

SYLLABUS
ORT 660 - ORTHODONTIC DIAGNOSIS
COURSE DIRECTOR: DR. E. PRESTON HICKS
FIRST YEAR ORTHODONTICS STUDENTS AND
FIRST YEAR PEDIATRIC DENTISTRY RESIDENTS

COURSE DESCRIPTION

This is a two-hour credit seminar course offered at the graduate level within the specialty program in orthodontics. The course provides in-depth information concerning methods and rationale for gathering a comprehensive data base for orthodontic patients. Analysis and interpretation of the database is approached by using the orthogonal analysis technique and from interdisciplinary perspectives, such as orthognathic surgery and facial pain, as well. The process of developing a treatment plan from the database will be thoroughly explored.

Articles are reviewed to support discussion in seminars. Topics covered include the history of significant diagnosis and treatment planning philosophies from the turn of the century to the present.

All course activities are conducted under the College of Dentistry Code. The College has high expectations of each student concerning his/her professional and academic responsibilities including self-governance. If you have questions about expected standards of behavior, it is your responsibility to discuss and clarify them with the course director.

COURSE OBJECTIVES

The student will be able to:

1. Conduct an interview and examination of the orthodontic patient.
2. Collect and analyze a set of orthodontic diagnostic records.
3. Develop appropriate goals for a patient consistent with achieving and maintaining long-term health stability, and facial esthetics.
4. Develop a prioritized problem list for the orthodontic patient as dictated by the stated goals.
5. Generate a treatment plan for the orthodontic patient.
6. Develop an appreciation for the history of clinical orthodontics and its influence on our current standard of care.
7. Develop an understanding of the important scientific issues such as epidemiology and evidence based decision making that will import orthodontic diagnosis and treatment planning.

COURSE EVALUATION

Grades will be determined by quality of participation in seminars and performance on a final oral examination.

**COURSE SCHEDULE
ORT 660**

**DIRECTOR: DR. E. PRESTON HICKS
ORT 660: ORTHODONTIC DIAGNOSIS**

<u>Session</u>	<u>Topic</u>	<u>Instructor</u>
1	Introduction to Ackerman-Proffit Diagnosis & Epidemiology	Dr. Hicks
2	Introduction to Facial Esthetics I	Dr. Beeman
3	Introduction to Cast Analysis	Dr. Beeman
4	Facial Pain Perspectives in Making an Orthodontic Diagnosis	Dr. Okeson
5	Hand/Wrist Radiography Introduction to Cervical Vertebrae	Dr. Beeman
6	Introduction to Facial Esthetics II	Dr. Kluemper
7	Surgical Outcomes	Dr. Van Sickels
8	Cast Analysis (continued)	Dr. Beeman
9	Orthodontic Theory & History: The Extraction Debate	Dr. Kluemper
10	Orthodontic Theory & History	Dr. Beeman
11	Orthognathic Surgery: Overview	Dr. Kluemper
12	Early Treatment: Current Issues	Dr. Hicks
13	Current Issues in the Extraction Debate	Dr. Hicks
14	Treatment Plan & Diagnosis Simulation	Dr. Hicks
15	Treatment Plan Presentations	Dr. Hicks
	Pedo Final Exam	All Faculty

READING LIST

<u>SESSION</u>	<u>TOPIC & READINGS</u>	<u>FACULTY</u>
1	Introduction to Acerman-Proffit Diagnosis & Epidemiology Hicks, EP. On Structuring Solutions to Occlusofacial Problems, from Editor's Forum, <u>C.E. Newsletter</u> , Vol. 1, 1986. (attached) Hicks, EP. Educational Issues and Challenges in Orthodontics. (handout) McLain, JB and Proffit, WR. Oral Health Status in the United States: Prevalence of Malocclusion. <u>J.Dent.Educ.</u> 49:386-396, 1985. Macgregor, FC. Social and psychological implications of dentofacial disfigurement. <u>Angle Ortho</u> 40:231-233, 1970. Sadowsky, C and BeGole, EA. Long-term effects of orthodontic treatment on periodontal health. <u>AJO</u> 80:156-172, 1981. Ackerman, JL and Proffit, WR. The characteristics of malocclusion: A modern approach to classification and diagnosis. <u>AJO</u> 56:443-454, 1969. Proffit, WR. Orthodontic Diagnosis: The Development of a problem list, in <u>Contemporary Orthodontics</u> (Third Edition), Chapter 6.	Dr. Hicks
2	Introduction to Facial Esthetics I Kokich VG, Spear FM, Kokich Jr. VO. Maximizing Anterior Esthetics: An Interdisciplinary Approach, in <u>Frontiers of Dental and Facial Esthetics</u> , pgs. 1-18.	Dr. Kluemper
3	Introduction to Cast Analysis Proffit, W.R.: <u>Contemporary Orthodontics</u> (Third Edition), pages 165-170.	Dr. Beeman
4	TMD Examination	Dr. Okeson
5	Hand/Wrist Radiography; Introduction to Cervical Vertabrae Moore, RN, Moyer, BA and DuBois, LM. Skeletal maturation and craniofacial growth. <u>AJODO</u> 98:33-40, 1990. Hagg, U and Taranger, J. Maturation indicators and the pubertal growth spurt. <u>AJO</u> 82:299-309 Fishman, LS. Radiographic evaluation of skeletal maturation. <u>Angle Orthod</u> 52:88-112, 1982. (ABO article) Smith, RJ. Misuse of hand-wrist radiographs. <u>AJO</u> 77:75-78, 1980. Houston, WJB. Relationships between skeletal maturity estimated from hand-wrist radiographs and the timing of the adolescent growth spurt. <u>European J Ortho</u> 2:81-93, 1980. Hassell, B, Farman A.G. Skeletal maturation evaluation using cervical vertebrae. <u>Am.J.Ortho. Dentofac. Orthop.</u> 1995; 107:58-66	Dr. Beeman

O'Reilly, M. and Yanniello, G.J. Mandibular growth changes and maturation of cervical vertebrae--a longitudinal cephalometric study. Angle Orthod. 1988; 58:179-184.

Franchi, L., Baccetti, T. and McNamara, J.A. Mandibular growth as related to cervical vertebrae maturation and body height. Am. J. Orthod. Dentofac. Orthop. 2000; 118:335-340.

- 6 Introduction to Facial Esthetics II Dr. Kluemper**
- 7 Surgical Orthodontics Dr. Van Sickels**
- 8 Cast Analysis (continued) Dr. Beeman**
- 9 Orthodontic Theory and History: The Extraction Debate Dr. Kluemper**
Bernstein, L.: Edward H. Angle versus Calvin S. Case: Extraction versus nonextraction. Part I. Historical revisionism. AJO 102(5):464-470. 1992.
- Bernstein, L.: Edward H. Angle versus Calvin S. Case: Extraction versus nonextraction. Historical revisionism. Part II. 102(6): 546-551.
- Case, D, Cryer, Milt and Dewey, M. The extraction debate of 1911. AJO 50:660-691, 751-768, 843-856, 900-912, 1964. (Note: It may be helpful for perspective to read the editorial comments by Dewey on pages 862-865 before reading the above assignment.)
- 10 Orthognathic Surgery: Overview Dr. Kluemper**
Jacobs, JD and Sinclair, PM. Principles of orthodontics management in orthognathic surgery cases. AJO 84:399-407, 1983.
- Sinclair, PM and Jacobs, JD. Orthodontic mechanics for two-jaw surgery cases. In: Surgical Correction of Dentofacial Deformities--New Concepts, 1985, pp 4-14.
- Bell, WH. Surgical correction of mandibular retrognathism. AJO 52:518, 1966.
- Epker, BN. Modification of the sagittal osteotomy of the mandible. J Oral Surg 35:157, 1977.
- Bell, WH. Le Forte I osteotomy for correction of maxillary deformities. J Oral Surg 33:412, 1975.
- 11 Orthodontic Theory and History Dr. Beeman**
Angle, Edward H. Treatment of Malocclusion of the Teeth.
- 12 Early Treatment: Current Issues Dr. Hicks**

All students will need to read the articles listed below:

Kluemper, G.T., Beeman, C.S., Hicks, E.P.: Early Orthodontic Treatment: What are the Imperatives? Journal of the American Dental Association, 2000, 131(8):1118-1120.

In addition to the articles listed below, each student will abstract one "evidence-based"

search the current literature (i.e., within the last 5 years) concerning the long-term outcomes of two-phase treatment of growing patients who are diagnosed with either a developing Class II or Class III skeletal discrepancy, with and without vertical excess.

Assigned articles listed below:

Tulloch, J.F.C., Phillips, C., Proffitt, W.R.: Benefit of early Class II treatment: Progress report of a two-phase randomized clinical trial. *AJO* 113 (1): 62-72, 1998.

Woodside, D.G.: Do functional appliances have an orthopedic effect? *AJO* 113 (1) 11-14. 1998.

Dugoni, S.A. Comprehensive mixed dentition treatment. *AJO* 113 (1):75-84, 1998.

Bowman, S.J. One-stage versus two-stage treatment: Are two really necessary? *AJO* 113 (1):111-116, 1998.

Hamilton, D.C.: The emancipation of dentofacial orthopedics. *AJO* 113(1):7-10. 1998.

Arvystas, M.G.: The rationale for early orthodontic treatment. *AJO* 113(1): 15-18. 1998.

Sadowsky, L.P.: Craniofacial growth and the timing of treatment. *AJO* 113(1):19-23. 1998.

White, L., Hobbs, N.M.: Early orthodontic intervention. *AJO* 113(1): 24-28. 1998.

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Current Issues in The Extraction Debate

Dr. Hicks

Rubin, R.M.: Moving Moments in Orthodontics. *Angle Orthod* 68(6):483.1998

Luke, L.S., Atchison, K.A., and White, S.C.: Consistency of Patient Classification in Orthodontic Diagnosis and Treatment. *Angle Orthod* 68(6):513-520. 1998.

McKnight, M.M., Daniels, C.P., and Johnston, L.E.: A Retrospective Study of Two-Stage Treatment Outcomes Assessed with Two Modified PAR Indices. *Angle Orthod* 68(6):521-524. 1998.

Holman, K., Hans, M.G., Suchitra, N., Powers, M.P.: An Assessment of Extraction Versus Nonextraction Orthodontic Treatment Using the Peer Assessment Rating (PAR) Index. *Angle Orthod* 68(6): 527-534.1998.

Boley, J.C., Pontier, J.P., Smith, S., Fulbright, M.: Facial Changes in Extraction and Nonextraction Patients. *Angle Orthod* 68(6):539-546.1998.

Kaplan, H. The Logic of Modern Retention Procedures. *AJO* 93:325-340, 1988.

Luppanapornlarp, S., Johnston, L.: The Effects of Pre-Molar-Extraction: A Long-Term Comparison of Outcomes in "Clear-Cut" Extraction and Nonextraction Class II Patients. *Angle Orthod* 63:257-272. 1993.

Bishara, S.E., Cummins, D.M., Zaher, A.R.: Treatment and Posttreatment Changes in Patients with Class II Division 1 Malocclusion After Extraction and Nonextraction

Treatment. Am J Orthod Dentofac Orthop 111:18-27, 1997.

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Treatment Plan & Diagnosis Simulation

Dr. Hicks

Proffit, WR. Orthodontic Treatment Planning: From problem list to treatment plan, in Contemporary Orthodontics (Third Edition), Chapter 7.

Students will each present one patient in our case presentation format. The pediatric residents obtain records and the PowerPoint file of a patient of a second year resident. The orthodontic graduate students will obtain records and the PowerPoint file of a patient from the patient pool of their big brother/sister.

These presentations will focus on the diagnostic data base, the problem summary, the treatment goals, up to the prioritized problem list with possible treatment options and a risk/benefit analysis of each option. The second half of the treatment plan involving biomechanics will be presented later in the ORT 664 course.

Your goal is to defend or critique the plan as given. It is not your job to generate new information in this evaluation. The educational goal in this exercise is to familiarize new students with the case presentation protocol and the thinking process involved in developing a prioritized problem list. Each presentation should be limited to about 30 minutes allowing for about 15 minutes of discussion.

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Treatment Plan Presentations (continued)

Dr. Hicks