**Oral Histology**

Prof. Dr.Muna Merza

Lecture 1

**Oral embryology:**

Is the study of the development of the oral cavity, and the structures within it, during the formation and development of the embryo in the first 8 weeks of pregnancy.

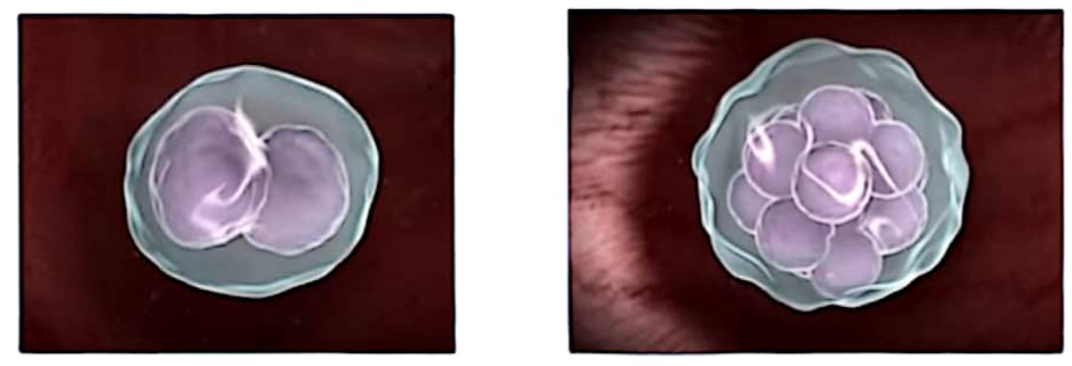
**Oral histology:**

is the study of anatomy that deals with the minute structure, composition

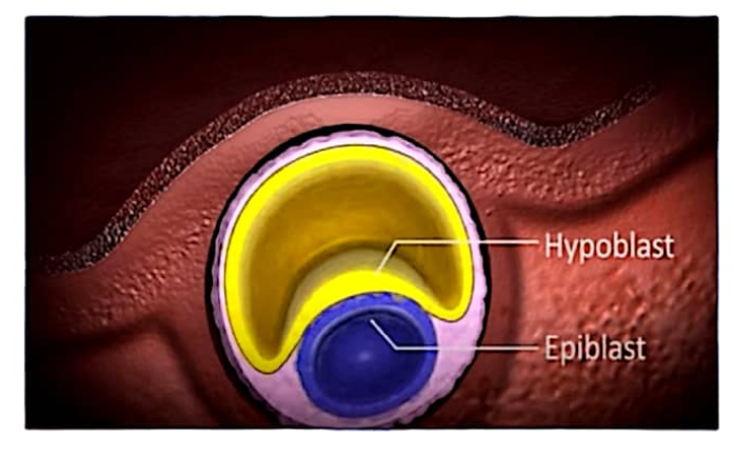
and function of the tissues of the teeth, periodontium and the surrounding oral mucosa.

**Development of the face**

After fertilisation of the ovum, a series of cell divisions gives rise to an egg cell mass known as the morula.

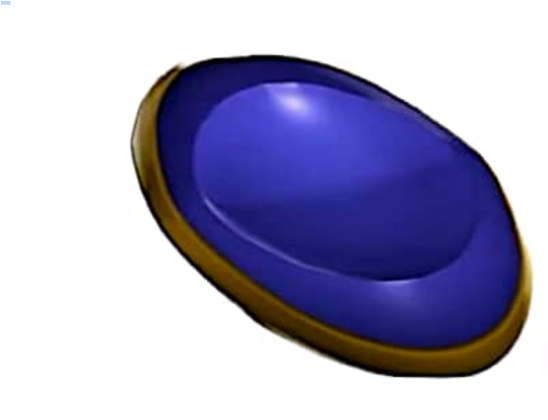


At about 6 days after fertilisation, the inner cell separates into two layers, the mass epiblast and hypoblast

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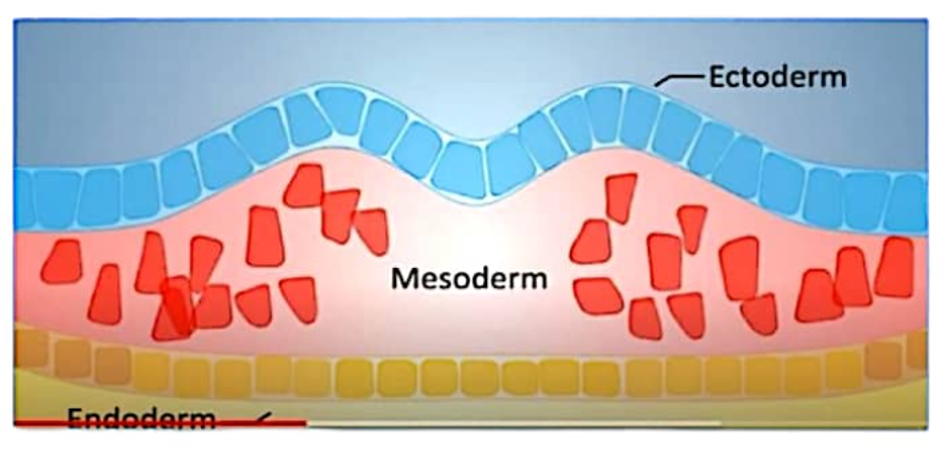
**Second week:**

The epiblast cells then organise themselves into a flat disc (bilaminar disc) two-layered, flattened, essentially circular plate of cells with superior epiblast layer (high columnar cells) and inferior hypoblast layer (small cuboidal cells)

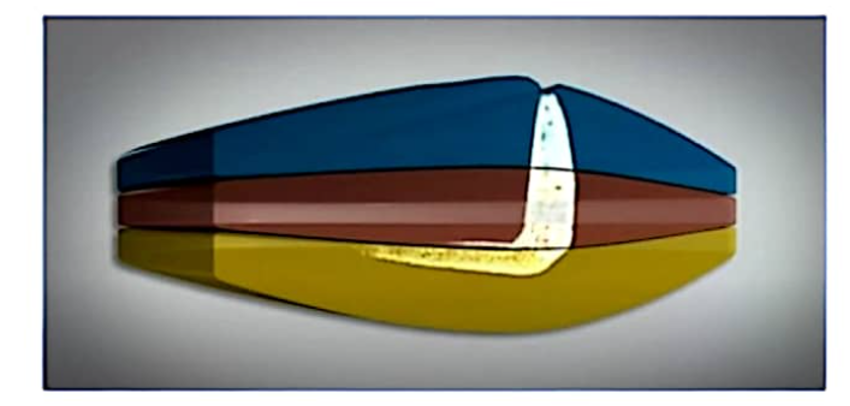
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**Third week**

Cells from the epiblast layer migrate between the two layers, becoming mesenchyme, embryonic connective tissue leading to differentiation of the new embryonic layer within the disc from mesenchyme, called mesoderm.

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The embryo takes the shape of trilaminar disc, a three-layered disc with epiblast layer now ectoderm and hypoblast layer now endoderm.

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**1. Ectoderm layer- outer layer of cells,**

​​which form the outer skin layer, the sensory cells of the eyes, ears and nose, some of the nervous system and external skin glands

Neuroectoderm cells- specialised cells from the ectoderm layer, and which form connective tissue, cartilage, some bone and some dental tissues.

**2. Mesoderm layer - middle layer of cells,**

which form the deep skin layer, muscle, bone marrow and blood cells, lymphatic system, reproductive organs and excretory organs including the salivary glands.

**3. Endoderm layer - inner layer of cells,** which form the linings of the respiratory and digestive systems, liver and pancreas.