

# **Introduction to embryology and process of formation of male and female gametes**

- Definition**
- Application**
- Spermatogenesis**
- ogenesis**

# **Structure of matured spermatozoa , structure of ovum at the time of ovulation, fertilization and result of fertilization**

- Head**
- Neck**
- Middle piece**
- Principal Piece**

# **Stages involved in the formation of graffian follicle and fate of corpus luteum**

- **Follicular cells**
- **Primordial follicle**
- **Granulosa cells**
- **Antrum**
- **Theca cells**

# **Formation of germ layers and extra embryonic membrane**

- **Formation of ectoderm, endoderm and mesoderm**
- **Somatopleuric extra embryonic mesoderm**
- **Splanchnopleuric extra embryonic mesoderm**
- **Formation of chorion and amnion**
- **Gastrulation**

# Formation of notochord and subdivision of intra embryonic mesoderm

- **Henson's node**
- **Notochordal process**
- **Nucleus pulposus**
- **Paraxial mesoderm**
- **Intermediate mesoderm**
- **Lateral plate mesoderm**

# **Development of foregut, midgut and hindgut and classification of eggs as per amount of yolk and distribution of yolk**

- **Development of foregut**
- **Development of midgut**
- **Development of hindgut**
- **Types of egg as per amount of yolk**
- **Types of egg as per distribution of yolk**

# **Different stages involved in the formation of placenta. Types of placenta as per placental barrier and distribution of chorionic villi**

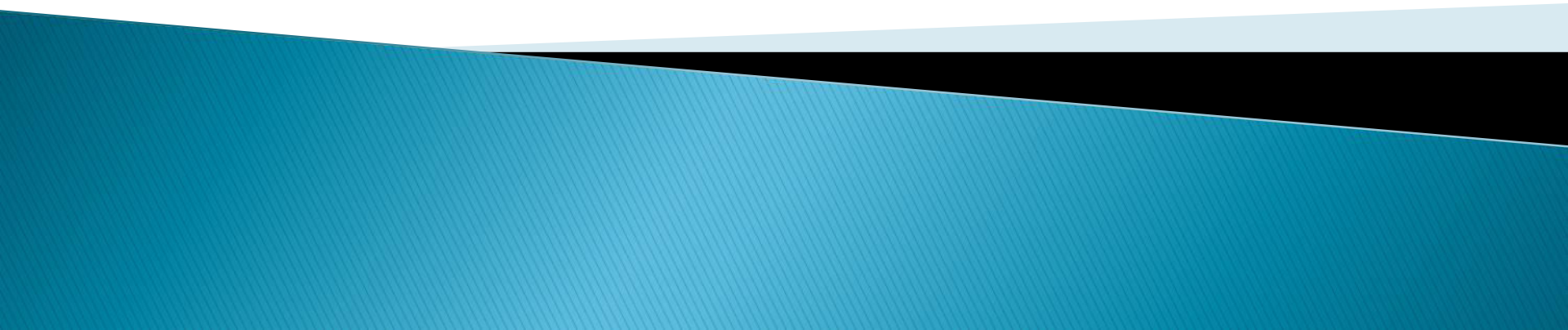
- Primary villi**
- Secondary villi**
- Tertiary villi**
- Classification of placenta as per number of barriers**
- Classification of placenta as per distribution of chorionic villi**

# **Different germ layers and their derivatives**

- **Structures derived from ectoderm**
- **Structures derived from endoderm**
- **Structures derived from mesoderm**



# Pharyngeal arches and their derivatives

- **What are pharyngeal arches**
  - **Structural elements of pharyngeal arches**
  - **Muscles and nerves derived from pharyngeal arches**
  - **Endodermal pouches**
  - **Structures derived from endodermal pouches**
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# **Study of development of teeth and tongue**

**Lingual swellings**

**Tuberculum impar**

**Hypobranchial eminence**

**Copula**

**Dental lamina**

**Cap stage**

**Bell stage**

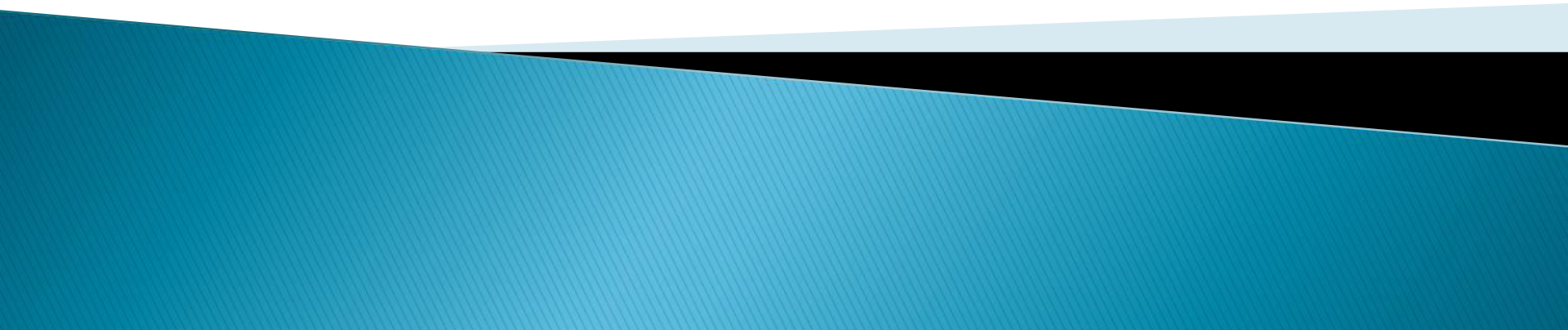
# **Derivatives of foregut, midgut and hindgut**

**Structures derived from foregut**

**Structures derived from midgut**

**Structures derived from hindgut**

# **Development of salivary glands, liver, pancreas, larynx, trachea, bronchus and lungs**

- **Development of parotid, mandibular and sublingual salivary gland**
  - **Development of liver from hepatic bud**
  - **Development of pancreas from dorsal and ventral pancreatic bud**
  - **Formation of tracheobronchial groove**
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# Development of cardiovascular system

- **Bulbus cordis**
- **Ventricle**
- **Atrium**
- **Sinus venosus**
- **Formation of interatrial septum**
- **Formation of interventricular septum**
- **Development of pericardial cavity**
- **Development of valves of the heart**

# **Development of kidney, paramesonephric ducts, uterus, uterine tube, male and female urethra**

- **Nephrogenic cord**
- **Formation of ureteric bud**
- **Development of nephrons of kidney**
- **Development of collecting system of kidney**
- **Fate of paramesonephric duct in male**
- **Fate of paramesonephric duct in female**

## **Development of testes,ovary,male external genitalia and female external genitalia**

- **Development of testes from coelomic epithelium**
- **Development of ovary from coelomic epithelium**
- **Genital tubercle**
- **Genital swellings**
- **Development of phallus**
- **Development of Vagina**

# **Development of nervous system, hypophysis cerebri, pineal and adrenal cortex**

- **Formation of neural plate**
- **Formation of neural tube**
- **Derivatives of prosencephalon**
- **Derivatives of mesencephalon**
- **Derivatives of rhombencephalon**
- **Structures derived from ependymal, marginal and mantle layer of neural tube**



**Cont.....**

- **Formation of Rathke's pouch**
- **Development of pineal gland from diencephalon**
- **Development of adrenal cortex from coelomic epithelium**

# Development of eye

- **Formation of optic vesicle**
- **Formation of optic cup**
- **Development of lens**
- **Development of retina**
- **Development of iris and ciliary body**
- **Formation of choroid and sclera**
- **Development of cornea**

# Development of ear

- **Development of external ear**
- **Development of middle ear**
- **Development of internal ear**