Syllabus

Growth and development of the craniofacial compl - 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, mshalissh@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

II. Growth of the cranium and the cranial base

III. Maxillary growth
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
4. Coutinho, Buschang, Miranda: Relationships between mandibular canine
   AJO 1987; December 492-498.
   98(1): 33-40.*
8. Hagg V: Maturation indicators and the pubertal growth spurt. AJO 1982; 82 (4):
   299-309.
9. Ruf S and Pancherz H: Frontal sinus development as an indicator for somatic

IX. General growth
3. Greulich W.W. and Pyle S.I. Radiographic atlas of skeletal development of the

X. Function and Malocclusion
   53:262-284.
2. Solow B, Siersbaek-Nielsen S: Cervical and craniofacial posture as predictors of
3. Vig PS: Respiratory mode and morphologic types. Craniofacial Growth Series
   no.9:238-250, 1979.*
4. Fricke B et al: Nasal airway, lip competence and craniofacial morphology, EJO
   15:297-304, 1993.*
6. Tarvonen, Koski: Craniofacial skeleton of children with enlarged adenoids. AJODO
   91:300-304, 1987.*
   morphology after adeno-/tonsillectomy in young children with obstructive sleep
8. Vig KW. Nasal obstruction and facial growth: The strength of evidence for clinical
   Dentofacial Orthop. 139: e511-e521, 2011.*
    Validity of upper airway assessment in children: A clinical, cephalometric and MRI
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