

IMERSION IN BIOPROGRESSIVE A TWO-MODULE PROGRAM UIC – UNIVERSITY OF ILLINOIS AT CHICAGO

Coordinator : Dr. Budi Kusnoto

Lecturers : Dr. Nelson Oppermann and Dr. Flavio Sanchez

Dr. Nelson Oppermann



Dr. Oppermann obtained his Orthodontic Specialty Certificate in 1993 from Dentists Association of Sao Paulo and master's degree in oral sciences focused in orthodontics in 2003 from SL Mandic dental School - Campinas - Brazil. Dr. Oppermann has been involved with Bioprogessive and Sectional Mechanics Studies. His connection to Dr Robert Ricketts years ago and his presence in several studies on those subjects help this development. Dr. Oppermann's knowledge in growth and development of the human craniofacial complex together to Ricketts cephalometric analysis and diagnostics system give another perspective to treatment planning. He is also involved as adjunct lecturer at the Department of Orthodontics at the University of Illinois at Chicago. Apart of those attributions Dr. Oppermann is an active and enthusiastic professor and lecturer, having visited many countries for teaching based on Bioprogessive Therapy field.

Dr. Flavio José Castelli Sanchez



Dr. Sanchez obtained his Orthodontic Certificate in 1993 from the Association of Dental Surgeon's of Sao Paulo and master degree in oral sciences focused in orthodontics in 2003 from SL Mandic dental School - Campinas - Brazil. Dr. Sanchez has been teaching the Bioprogessive philosophy since 2004, starting the Ortho Program at the Dental Surgeon's Association in the city of Campinas - SP., where he has his prived practice. In 2006 joined the Specialization Ortho Program at Sao Leopoldo Mandic University as a full time faculty on the Bioprogessive program where he is still teaching and conducting researches based on sectional mechanics associated with different growth patterns. He is also involved as adjunct lecturer at the Department of Orthodontics at the University of Illinois at Chicago since 2010. Dr. Sanchez has become a full time faculty at UIC since August 2017.

Course Coordinator

Dr. Budi Kusnoto



Dr. Kusnoto obtained his master's degree in oral sciences and specialty certificate in orthodontics in 1998 from University of Illinois at Chicago and did his fellowship in the University of Illinois at Chicago (UIC) Craniofacial Center in 1999. Dr. Kusnoto has been involved in the implementation of digital technology in the Department of Orthodontics at the UIC. Dr Kusnoto is a tenured Professor of orthodontics, Interim Department Head, Program and Clinical Director and Laboratory Coordinator of the Digital Imaging Laboratory in the Department of Orthodontics, University of Illinois at Chicago (UIC). His degrees in computer science as well as in the field of dentistry/orthodontics make his contribution significant to this project. Dr. Kusnoto's knowledge in growth and development of the human craniofacial complex is complementary to his teaching in the field of orthodontic diagnosis and treatment planning.

Dr. Budi Kusnoto also actively involved in research and teaching on the subject of diagnosis and treatment planning particularly in using Bioprogressive principles. He is involved in the development of the Modern Bioprogressive Web-Portal. Much of his work has been published in refereed journals. Dr. Budi Kusnoto actively involved in research involving management of craniofacial patients and orthognathic surgical cases as well as teaching on the subject of diagnosis and treatment planning utilizing 3D imaging technology. He is also an active member in good standing of American Association of Orthodontists, Illinois Society of Orthodontist, and American Dental Association.

Course Objectives

The participant will receive the basic knowledge to perform Bioprogressive Therapy Philosophy possibilities on their practices.

Theory and Practice (Laboratory) classes will be given.

At the end of the full program the participant will be able to diagnosis and to deliver a treatment plan accordingly to the Bioprogressive Therapy Principles. Customize each treatment and choose the appropriate mechanics to each case, Sectional, Segmented or Straight Wires. Additional Techniques will be taught (MEAW).

Course Design

The course program is divided into 2 modules of 10 days each. The first module are considered "Basic Program" and the last module is considered "Advanced Program".

Participants eligibility

Orthodontists

Residents in orthodontic program

General dentists who are practicing orthodontic for at least 1 year.

PROVE MIGHT BE REQUIRED.

MODULE 1

Module 1 : Back to the Basic Principle and Philosophy Diagnosis, Treatment Planning, Mechanics

Objectives:

- 1- The participant will be able to recognize and interpret Ricketts' Analyses as well as to describe individualized patient's cephalometrics conditions and necessities.
- 2- Able to distinguish different phases of treatment and establish individualized possibilities based on functional characteristics and problems in a logical sequence.
- 3- Able to understand, construct and deliver first phase mechanics, arches for expansion, anchorage and intrusion to "unlock the malocclusion" on growing and non-growing patients.

THEORETICAL PART

- 1- Introduction to Bioprogressive Philosophy
- 2- Principles of Bioprogressive
Why Bioprogressive?
- 3- Diagnosis based on Biological Principles:
 - a) Dentometrics
 - b) Bioprogressive Cephalometric Analysis: Lateral and Frontal
 - Landmarks
 - Related Anatomy
 - Constructing the CephalogramInterpreting / Dynamics: Comparison to Popular Analysis.
- 4 - TYPODONT – Laboratory Class
Brackets System
Practice of Bonding and Banding 2 to 2 upper and lower and 6's up. and lower
- 5 – Normal Growth and Development .
- 6 - VTO (Visual Treatment Objectives)
 - a) Dentometrics
 - b) Treatment Premises
 - c) Constructing the VTO
 - d) Four Areas of Superimposition
 - e) Interpreting / Dynamics
- 7- Introduction to Digital Cephalometric and VTO: Understand how to work and evaluate the information delivered from Dolphin and RMODS software.
- 8- Early Treatment / What is Early?
 - a) Understanding Growth
 - b) Growth Principles according to Ricketts
 - c) Function
 - d) Habits
 - e) Muscles
 - f) 2x4 Mechanics
- 9- Leveling the Curve of Spee (Types A, B and C)
- 10 - Basic Utility Arch

PRACTICAL PART: WAX TYPODONT

- 1- Bioprogressive Material Components (Brackets Prescriptions and Tubes)
- 2- Bands tubes and brackets positioning.
- 3- Wilson 3D Quad Helix
- 4- Basic Utility Arch
- 5- Cervical Head Gear (CHG)

Material needed:

- Tracing paper (at least 10 sheets)
- Template (Protractor) Ricketts style.
- Pencil 0,5mm / Eraser / Transparent Tape
- Transparency paper /
- UltraThin (Max 0,5mm) Permanent Marker Red
- Magic Tape

Necessary instruments needed:

- Marking Pen / Pencil
- Nance Step Plier
- Omega Loop Plier (this is NOT an optical plier)
- Three Prong Plier
- De La Rosa Arch Contouring Plier
- Bird Beak or Weingardt Plier
- Arch Marking Pen / Pencil
- Light and Heavy Wire Cutter
- Distal End Cutter
- Bracket gauge positioner
- Ligature Mathieu
- Mirror
- Explorer
- Scaler
- Brackets Tweezers
- Cotton Tweezer

Material provided by RMO on Module :

- Printed Lateral Ceph's for Interpreting and Learning
- Printed Cephalograms
- Acrylic and Wax Typodonts. Wilson 3D Quad-Helix
- Brackets
- Bands and Tubes
- Blue Elgiloy .016x.016" wire
- Headgear

Manufacturers suggestion: RMO I00101 or I00001 (Nance), I00350 (Omega Loop), RMO I00200 (Three Prong) RMO I00556 (Weingardt), Orthopli PL63 (De La Rosa).

MODULE 2

Classical Approach of Class I, II,III (and guest speaker)

THEORETICAL TREATMENT DISIGNS

- 1- Cephalometric characteristics / Extraction and Non Extraction cases
- 2- Identifying Difficulties
- 3- Designing a Treatment Plan for all Skeletal Variables
- 4- Focus on: Class I Cases with Class II Tendency (Brachy and Dolichos).
- 5- Biprotrusion (When to perform extractions)

- Class II div 1 and 2 treatment options

- 1- Cephalometric characteristics / Extractions and Non Extractions cases
- 2- Growing and Non-growing cases.
- 3- Identifying Difficulties
- 4- Designing a Treatment Plan for All Skeletal Variables
- 5- Class II elastics: When and How to Apply.
- 6- Distalize the Upper or Mesialize the Lower? Distalization Systems
- 7- TADs: Mini Screws for Class II cases.

Introduction to Evidence based research in Bioprogressive Technique (The Bioprogressive research portal)

Class III treatment (Non Surgical cases):

Principles of MEAW technique and its integration to Bioprogressive Philosophy
Etiology
Ontogenesis
Treatment for High Angle cases
Treatment for Low Angle Cases

Open Bites:

Open Bites and Class III Cases Similarities
Bioprogressive Arches to Fix Mild Cases
Principles of MEAW Technique for Hard Cases
Finishing and Detailing

Asymmetries:

How to Design and Conduct Arches for Asymmetrical

Introduction to 3D Diagnosis and Treatment Planning in Complicated Cases

PRACTICAL PART: WAX TYPODONT

Class II Div 1 Typodont – FULL TREATMENT

Class I with four bicuspids extractions – FULL TREATMENT

1- Wires Alloys (Blue Elgiloy, NiTi Alloys, Stainless Steel, TMA and New Alloys)

2- Upper and Lower Retraction Utility Arches.

3- Upper Contraction Arch, Bench style.

4- Retraction / Leveling Sectionals.

5- Use of different types of elastics

6- Ideal / Finishing arches

7- Bioprogressive Step Down Arch (Squeeze Arch)

8- MEAW Arches for Class IIIs, Class IIs and Asymmetries.

GUM metal Alloy

Guest Speakers: To be determined.

BRING YOUR OWN CASES FOR DISCUSSION

Material needed:

- Tracing paper (at least 10 sheets)
- Template (Protractor) Ricketts style.
- Pencil 0,5mm / Eraser / Transparent Tape
- Transparency paper /
- UltraThin (Max 0,5mm) Permanent Marker Red
- Magic Tape

Necessary instruments needed:

- Marking Pen / Pencil
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- Headgear

Manufacturers suggestion: RMO I00101 or I00001 (Nance), I00350 (Omega Loop), RMO I00200 (Three Prong) RMO I00556 (Weingardt), Orthopli PL63 (De La Rosa).

References

- 1- Ricketts RM, Roth, Chaconas, Schuhof, Engel. Orthodontic Diagnosis and Planning. Denver, CO: Rock Mountain Orthodontics; 1982. v. 2.
- 2- Gugino C. F. *An Orthodontic Philosophy*. Rocky Mountain Communicators, Denver, CO. 1977.
- 3- Ricketts RM. Stretching the Mind to New Dimensions. *American Institute for Bioprogressive Education – Arizona*. 2002
- 4- Ricketts RM. Progressive Cephalometrics Paradigm 2000. *American Institute for Bioprogressive Education – Arizona*. 1998.
- 5- Ricketts RM. Consummate Occlusion. *American Institute for Bioprogressive Education – Arizona*. 1998.
- 6- Jacobson A. *Radiographic Cephalometry: From Basics to 3-D Imaging*. Quintessence Pub Co. 1995.
- 7- Athanasiou A. *Orthodontic Cephalometry*. Mosby-Wolfe, London, United Kingdom, 1995.
- 8- Ricketts RM. The value of cephalometrics and computerized technology. *Am J Orthod*. July, 1972.
- 9- Ricketts RM. Bioprogressive Therapy as an Answer to Orthodontic Needs. Part I. and II. *Am J Orthod*. September, 1976.
- 10- Ricketts RM. Differences Between Straight Wire Techniques and Bioprogressive Philosophy. *American Institute for Bioprogressive Education – Arizona*. 1996.
- 11- Cephalometric Evaluation of Bioprogressive Therapy in the Treatment of Overbite. West, Lewin. *J Clin Orthod*. 23(11): 740-747.1989
- 12- Bio-Progressive Therapy, Part 8: Bio-Progressive Mixed Dentition Treatment. Bench, Hilgers, Gugino. *J Clin Orthod*. 12(4): 279-298. 1978
- 13- Bio-Progressive Therapy, Part 9: Mechanics Sequence for Class II Division I Cases. Bench, Hilgers, Gugino. *J Clin Orthod*. 12 (5): 334-357. 1978
- 14- Bench, Hilgers, Gugino. Bio-Progressive Therapy, Part 10: Mechanics Sequence for Class II Division I Cases. *J Clin Orthod*. 12(6): 427-439. 1978.
- 15- Ricketts RM. Understanding the VTO – Volume I and II. *American Institute for Bioprogressive Education – Arizona*. 1990.
- 16- Ricketts RM. New perspectives on orientation and their benefits to clinical orthodontics - Part I and II. *Angle Orthod* 45:238-248, 1975 and 46:26-36, 1976.
- 17- Bench RW, Gugino CF, Hilgers JJ. Bioprogressive therapy. Part 3. Visual treatment objective. *J Clin Orthod* 11:744-763, 1977.
- 18- Ricketts RM, Bench, RW, Gugino CF, Hilgers JJ, Schulhof R. *Bioprogressive Therapy*, Book 1. ed 2. Rocky Mountain Orthodontics, Denver; 1979.
- 19- Bench RW, Gugino CF, Hilgers JJ. Bioprogressive therapy. Part 4. The use of superimposition areas to establish treatment design. *J Clin Orthod* 11:820-834, 1977.

- 20- Ricketts RM. Perspectives in the clinical application of cephalometrics - the first fifty years. *Angle Orthod* 51:115-150, 1981.
- 21- Ricketts RM. A four-step method to distinguish orthodontic changes from natural growth. *J. Clin Orthod* 9:208-228, 1975.
- 22- Ricketts, R.M.: Cephalometric analysis and synthesis. *Angle Orthod.* 31;pp:1961.
- 23- Ricketts, R.M.: A principle of arcial growth of the mandible. *Angle Orthod.* 42;pp:1972.
- 24- Moss, M.L., Salentijn.: Differences between the functional matrices in anterior open bite and in deep bite. *Am J Orthod Dentofacial Orthop.* 60;264-280:1971.
- 25- Bjork, A. and Skieller, V.: Facial development and tooth eruption. *Am J Orthod Dentofacial Orthop.* 62;339-383:1972.
- 26- Bjork, A.: Prediction of mandibular growth rotation. *Am J Orthod Dentifacial Orthop.* 55;585-599:1969.
- 27- Ricketts, R.M.: Features of Bioprogressive Therapy: factors in headgear design and application. *Rocky Mountain Orthodontics Communicator.* 27-31:1973.
- 28- Kato, A., Chung, W., Jeong-Il, K., and Sato, S.: Morphological characterization of different types of class II malocclusion. *Bull Kanagawa Dent Coll.* 30;93-98:2002.
- 29- Kim, J.I., Hiyama, T., Akimoto, S., Shinji, H., Tanaka, E.M., and Sato, S.: Longitudinal study regarding relationship among vertical dimension of occlusion, cant of the occlusal plane and antero-posterior occlusal relation. *Bull Kanagawa Dent Coll.* 34;130-132:2006.
- 30- Tanaka, E.M., and Sato, S.: Longitudinal alteration of the occlusal plane and development of different dentoskeletal frames during growth. *Am J Orthod Dentofacial Orthop.* 134;pp:2008.