

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**

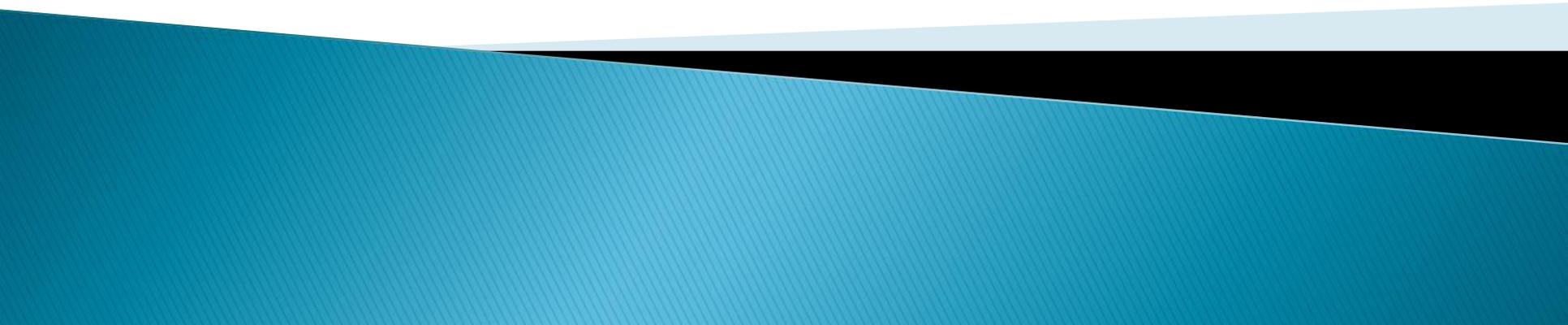
Development of foregut, midgut and hindgut and classification of eggs as per amount of yolk and distribution of yolk

- **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**

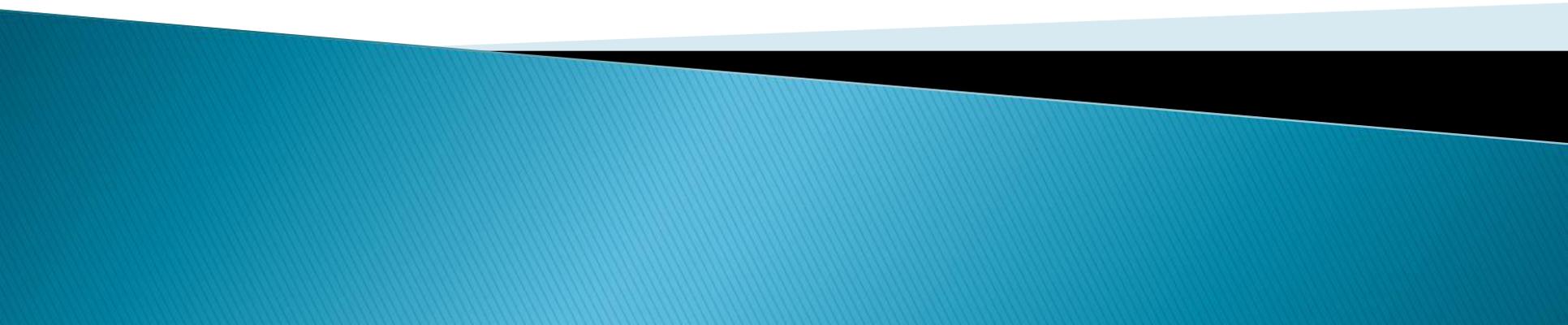
Different stages involved in the formation of placenta. Types of placenta as per placental barrier and distribution of chorionic villi

- **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**
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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

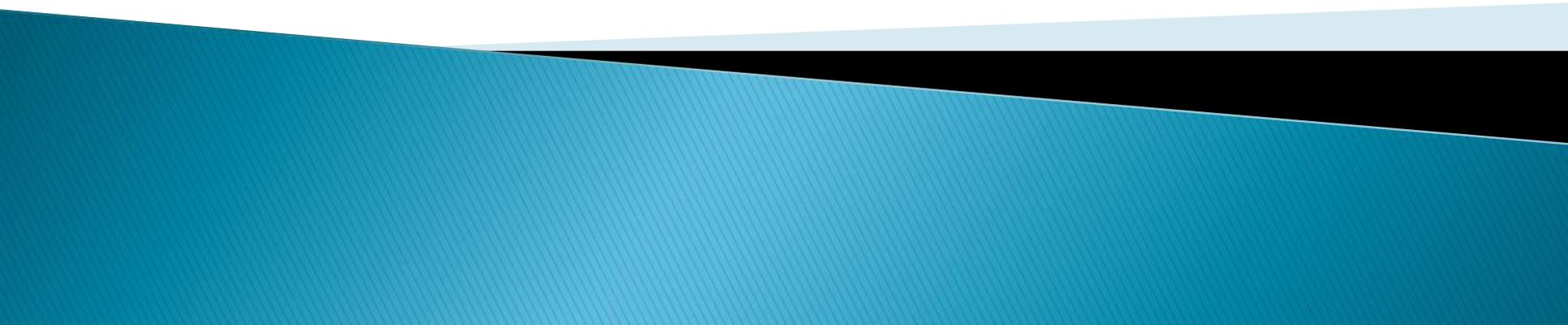
Derivatives of foregut, midgut and hindgut

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**