Syllabus

Growth and development of the craniofacial complex - 97947

Last update 10-02-2015

HU Credits: 4

Degree/Cycle: 2nd degree (Master)

Responsible Department: Orthodontic Department, Faculty of Dental Medicine

Academic year: 1

Semester: 2nd Semester

Teaching Languages: English

Campus: Ein Karem

Course/Module Coordinator: Dr. Miri Haisraeli-Shalish and Dr. Zvi Muster

Coordinator Email: Dr. Miri Haisraeli-Shalish, mshalish@hadassah.org.il

Coordinator Office Hours: Monday 10:00-11:00 (Dr. Shalish) and Tuesday 10:00-11:00 (Dr. Muster)

Teaching Staff:
Course/Module description:
This course provides a broad knowledge in general growth, as well as specific fundamentals of craniofacial growth and development.

Course/Module aims:
- Provide the students with up-to-date knowledge relevant to the fields of growth and development with a focus on the craniofacial complex.
- Provide the students with tools to assess normal and abnormal growth.

Learning outcomes - On successful completion of this module, students should be able to:
On successful completion of this course, students should be able to:
- Discuss genetic and molecular aspects of growth as well as embryology concepts.
- Describe growth hypotheses.
- Evaluate skeletal maturation and general growth.
- Describe growth and function of the craniofacial complex, including soft tissues.
- Discuss endocrinology of growth.
- Describe syndromes and clefts.
- Integrate the knowledge of growth and development of the craniofacial system into orthodontic diagnosis and treatment planning.

Attendance requirements(%):
90

Teaching arrangement and method of instruction: frontal lectures and seminars. Reading assignments for each seminar session is to provide background information for class discussions related to the scheduled topics.

Course/Module Content:
1 Introduction to growth and development Dr. Haisraeli-Shalish
2 Growth of the cranium and the cranial base Dr. Muster
3 Maxillary growth Dr. Katz
4 Genetic and molecular aspects of craniofacial development Dr. Leibovich
5 Mandibular growth Prof. Ben-Bassat Dr. Grossman
6 Growth hypotheses Dr. I. Barkana
7 Facial growth dynamics Dr. Haisraeli-Shalish
8 Skeletal maturation Dr. I. Gillis
9 General growth Dr. Faerman
10 Soft tissues and function Dr. Friedman
11 Endocrinology and growth Dr. D. Gillis
12 Genetics and Orthodontics Dr. Harari and Dr. Ben-Neriya
13 Syndromes Dr. Harari & Dr. Ben-Neriya
14 Clefts [ ] Development and Etiology Prof. Ben-Bassat
15 Embryology of the craniofacial system Dr. Inbal
16 Exam

Required Reading:
I. Introduction to growth and development
2. Bishara SE: Facial and dental changes in adolescents and their clinical
implications. AO 70:471-483, 2000.*
4. Bjork A & Skieller V: Facial development and tooth eruption. An implant study at

II. Growth of the cranium and the cranial base
1. Proffit WR et al. Contemporary Orthodontics, 4th edition, Chapter 2, pp. 40-44,
2007.
5. Coben SE. The spheno-occipital synchondrosis: The missing link between the
profession's concept of craniofacial growth and orthodontic treatment. Am J Orthod
6. Opperman LA, Gakunga PT, Carlson DS. Genetic factors influencing
morphogenesis and growth of sutures and synchondroses in the craniofacial
complex. Semin Orthod 11:199-208, 2005*

III. Maxillary growth
2. Bjork A, Skieller V: Growth of the maxilla in three dimensions as revealed
3. Melsen B: Palatal growth studied on human autopsy material: A histological micro-


IV. Genetic and molecular aspects of craniofacial development


V. Mandibular growth


VI. Growth hypotheses

VII. Facial growth dynamics

VIII. Skeletal maturation

IX. General growth

X. Function and Malocclusion
Growth of soft tissues


XI. Endocrinology and growth


XII. Genetics and Orthodontics


XIII. Syndromes

654-659, 700-705, 709.

XIV. Clefts – Development and Etiology

XV. Embryology of the craniofacial system

*Included in the mandatory reading list of the Israeli Scientific Council
Additional Reading Material:
None

Course/Module evaluation:
End of year written/oral examination 100 %
Presentation 0 %
Participation in Tutorials 0 %
Project work 0 %
Assignments 0 %
Reports 0 %
Research project 0 %
Quizzes 0 %
Other 0 %

Additional information:
None