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Preventive Orthodontics





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Orthodontics / Dentofacial Orthopedics

Treatment of malrelationship of orofacial structures, *involve*:

- Diagnosis
- Prevention
- Interception
- Guidance
- Correction

of malocclusion

Malocclusion

- Discrepancy in size and/or position of different parts of orofacial system
- Teeth
- Groups of teeth / front, side/
- Dental arches
- Jaws-bones /maxilla, mandible, cranium/

skeletal / dental anomaly

EPIDEMIOLOGY OF MALOCCLUSIONS

75% Occlusal Disharmony 25% Near-ideal Occlusion

ANGLE CALSSIFICATION (Molar/Interarch sagittal Relationship)

• NORMAL 25%

• CL-I 50-55%

• CL-II 15-20%

- CL-III
 - 1%



- Angle class I
- Angle class I Frontal crossbite
 - Angle class II openbite
 - Angle class III

INCIDENCE OF PROBLEMS

• Crowding 40% (age 6-11)

85% (age 12-17)

- **Overjet** (> 6mm) **16%** (CL-II & skeletal)
- CL-III Molars
 1%
- Anterior openbite (> 2mm) 1%
- Deepbite 10%
- Posterior crossbite (>2 teeth) 6%

USPHS 1960's / age 6-17

ETIOLOGIC FACTORS Classification

(Mc Coy 1956)

Heredity Developmental defects of unknown origin Trauma (pre & post-natal) Physical agents (pre & post-natal) Habits (thumb, fingers, tongue, etc...) Diseases (systemic, endocrine) Malnutrition

Heredity



Congenital bilateral alveolar cleft





Progenie

Developmental defects of unknown origin



Traumatic lost of an incisor









Bad habits

Habits or dysfunction

- Thumb sucking
- Biting nails, pencil etc.

Within act of swallowing

- Tongue trusting
- Lip sucking

Treatment

- Education
- Orthodontic appliance
- Logopedic treatment



Myofunctional trainer

Why early orthodontic screening? At age of early mixed dentition

- 6's erupted = Post. Occl. established
- Detection of:
- Function, habits, crowding, deep/open bites
- Anteroposterior & transverse discrepancies
- Benefits: possibility to
- -controlling jaw growth, harmonize size and position of arches -improve eruption patterns,
- -lower risk of trauma to protruding upper incisors
- -correct harmful oral habits
- -improve esthetics & self-esteem
- -simplify / shorten treatment time for later corrective phase
- -reduce likelyhood of impactions
- -improve some speech problems
- -preserve / gain space for erupting perm. teeth

Crowding in both arches, sagittal and transversal discrepancy between arches







Crowding in both arches, sagittal and transversal discrepancy between arches, frontal deep bite, big overjet





Interceptive treatment /elastic opened activator/

Effects:

Expansion Facilitate growing of mandible Sagittal positioning of arches Align frontal teeth Opening the bite





After treatment







After treatment





Space maintainer

In case of early lost of decidous tteth maintain the space until erupting permanent analogs



Possibilities for modify growing direction





With orthopedic appliance we can change the direction of growing





improve esthetics & self-esteem



Before and after treated the crowding and crossbite tooth 12

Treating impacted tooth as prevention of follicular cyst, root resorption, prothetic











Sometimes we can not gain the space for all teeth If we must do, do so early as we can

- SERIAL EXTRACTIONS (Kjellgren, 1929)
- GUIDANCE OF ERUPTION (Hotz, 1970)
- GUIDANCE OF OCCLUSION

...influence tooth eruption into a favorable occlusion...

SERIAL EXTR. - CASE SELECTION (ideal conditions)

- NO SKELETAL DISHARMONY (Good facial balance / harmony)
- CL-I MOLAR RELATIONSHIP
- MINIMAL OVERBITE & OVERJET

SEVERE SPACE DEFICIENCY (>10mm / ARCH)

Sequence of serial extr.



1- PRIM. CUSPIDS -relieves inc. crowding

- 2- PRIM. 1st MOLARS -accelerates 4's eruption
- 3-1st PREMOLARS -provides room for 3's eruption
- 4- Orthodontic appliance if necessary

SERIAL EXTRACTIONS CONCLUSIONS

- No cookbook approaches...
- Not a licence for no supervision
- Take panoramic x-ray, to evaluate space
- Have a treatment plan
 - Explain them to parents & patient
 - (Phase-II & mechanotherapy usually indicated)
 - Short & Long term goals
 - -Esp. when extracting permanent teeth
- When in doubt, DON'T take them out...

Thank You for your attention!