COURSE ID: ODO.37-1
BIOPROGRESSIVE TECHNIQUE

INCLUDES TRACING EXERCISES ON:
CEPHALOMETRIC LATERAL AND FRONTAL ANALYSIS
LINEAR GROWTH PREDICTION
VISUAL TREATMENT OBJECTIVES (VTO & STO)
SUPERIMPOSITIONS

FACULTY: Samar Bou Assi, DDS.

Goals: The main goals of the “bioprogressive technique” series are to:
1. Learn about the history and evolution of the bioprogressive technique.
2. Understand the basic principles of the technique.
3. Diagnose and establish a treatment plan.
4. Know the different stages of treatment mechanics for different malocclusions.
5. Evaluate critically growth and treatment effects.

Objectives: This series of lectures and tracing sessions should enable the resident to:
1. Trace lateral and frontal cephalograms and apply the Ricketts’ analyses.
2. Conduct a proper diagnosis.
3. Establish a treatment plan based on the principles and mechanics applied in the bioprogressive philosophy.
4. Evaluate growth potential and trace a linear growth prediction.
5. Perform a visual treatment objectives’ tracing based on the treatment plan.
6. Use local and general superimpositions to evaluate treatment and growth effects.

COURSE DURATION AND SCOPE: This course is scheduled for the second year residents between October and December. It is given every Monday in a 1.5-hour session between 8:00 a.m and 9:30 a.m and is supplemented with a series of tracing sessions that will enable the residents to have fundamental knowledge about the bioprogressive philosophy in order to apply it clinically.
POLICY ON EXAMINATIONS: One examination is given for this course as part of the progress examination in December. During the course, any number of progress tests or assignments may be given. Their cumulative weight in proportion to the final grade may not exceed 50%.

BIOPROGRESSIVE TECHNIQUE

SUMMARY OUTLINE

- HISTORY AND EVOLUTION
  - GENERAL PRINCIPLES
  - DIAGNOSIS
  - WIRES USED IN BIOPROGRESSIVE TECHNIQUE
  - BIOPROGRESSIVE TREATMENT IN MIXED DENTITION
  - BIOPROGRESSIVE TREATMENT IN PERMANENT DENTITION
  - RETENTION

COURSE OUTLINE

1. HISTORY AND EVOLUTION

   A. Definition

   B. History of the bioprogressive philosophy
      a. First era (1947-1952)
      b. Second era (1952-1962)
      c. Third era (1982)
      d. Fourth era (1996)

2. GENERAL PRINCIPLES

   A. Principle #1: The use of systems approach in diagnosis and treatment by the application of the visual treatment objective in planning treatment, evaluating anchorage, and monitoring results.
   C. Principle #3: Muscular and cortical bone anchorage.
   D. Principle #4: Movement of all teeth in any direction with the proper application of pressure (Force per unit area).
   E. Principle #5: Orthopedic alteration - Point A control.
   F. Principle #6: Managing treatment to unlock the malocclusion in a progressive sequence and establish more normal function and growth.
   G. Principle #7: Treat the overbite before the overjet correction.
   H. Principle #8: Sectional arch therapy with utility arch mechanics.
   I. Principle #9: Concept of over treatment.
   J. Principle #10: Efficiency in treatment with quality results utilizing a concept of pre-fabrication of appliances.

3. DIAGNOSIS
A. Cephalometric analysis of Ricketts
   a. Tracing and analysis of lateral cephalograph
   b. Tracing and analysis of frontal cephalograph

B. Growth prediction
   a. History
   b. Advantages
   c. Method

C. VTO (Visual Treatment Objectives)
   a. History
   b. Advantages
   c. Method
   d. Clinical applications
   e. STO (Surgical Treatment Objectives)

D. Superimpositions: 5 areas
   a. Plane NA-BA at point CC
   b. Plane NA-BA at point NA
   c. Plan ANS-PNS at point ANS
   d. Corpus axis at point PM
   e. E line at the intersection with occlusal plane

4. WIRES AND ARCHWIRES

A. Blue Elgiloy
B. Yellow elgiloy
C. TMA
D. Twisted, NiTi
E. Sectioning the arch
   a. Optimal forces
   b. Sectionals
      b.1. Retraction sectionals
      b.2. Leveling sectionals
   c. Utility arches
      c.1. Intrusive/extrusive utility arches
      c.2. Leveling utility arches
      c.3. Expanding utility arches
      c.4. Retracting/advancing utility arches
   d. Continuous archwires
      d.1. Expanding AW's
      d.2. Leveling AW's
      d.3. Contracting/retracting AW's
5. BIOPROGRESSIVE TREATMENT IN THE MIXED DENTITION

6. BIOPROGRESSIVE TREATMENT IN THE PERMANENT DENTITION

A. Non extraction (CLIIdiv 1 &2)
   a. General sequences:
      a.1. Initiation phase
         a.1.1. Orthopedics
         a.1.2. Utility arches
         a.1.3. Overlays
      a.2. Transition phase
         a.2.1. Leveling and alignment
         a.2.2. Transition archwires
         a.2.3. Arch form
      a.3. Traction phase
         a.3.1. Anchorage preparation
         a.3.2. Lateral sectionals
         a.3.3. Cl II elastics
      a.4. Idealization phase
         a.4.3. Ideal coordinated AW's
         a.4.2. Round finishing AW's

B. Extraction
   a. General sequences
      a.1. Initiation phase
         a.1.1. Upper molar anchorage
         a.1.2. Lower molar anchorage
         a.1.3. Correction of deep OB
      a.2. Transition phase
         a.2.1. Upper canine's retraction
         a.2.2. Lower canine's retraction
      a.3. Traction phase
         a.3.1. Canines leveling and alignment
         a.3.2. Overcorrection of lateral segments
      a.4. Idealization phase
         a.4.1. Vertical control
         a.4.2. Upper and lower incisors' retraction
      a.5. Finishing phase

   b. CLI biprotrusion (maximum anchorage)

   c. CLII division 1 (lower moderate anchorage & upper maximum anchorage)
d. CLII division 2 (reciprocal closure)

7. RETENTION

REFERENCES

2. Ricketts MR. Finishing procedures and retention; American Institute for Bioprogressive Education, 1996.
3. Ricketts MR. The logic and keys to bioprogressive philosophy; American Institute for Bioprogressive Education, 1996.
5. Ricketts MR. Differences between straight wire techniques and bioprogressive philosophy; American Institute for Bioprogressive Education, 1996.
7. Bench WR, Gugino FC. Orthodontic treatment design, Part I.