ORTHODONTIC TREATMENT DURING ADOLESCENCE

WHY NOW?

ADOLESCENCE
PERMANENT DENTITION
APPEARANCE
SCIENTIFIC & CLINICAL REASONS

COMPREHENSIVE TREATMENT

SCIENTIFIC & CLINICAL REASONS

CLASS II MALOCCLUSION
- mandibular growth spurt

PALATAL EXPANSION
- sutural expansion

CLASS III MALOCCLUSION
- maxillary protraction

SPACE CONSIDERATIONS
- crowding/ bimaxillary protrusion

LATE TRANSITIONAL DENTITION
- E space (Leeway space)
OCCLUSION
Dynamic, three dimensional biological entity.

MALOCCLUSION
- Sagittal
  - Skeletal
  - Dental
- Vertical
  - Skeletal
  - Dental
- Transverse
  - Skeletal
  - Dental

CLASS II DIVISION 1
- Distocclusion of molars
- Class II canine relationship
- Proclined maxillary incisors
- Crowding and/or Spacing
- Moderate/severe overjet
- Overbite
  - normal
  - deep
  - open
- Crossbite
  - anterior
  - posterior
CLASS II DIVISION 1 MALOCCLUSION

PERMANENT DENTITION
- Distocclusion of molars
- Distocclusion of canines
- Moderate overjet
- Deep overbite
- Malalignment of incisors

TREATMENT
- Distalization of molars
- Distalization of canines
- Extrusion of posterior teeth
- Intrusion of anterior teeth
- Alignment of all teeth
- Growth modification
CLASS II DIVISION 1 MALOCCLUSION
LATE MIXED DENTITION

SAGITTAL

RIGHT
- Distocclusion of molars
- Distocclusion of canines

LEFT
- Cusp to cusp molar relationship
- Class I canine relationship

TRANSVERSE
- Posterior Crossbite (right)
- Mandibular lateral shift
- Functional mandibular midline deviation (right)

VERTICAL
- Moderate overbite (60%)

TREATMENT

TRANSVERSE: Expand maxillary arch/modify growth
- correct mandibular lateral shift
- correct midline deviation
- correct crossbite
- correct sagittal molar
  and canine asymmetry
Align all teeth
CLASS II DIVISION 1 MALOCCLUSION
LATE MIXED DENTITION

TREATMENT

SAGITTAL: Distalize maxillary molars/ relative distalization
Distalize maxillary canines
Retract incisors
Use E-space
Modify growth

VERTICAL: Level dental arches
- Extrude posterior teeth
- Intrude anterior teeth/ relative intrusion
Modify growth
CLASS II DIVISION 1 MALOCCLUSION
LATE MIXED DENTITION

Pre-treatment

Post-treatment

CLASS II DIVISION 1 MALOCCLUSION
Treatment with Functional Appliance
CLASS II DIVISION 2 MALOCCLUSION

- Retroclined maxillary central incisors/ lateral incisors
- Flared maxillary lateral incisors/ canines
- Deep overbite (=>100%)
- Hypodivergent skeletal pattern
- Normal sagittal interjaw relationship
- Well developed chin
- Short lower anterior face height

CLASS II DIVISION 2 MALOCCLUSION
Sub-division right

- Retroclined maxillary central incisors
- Flared maxillary left lateral incisor
- Deep, impinging overbite (>100%)
  - extruded maxillary central incisors
  - marked curve of Spee
- Cusp to cusp right molar relationship
- Cusp to cusp right canine relationship
- Neutroclusion of left molars
- Class I left canine relationship
CLASS II DIVISION 2 MALOCCLUSION

TREATMENT
- Flare maxillary central incisors
- Intrude maxillary central incisors
- Intrude mandibular incisors
- Extrude maxillary molars
- Extrude mandibular molars
- Distalize maxillary right molar/relative distalization
- Distalize maxillary right canine
- Align all teeth
- Modify dentofacial growth
  - vertical
  - sagittal

DO NOT EXTRACT

CLASS II DIVISION 2 MALOCCLUSION

Pre treatment

Post treatment
CLASS III MALOCCLUSION

Pseudo Class III:

Class I
with mandibular anterior shift due to premature occlusal contacts

TRUE CLASS III

- Mesiocclusion of molars
- Class III canine relationship
- Anterior crossbite
- Possible posterior crossbite
- Crowding and/or spacing
- Overbite - normal
  - deep
  - open
ANB = < 0°

CLASS III MALOCCLUSION

- Mesiocclusion of molars
- Class III canine relationships
- Posterior crossbites
- Edge to edge anterior relationship
- Posterior openbites
- Crowding / malalignment
CLASS III MALOCCLUSION

Non-extraction Treatment

TRANSVERSE
Palatal Expansion

SAGITTAL
Protraction of maxillary arch

VERTICAL
Extrusion of all teeth

CLASS III MALOCCLUSION

Non-extraction

Pre-treatment

Post-treatment
CLASS III MALOCCLUSION

**Non-extraction**

**Pre-treatment**

TREATMENT: - Rapid maxillary palatal expansion (Hyrax appliance)
- Fixed appliances / Intermaxillary mechanics (Class III elastics)

**Post-treatment**

CLASS III MALOCCLUSION

**Extraction**

**Pre-treatment**

TREATMENT: - Hyrax appliance
- Extraction of four first premolars
- Fixed orthodontic appliances / Class III elastics

**Post-treatment**
CLASS III MALOCCLUSION
Severe skeletal
12 years

CLASS III MALOCCLUSION
Severe skeletal
15 years

Post-surgically
CLASS III MALOCCLUSION
skeletal severe

POST-TREATMENT (Surgical and orthodontic)

ANTERIOR OPEN BITE MALOCCLUSION

Pre-treatment

Post-treatment
CLASS I MALOCLUSION

severe crowding

Pre-treatment

Post-treatment

TRANVERSE DI SCREPNICI ES

simple cross-bite
TRANSVERSE DISCREPANCIES

active rapid palatal expansion
orthopedic expansion
( Haas appliance )

retention

DENTAL ANOMALIES

canine impaction

Pre-treatment
DENTAL ANOMALIES

**canine impaction**

Post-treatment

**fractured incisor**

Pre-treatment

Post-treatment