ANALYSIS OF THE DENTITION & OCCLUSION

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From

CHAPTER 13
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ANALYSIS OF THE DENTITION & OCCLUSION

DIAGNOSIS & TREATMENT PLANNING

ANALYSIS OF THE DENTITION & OCCLUSION

- BOLTON ANALYSIS
- SPACE ANALYSIS
- MIXED DENTITION ANALYSIS

DENTAL CASTS

-number -size
-morphology

TEETH

DENTAL ARCH

OCCLUSION

-sagittal -vertical -transverse

PALATAL VAULT

-depth -width

TEETH SHAPE / SIZE

PEG LIKE LATERAL INCISOR
CUSP OF CARABELLI

FACTORS AFFECTING OCCLUSION

BOLTON TOOTH RATIO ANALYSIS

DENTAL CASTS

TOOTH POSITION
TOOTH INCLINATION

Second order-mesiodistal

third order-labiolingual-torque

DENTAL ARCHES

DENTO ALVEOLAR RELATIONSHIPS

DIFFERENCES BETWEEN BASAL ARCHES AND DENTAL ARCHES

DENTO-ALVEOLAR RELATIONSHIPS

Apical base arch

Alveolar arch

Dental arch

APICAL BASE SIZES VERSUS DENTAL ARCH SIZES

CROWDING

SPACING

CROWDING CONSTRUCTED MAXILLARY ARCH BROAD MANDIBULAR ARCH

Assessment of Available Space
TOOTH SIZE

ARCH PERIMETER

ARCH CIRCUMFERENCE

CURVE OF SPEE

MIXED DENTITION ANALYSIS
- Estimate of the size of permanent canines and premolars
- Estimate of the available space in permanent dentition
Bonwill-Hawley Arch Form

Catenary Curve

Brader Arch Form

SYMMETOGRAPH

ASYMMETRY

Asymmetry (ankylosis)

Asymmetry (ectopic eruption)
Class III (Angle)

sagittal
permanent dentition

VERTICAL PLANE
DEEP OVERBITE

VERTICAL PLANE
ANTERIOR OPEN BITE

VERTICAL PLANE
open bite malocclusion

midline deviation
asymmetric open bite
habit?

TRANSVERSE RELATIONSHIP
cross bite

VERTICAL MALOCCLUSION
POSTERIOR OPEN BITE
TRANSVERSE RELATIONSHIP
posterior bilateral cross bite   anterior cross bite

FUNCTIONAL SHIFT

CROSS BITE
large mandibular arch   narrow maxillary arch

MORE FACTORS AFFECTING OCCLUSION
impacted maxillary canines  impacted third molars

TEETH SIZE / MORPHOLOGY
small teeth

TEETH POSITION & INCLINATION
FACTORS AFFECTING OCCLUSION

agenesis

supernumerary teeth

crowding

Factors affecting occlusion

Premature loss of deciduous teeth

ASYMMETRY

condyle morphology affecting one side

hyperplasia of mandible affecting one side

DIGITAL MODELS
THANK YOU

Figure 13-8

Figure 13-71

Figure 13-72

Figure 13-7
FACTORS AFFECTING OCCLUSION

- fusion
- peg lateral
- taurodontia

VERTICAL MAXILLARY EXCESS

- "gummy smile"
- short teeth?
- upper thin lip