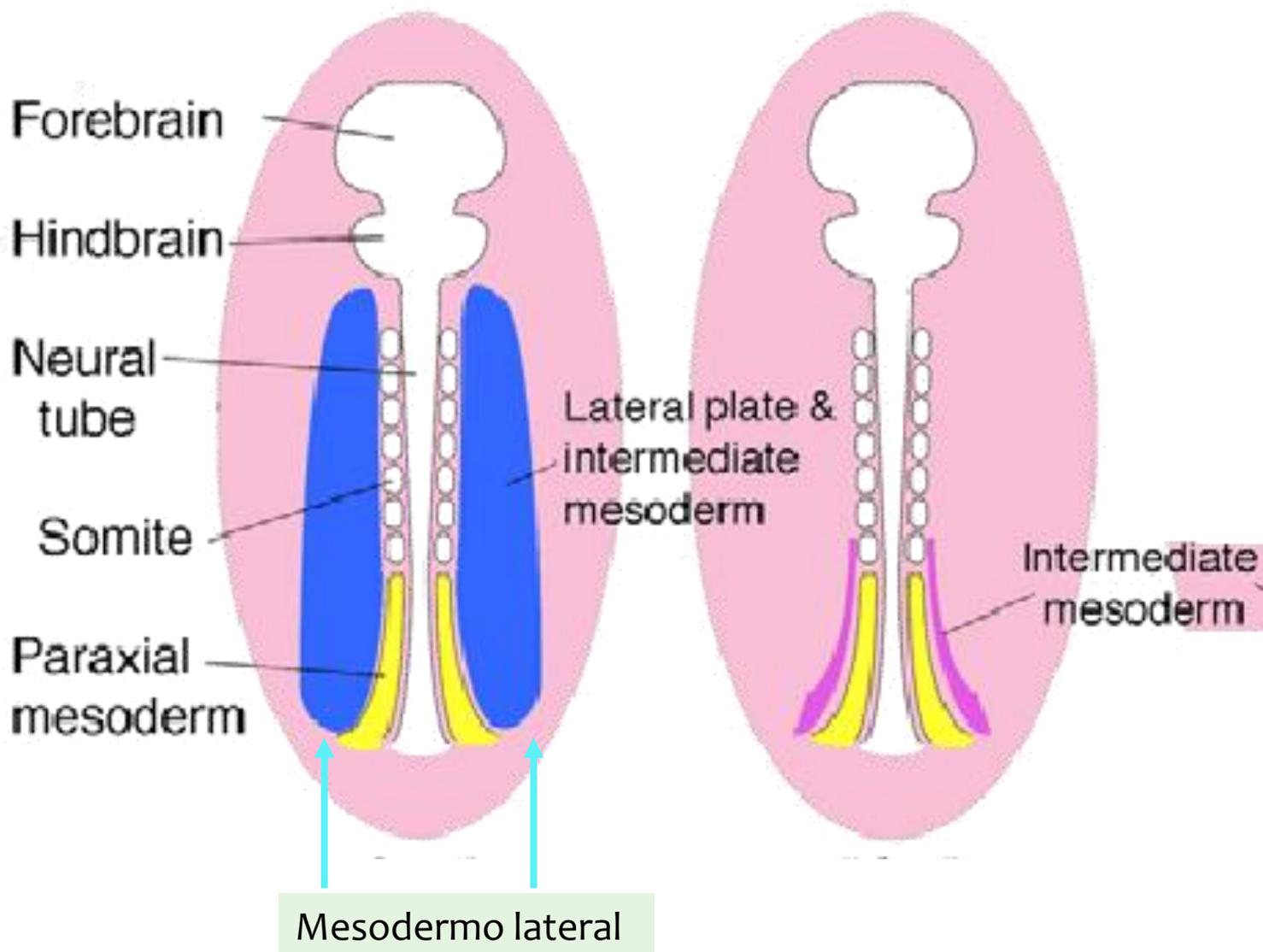


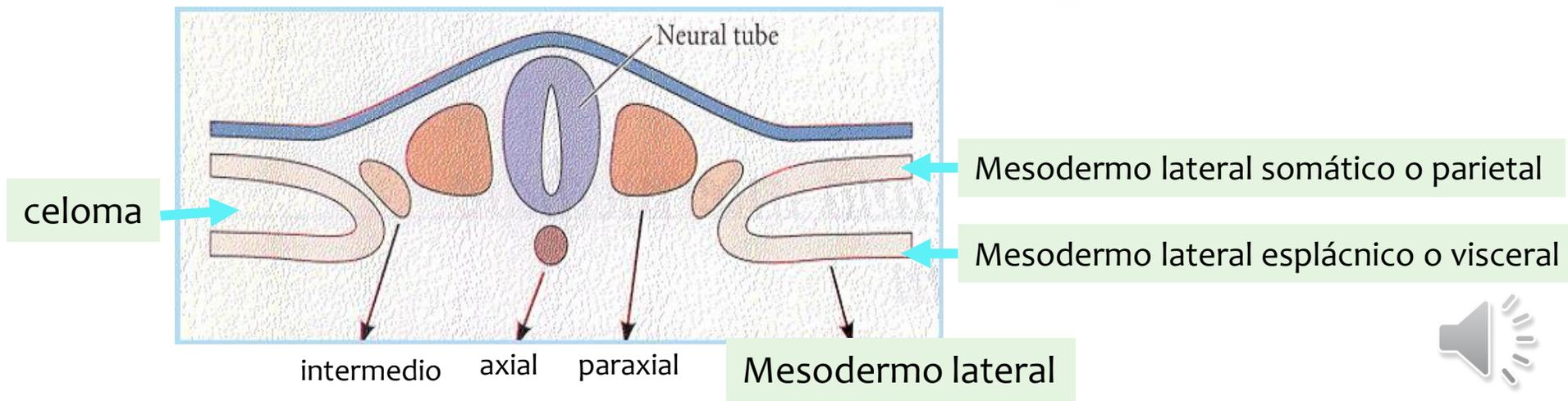
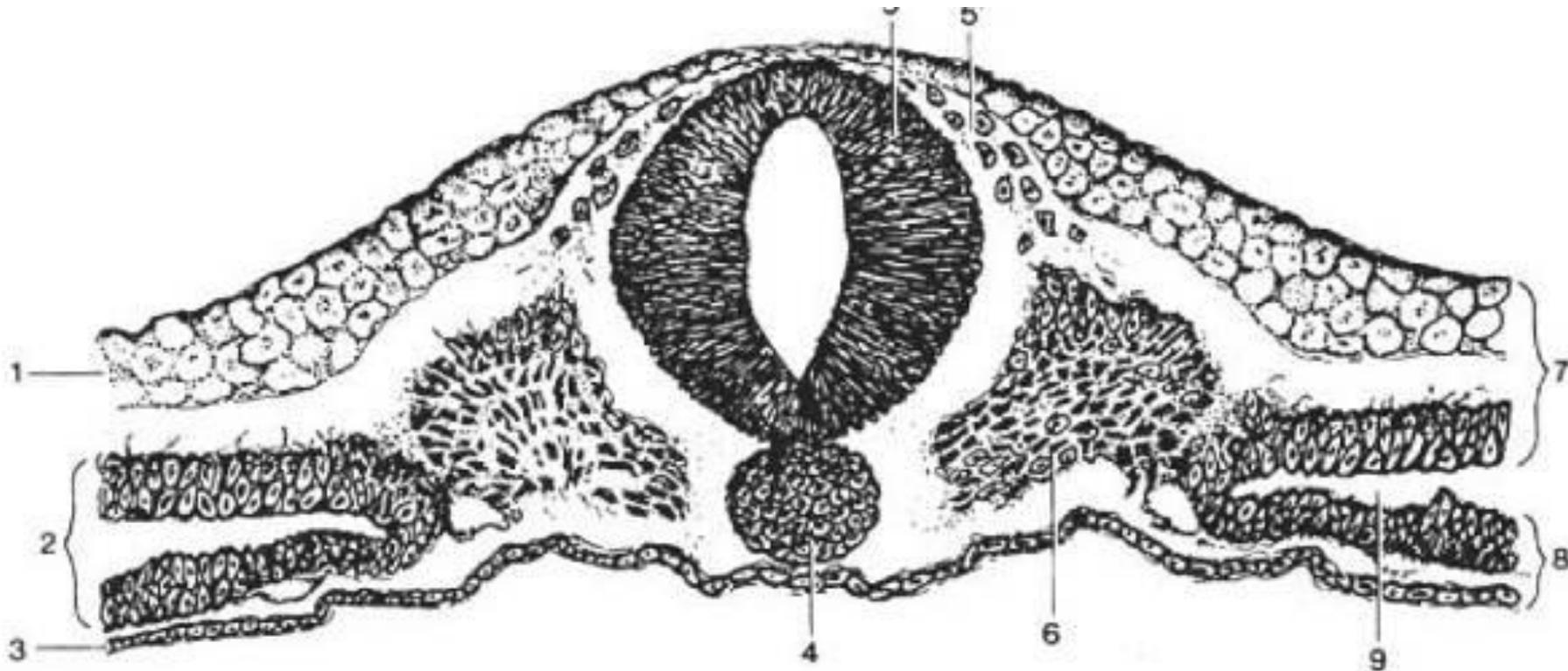
Comparison of the development of urogenital organs in fish and amniote vertebrates

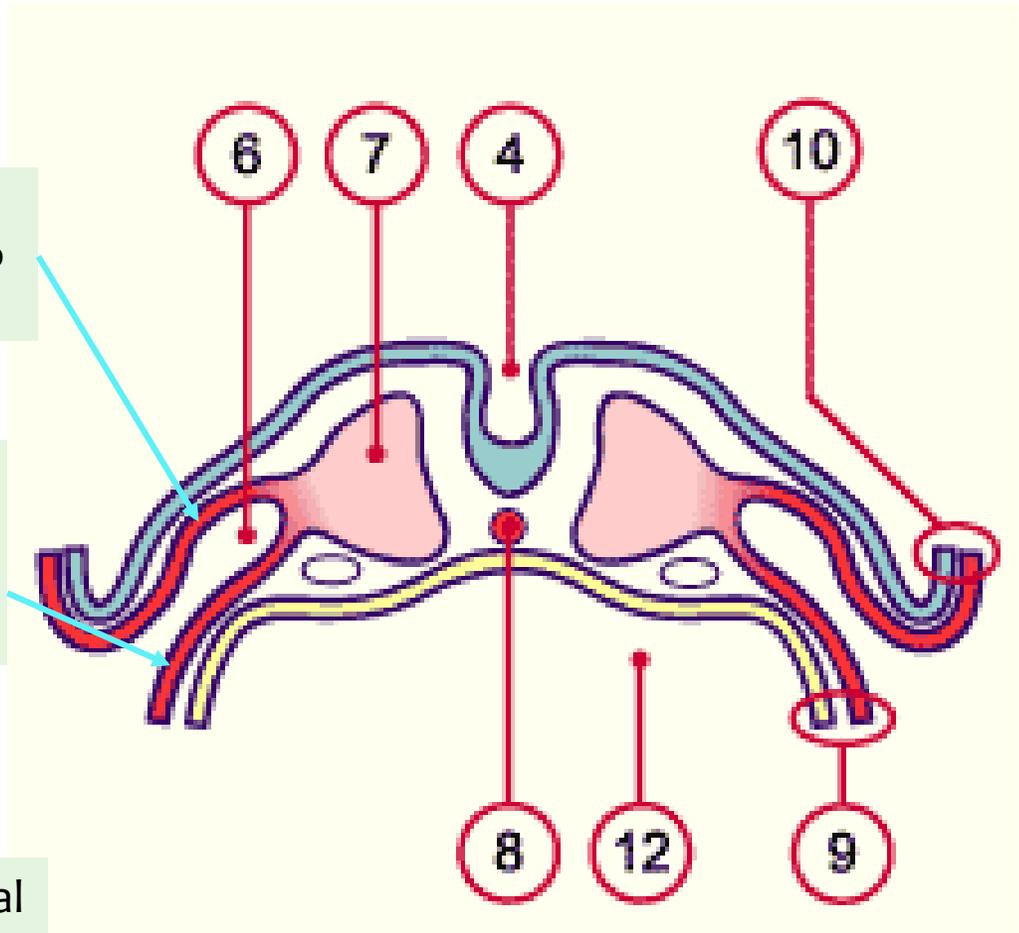
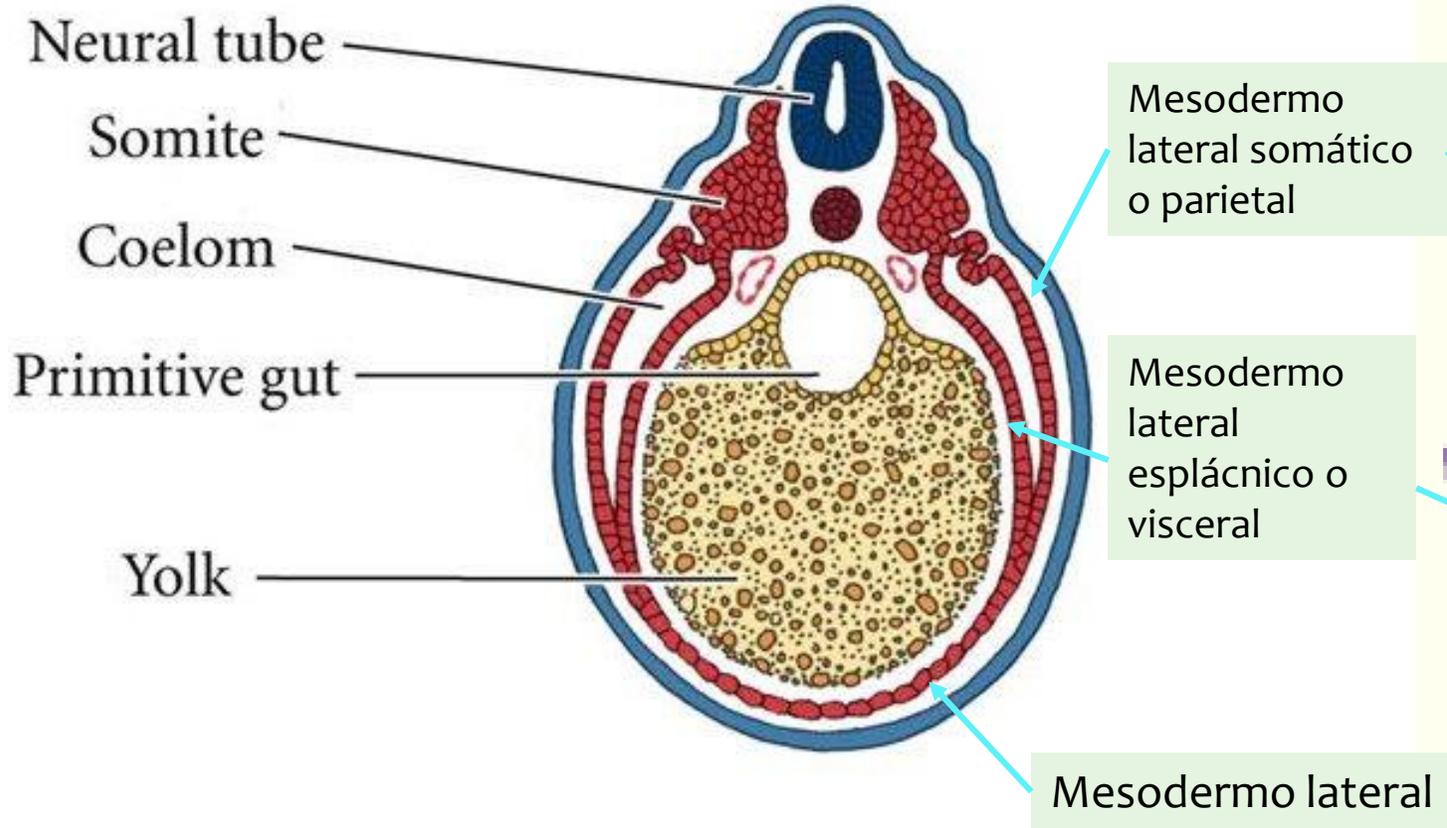
erenciación mesodérmica







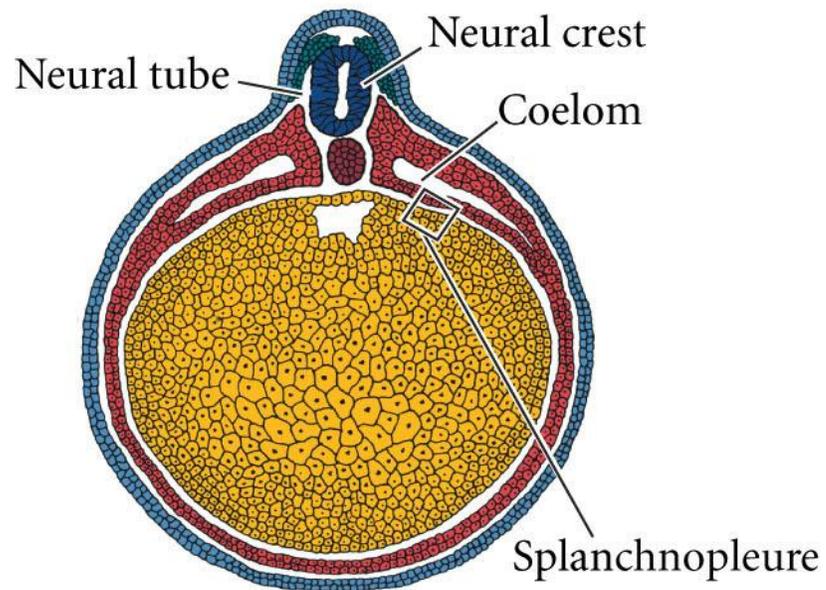
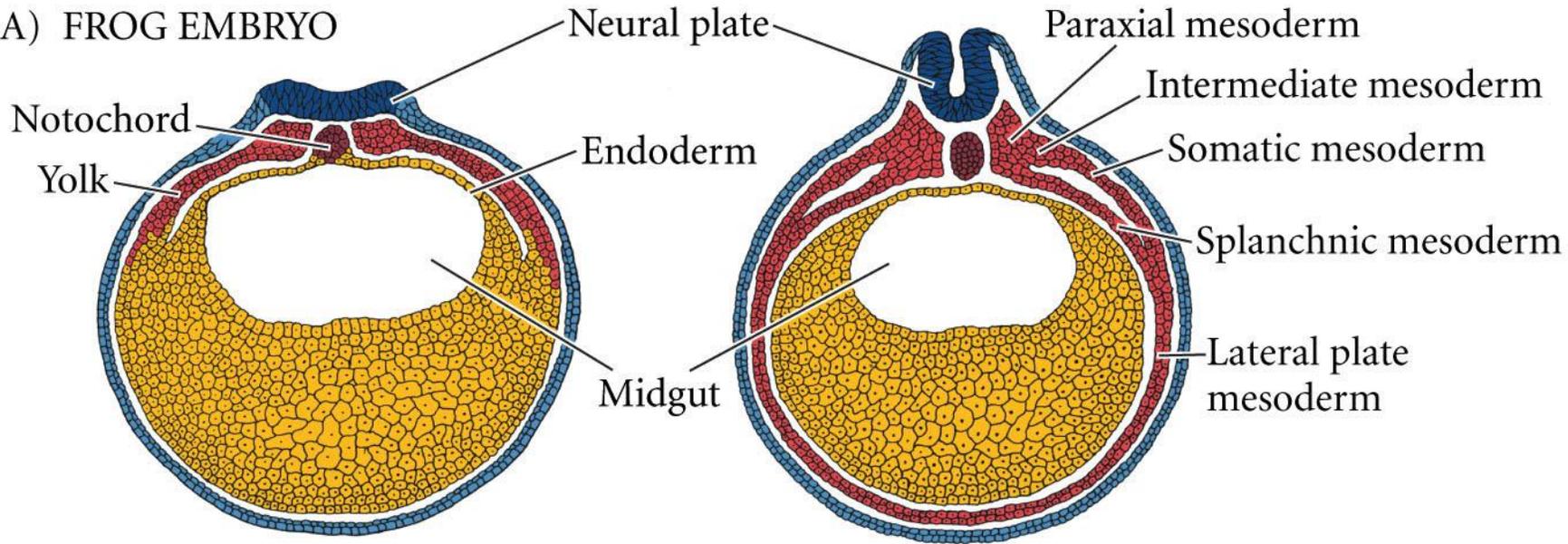




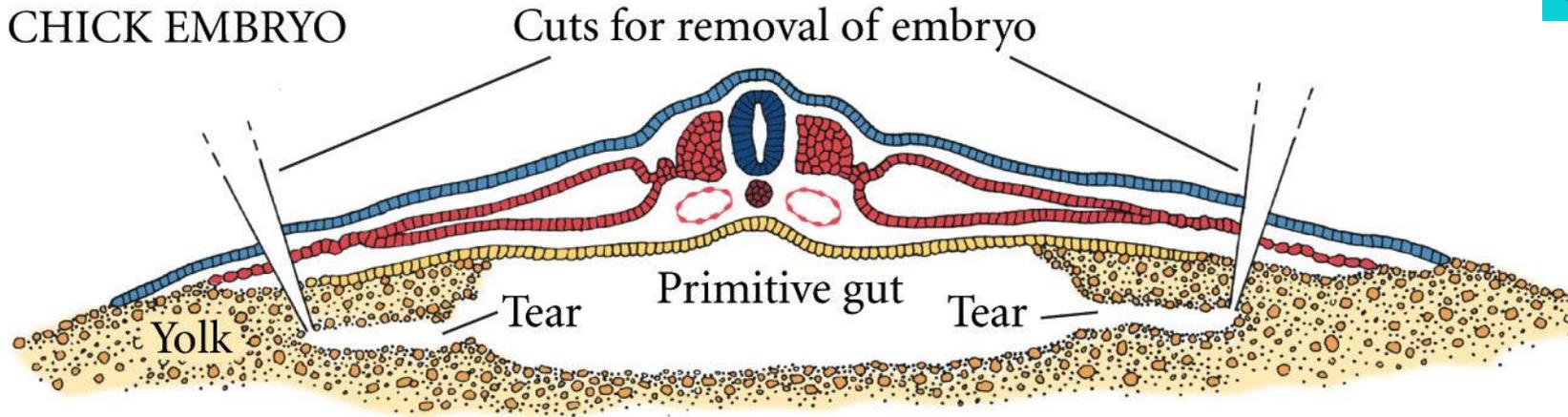
- 6. Celoma
- 7. Mesodermo paraxial
- 8. Notocorda
- 12. Intestino primitivo
- 4. Surco neural
- 9. Esplacnopleura
- 10. Somatopleura



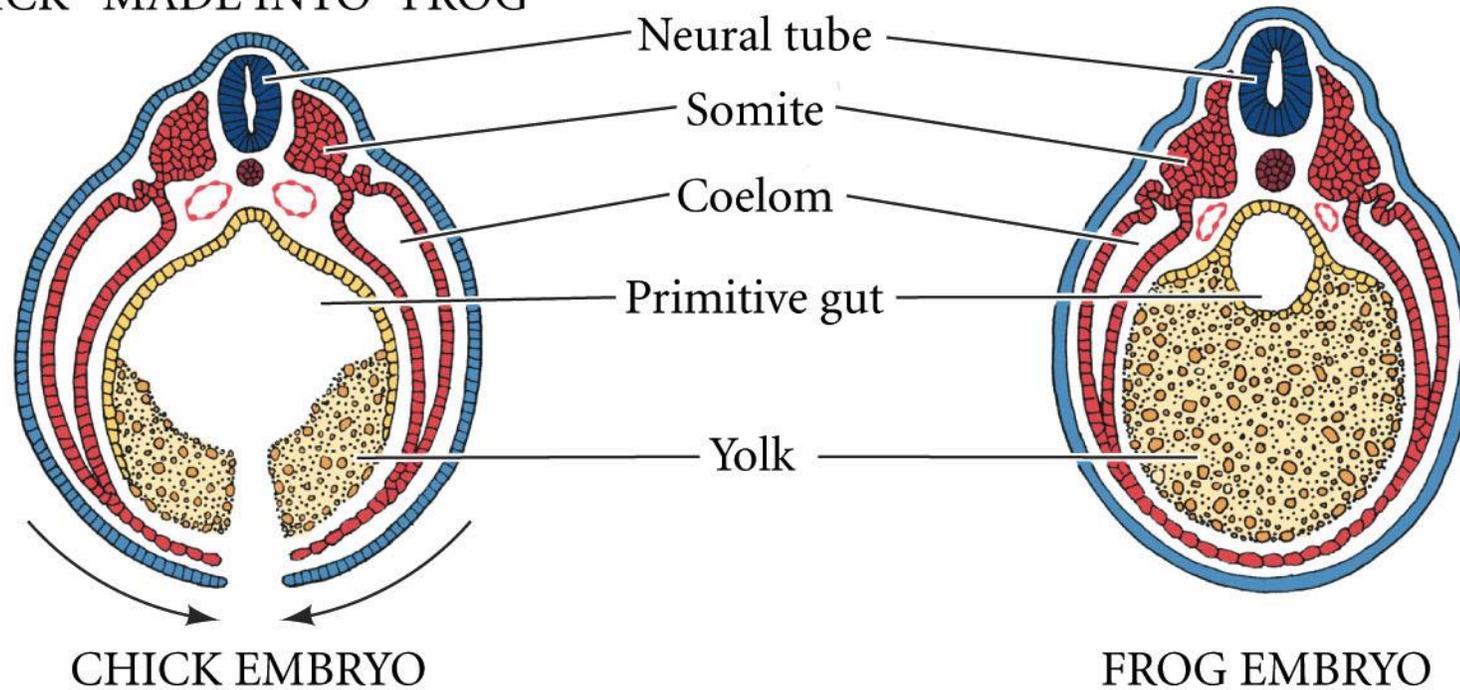
(A) FROG EMBRYO

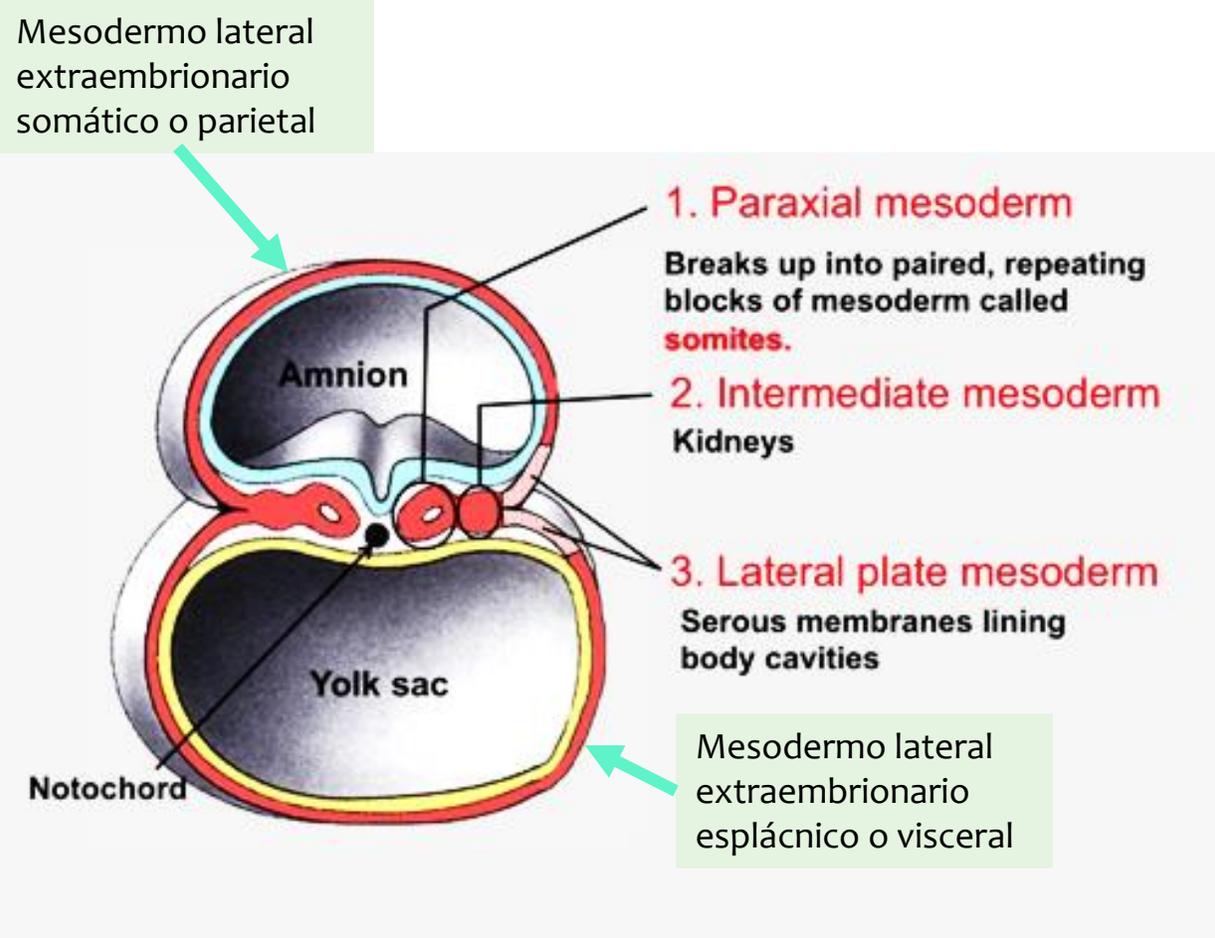
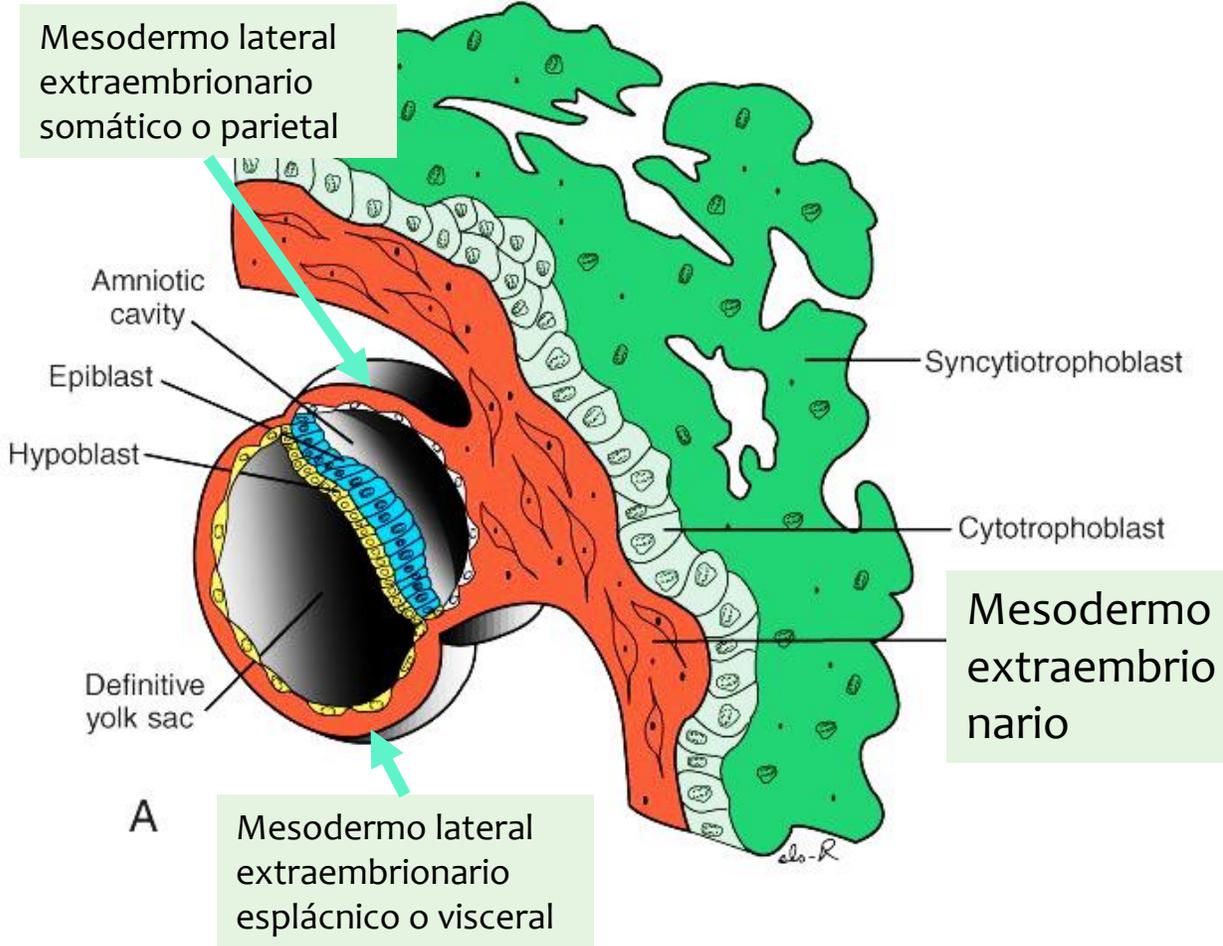


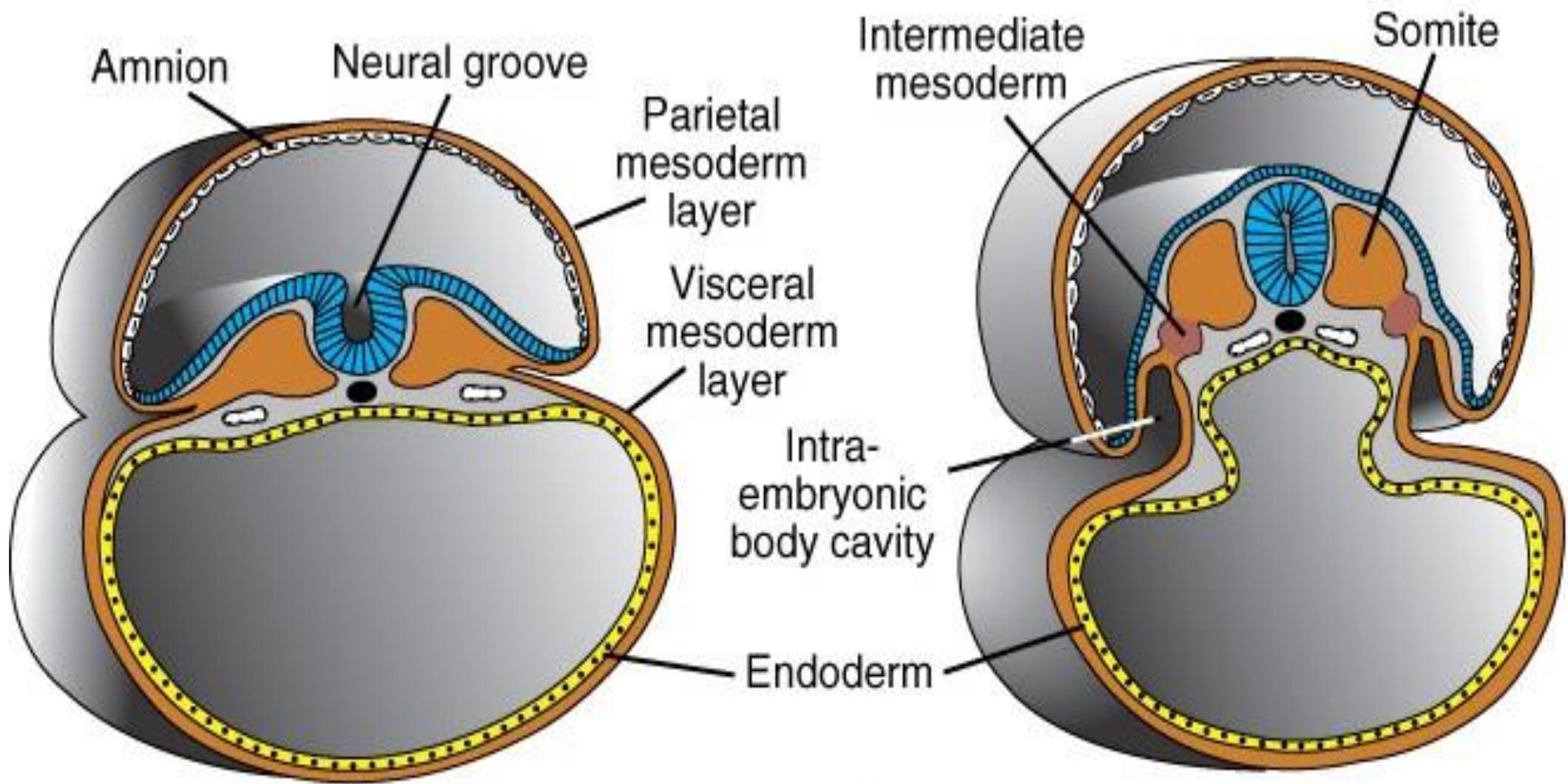
(B) CHICK EMBRYO



(C) CHICK "MADE INTO" FROG







Esplácnico

- Tejido conjuntivo y muscular de todas las vísceras
- Cartílago de tráquea y árbol bronquial
- Hoja visceral de peritoneo, pleuras y pericardio
- Todo el sistema cardiovascular
- Órganos linfáticos y bazo

Somático

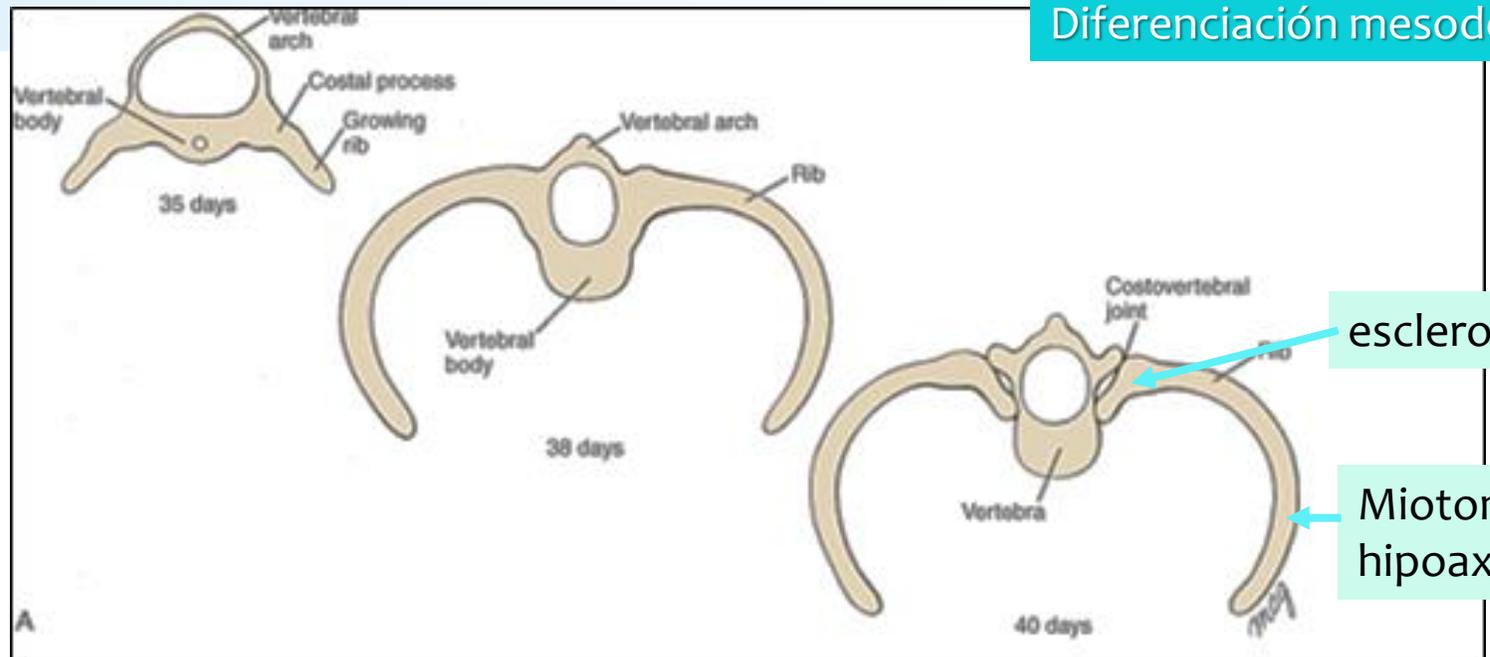
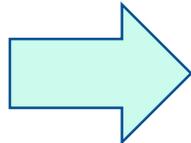
- Esternón
- Esqueleto de los miembros
- Hoja parietal de peritoneo, pleuras y pericardio



Somático

Esternón

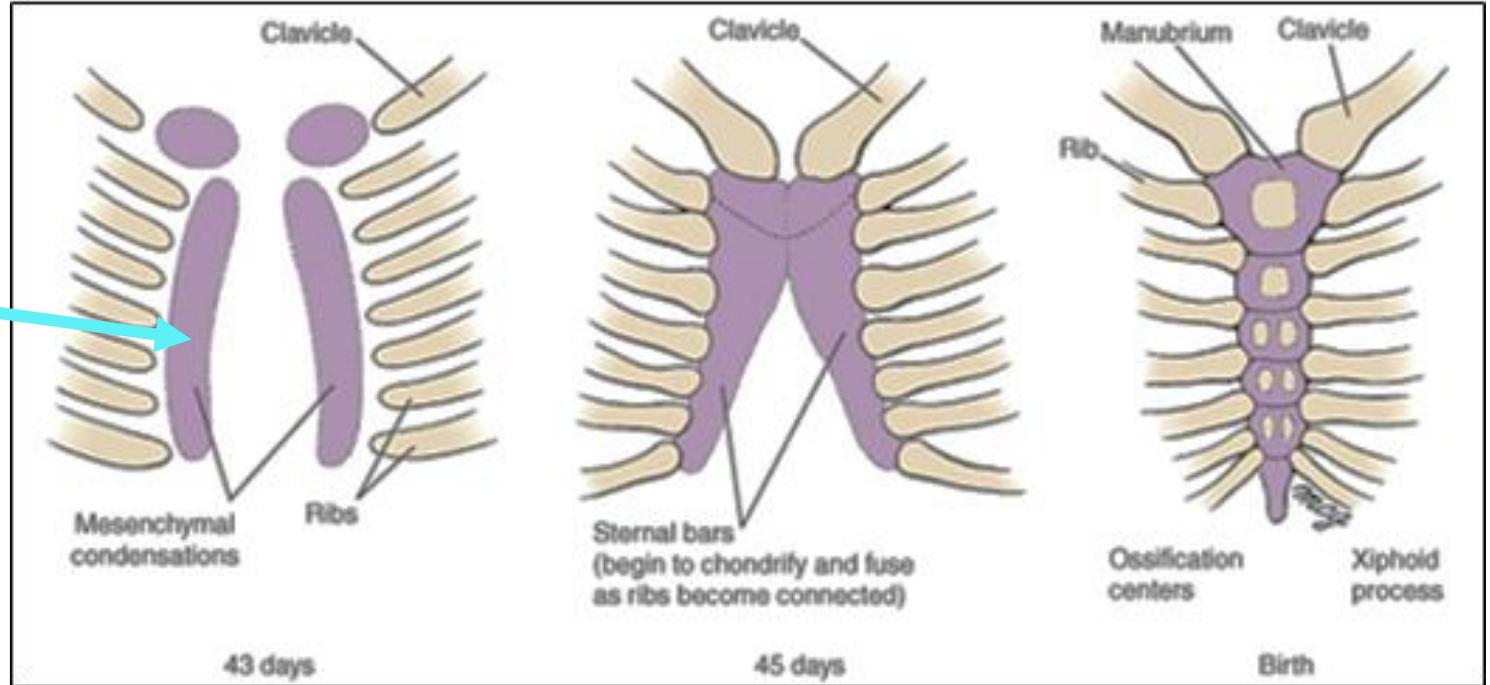
Esqueleto de los miembros



esclerotomo

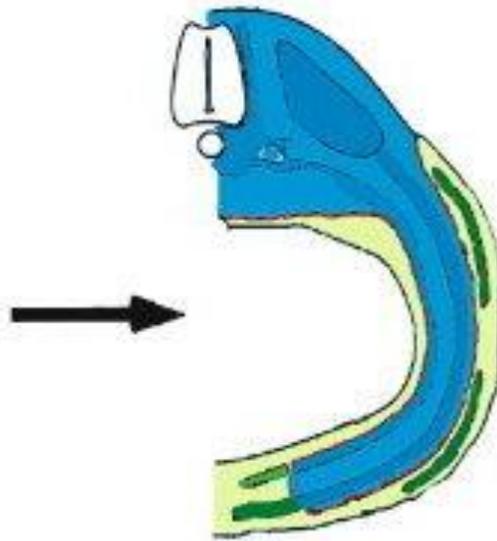
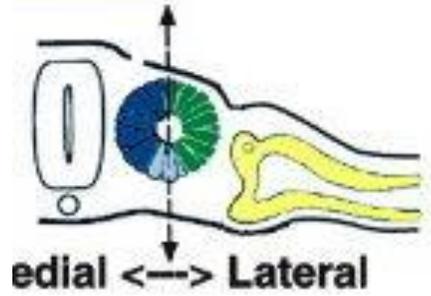
Miotomo, hipoaxial

Mesodermo lateral somático



D amniote

 Somite
Lateral Plate



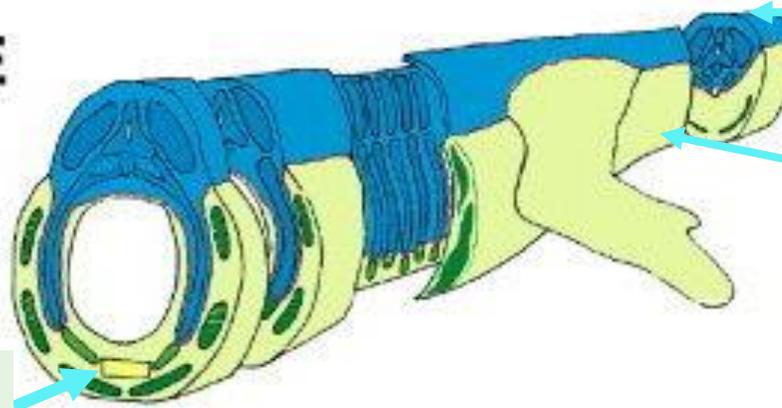
Primaxial

Abaxial

Somático

- Esternón
- Esqueleto de los miembros

E



Mesodemo paraxial

Mesodemo lateral

esternón



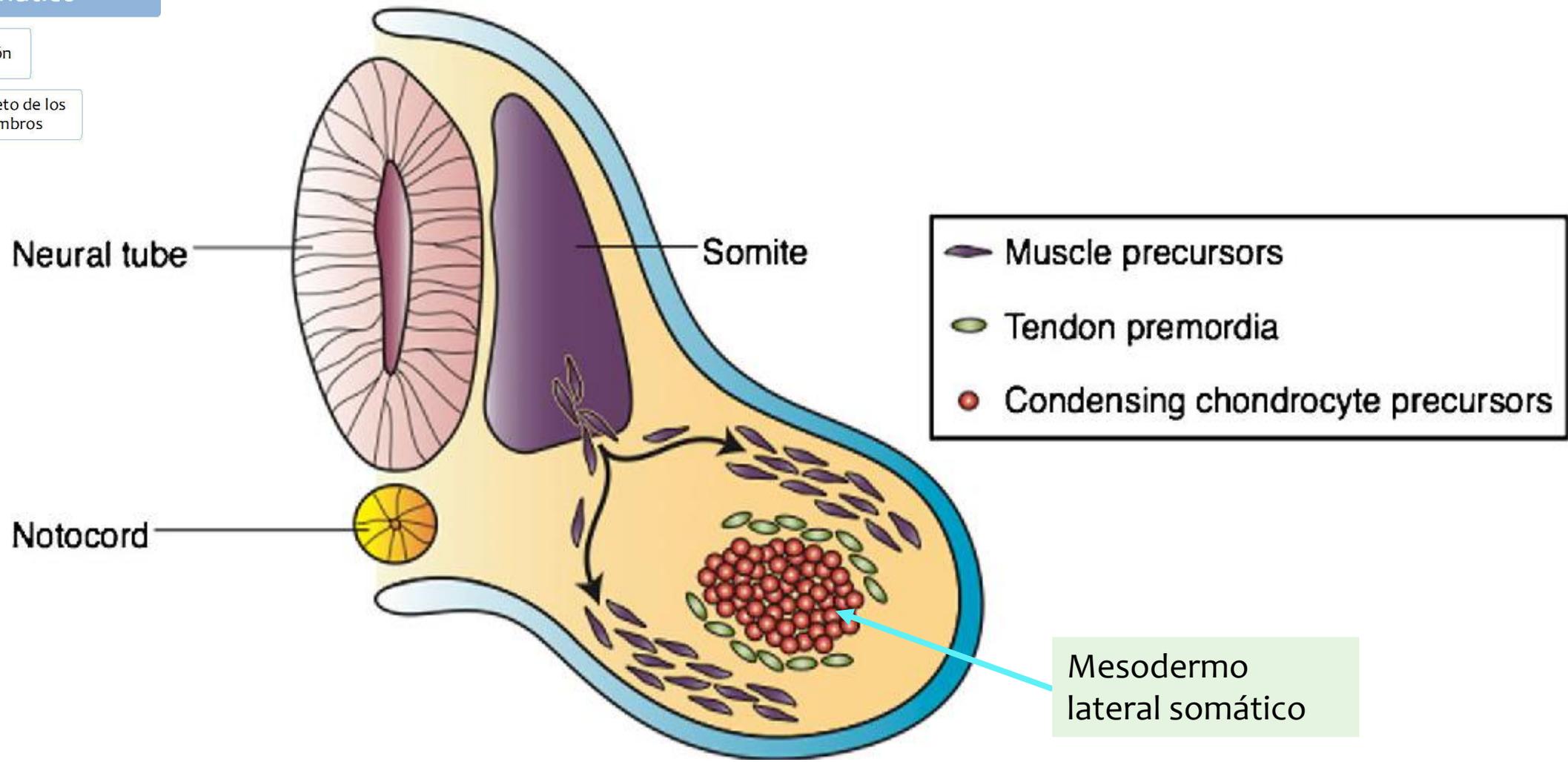
Lateral Somitic Frontier

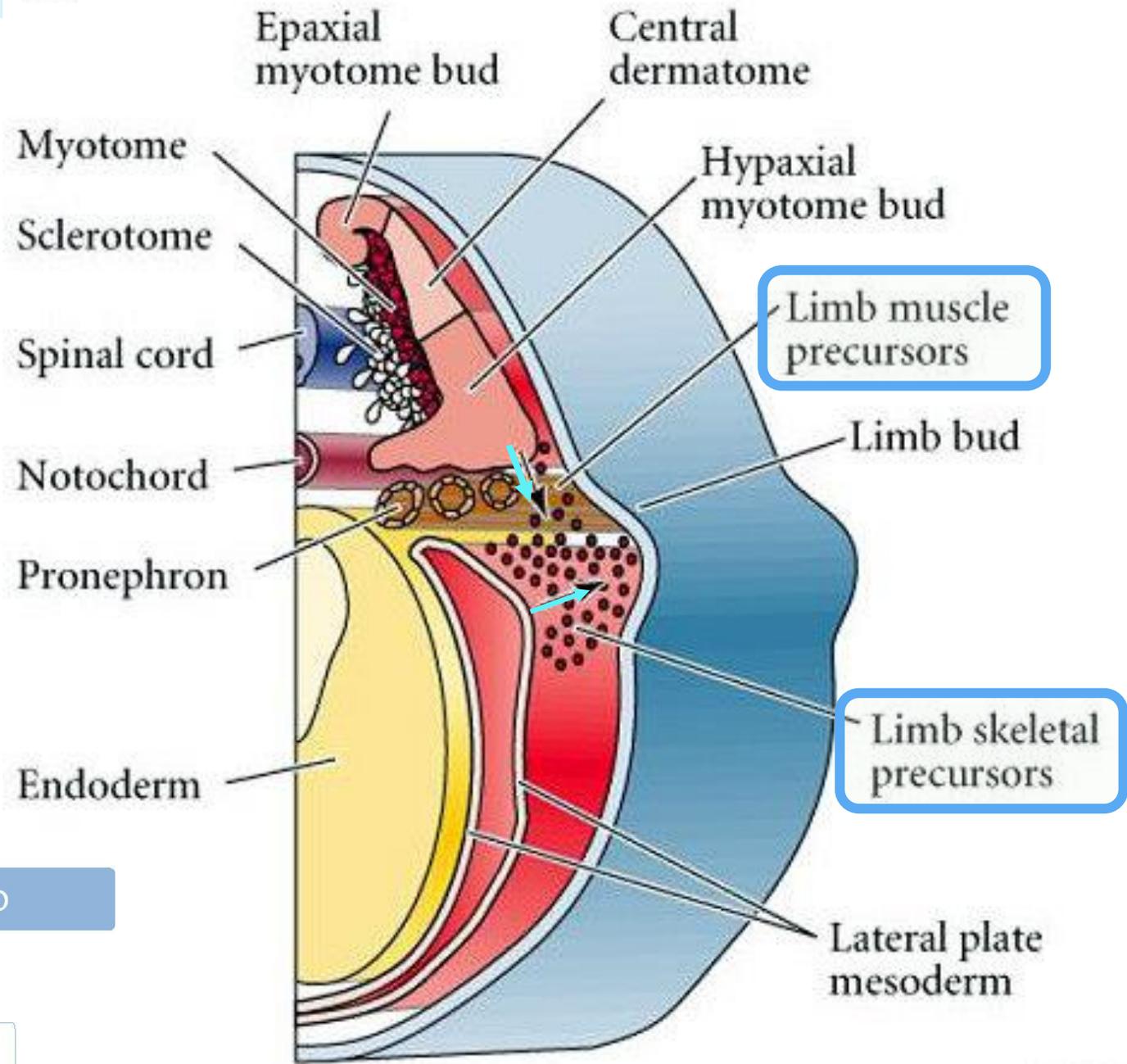


Somático

Esternón

Esqueleto de los miembros





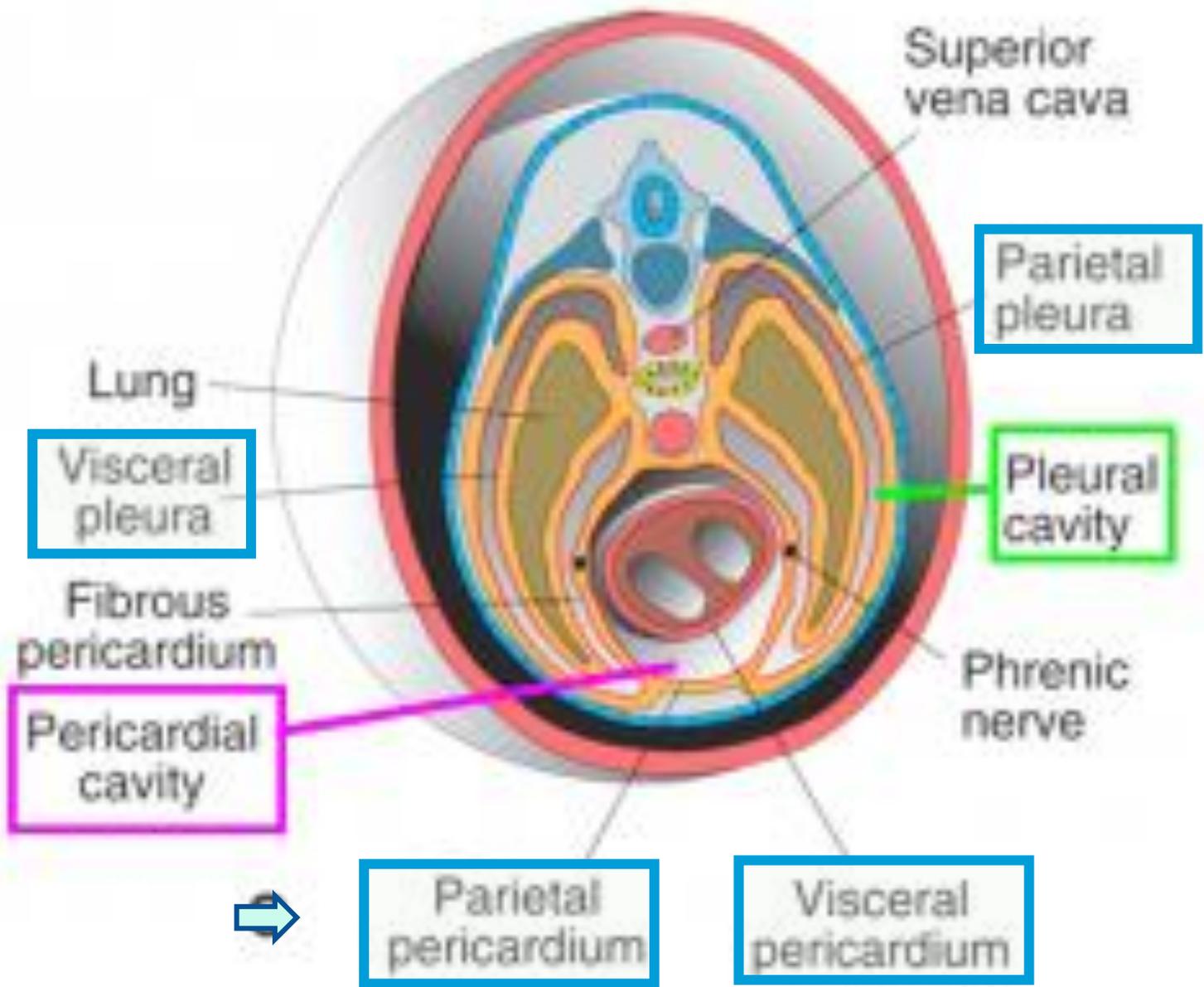
Dorsal mesoderm (somatic)
Induces rFng Wnt 7a in dorsal Limb bud.

Ventral mesoderm (lat. Plate)
Induces en-1 in ventral limb bud

Somático

- Esternón
- Esqueleto de los miembros



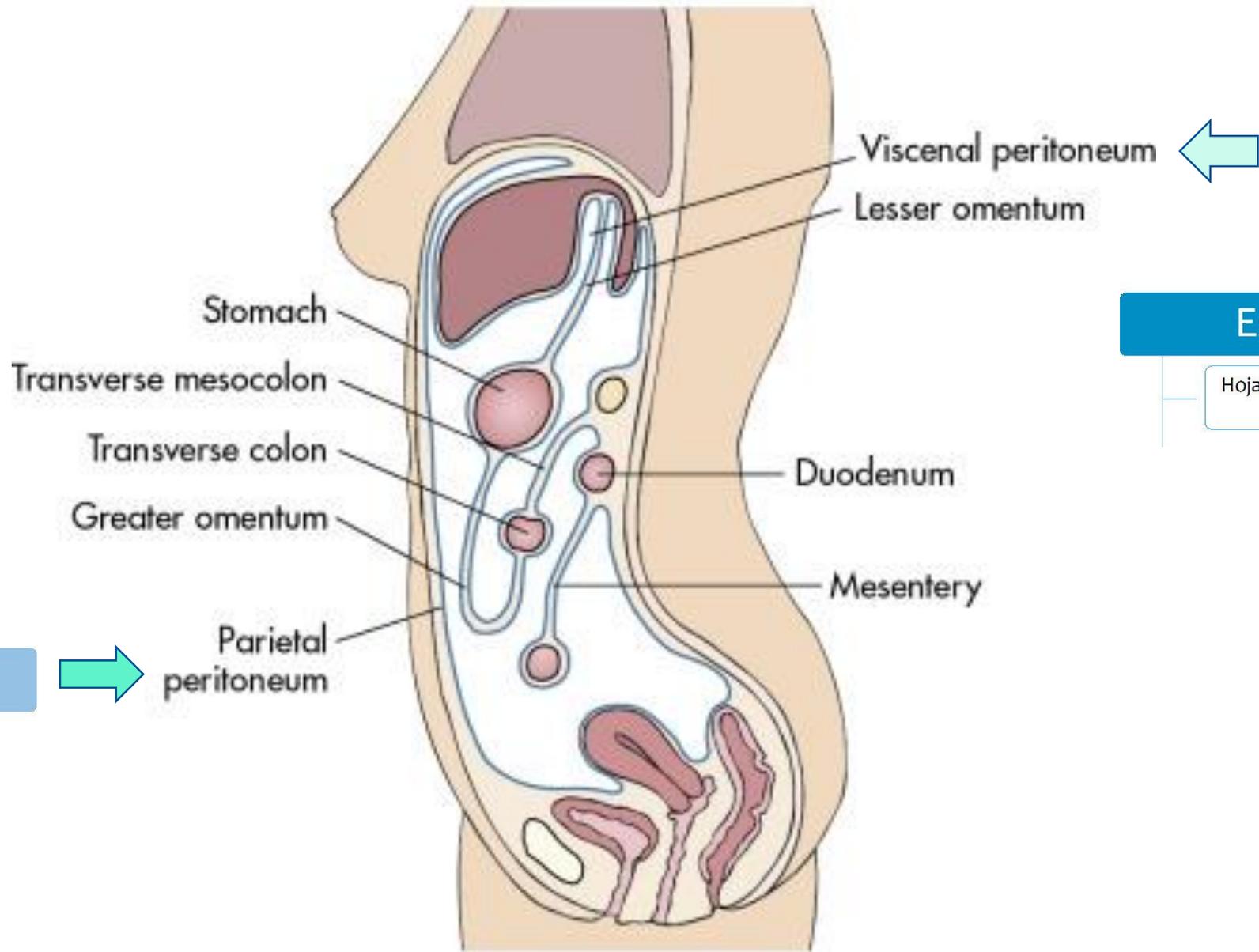


Somático



3-TC Body cavities: Pleural and pericardial





Somático

Esplácnico

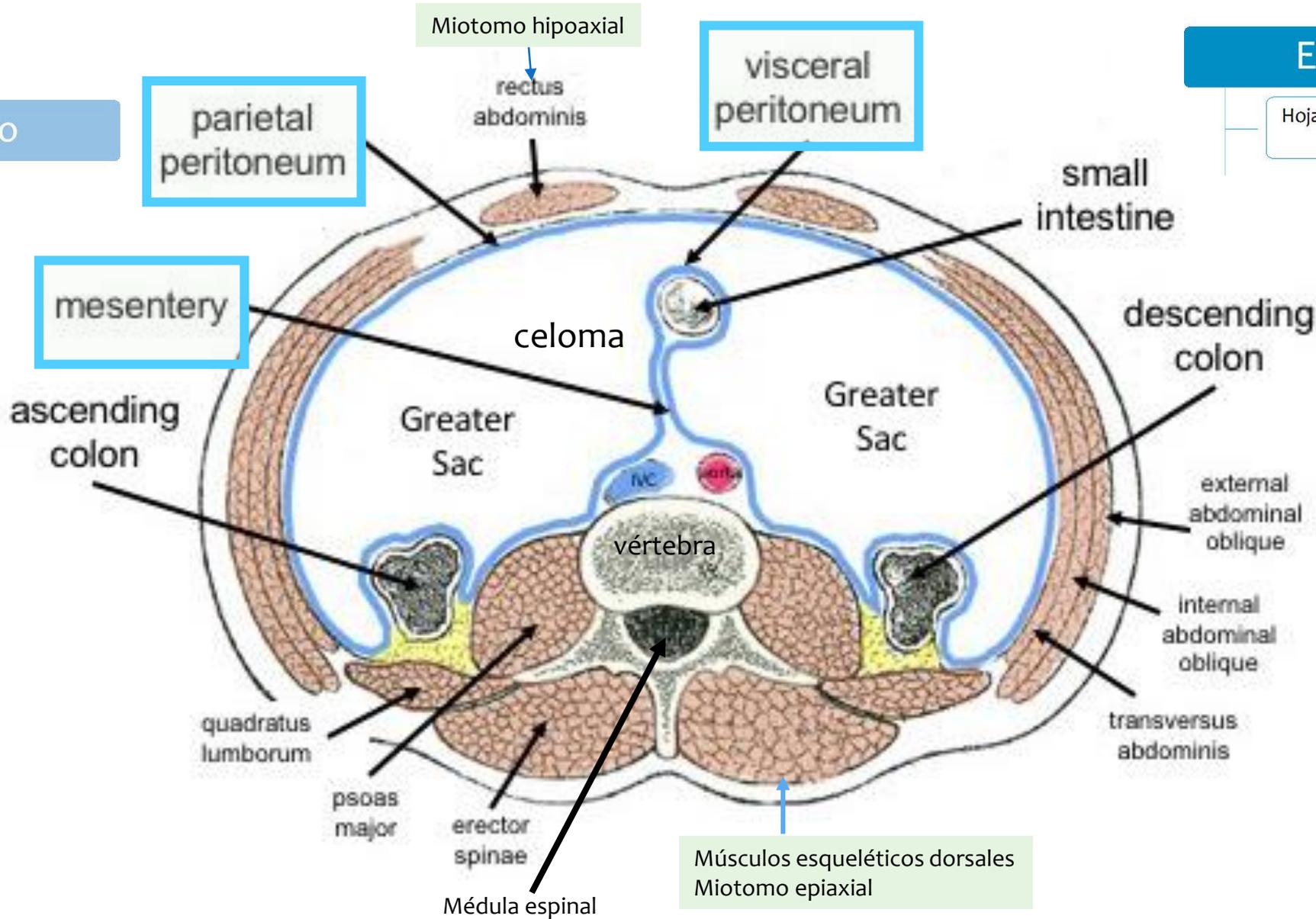
Hoja visceral de peritoneo, pleuras y pericardio



Somático

Esplácnico

Hoja visceral de peritoneo, pleuras y pericardio



Músculos esqueléticos abdominales Miotomo hipoaxial

Músculos esqueléticos dorsales Miotomo epiaxial



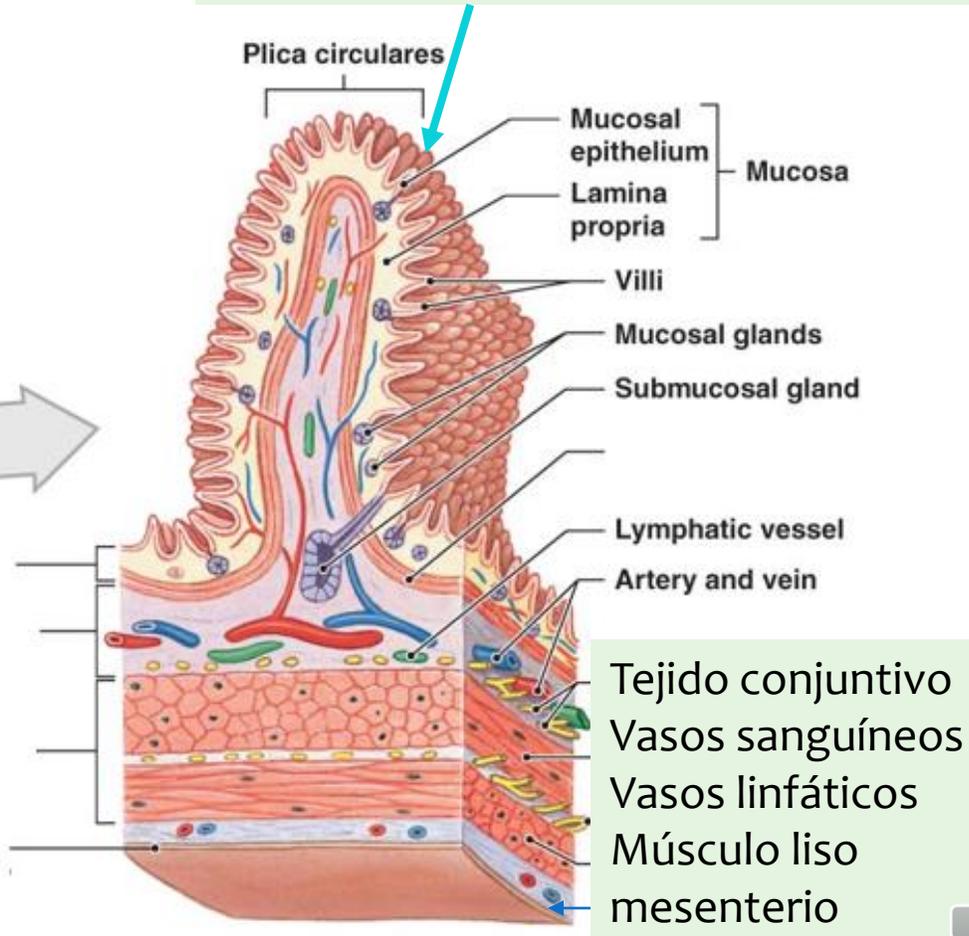
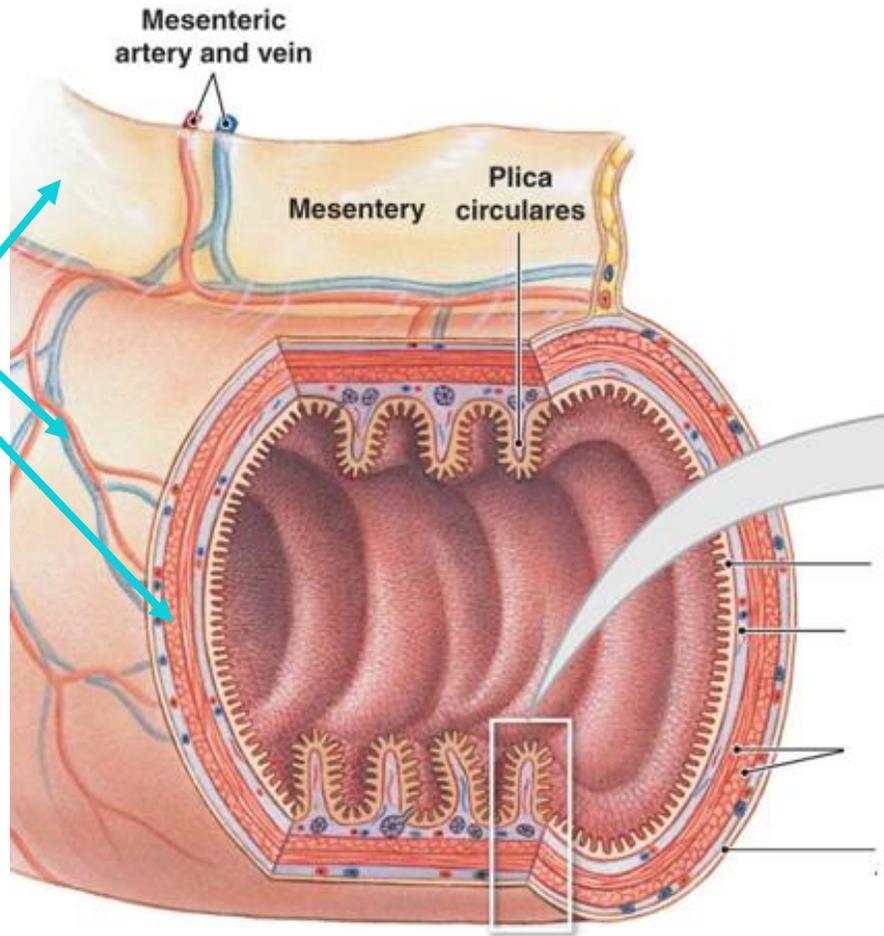
Esplácnico

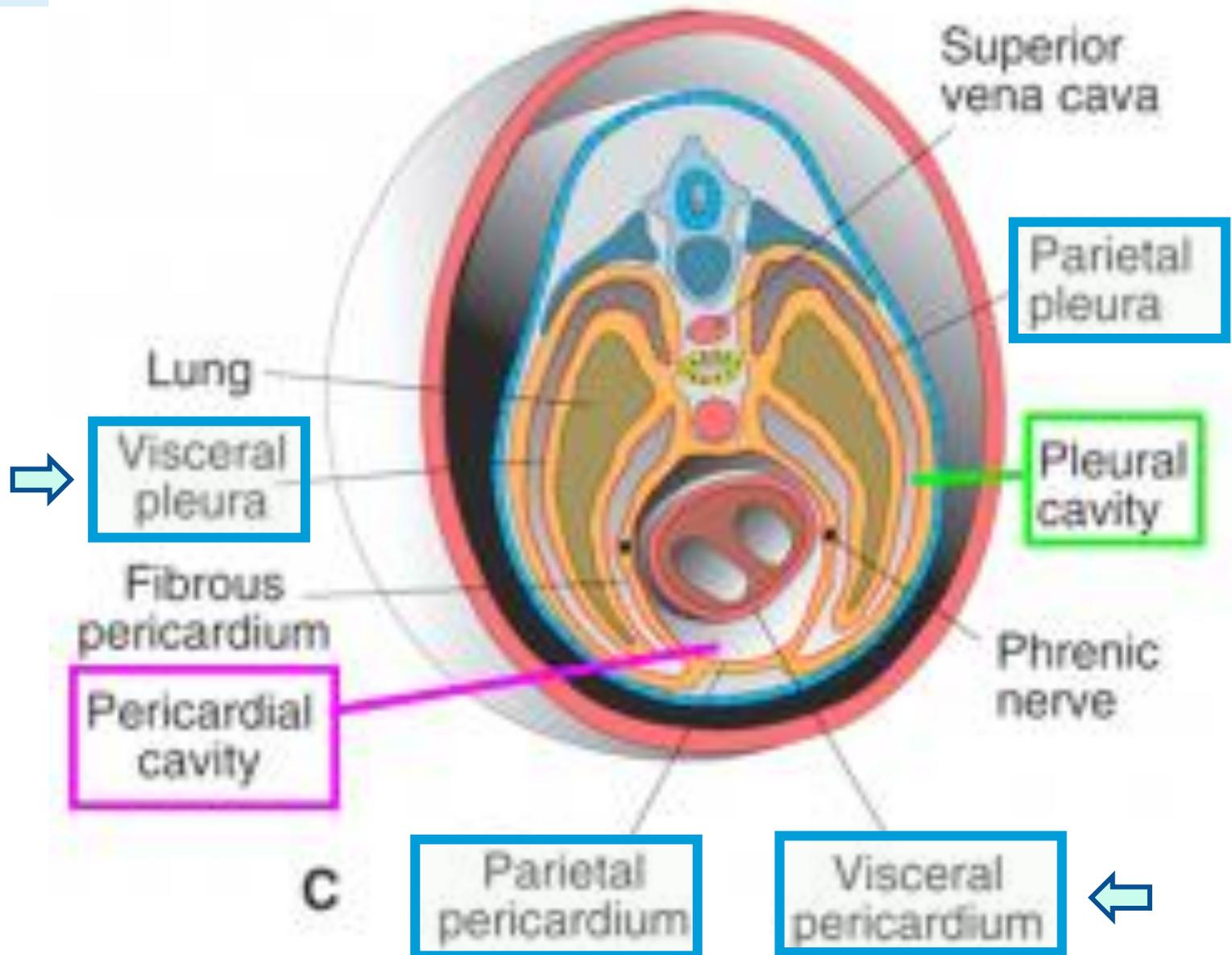
Tejido conjuntivo y muscular de todas las vísceras

Representación gráfica de una porción del intestino

Epitelio del intestino: endodermo

Mesodermo lateral esplácnico



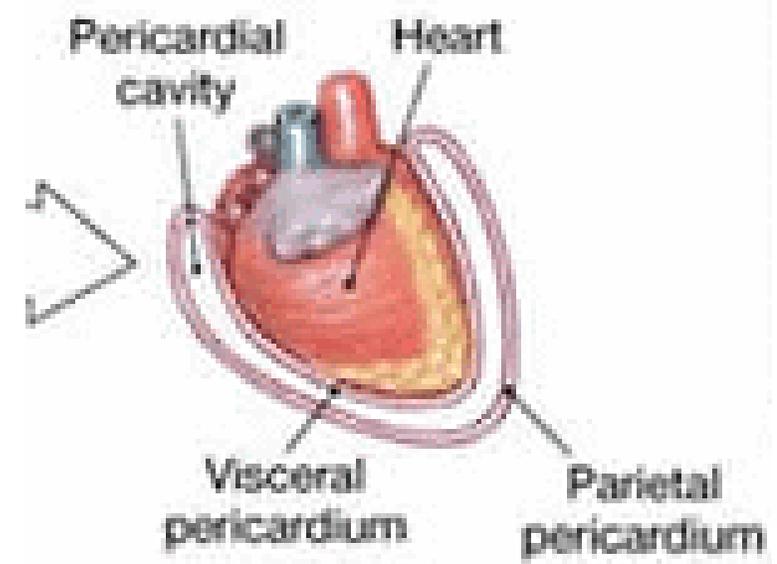
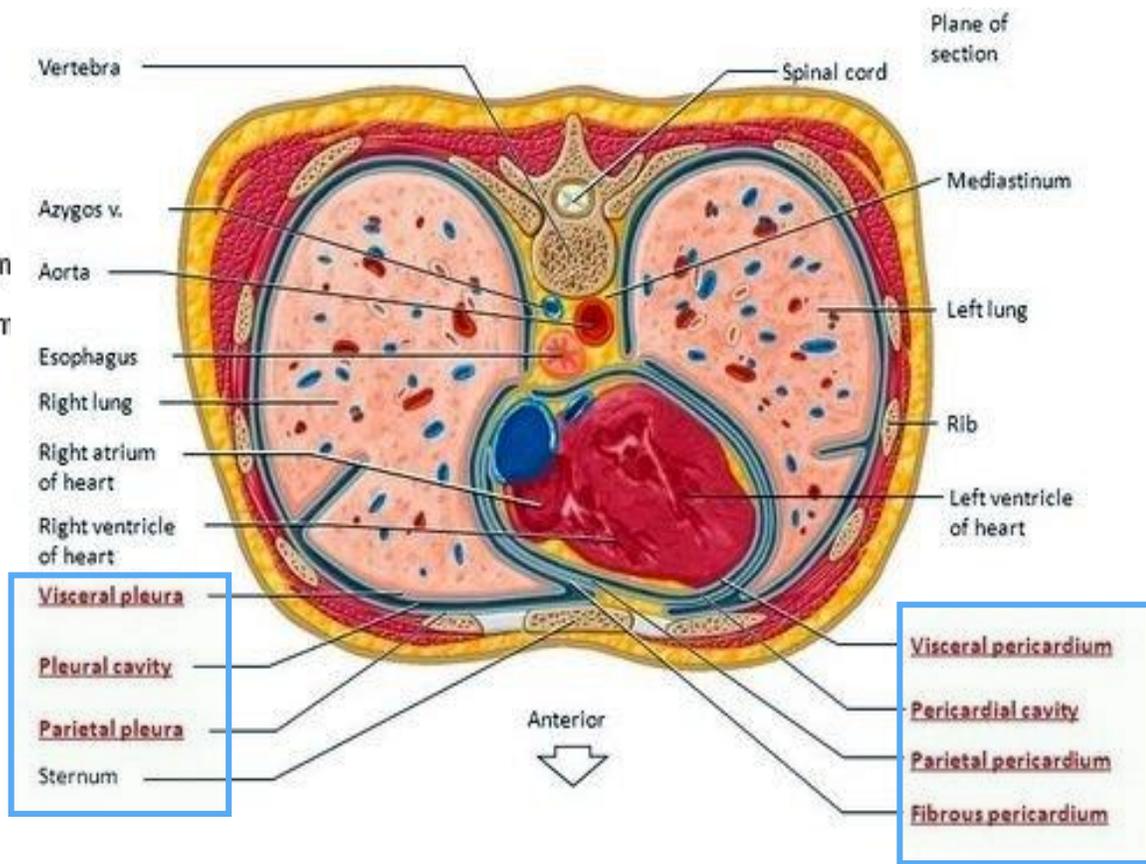
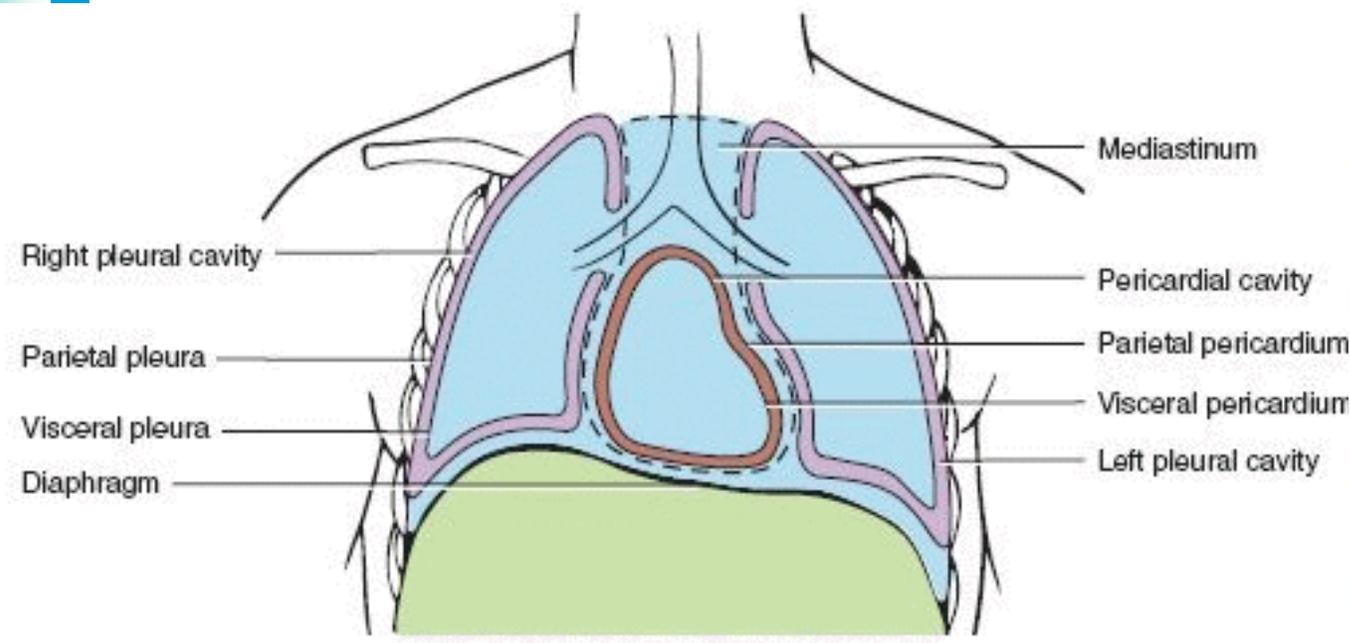


3-TC Body cavities: Pleural and pericardial

Esplácnico

Hoja visceral de peritoneo, pleuras y pericardio





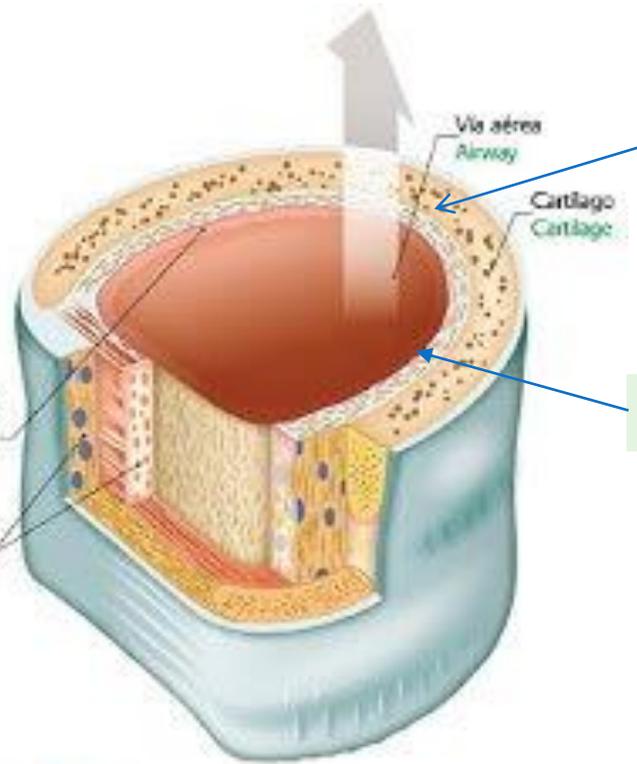
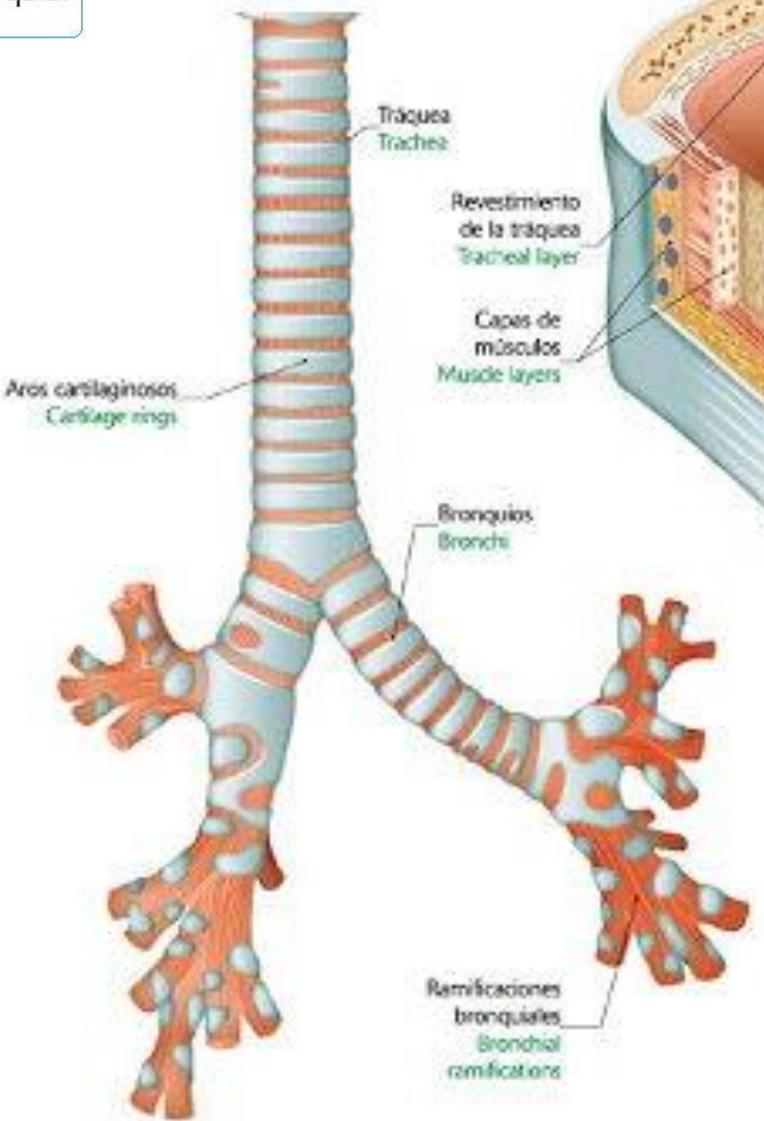
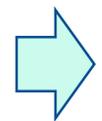
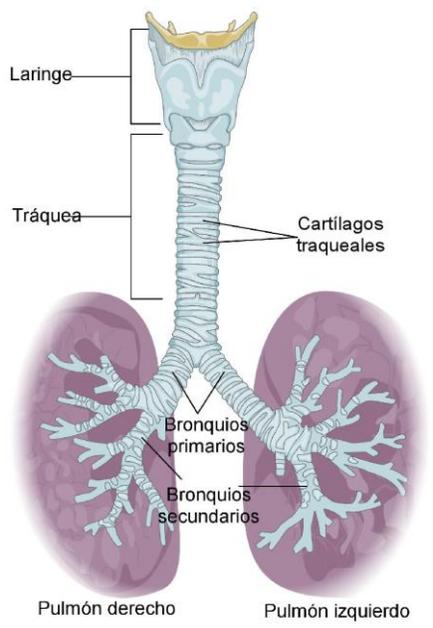
Somático

Esplácnico

Hoja visceral de peritoneo, pleuras y pericardio

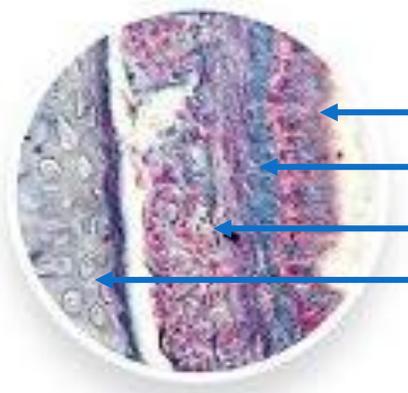
Esplácnico

Cartílago de tráquea y árbol bronquial



Tejido conjuntivo, muscular, cartilaginoso
Mesodermo lateral esplácnico

Epitelio: endodermo



Epitelio
Tejido conjuntivo
Músculo liso
Cartílago

Mesodermo lateral esplácnico



Esplácnico

Todo el sistema cardiovascular

(A)

Head mesenchyme

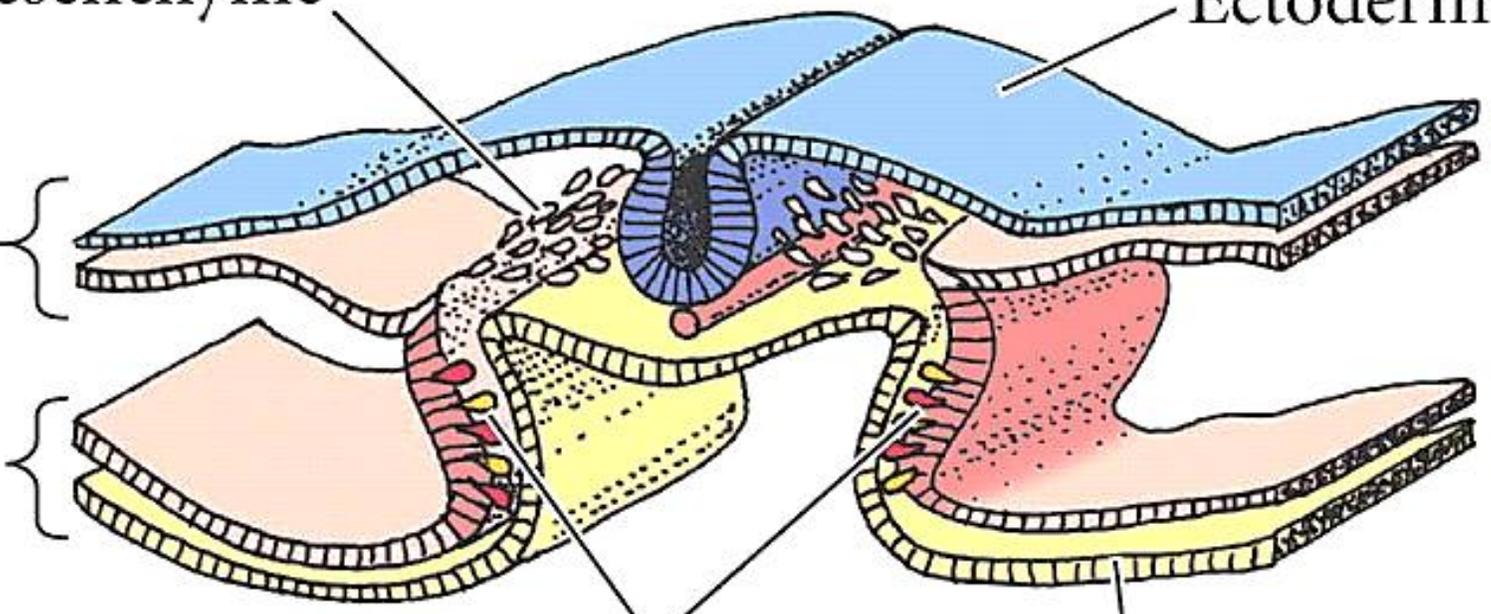
Ectoderm

Somatopleure

Splanchnopleure

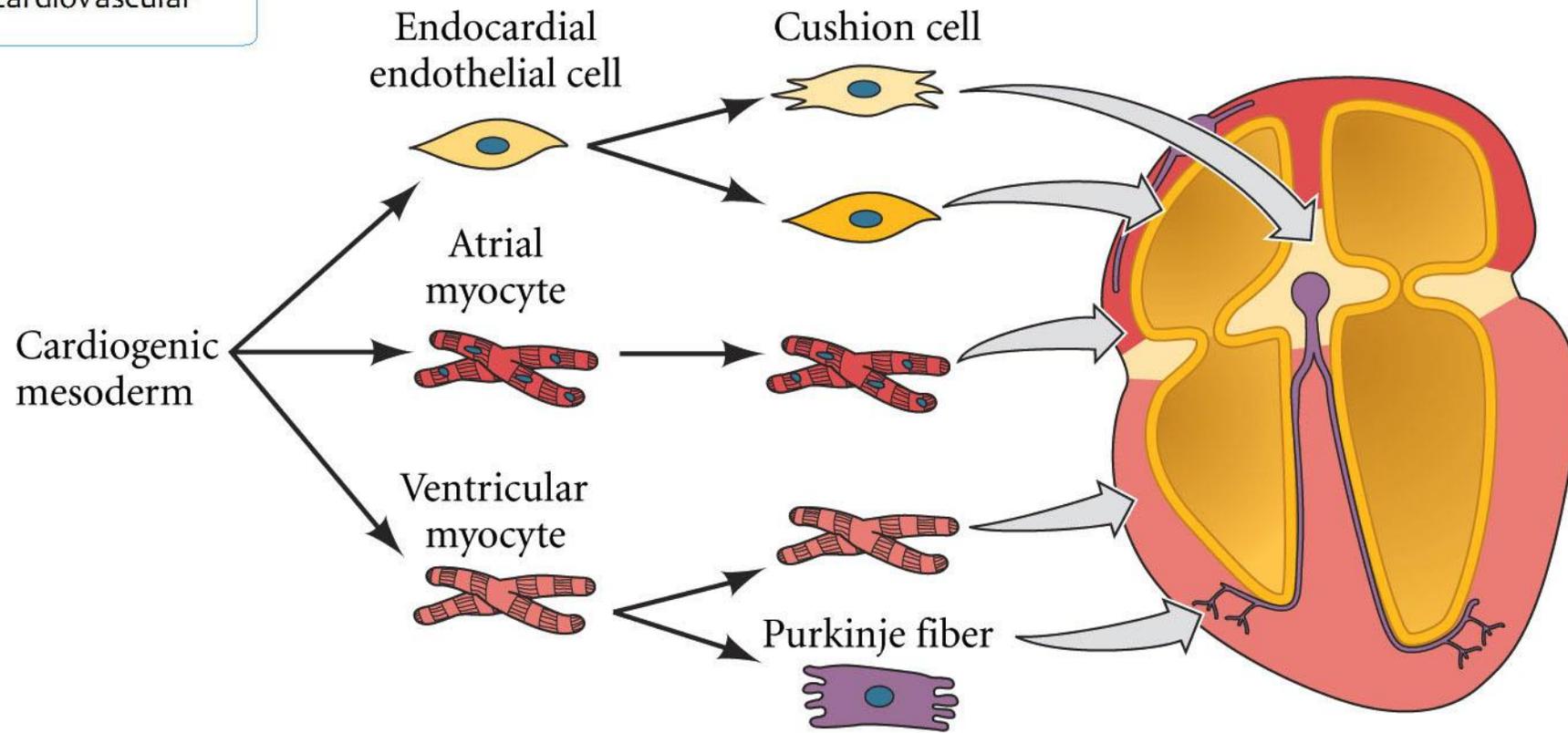
Cardiogenic mesoderm

Endoderm



Esplácnico

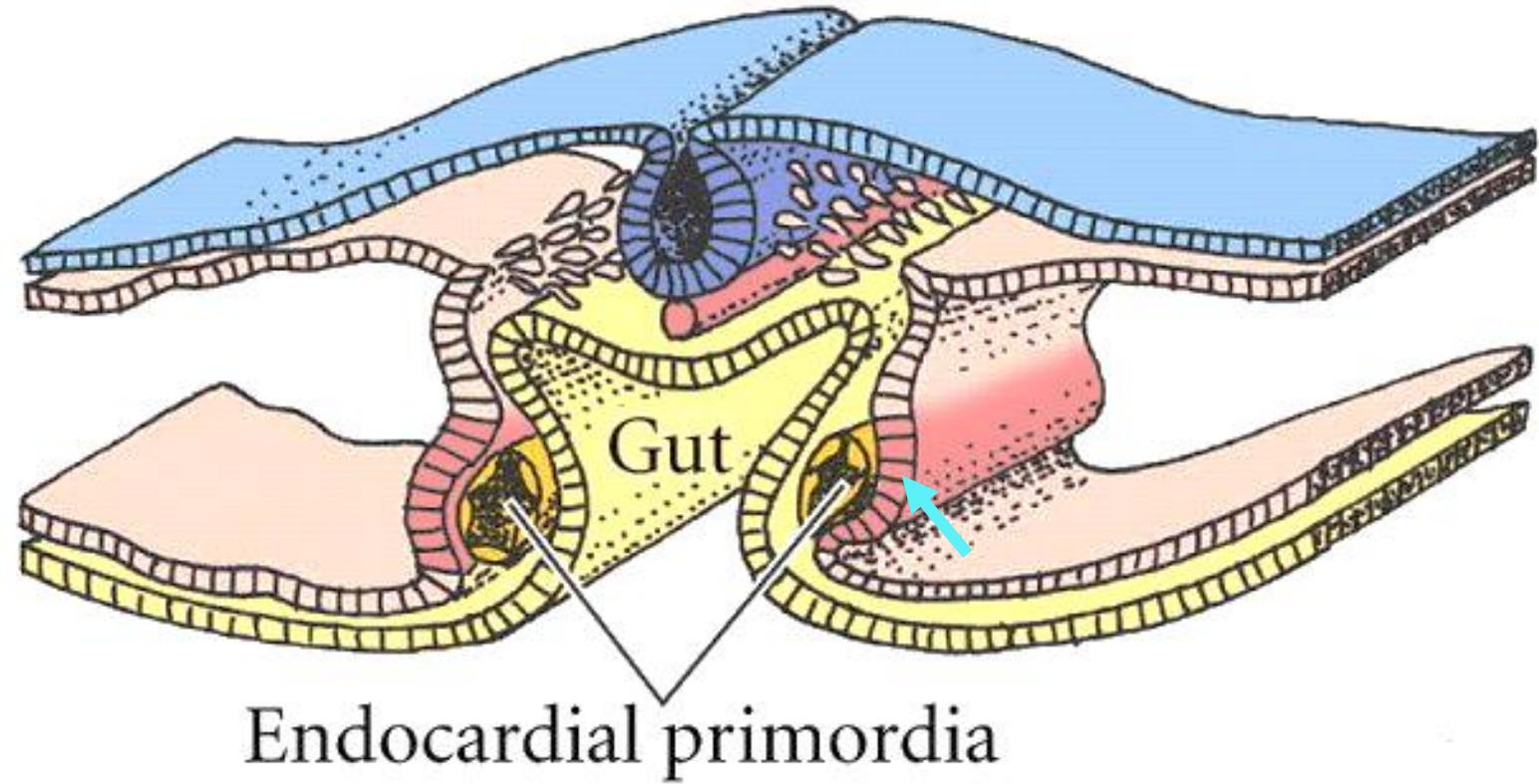
Todo el sistema cardiovascular



Esplácnico

Todo el sistema cardiovascular

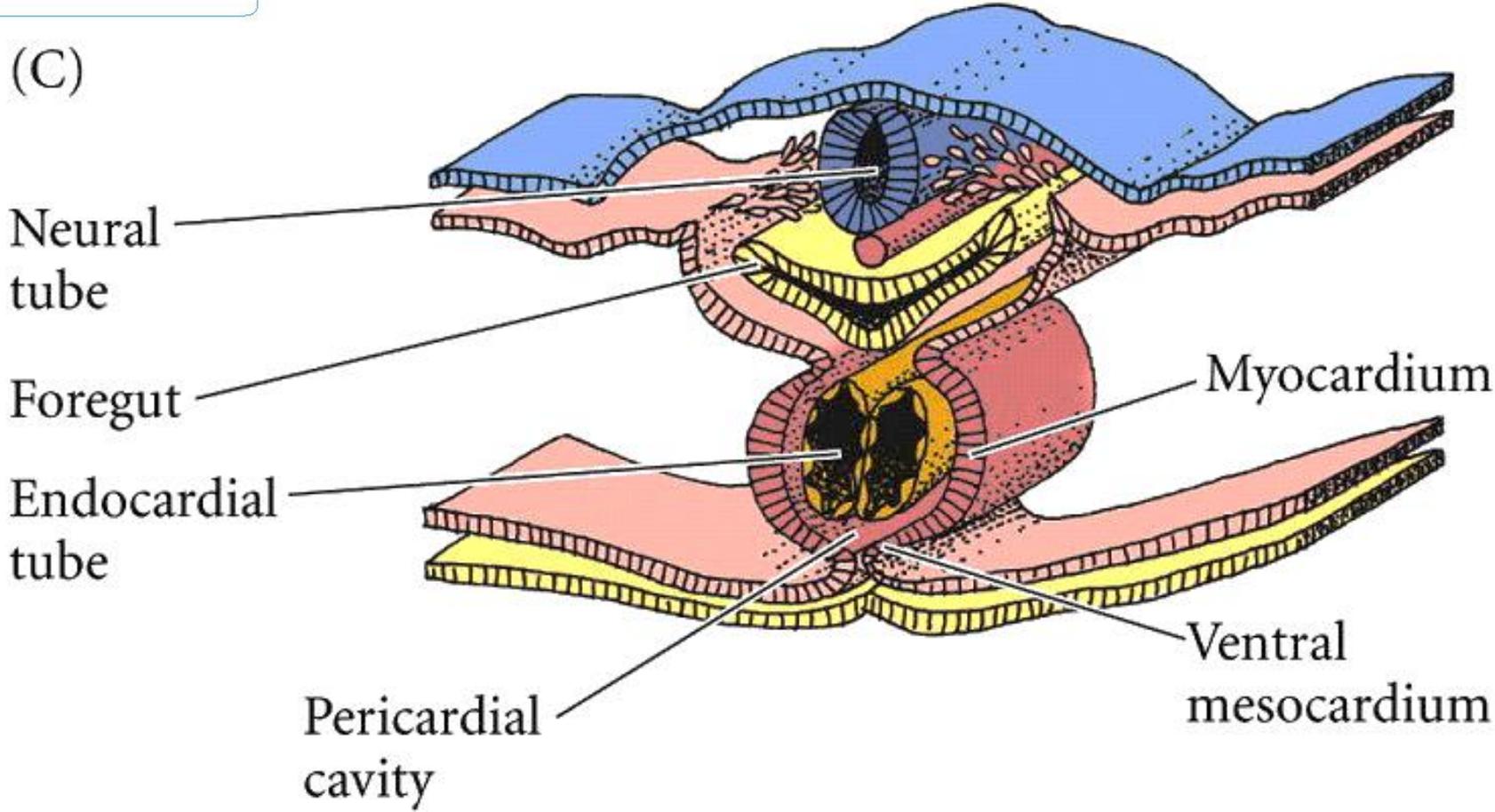
(B)



Esplácnico

Todo el sistema cardiovascular

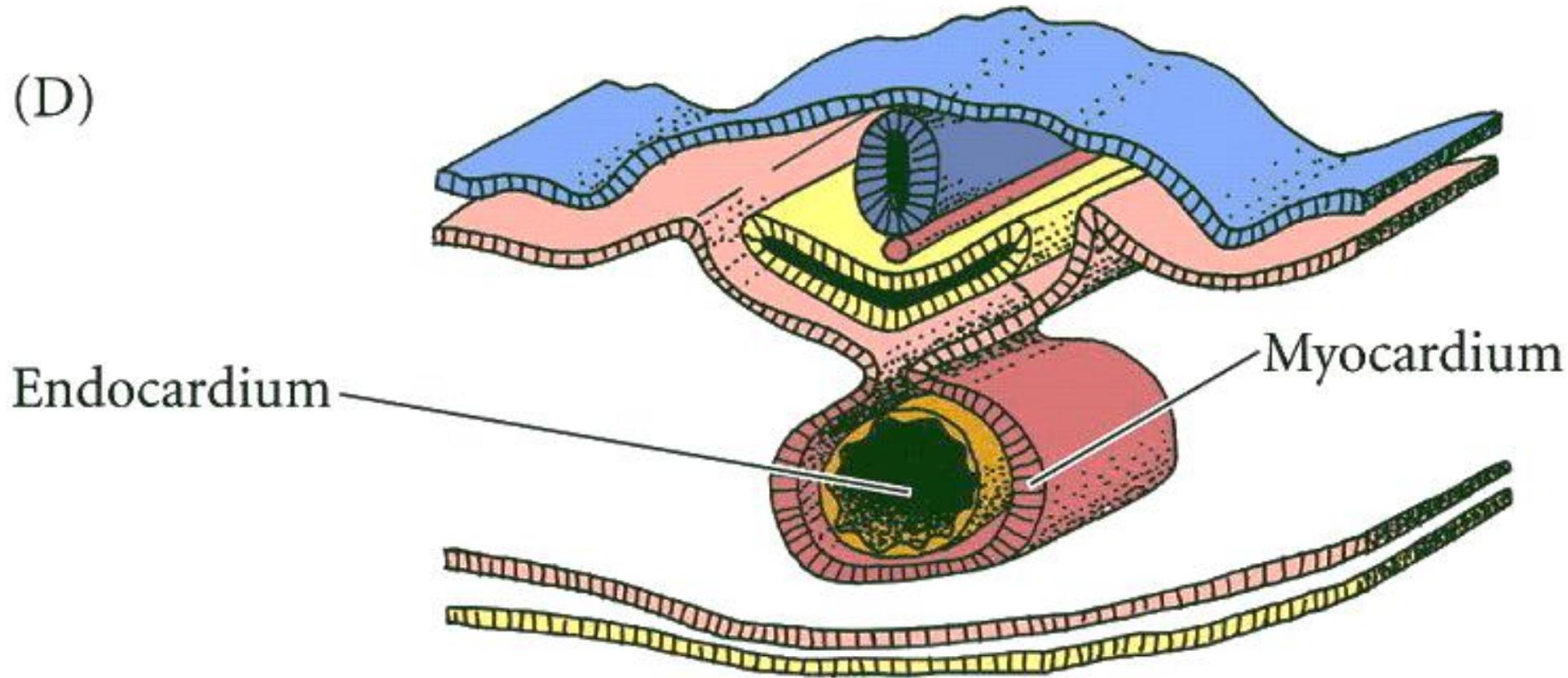
(C)



Esplácnico

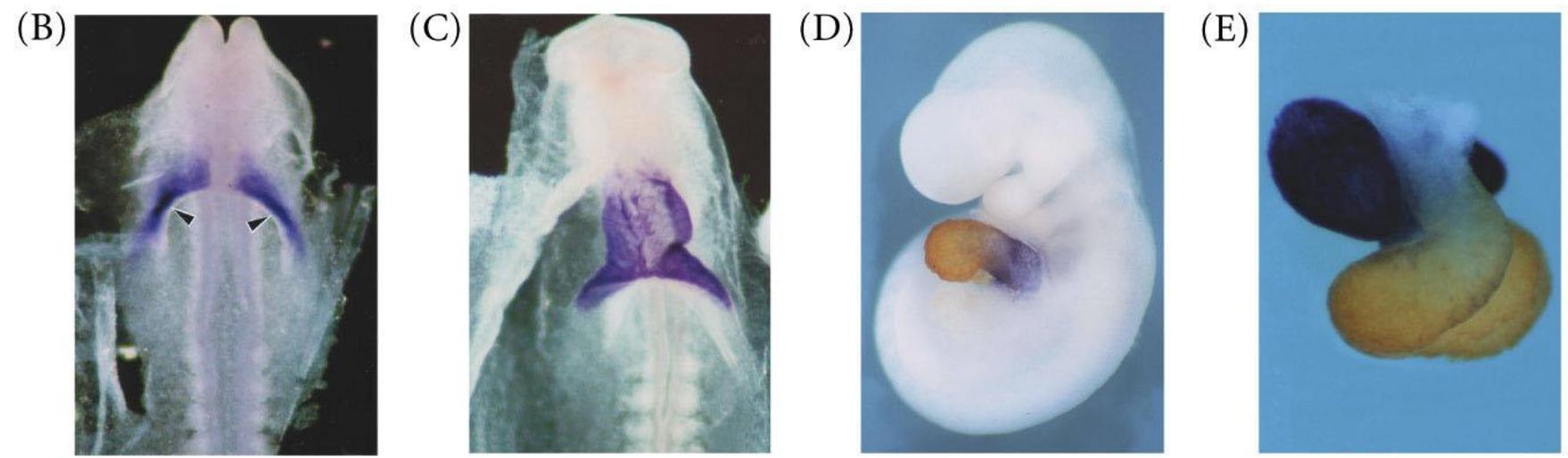
Todo el sistema cardiovascular

(D)



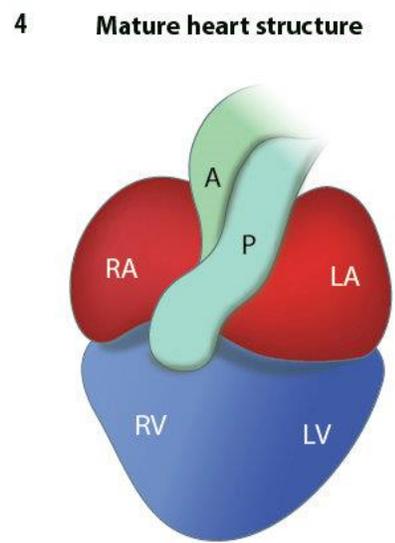
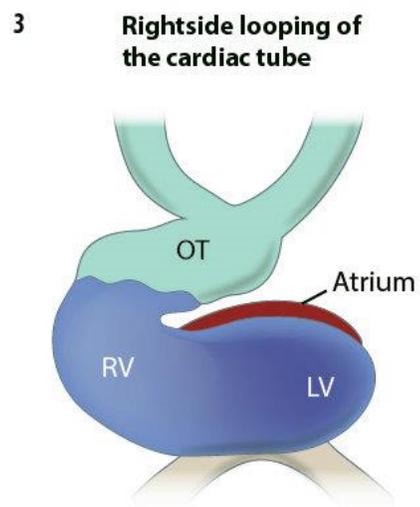
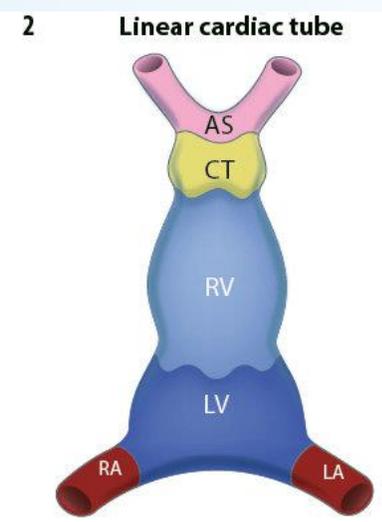
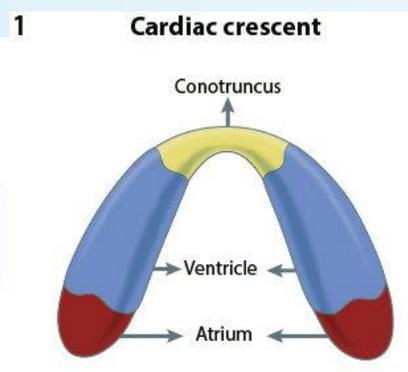
Esplácnico

Todo el sistema cardiovascular

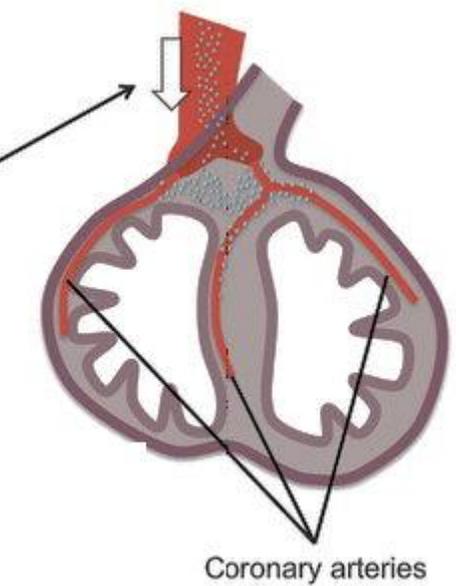


Esplácnico

Todo el sistema cardiovascular



Ectodermo:
cresta
neural

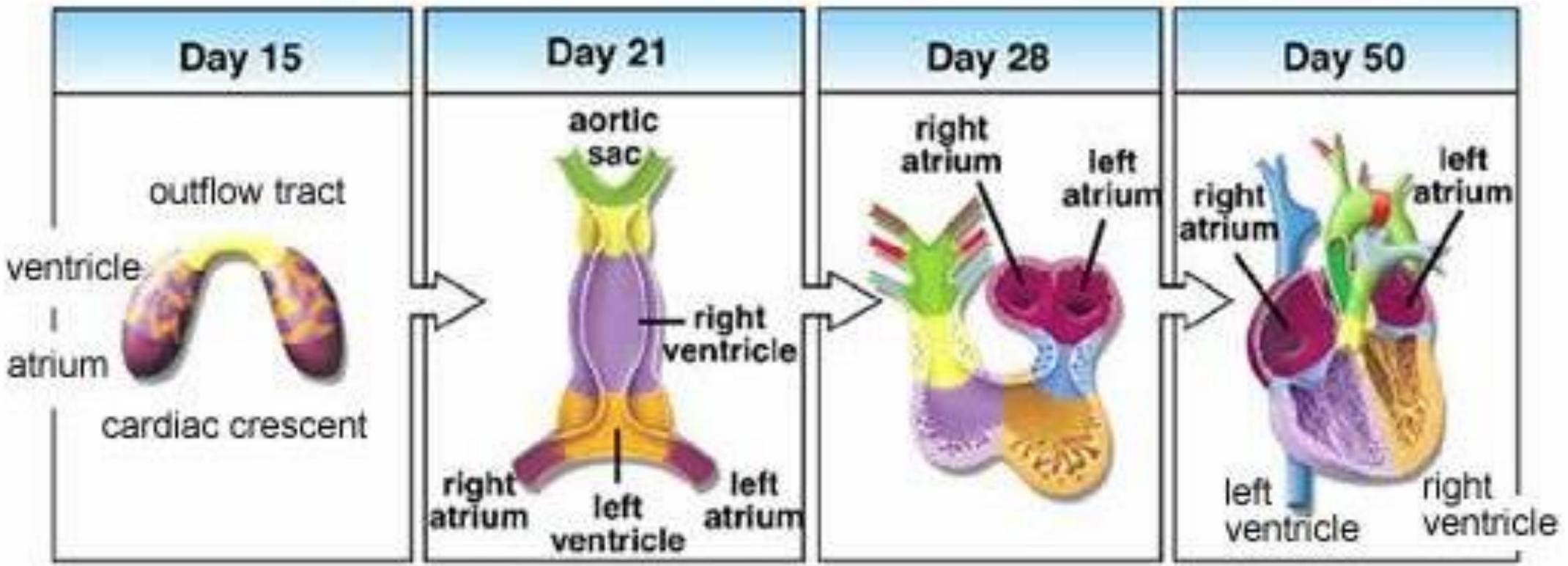


RA - Right atrium	RV - Right ventricle	CT - Conotruncus
LA - Left atrium	LV - Left ventricle	OT - Outflow tract
A - Aorta	P - Pulmonary artery	AS - Aortic sac



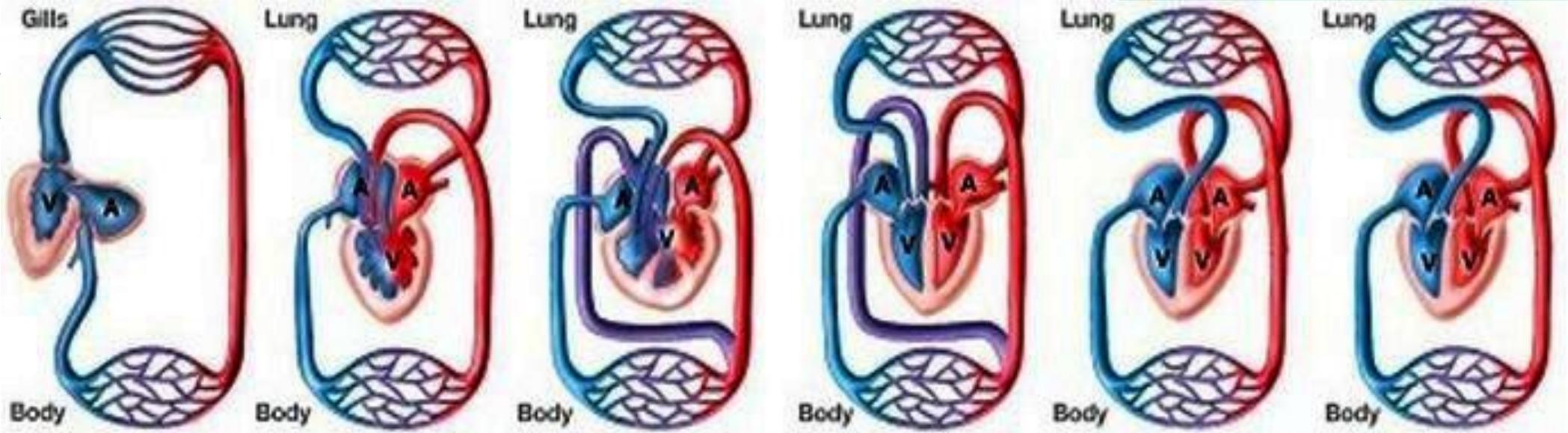
Esplácnico

Todo el sistema cardiovascular



Esplácnico

Todo el sistema cardiovascular



1 circuit
2-chambered heart

2 circuits
3-chambered heart

2 circuits
"5-chambered" heart

2 circuits
4-chambered heart

2 circuits
4-chambered heart

2 circuits
4-chambered heart

Fish

Frogs

Turtles, lizards

Crocodiles

Birds

Mammals

A = Atrium
V = Ventricle

Three-chambered heart
Two circulatory loops

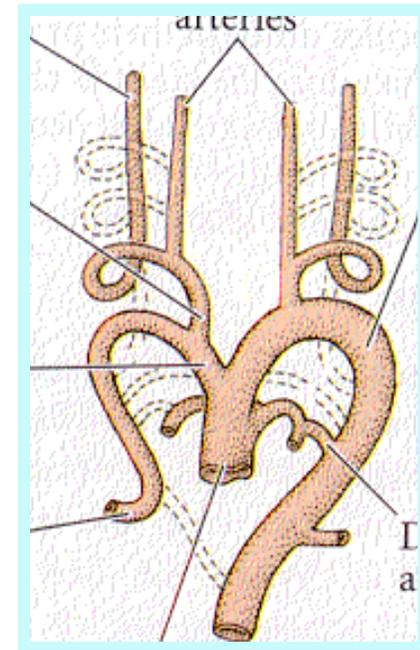
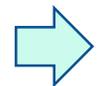
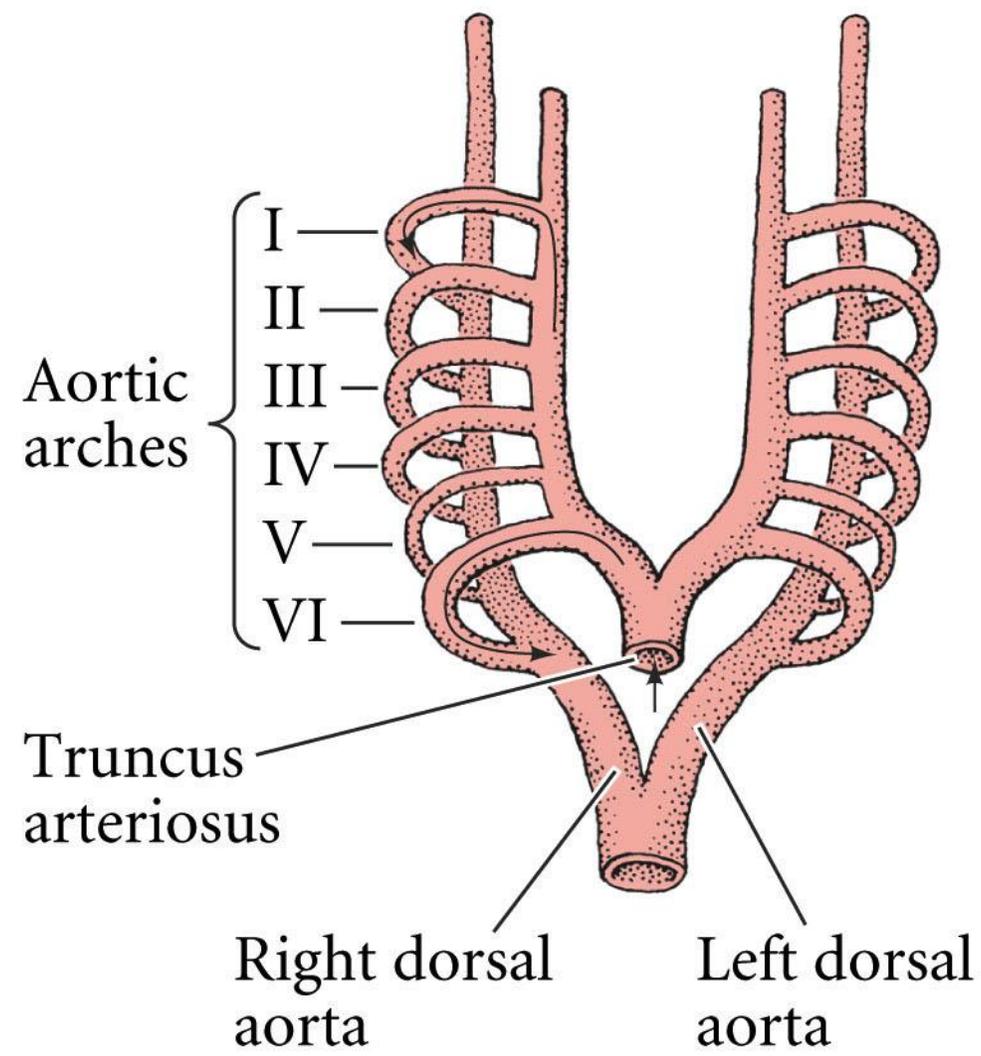
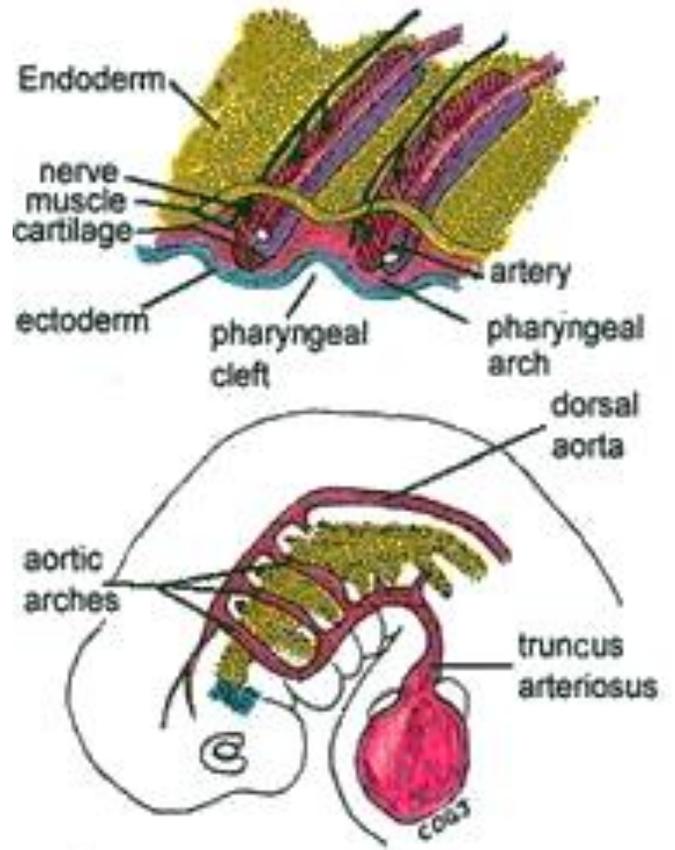
Ventricle divided into chambers
(partially or completely)



Esplácnico

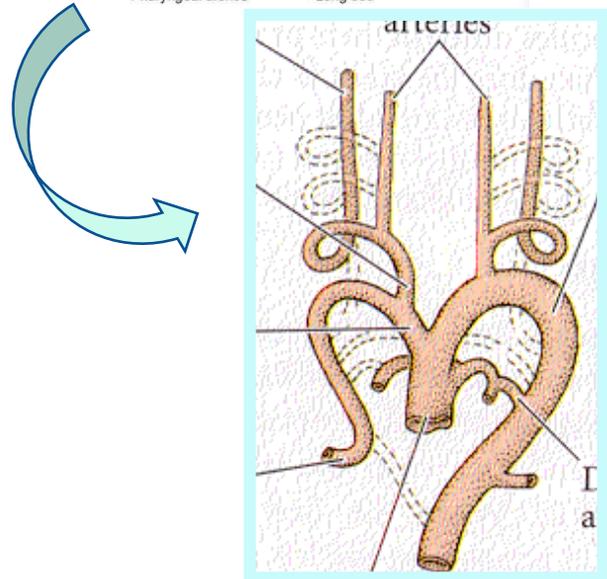
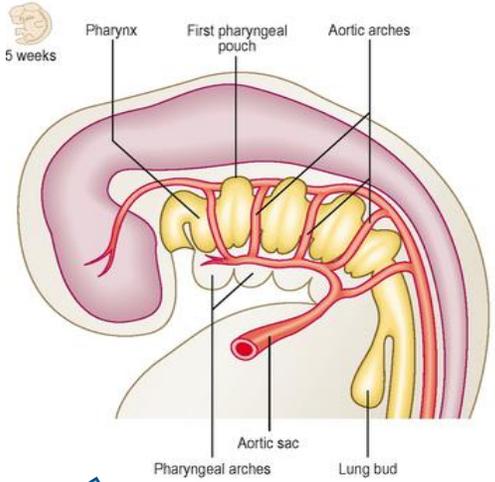
Todo el sistema cardiovascular

(A) 29 DAYS



Esplácnico

Todo el sistema cardiovascular



I

Arteria maxilar

II

Arteria hioidea y estapedial

III

Arteria carótida común y parte de la carótida interna

IV

Parte del arco de la aorta

V

Regresa completamente, se pierde

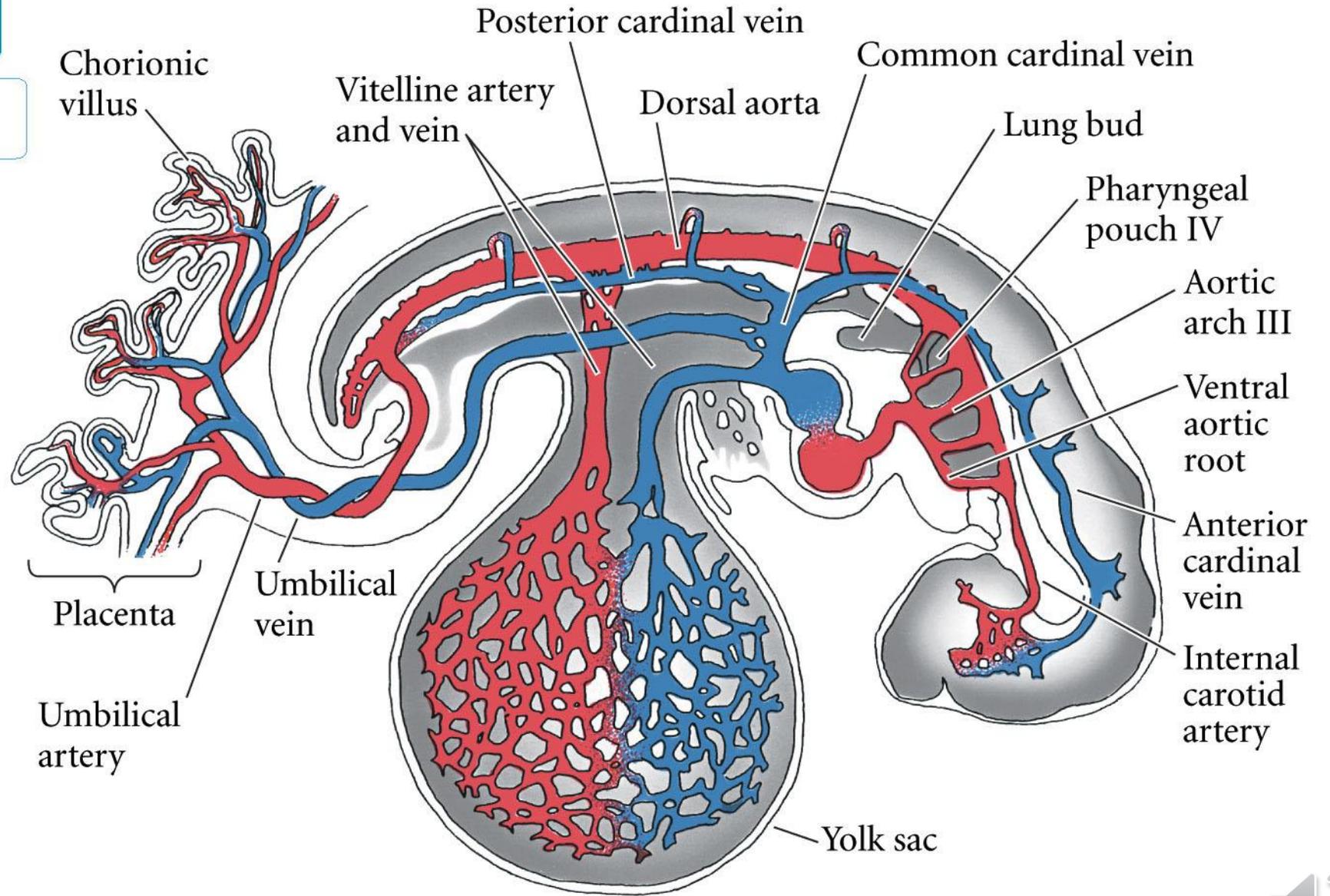
VI

Arterias pulmonares



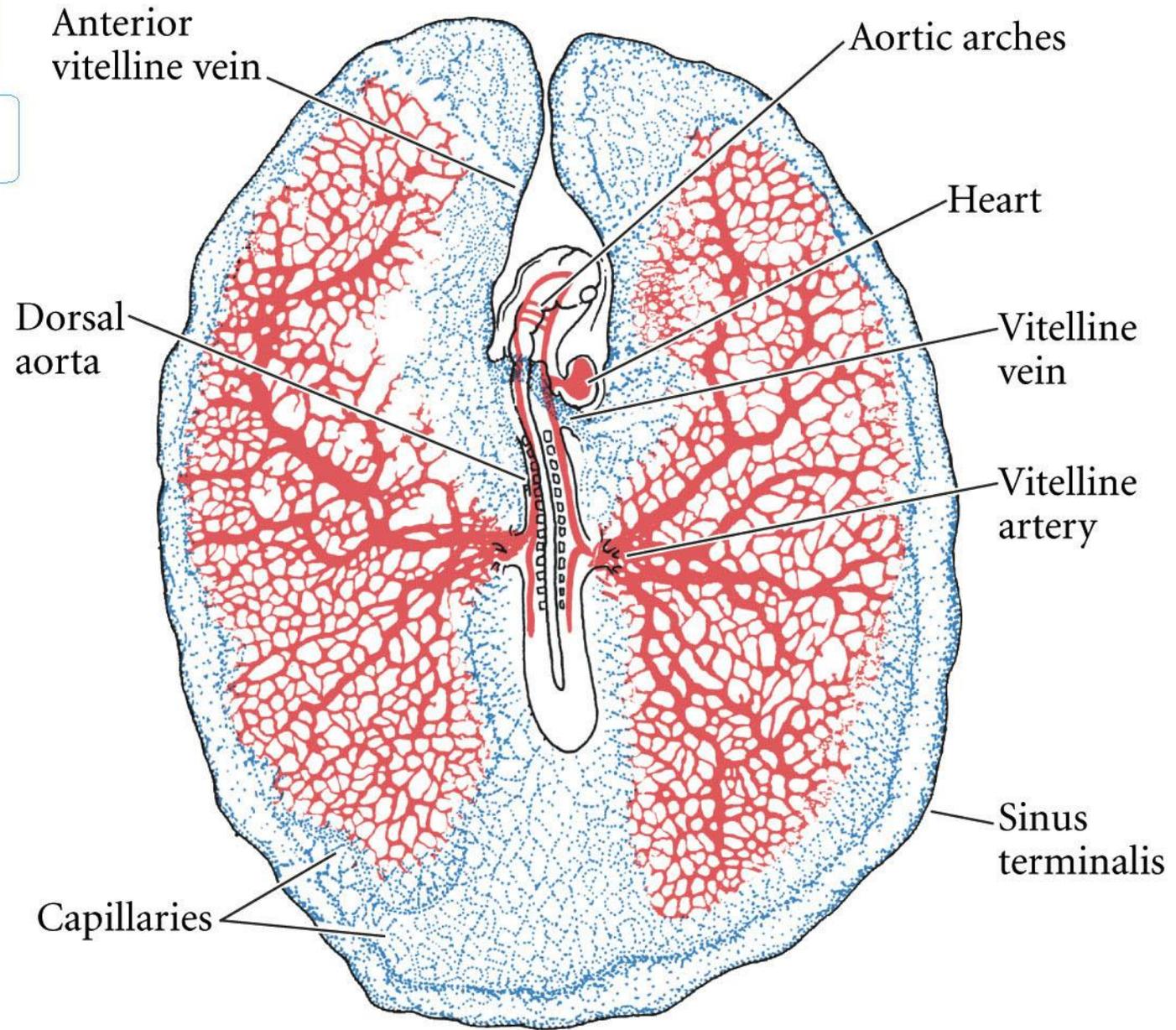
Esplácnico

Todo el sistema cardiovascular



Esplácnico

Todo el sistema cardiovascular



Esplácnico

Todo el sistema cardiovascular

Lt. Vitelline vein

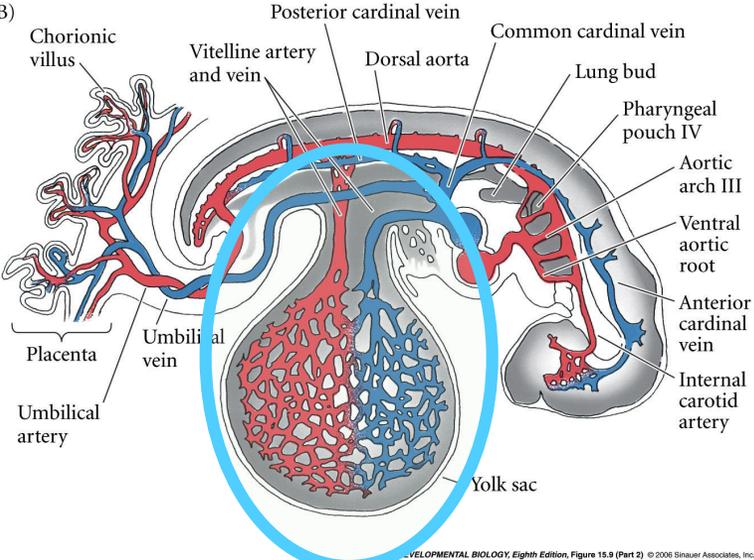
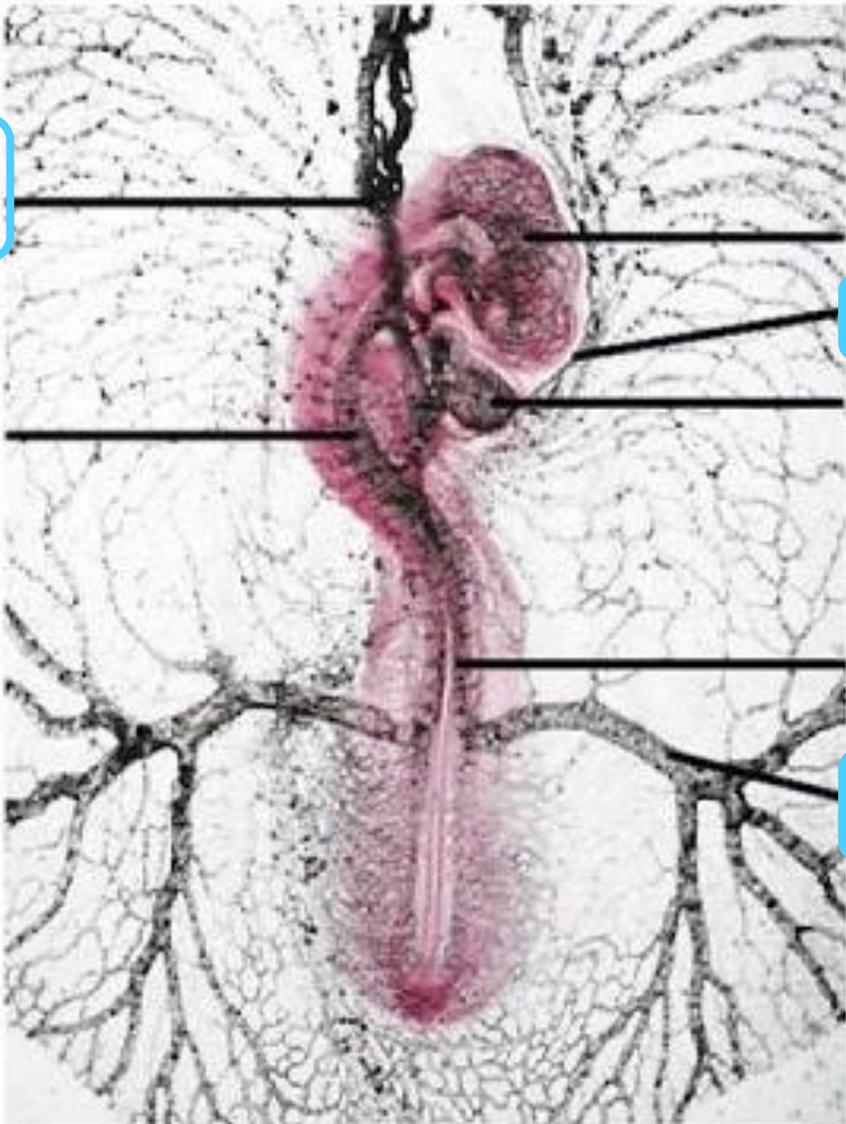
Descending Aorta

Head Plexus
Rt. Vitelline Vein

Ventricle

Rt. Dorsal Aorta

Rt. Vitelline Artery

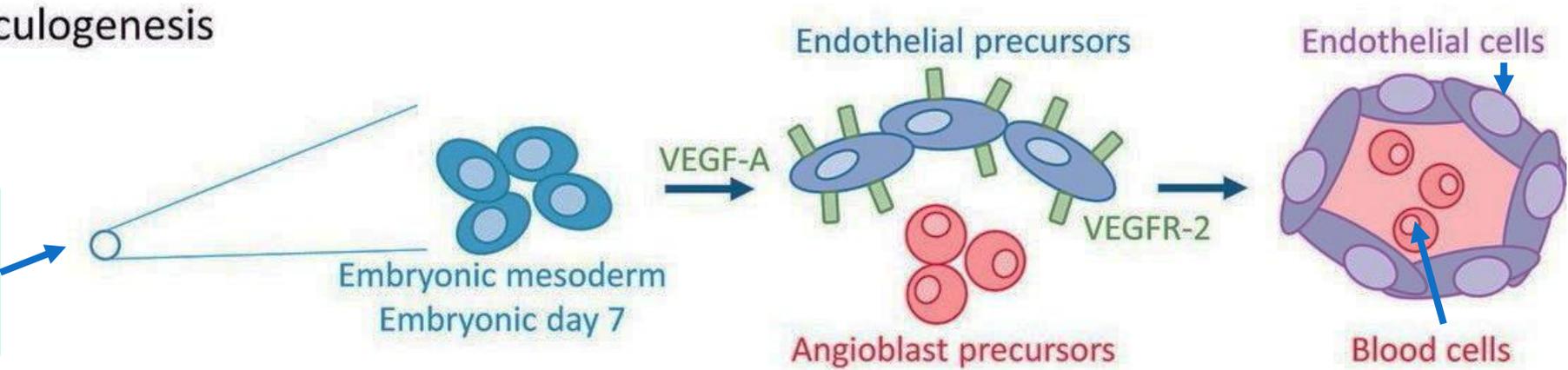


Esplácnico

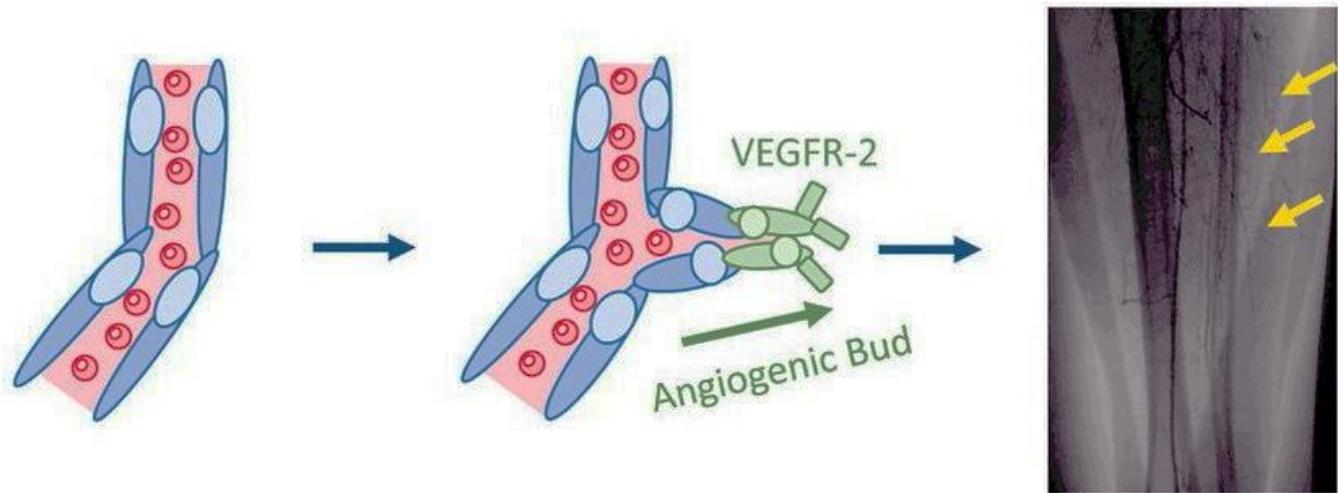
Todo el sistema cardiovascular

Vasculogenesis

Mesodermo lateral esplácnico

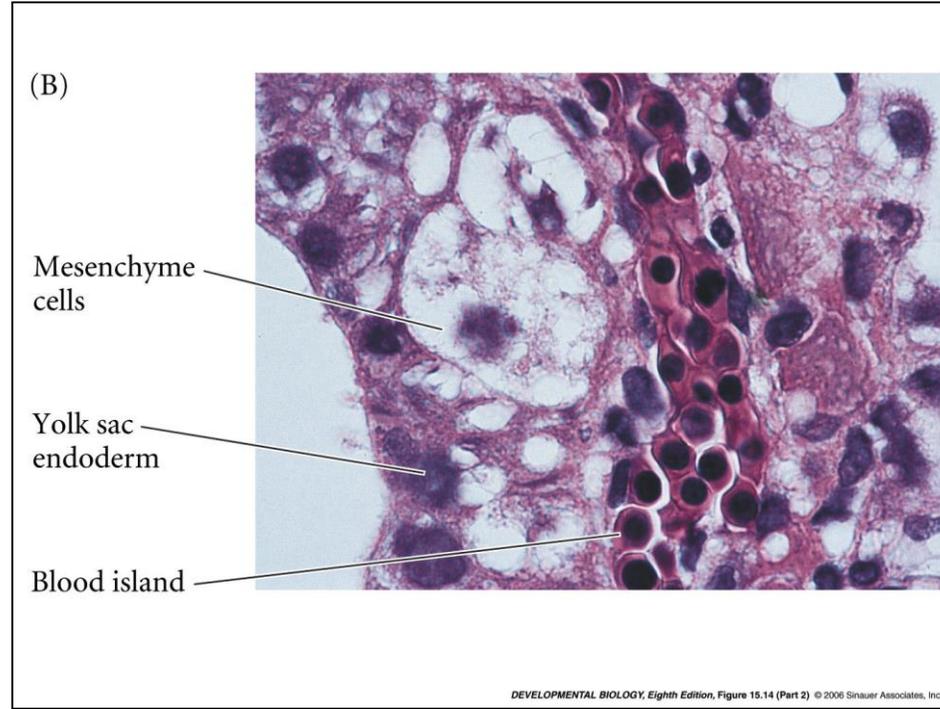
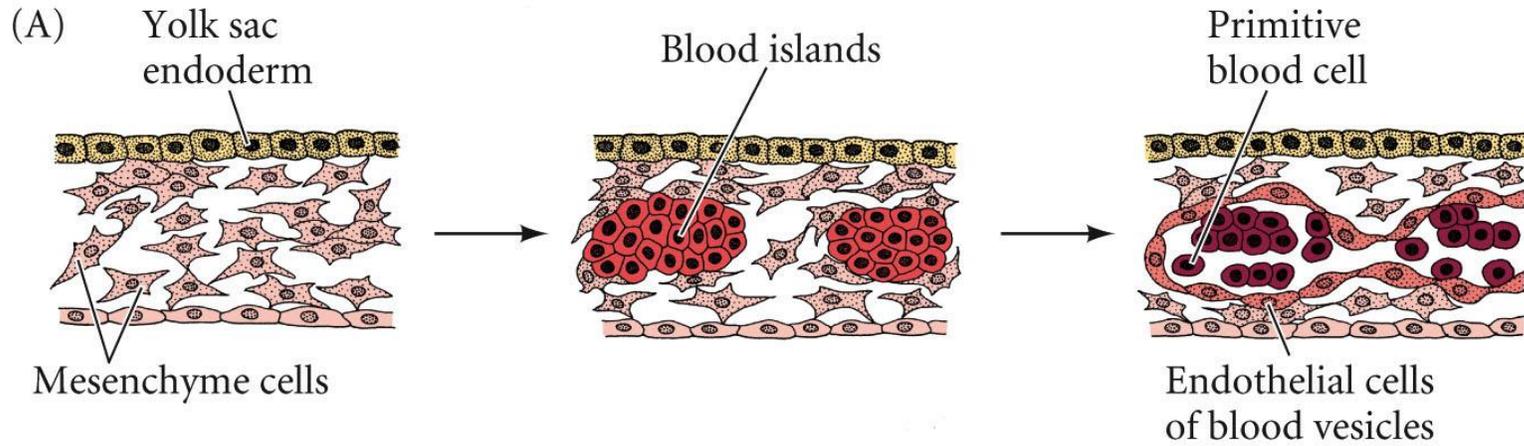


Angiogenesis



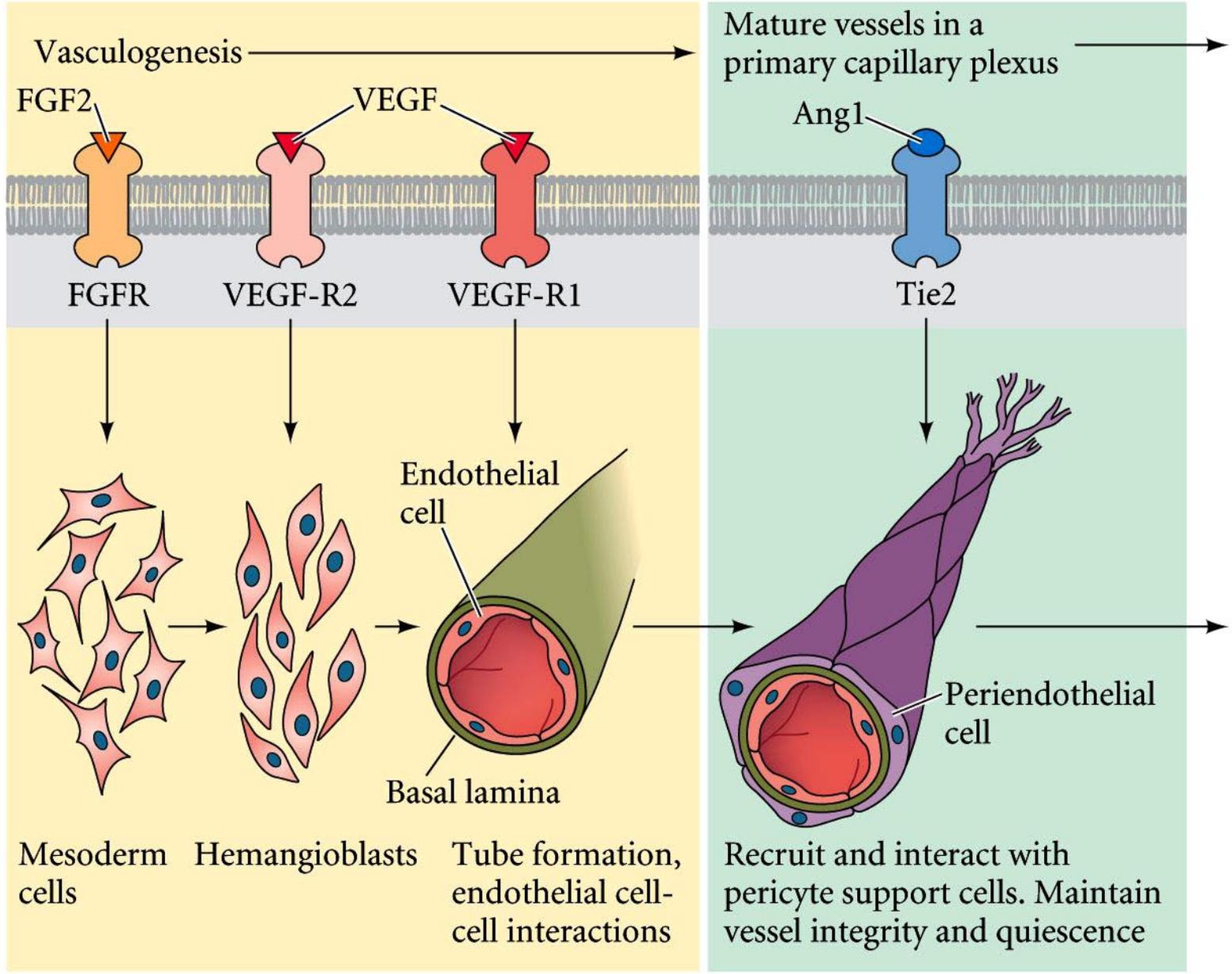
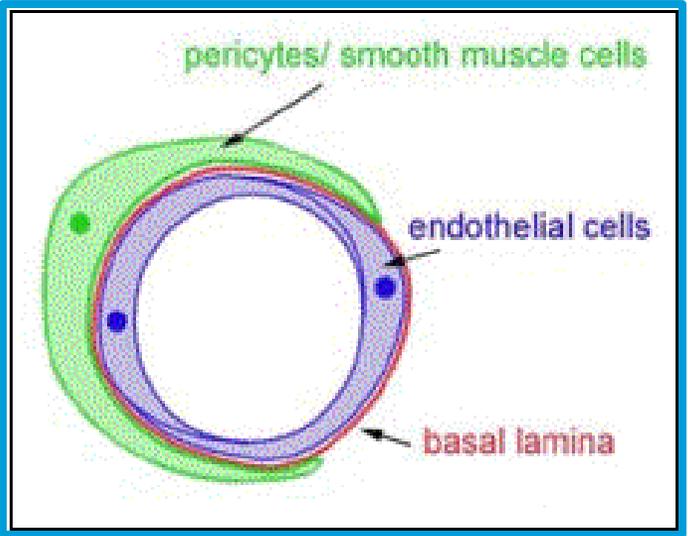
Esplácnico

Todo el sistema cardiovascular



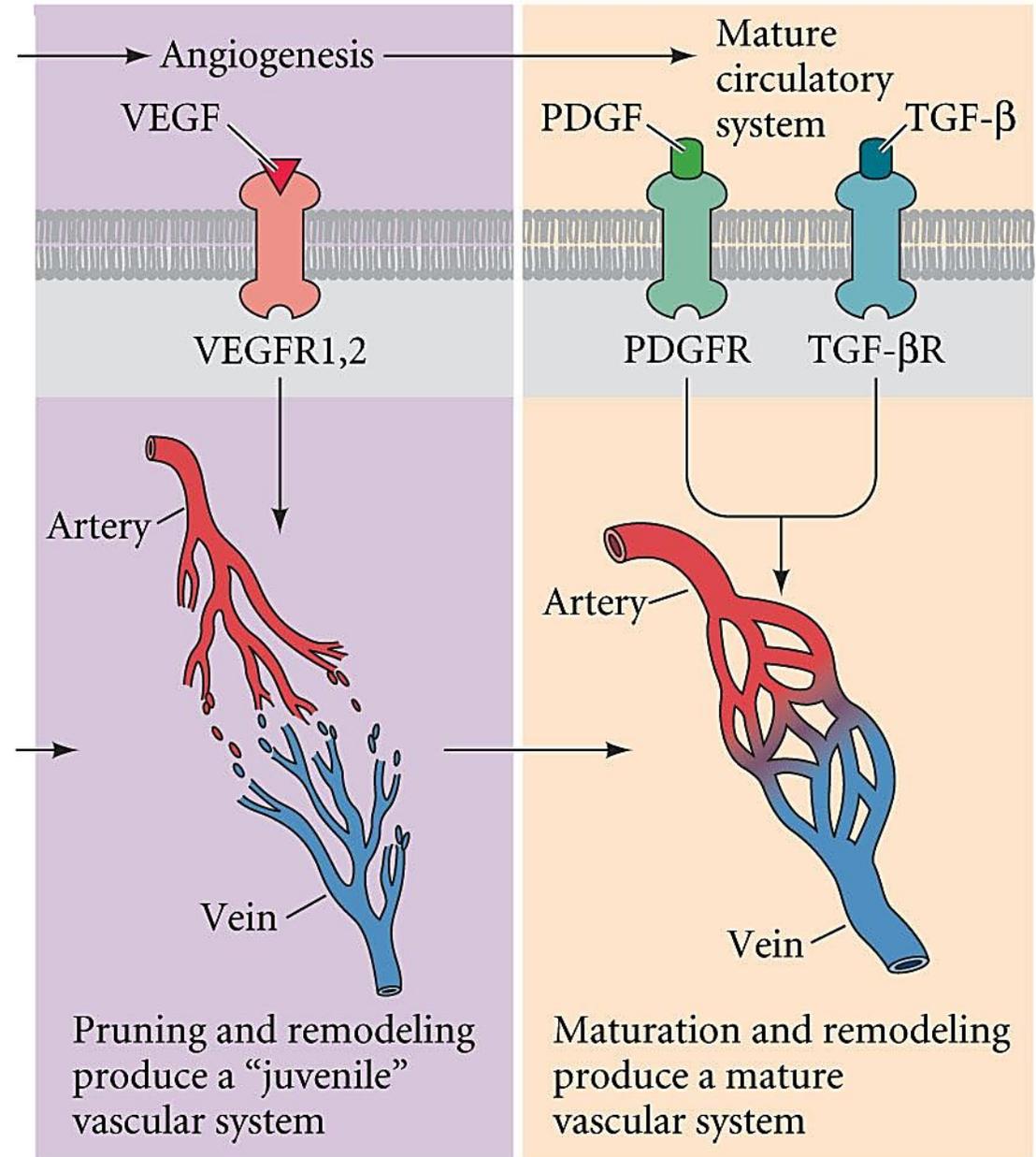
Esplácnico

Todo el sistema cardiovascular



Esplácnico

Todo el sistema cardiovascular

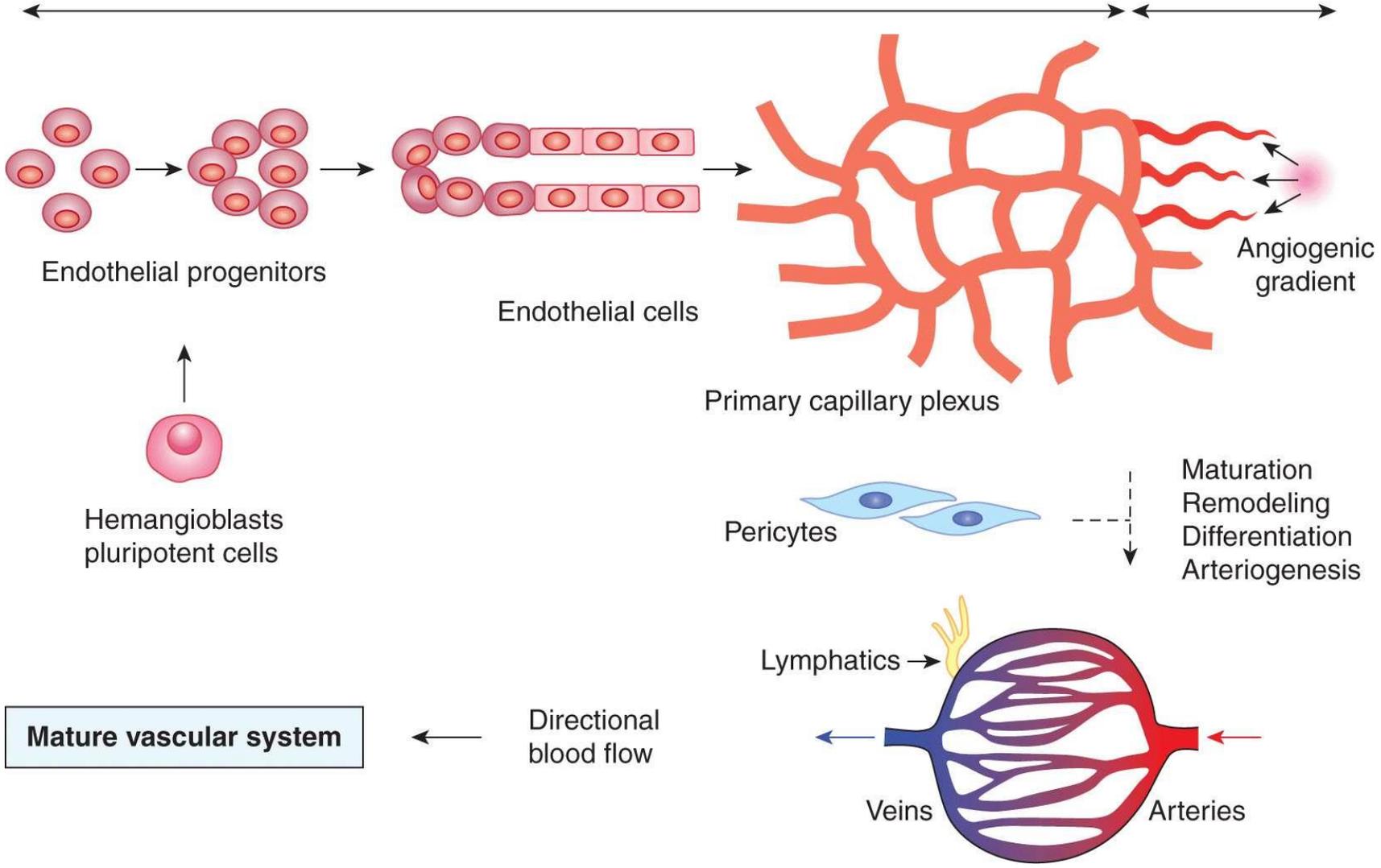


Esplácnico

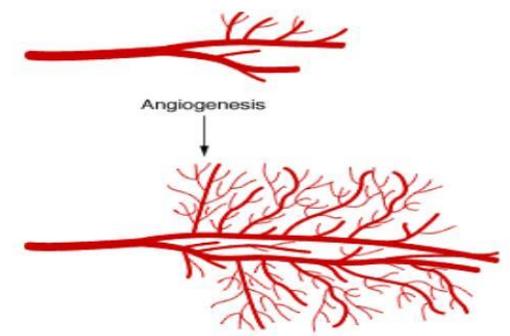
Todo el sistema cardiovascular

Vasculogenesis

Angiogenesis

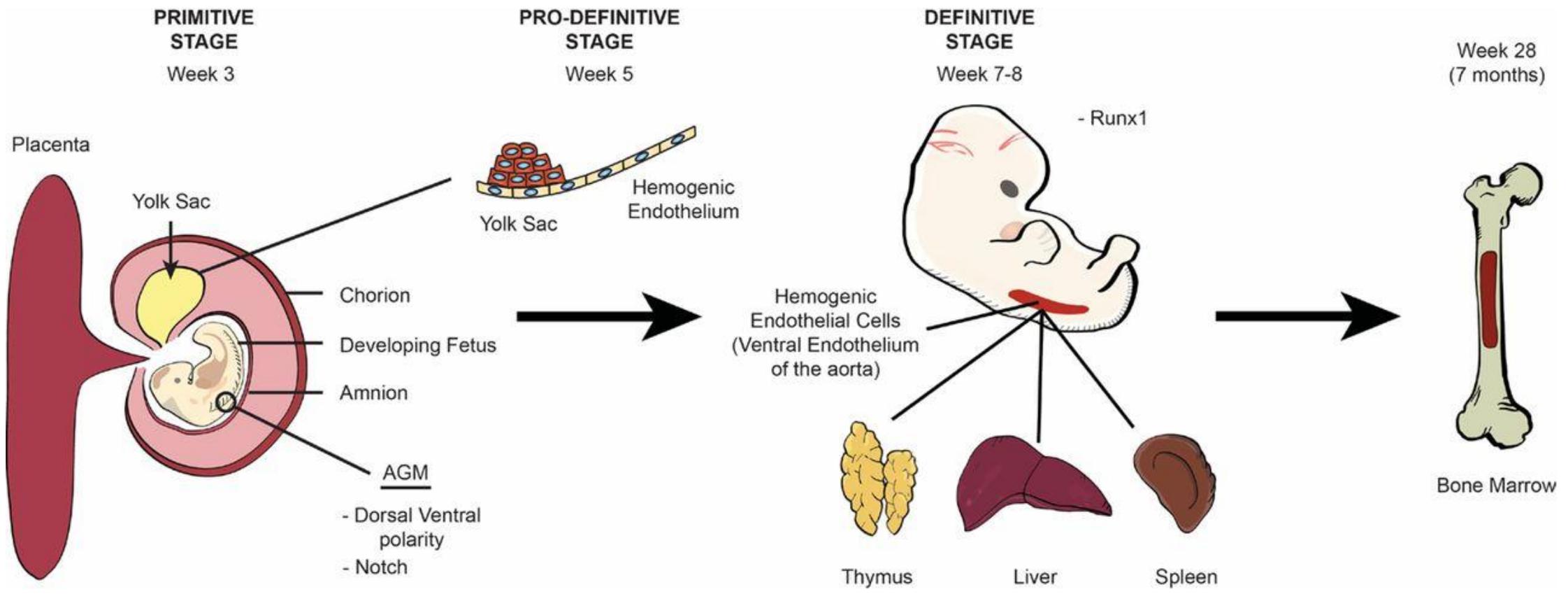


Angiogenesis



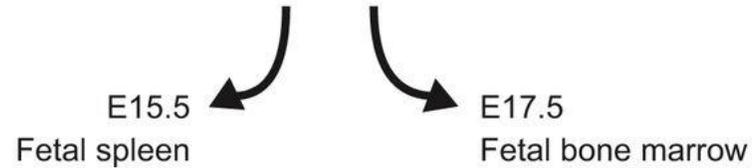
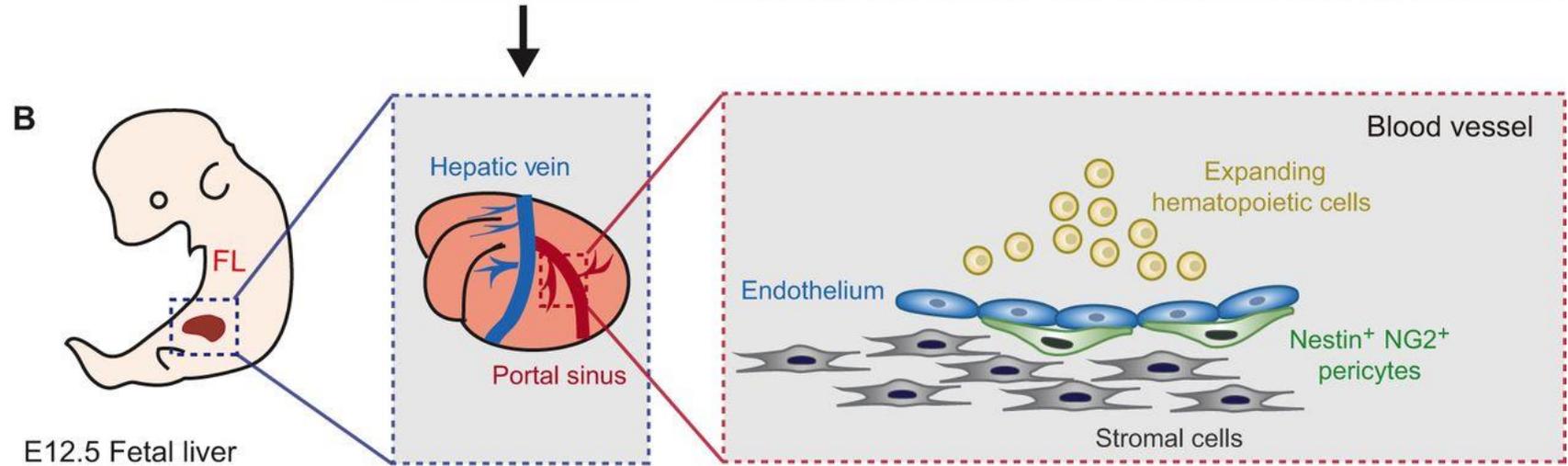
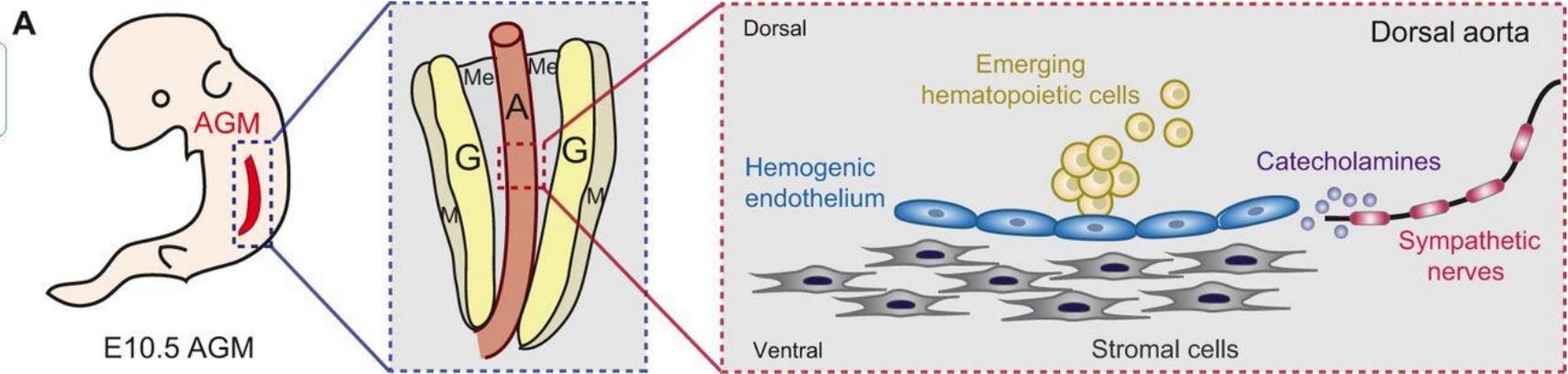
Esplácnico

Todo el sistema cardiovascular



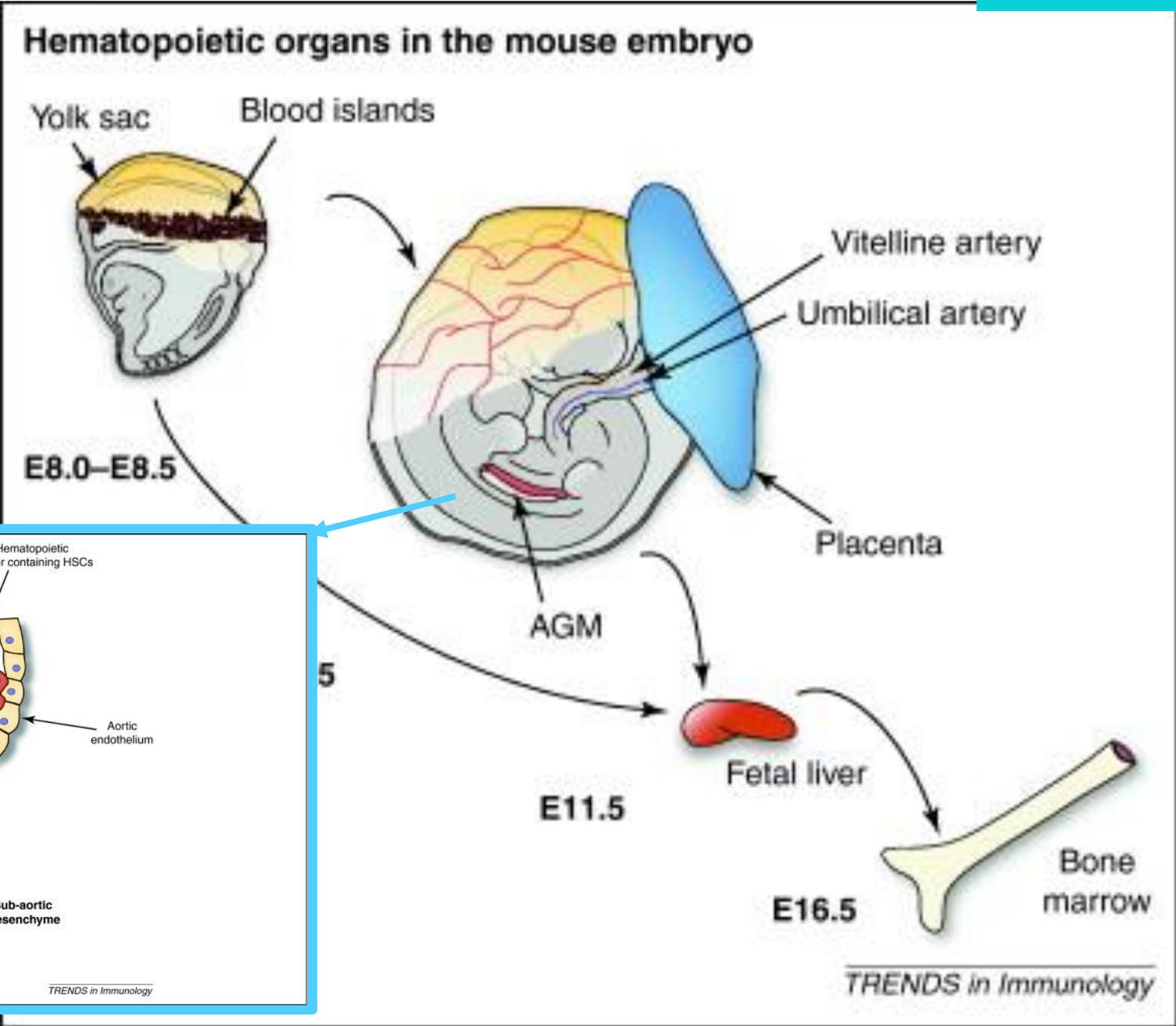
Esplácnico

Todo el sistema cardiovascular



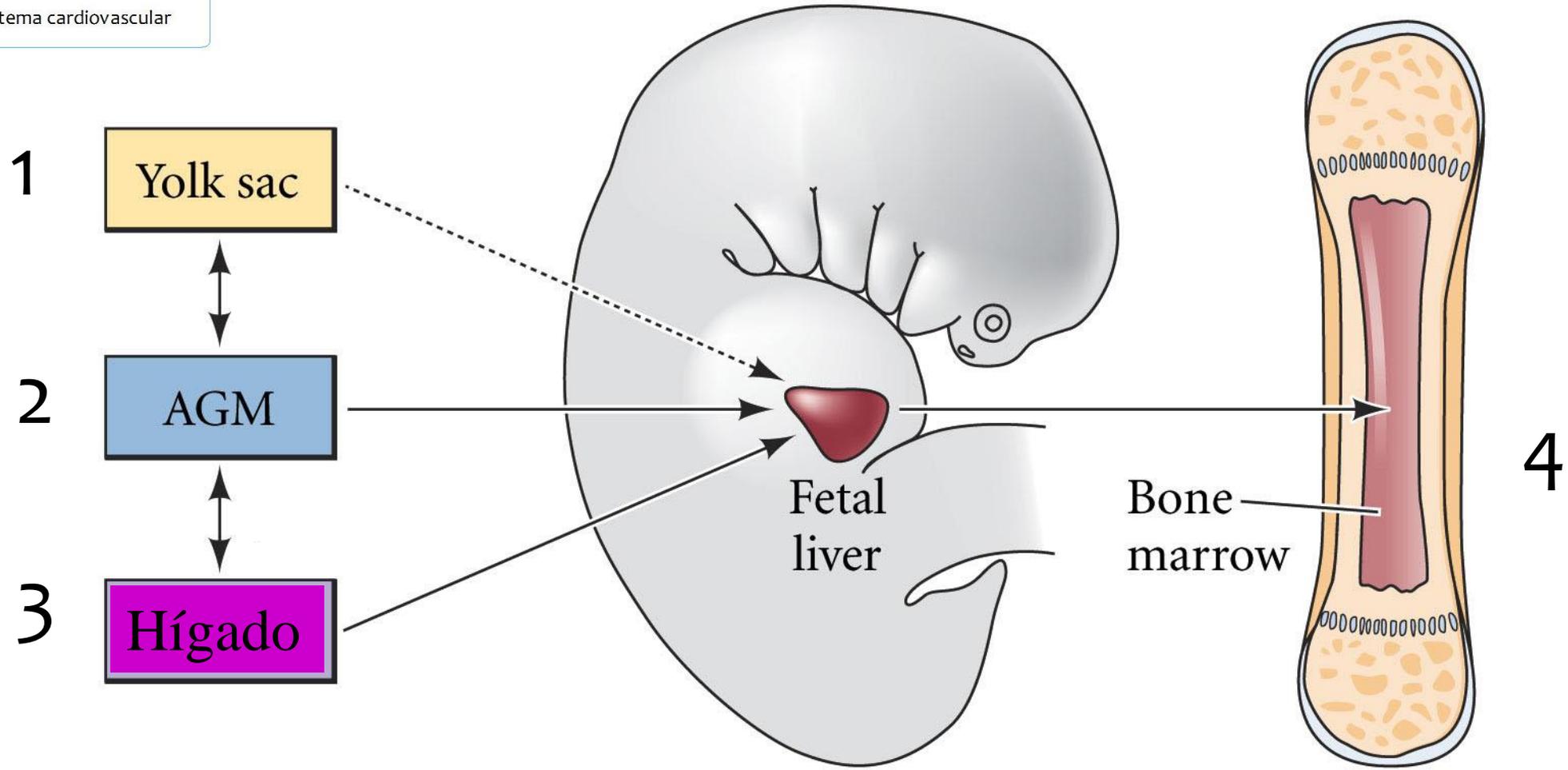
Esplácnico

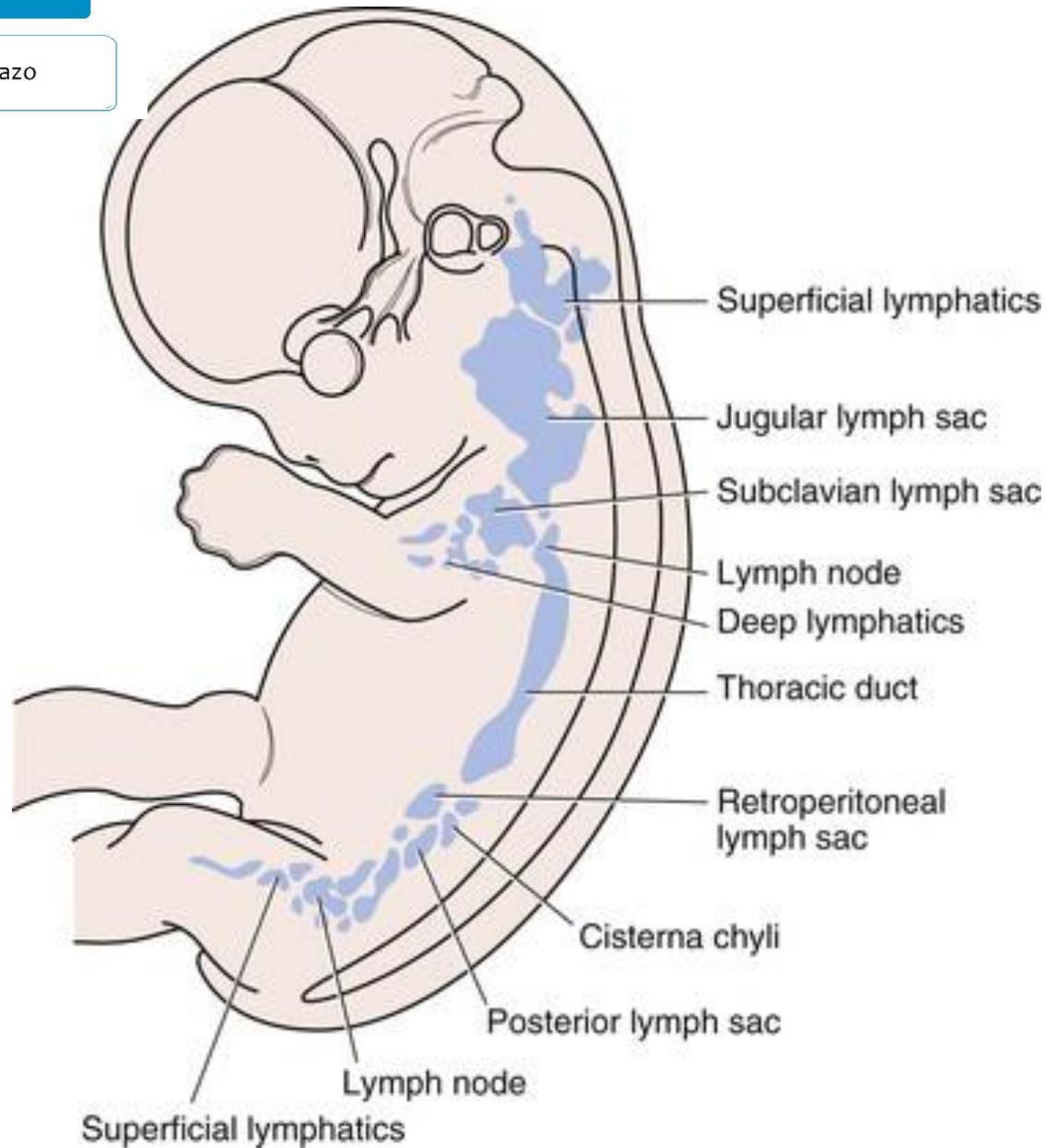
Todo el sistema cardiovascular



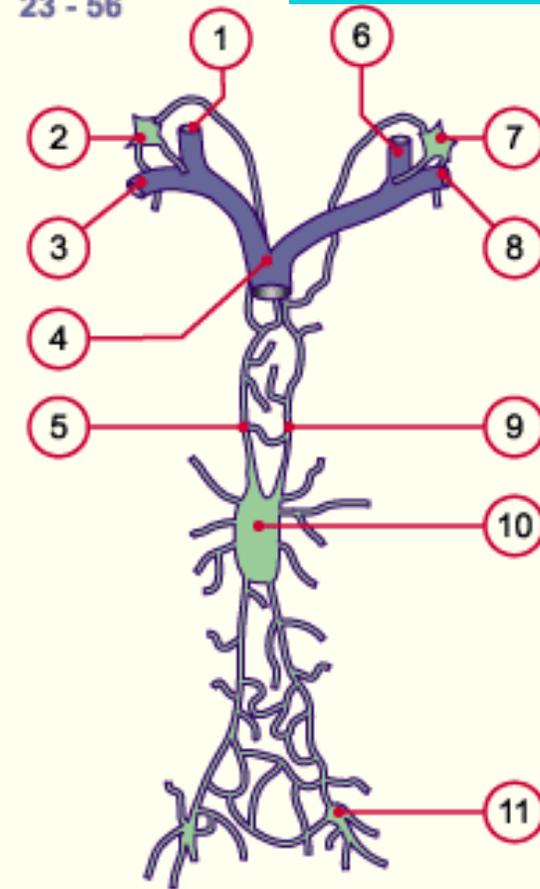
Esplácnico

Todo el sistema cardiovascular





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1. Right jugular vein Right jugular and axillary lymphatic plexus
2. Subclavian vein
3. Superior vena cava
4. Right thoracic duct
5. Left jugular vein
6. Left jugular and axillary lymphatic plexus
7. lymphatic plexus
8. Left subclavian vein
9. Left thoracic duct
10. Cysterna chyli
11. Inguinal lymphatic plexus



