The One Minute Orthodontist:
A Review of Early Orthodontic Problems

North Charlotte Dental Hygiene Study Club
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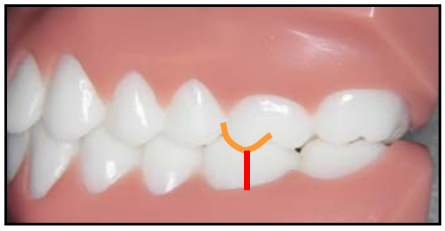
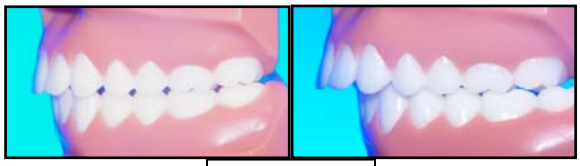
Describing Orthodontic Relationships

1. Evaluate patients in 4 areas:
    a. Anteroposterior
    b. Vertical
    c. Transverse
    d. Alignment of the Dental Arch
2. Anteroposterior
    a. Molar Classification
        i. Based upon the relationship of the *Mesiobuccal Cusp of the Maxillary 1st molar* and the *Buccal Groove of the Mandibular 1st molar*



ii. Classifications

Class I

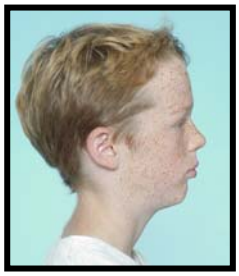


Class II

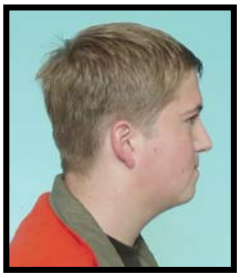
Class III

b. Overjet: Horizontal Overlap of incisors -- Ideally 2-3 mm
c. Facial Profile
    i. Derived classification similar to molar classification to describe jaw relationships
    ii. Classifications

Class I



Class II



Class III

3. Vertical
    a. Overbite – Vertical overlap of incisors – ideally 2-3 mm

4. Transverse
    a. Dental Midlines – Should be coincident
    b. Posterior Overjet – Buccal projection of maxillary posterior teeth outside mandibular teeth
    c. Facial asymmetry – Right and left sides of the face should be symmetrical

5. Dental Alignment
    a. Teeth should be in line with a smooth arc with no spaces, rotations or displacements

Timing of Orthodontic Treatment

1. **Most Common Time for Treatment**
    a. During the Adolescent Growth Spurt (10.5 years – 13 years)
    b. Late Mixed to Early Permanent Dentition

2. **Early Orthodontic Treatment (6 years – 10.5 years)**
    a. Correct existing or developing problems
    b. Reduce overall need and complexity of treatment

Early Childhood Problems (≤ 7 years)

1. **Digit Habits**
    a. When to stop – As early as possible, no later than the eruption of the permanent incisors
    b. Intervention – Discussion with parents regarding consequences, cotton glove or ACE bandage. If habit continues, then recommend Habit Appliance cementation.

2. **Ectopic Eruption of 1st Molars**
    a. Management – Space Regaining vs. Space Loss
        i. Space Regaining
            1. Spacer - if less than 1mm entrapment
            2. Braces or other orthodontic appliances to distalize 1st molar
        ii. Space Loss
            1. Enamelplasty 2nd primary molar
            2. Extraction of 2nd primary molar and future space management

3. **Posterior Crossbites**
    a. Evaluation – Identify functional shift – Typically a *unilateral* crossbite is a BILATERAL constriction of the maxilla leading to a shift upon closure

    b. Treatment – Goal: Eliminate functional shift to allow a symmetric mandibular position for future growth and development
        a. Equilibration if interference is minimal (usually primary canines)
        b. Maxillary Expansion appliance

Childhood (7-10 years)

1. **Anterior Crossbites**
    a. Dental Discrepancy – Identified by having: 1) Isolated crossbites, 2) Functional shift present and 3) Incisors can be positioned edge-edge when jaws are positioned into socket (Centric Relation)

        - Treatment – Spring retainer to procline offending incisor

    b. Skeletal Discrepancy – Identified by having: 1) Several incisors affected, 2) Functional shift minimal or absent and 3) Incisors cannot be positioned edge-edge. EVALUATE the facial profile for Skeletal Class III relationship

        - Treatment – Facemask/Reverse Pull headgear for orthopedic protraction of maxilla. Reduced success after age 10 yrs and future growth may lead to relapse after correction achieved (75% success long term on average)

2. **Lower Incisor Crowding**
    a. Clinical Presentations – Lingually erupting lateral incisors, severe rotations or impaction – PREMATURE LOSS OF Primary Canine with eruption of lower lateral incisor

    b. Management –
        a. Monitor eruption and perform space analysis when lower incisors erupt (Up to 2 mm of crowding is “normal”).
        b. Disking of lower primary canines provides space in the short term.
        c. Extraction of primary canines (symmetrically) if *severe* crowding prevents eruption or causes major malposition.

d. Space Management (Lingual Arch) **or** Serial Extraction must be formally considered after primary canines are lost prematurely.

EVENTUAL ORTHODONTIC TREATMENT WILL BE NECESSARY TO CORRECT THE CROWDING OR MALALIGNMENT **(Self-Correction will not occur)**

3. Class II Malocclusions/Excess Overjet

- Very Common Orthodontic Problem
  - Usually recognized after eruption of permanent central incisors erupt

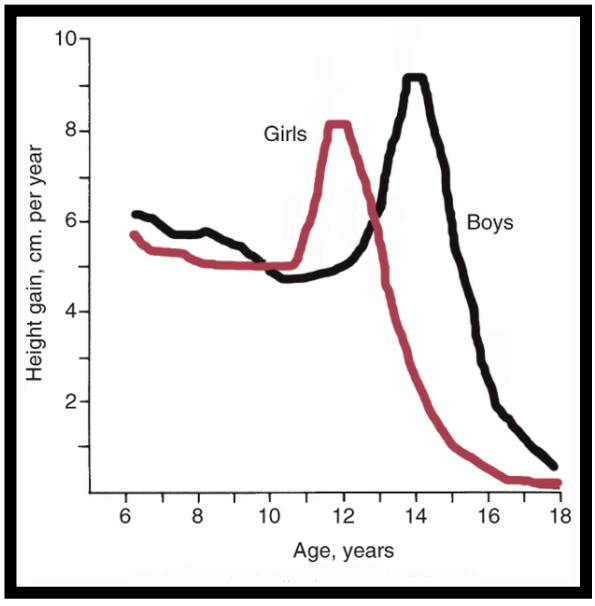
- Identified by:
  - Class II molar relationship (may be "end-end" relationship)
  - Excess overjet
    i. Not required – sometimes incisors are retroclined masking the overjet

- Treatment/Management Options
  - Growth Modification (Ideal)
  - Extraction of Teeth
  - Orthognathic (Jaw) Surgery

- Growth Modification Treatment Timing – It can occur either during the Adolescent growth spurt or Pre-Adolescent growth spurt. Pre-Adolescent treatment is initiated in the mixed dentition and requires a 2nd phase of treatment later after all the permanent teeth erupt. Adolescent treatment is accomplished in a singe phase of treatment.

- Assessment of Growth Status is Imperative for Class II Treatment Success – The window of opportunity for successful Class II treatment using growth modification coincides with the Adolescent growth spurt. EVALUATE CLASS II PATIENTS for timing of treatment on the basis of GROWTH STATUS AND NOT THE DENTITION STATUS.

- Average Age Growth Spurt Begins –
  - Females: 10.5 years (Mixed dentition!)
  - Males: 12.5 years (Early Permanent Dentition!)



Please don't hesitate to contact me with any questions!

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Arkle&Harris ORTHODONTICS