CONTROVERSIES IN TREATMENT PLANNING: THE THIRD MOLAR DEBATE

INCLUDES:
DEBATE OF GERMECTOMY VS. LATE REMOVAL

FACULTY: Felipe Rezk-Lega, DDS.

Goals: This series of lectures should enable the first year residents to:
1. Be acquainted with the current controversies regarding the removal of partially/totally impacted third molars.
2. Be aware of the epidemiology of the third molars impaction.
3. Recognize the etiological factors of third molars impactions and complications.
   In the management of impacted mandibular third molars (mostly), two conflicting views are opposed:
   Routine prophylactic removal vs. conservative management.
4. Be able to assess the risk / benefit conditions.
5. Understand the consensus regarding their removal for orthodontic, pathological and ectopic purposes is also emphasized.

Objectives: At the end of this series, the residents should know:
1. The potential factors leading to third molar impactions.
2. The space availability and the probable risk factors for impaction.
3. The current data on space availability subsequent to premolar extractions as well as the scientific facts in relation to mandibular incisor crowding.
4. The different sequelae resulting from third molar impaction on surrounding hard and soft structures.
5. The conflicting opinions with their respective arguments.
6. The risk / benefit situation and the consequent management plan.
7. The established rationale for removal.
COURSE DURATION AND SCOPE: This course is part of a course on controversies in treatment planning scheduled for the first year residents. It is given in January on a Thursday at a 1.5-hour session between 10:00 a.m. and 11:30 a.m. This lecture presents the influence of the third molars on orthodontic treatment, and the controversies about their removal.

POLICY ON EXAMINATIONS: Evaluation of residents is done upon class participation. If unsatisfactory, written examination deemed necessary by the course director and program director will be scheduled.

THE THIRD MOLAR DEBATE: GERMECTOMY VS. LATE REMOVAL

SUMMARY OUTLINE
- EPIDEMIOLOGY OF M\textsubscript{3} AND M\textsubscript{3} THIRD IMPACTION
  - ETIOLOGY OF M\textsubscript{3} IMPACTION
  - M\textsubscript{3} IMPACTION SEQUELAE
  - MAXILLARY THIRD MOLAR

COURSE OUTLINE

1. EPIDEMIOLOGY OF MANDIBULAR (M\textsubscript{3}) AND MAXILLARY (M\textsubscript{3}) THIRD MOLAR IMPACTION

2. ETIOLOGY OF M\textsubscript{3} IMPACTION

A. Posterior crowding
   a. Narrow vs. wide alveolar shelves
   b. Distal M\textsubscript{3} crown dimension
   c. Insufficient A/P mandibular growth
   d. Vertical condylar growth direction
   e. Eruption direction of the dentition
   f. Arch length discrepancy (ALD)
   g. Abrasive diet?
   h. Interproximal attrition and wear
   i. Mesial migration of dentition

B. Initial M\textsubscript{3} angulation
   a. Mesio-distal
   b. Bucco-lingual

C. Ectopic M\textsubscript{3} position

D. Obstruction in pathway of eruption
   a. Odontomas and supernumerary teeth
   b. Posterior crowding & non-extraction orthodontic treatment
   c. Distalization mechanics (HG, LB...)
      c1. 2nd molar interference
c2. Cysts and tumors
   c3. Bony obstacle in ascending ramus
E. Calcification stage / physical maturity
   a. Late mineralization
   b. Early physical maturity
F. Ethnic differences?
   a. Increase with racial combinations
   b. Disharmonies in jaw / inherited tooth sizes

3. M$_3$ IMPACTION SEQUELAE
   A. Pre-Eruptive caries & pulpitis
   B. Caries & pericoronaritis
   C. M$_2$ Periodontal complications
   D. M$_3$ risk index
   E. Interference on M$_2$
      a. M$_2$ Retention
      b. M$_2$ Resorption
   F. Post-operative complications
   G. Systemic infection

4. MAXILLARY THIRD MOLAR
   A. Regional anatomy of M$_3$
   B. Etiology of M$_3$
      a. Restricted posterior space
      b. Initial ectopic position M$_3$
      c. Obstruction in pathway of eruption
   C. Problem management
   D. Comparative arguments
   E. Orthodontic indications
      Consensus Facts
      a. Lower incisor crowding???
      b. Posterior crowding & non-extraction orthodontic treatment
      c. Orthodontic / orthognathic surgery
   F. Concluding remarks
      Rationale M3 Removal
      a. Orthodontic / orthognathic surgery
      b. Ectopic impactions
c. Pathology (symptomatic)

REFERENCES

CONTROVERSIES IN TREATMENT PLANNING: APERTOGNATHIA

INCLUDES:
ALTERNATIVES IN THE GROWING VS. ADULT PATIENT

FACULTY: Felipe Rezk-Lega, DDS.

Goals: This series of lectures should enable first year residents to:
1. Review the different treatment approaches of open bite malocclusions in both growing and adult patients.
2. Be familiar with the etiologic factors commonly attributed to the development of openbite. These include an unfavorable growth pattern, functional disturbances, and dental eruption problems.
3. Know that, with proper management, growth modification can be achieved, avoiding the ultimate treatment alternative of orthognathic surgery.
4. Be aware of specific options that will be illustrated through case reports including long-term retention records along with recommendations for long term stability.

**Objectives:** Upon completion of this course, residents will be able to:

1. Assess the potential factors leading to the development of an open bite not omitting to check for airway obstruction and its related breathing pattern.
2. Differentiate between a dental open bite and that aggravated by a skeletal dysplasia.
3. Recognize the ideal timing for treatment and identify the proper mechanics, i.e., control of the vertical dimension in the growing patient.
4. Emphasize on long term patient cooperation, even in the retention years.
5. Assess the probable causes for relapse.

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COURSE DURATION AND SCOPE: This course is part of a course on controversies in treatment planning scheduled for the first year residents. It is given in January on a Thursday at a 1.5-hour session between 10:00 a.m. and 11:30 a.m. This lecture imparts information about the possible alternative treatments of the openbite, going from orthopedic intervention to surgical correction.

POLICY ON EXAMINATIONS: Evaluation of residents is done upon class participation. If unsatisfactory, written examination deemed necessary by the course director and program director will be scheduled.

APERTOGNATHIA: TREATMENT ALTERNATIVES IN THE GROWING VS. ADULT PATIENT

**SUMMARY OUTLINE**

- DEFINITION
- ETIOLOGY
- TREATMENT ALTERNATIVES
A. Growing patients
B. Adults

- CLINICAL CASES
- CONCLUDING REMARKS
- SEARCH FOR “UNUSUAL SUSPECTS”
- TAKE HOME MESSAGE
- CUSTOMIZED RETENTION PROTOCOL

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COURSE OUTLINE

1. DEFINITION
   A. Open bite, absence of dental contacts in the vertical plane
   B. Vertical dysplasia
   C. Dental and/or skeletal
   D. All malocclusions
   E. Developmental stage

2. ETIOLOGY
   A. Functional influences (environmental factors)
   B. Eruption disturbances
   C. Growth patterns
   D. Muscular dysfunction

3. TREATMENT ALTERNATIVES
   A. Growing patients
      a. Primary and early mixed dentition
         a1. Spontaneous closure
         a2. Habit breaker appliance
         a3. Anterior brackets and elastics
      b. Late mixed / Permanent dentition : Skeletal dysplasia
         b1. Orthopedic / Orthodontic
         b2. Posterior dental eruption “control”
            b2.1. High-pull headgear
            b2.2. Vertical-pull chincup
            b2.3. Functional appliances
            b2.4. Bite blocks (posteriors)
            b2.5. Combination 1&3
            b2.6. Magnets
            b2.7. MEAW
            b2.8. Miniscrews…
B. Adults
   a. Mild problems
      Orthodontic extrusion
   b. Severe problems
      b1. Surgery
      b2. Orthodontic camouflage

4. CLINICAL CASES

5. CONCLUDING REMARKS
   A. Primary & early mixed dentition: No treatment … except!!!
      Habit elimination
   B. Late mixed / permanent dentition: Skeletal involvement
      Control eruption of posterior dentition is key

6. SEARCH FOR “UNUSUAL SUSPECTS”
   A. Upper airway obstruction (tonsils & adenoids)
   B. Tongue posture & peri-oral musculature
   C. Unfavorable growth pattern

7. TAKE HOME MESSAGE
   A. Etiology
      a. Inherited factors (genetic)
      b. Environmental influences
      c. Eruption disturbances
   B. Clinical features
      a. No vertical overlap (dentition)
      b. Excessive posterior eruption
      c. Insufficient anterior eruption ???
      d. Skeletal involvement
      e. Excessive anterior facial height
      f. Narrow maxilla
      g. All malocclusions

8. CUSTOMIZED PROLONGED RETENTION PROTOCOL
   Compromised end results
SUGGESTED READING AND REFERENCES


Audiovisual References
