BGD Lecture - Face and Ear Development

[Face Development Movie]

The face is the anatomical feature which is truly unique to each human, though the basis of its general development is identical for all humans and similar to that seem for other species. The face has a complex origin arising from a

To introduce the developmental embryology of both the face and ear, and their associated abnormalities.

1. To understand the formation and contribution of the pharyngeal arches to face and neck development.
2. To know the main

number of head structures and sensitive to a number of teratogens during critical periods of its development. The related structures of upper lip and palate significantly contribute to the majority of face abnormalities.

Head

The head and neck structures are more than just the face, and are derived from pharyngeal arches 1 - 6 with the face forming from arch 1 and 2 and the frontonasal

structures derived from components of the pharyngeal arches (groove, pouch and arch connective tissue).

3. To know the 3 major parts (external, middle and inner) of hearing development and their embryonic origins.
4. To briefly understand some abnormalities associated with face and hearing development.

prominence. Each arch contains similar Arch components derived from endoderm, mesoderm, neural crest and ectoderm.

Because the head contains many different structures also review notes on sensory, respiratory, Integumentary (tooth), endocrine (thyroid, parathyroid, pituitary, thymus) and cleft lip/cleft palate.

Hearing

We use the sense of balance and

hearing to position ourselves in space, sense our surrounding environment, and to communicate. Importantly hearing is linked into postnatal neurological development (milestones) involved with language and learning.

Hearing development is generally divided into the 3 anatomical regions (inner ear, middle ear, outer ear) each having separate origins. The first structure observed is the otic

placode, on the embryo head surface, that sinks into the mesenchyme to eventually form the inner ear.