يمنع أخذ السلايدات بدون إذن المحرر واي اجراء يخالف ذلك يقع تحت طائلة المسؤولية القانونية جميع المعلومات للاستخدام التعليمي فقط

Juistral 3. 22 Apple 201



الأستاذ الدكتور يوسف حسين

كلبة الطب - جامعة مؤتة - الأردن

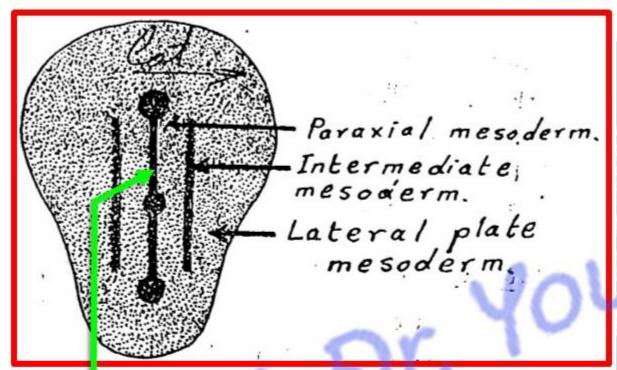
ة من جامعة كولونيا

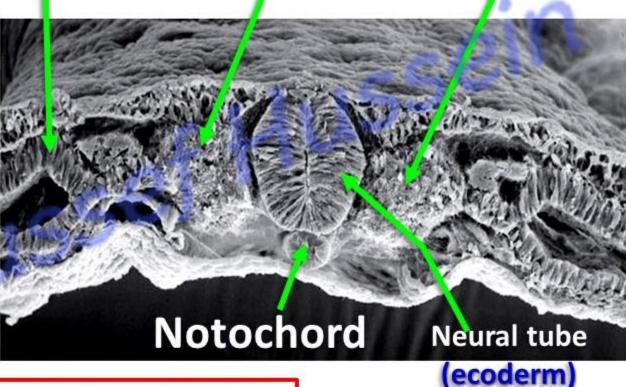


Lateral plate mesoderm

Intermediate mesoderm

Paraxial mesoderm

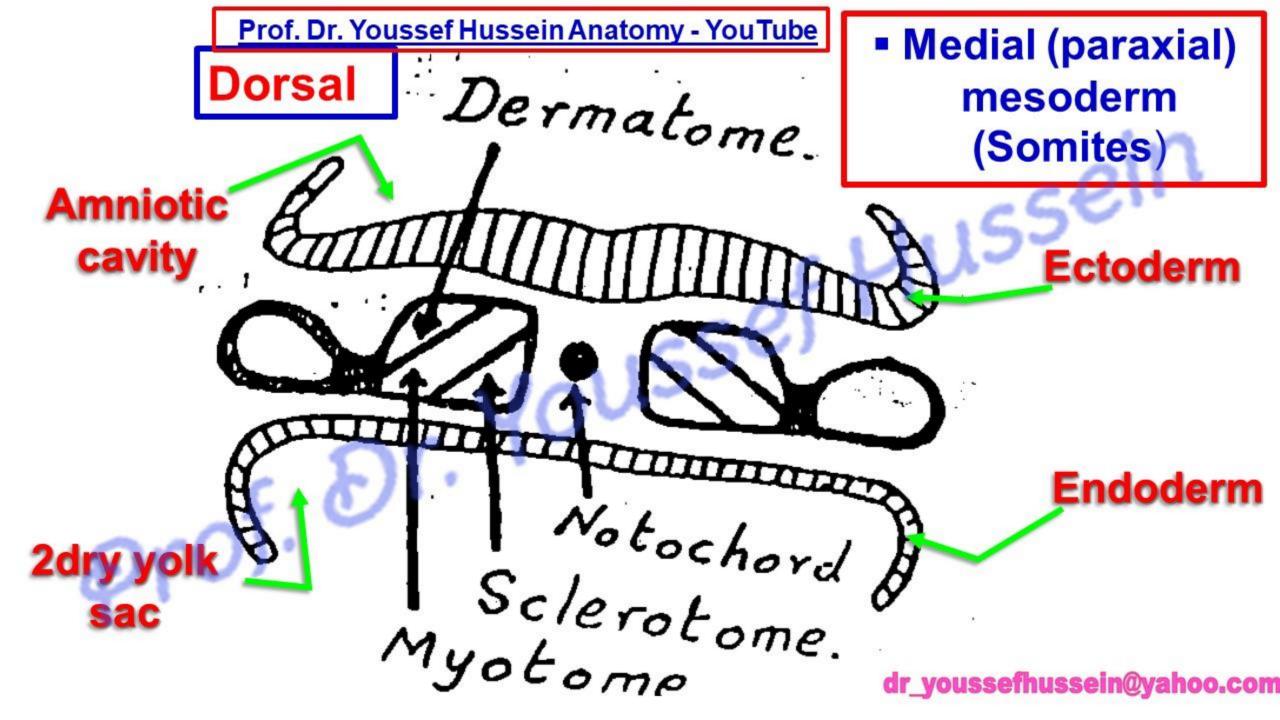




Notochord Prof. Dr. Youssef Hussein Anatomy - YouTube

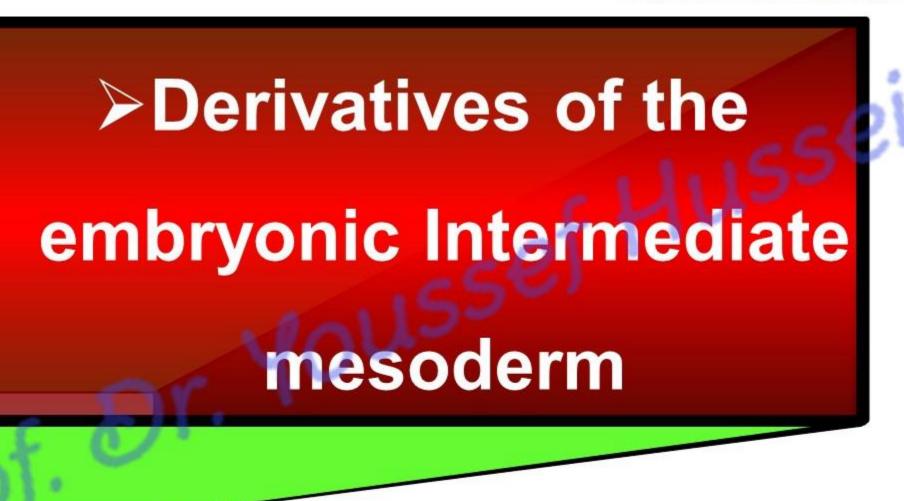
 The intraembryonic mesoderm on each side of the notochord is differentiated into 3 parts: medial (paraxial mesoderm), intermediate mesoderm and lateral plate mesoderm

Derivatives of the embryonic Medial (paraxial) mesoderm

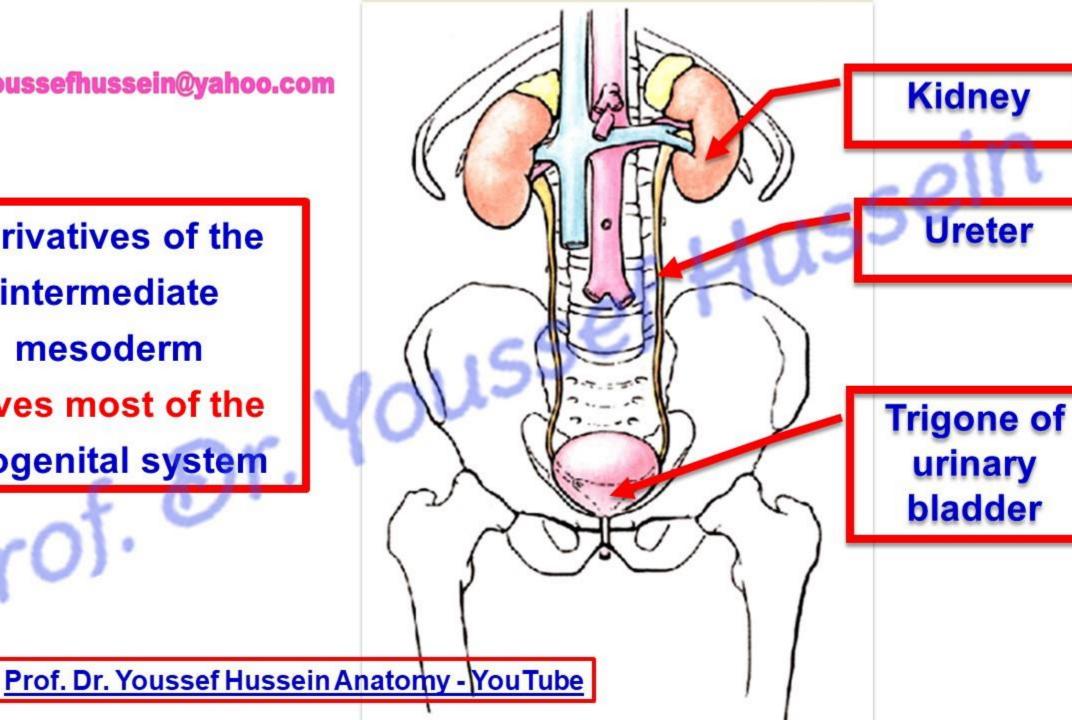


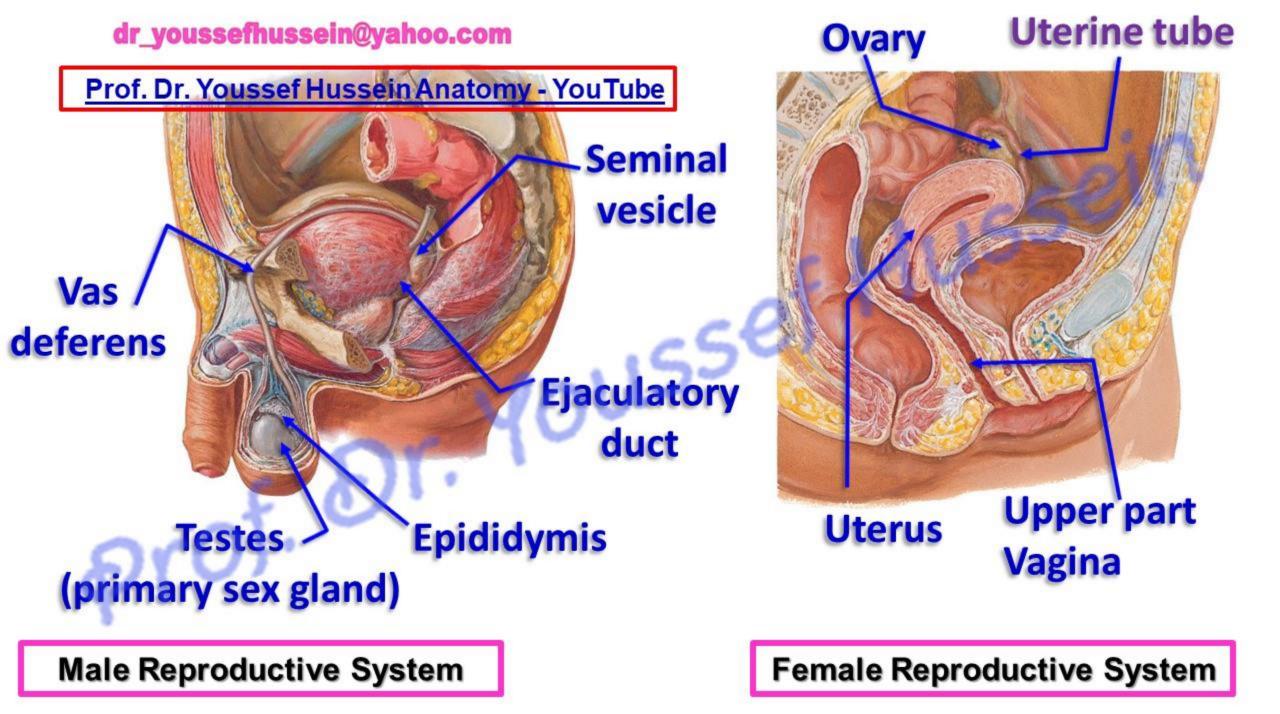
Derivatives of the medial (paraxial) mesoderm

- The paraxial mesoderm is divided into cubical masses called somites.
- The end of 5th week, These masses are 42-44 and are arranged as
 - 4 Occipital, 8 Cervical, 12 Thoracic, 5 Lumbar, 5 Sacral & 8-10 Coccygeal.
- Later on the 1st occipital and the last 5-8 coccygeal degenerate.
- Each somite divides into 3 parts:
 - 1. Ventromedial part (sclerotome): gives bones of the axial skeleton (vertebrae, and ribs) and bones of the base of the skull.
 - 2. Intermediate part (myotome): gives rise to the skeletal muscles of the trunk, limbs and (occipital myotomes gives muscles of the tongue).
 - Dorsolateral part (dermatome): gives rise to the dermis and subcutaneous tissue of the skin.



- **Derivatives of the** intermediate mesoderm
- Gives most of the urogenital system





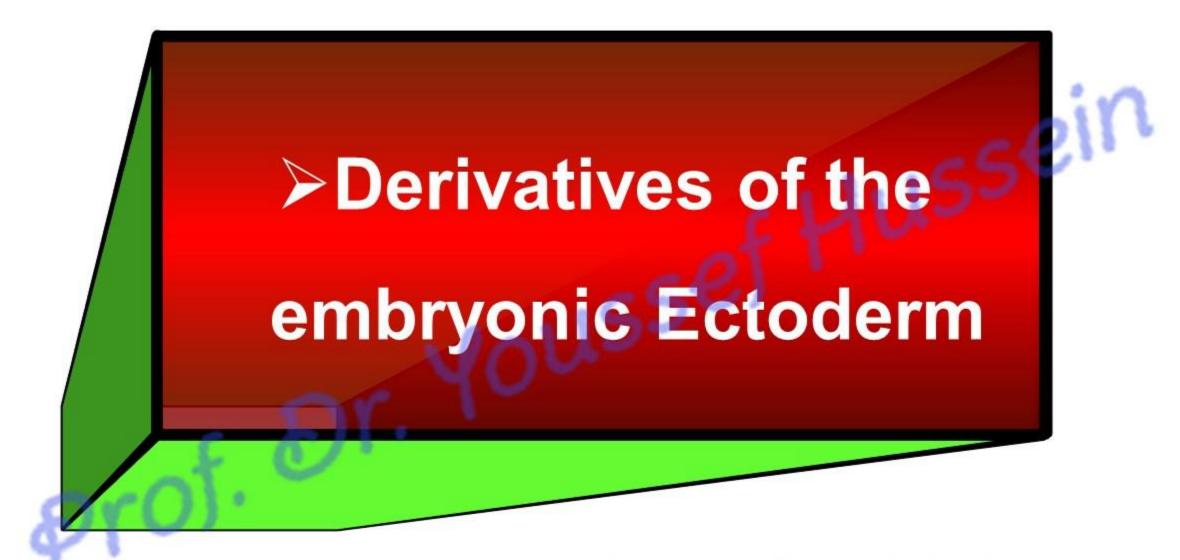




> Derivatives of the lateral mesoderm dr_youssefhussein@yahoo.com

- A single U-shaped cavity intraembryonic coelom in the lateral intraembryonic mesoderm.
- It divides the lateral mesoderm into 2 layers outer parietal (somatic) layer and inner visceral (splanchnic) layer, It forms three cavities (pericardium, pleura and peritoneum).
- The mesoderm infront the oral membrane gives cardiovascular system (heart and blood vessels).
- The mesoderm in the region of the developing neck: 6 pharyngeal arches and their derivatives.
- The mesoderm allover the body gives bones, muscles, joints, ligaments and blood vessels.

 Prof. Dr. Youssef Hussein Anatomy YouTube
- Septum transversarium forms the central tendon of diaphragm



Neural Ectoderm

- dr_youssefhussein@yahoo.com
- Neural tube, dorsal to notochord, gives central nervous system (brain & spinal cord.)
- Inner ear

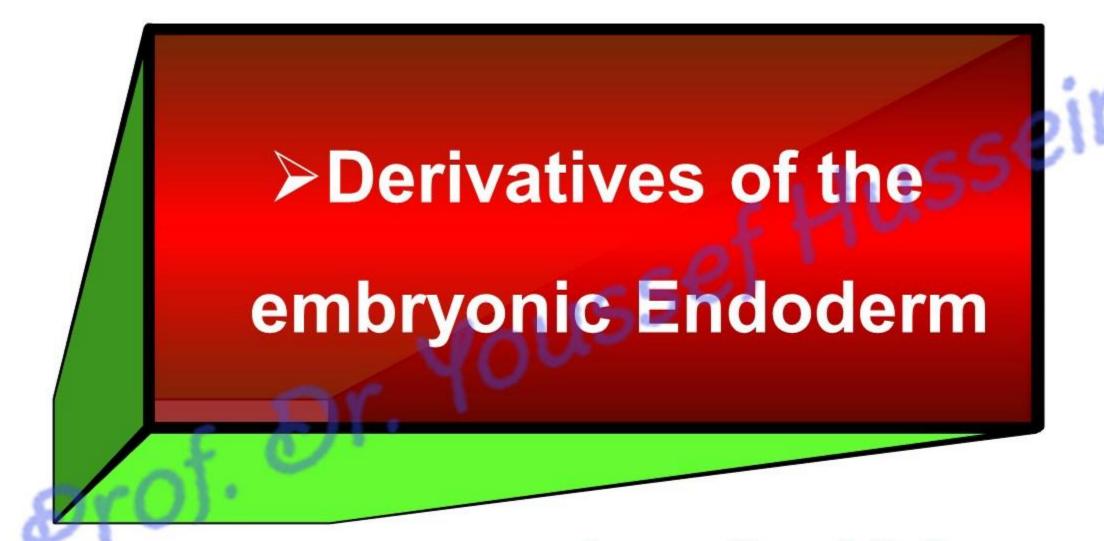
- A special neuroectodermal cells dorsolateral to the neural tube.

 1- Sensory Cells of the para-summent. 1- Sensory Cells of the para-sympathetic ganglia ((Ciliary of 3rd, pterygopalatine and submandibular of 7th, Otic of 9th and enteric ganglia of 10th cranial nerves)
- 2- Sensory Cells of the sympathetic ganglia
- 3- Sensory Cells of the dorsal root ganglia of the spinal nerves
- 4- Pia and arachnoid matters of the meninges (dura matter mesodermal in origin).
- 5- Schwan cells that form the myelin sheath around nerve axon
- 6- Chromaffin cells of the suprarenal medulla (cortex is mesoderm)
- 7- Pigment cells in the skin, iris and retina.

Surface ectoderm

- Skin (hairs, nails and its glands).
- > The lining of all orifices that open in the skin
 - Eye, lacrimal gland and nasolacrimal duct.
 - Nose and paranasal sinuses.
 - Oral cavity, and salivary glands.
 - External auditory meatus and outer surface of the ear drum.
 - Lower 1/2 of the anal canal.
 - Terminal part of the male urethra in glans penis.





Derivatives of the endoderm

- Mucous membrane of the tongue.
- The epithelial lining of gastro-intestinal tract except the lower 1/2 of the anal canal Hussell oral cavity, and salivary glands (Ectoderm).
- The liver cells, hepatic ducts and bile ducts.
- Ducts and acini of the pancreas.
- The epithelial lining of Respiratory system except Nose and paranasal sinuses (ecto).
- The epithelial lining of Middle ear, Eustachian tube and mastoid antrum.
- The epithelial lining of Urinary bladder (except trigone mesoderm)
- The epithelial lining of female urethra
- The epithelial lining of male urethra except part in glans penis (ectoderm)
- Prostate and bulbourethral glands
- Lower part of the vagina and Vestibular gland and
- Cells of thyroid, parathyroid and thymus glands.
- Palatine tonsils

https://www.youtube.com/channel/UCVSNqbibj9UWYaJdd_cn0PQ

