prevention and interception orthodontic

(DENTISTRY FOR THE CHILD AND ADOLESCENT, 8\ED
McDonald, Avery Dean, 2005; Chapter 27, pages 651–665 (only))

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Consequences of early extraction of primary teeth

Sunday lecture 16\12\2012
1:00 pm-2:00 pm

Clinic: 2:00pm- 5:00pm

Attendance sheets are signed at the beginning of each lecture and clinical sessions.
Prevention and interception
orthodontic

SPECIFIC OBJECTIVES:

1. DEFINE PREVENTIVE ORTHODONTICS AND IDENTIFY CLINICAL MANIFESTATIONS THAT WOULD REPRESENT PREVENTIVE ORTHODONTICS, I.E., REPAIRING INTER-PROXIMAL CARIES AND RESTORING NORMAL TOOTH SIZE AND CONTOUR.

2. DEFINE INTERCEPTIVE ORTHODONTICS AND IDENTIFY ANY CLINICAL MANIFESTATIONS THAT WOULD REPRESENT INTERCEPTIVE ORTHODONTICS, I.E., ECTOPIC ERUPTION OF A MAXILLARY FIRST PERMANENT MOLAR.

3. DEFINE ANTERIOR CROSSBITE.
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4. DEFINE THE FOLLOWING TYPES OF POSTERIOR CROSSBITES, AND DISCUSS THE PROCEDURES NECESSARY TO DIAGNOSE THEM:

a. UNILATERAL
b. BILATERAL
c. DENTAL
d. SKELTAL
e. FUNCTIONAL
5. DEFINE AND DISCUSS TREATMENT ALTERNATIVES FOR THE FOLLOWING IRREGULARITIES IN THE DEVELOPING DENTITION:

a. ANTERIOR CROSSBITE
b. POSTERIOR CROSSBITE
c. ECTOPIC ERUPTION OF FIRST PERMANENT MOLARS
d. ANKYLOSIS OF PRIMARY MOLARS
e. THUMB OR FINGER HABIT
f. PREMATURE LOSS OF PRIMARY CANINE
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DEFINITION:

PREVENTIVE ORTHODONTICS:
MANAGING THE ARCH CIRCUMFERENCE BY SPACE MAINTAINCE OR BY PRESERVING THE INTEGRITY OF THE ARCHES BY RESTORING ORIGINAL CONTOURS AND PROXIMAL CONTACTS THAT HAVE BEEN DESTROYED BY CARIES.

INTERCEPTIVE ORTHODONTICS:
PHASE OF THE SINGS AND ART OF ORTHODONTICS EMPLOYED TO RECOGNIZE AND ELIMINATE POTENTIAL IRREGULARITIES AND MALPOSITIONS IN THE DEVELOPING DENTAL FACIAL COMPLEX.
INTERCEPTIVE ORTHODONTICS

THE MOST COMMON IRREGULARITIES:

1. ANTERIOR CROSSBITE.
2. POSTERIOR CROSSBITE.
3. ECTOPIC ERUPTION OF 1ST PERMANENT BMOLARS.
4. MIDLINE DIASTEMA.
5. ANKYLOSED (SUBMERGED, INFRAOCCLUDED) PRIMARY MOLARS.
6. ORAL HABITS.
ANTERIOR CROSSBITE

DIFFERENTIAL DIAGNOSIS:

➢ CLASS III MALOCCLUSION
➢ CLASS I MALOCCLUSION WITH ANTERIOR LOCALIZED IRREGULARITY

DEFINITIVE DIAGNOSIS:

- EVALUATING OCCLUSION IN CENTRIC RELATION
- CEPHALOGRAM
- HOW MANY TEETH ARE INVOLVED?
- IS THERE ADEQUATE SPACE?

-SIMPLE ANTERIOR CROSSBITE IS USUALLY SUCCESSFULLY TREATED WITHIN 2-3 WEEKS
ANTERIOR CROSSBITE
ANTERIOR CROSSBITE

TREATMENT

1. TONGUE BLADE: 20 MINUTES SEVERAL TIMES A DAY.

2. THE BITE PLANE: FOR 2 WEEKS.

3. SSC:
   TRAUMATIC UNCONTROLLED NATURE.

4. ACRYLIC REMOVABLE APPLIANCE: FINGER SPRINGS (HAWLEY ARA).

5. BANDS AND ARCH WIRE:
POSTERIOR CROSSBITE

A CONDITION WHERE ONE OR MORE POSTERIOR TEETH MAY BE ABNORMALLY MALPOSED BUCCALLY OR LINGUALLY WITH REFERENCE TO THE OPPOSING TOOTH OR TEETH.

I. DENTO - ALVEOLAR:

1. INSUFFICIENT ARCH LENGTH OR

2. PROLOGED RETENTION OF PRIMARY TEETH CAN DEFLECT TEETH DURING ERUPTION AND PRODUCE A CROSSBITE.

3. PROLONGED DIGIT SUCKING.

II. SKELETAL:

1. NARROW MAXILLA

2. WIDE MANDIBLE

3. COMBINATION OF BOTH

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POSTERIOR CROSSBITE
POSTERIOR CROSSBITE
POSTERIOR CROSSBITE

TREATMENT MODALITIES

1. BANDS WITH CROSS ELASTIC
2. REMOVABLE APPLIANCES: MIDPALATAL EXPANSION SCREW
3. FIXED APPLIANCES:
   ➢ SLOW MAXILLARY EXPANSION
   ➢ QUAD HELIX (FIXED W APPLIANCE)
   ➢ MAXILLARY EXPANSION USING NICKEL-TITANIUM EXPANDER
   ➢ RAPID EXPANSION (HYRAX SCREW)
POSTERIOR CROSSBITE
POSTERIOR CROSSBITE
ECTOPIC ERUPTION
GENERAL OBJECTIVE:

1. To discuss the problem of ectopic eruption generally.
2. To discuss the problem of ectopic eruption the canine and first permanent molar and its management.
SPECIFIC OBJECTIVES:

1. Define ectopic eruption.

2. Know the frequency of ectopically eruption first permanent molars.

3. Explain the reasons for ectopic eruption occurring with first permanent molars.

4. Distinguish between a reversible and non-reversible ectopic eruption.
SPECIFIC OBJECTIVES (continued):

5. Know methods for correcting ectopic molar eruption.

6. Explain why long term follow-up is needed for corrected ectopic eruption cases.

REQUIRED READING

ECTOPIC ERUPTION

• DESCRIBES A PATH OF ERUPTION THAT CAUSES ROOT RESORPTION OF A PORTION OR ALL OF THE ADJACENT PRIMARY TOOTH

• MOST OFTEN ASSOCIATED WITH: PERMANENT MAXILLARY 1ST MOLAR, MANDIBULAR LATERAL INCISOR, AND MAXILLARY CANINE.
ECTOPIC ERUPTION

ECTOPIC ERUPTION OF THE FIRST PERMANENT MOLAR


- TWO TYPES OF ECTOPIC MOLARS ARE:
  1. REVERSIBLE OR “JUMP” JUMPS OR MOVES DISTALLY AND ERUPTS INTO CORRECT POSITION.
  2. IRREVERSIBLE OR “LOCK” TYPE. LODEGES UNDER PRIMARY MOLAR CROWN AND NOT ERUPTED.

- NO PAIN OR DISCOMFORT.

- ABSCESS MAY DEVELOPED FROM COMMUNICATION BETWEEN ORAL CAVITY AND PULPAL TISSUE OF THE PRIMARY MOLAR.

- 3% TO 4% PREVALENCE.
ECTOPIC ERUPTION OF THE FIRST PERMANENT MOLAR

POSSIBLE CAUSES:

1. MAXILLARY TEETH ARE LARGER THAN NORMAL
2. MAXILLA IS SMALLER THAN NORMAL.
3. MAXILLA IS POSITIONED FURTHER POSTERIORLY THAN NORMAL IN RELATION TO THE CRANIAL BASE
4. THE ANGULATION OF THE ERUPTING MAXILLARY PERMANENT 1ST MOLAR IS ABNORMAL
ECTOPIC ERUPTION OF THE FIRST PERMANENT MOLAR
HOW MANY WAYS ARE THERE TO MANAGE ECTOPIC ERUPTION
A ligature wire is passed through beneath the contact and then twisted tightly.
ECTOPIC ERUPTION OF PERMANENT MANDIBULAR INCISOR

- ABNORMAL PATH OF ERUPTION OF INCISOR RESORB ALL OR A PORTION OF PRIMARY CANINE ROOT.
- DUE TO: TRANSITIONAL CROWDING FROM PRIMARY TO PERMANENT DENTITION.
- OR A TRUE ARCH LENGTH DEFICIENCY.
- DIAGNOSED BY:
  1. PREMATURE PRIMARY CANINE EXFOLIATION ACCOMPANIED BY MIDLINE SHIFT TO THE OF ECTOPIC ERUPTION.
  2. OR IMPEDED ERUPTION OF LATERAL INCISOR.
  3. OR DISCOVERED ON OCCLUSAL RADIOGRAPH.
ECTOPIC ERUPTION OF PERMANENT MAXILLARY CANINE

- ASSOCIATED WITH RESORPTION OF PERMANENT LATERAL INCISOR.
- CANINES ERUPT FROM A MORE MEDIAL POSITION IN THE DENTAL ARCH AND WITH A SLIGHTLY MORE MESIAL HORIZONTAL PATH OF ERUPTION WITH RISK OF LATERAL INCISOR RESORPTION.