

COURSE : PDS 560 CRANIOFACIAL GROWTH & DEVELOPMENT

COURSE DESCRIPTION:

This course presents an introduction to growth and development, mechanics of craniofacial growth, methods of studying growth, growth curves and charts, growth assessment and forecasting of growth, factors influencing growth and development, particularly of the craniofacial complex and the theories of growth. The course also include a review of intra-membranous and endochondral growth as well as remodeling principles. The embryology of the craniofacial complex. The development of dentition and occlusion, as well as craniofacial anomalies and syndromes will be reviewed. The course terminates with an overview of the application of craniofacial growth data in clinical orthodontics.

COURSE OBJECTIVES:

At the end of the course, the students should have knowledge in discussing:

1. The mechanisms, principles and regulation of human craniofacial growth and development and the factors influencing physical growth and development.
2. The mechanism underlying morphogenesis of the craniofacial complex as an aid to the clinician in his understanding of the causal factors related to the clinical problems.
3. Prenatal and postnatal insults to the development of human craniofacial complex and how these lead to abnormalities that require treatment.

COURSE OUTLINE:

1. Mechanism of craniofacial growth, cartilage, bone and muscles.
2. Prenatal and post-natal development – growth spurts, facial and general body proportion, growth curves.
3. Maxillary and mandibular growth and development.
4. Cranial growth and development and facial growth patterns.
5. Somatic growth and development of the child.
6. Development of the dentition and occlusion.
7. Theories of growth and problems in the study of human growth and development.
8. Environmental influences, mutations, problems of inheritance of acquired characteristics.
9. Growth and development during puberty – pre adolescence age of puberty.
10. Craniofacial anomalies and syndromes and pathology of the cranial base.
11. Pathology of the midface malformations and clefts of lip, palate and face.
12. Clinical applications.