

MALOCCLUSION

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- ▣ Malocclusion, occurring in an ideal occlusion, esthetic or functional problem-causing significant deviation.

Classification of malocclusion

- ▣ Why do we need to classify malocclusion?
"Classification is the morphological description of the dental, skeletal and soft tissue deviations from the norm..."
- ▣ Morphological deviations from the norm can be compiled into a *problem list which is essential* for treatment planning.

- ▣ Where Do We Begin?



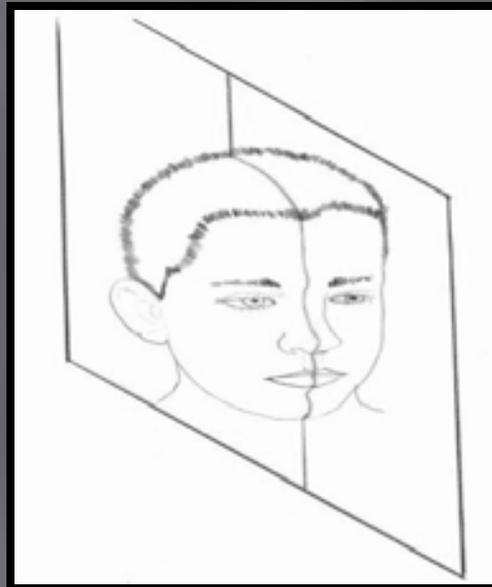
Orientation Planes

- ▣ First we need to establish *planes of reference* in order to communicate which dimension our problem lies.



Sagittal Plane

- ▣ An imaginary plane that passes longitudinally through the middle of the head and divides it into right and left halves.
- ▣ Used to describe anterior-posterior relationships.



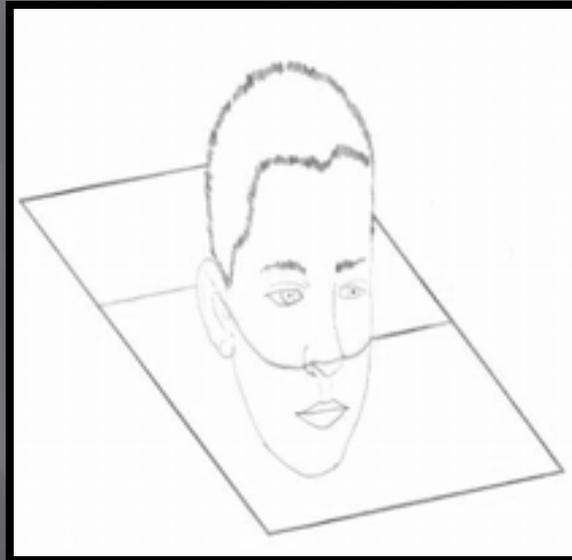
Frontal Plane

- ▣ An imaginary plane that passes longitudinally through the head perpendicular to the sagittal plane dividing the head into front and back.
- ▣ Used to describe superior-inferior relationships.



Transverse Plane

- ▣ An imaginary plane that passes through the head at right angles to the sagittal and frontal planes dividing the head into upper and lower halves.
- ▣ Used to describe right to left relationships



Soft Tissue Relationships

- ▣ BRACHYCEPHALIC describes an individual with a larger than average cranial width and usually presents with a broad, square head shape and low mandibular plane angle.
- ▣ BRACHYFACIAL is an individual characterized by a broad square face with a strong chin, flat lip posture, low mandibular plane angle and a straight profile.



Soft Tissue Relationships

- ▣ DOLICOCEPHALIC describes an individual that has a narrower cranial width and usually presents with a long, narrow shape and high mandibular plane angle.
- ▣ DOLICOFACIAL is an individual that has a long, narrow face with a high mandibular plane angle, convex profile, poor chin development and an anterior-posterior face height imbalance.



Soft Tissue Relationships

- ▣ MESOCEPHALIC describes an individual that falls between the brachycephalic and dolicocephalic types and has an average cranial width.
- ▣ MESOFACIAL is an individual who has well balanced facial features.



Frontal Facial View

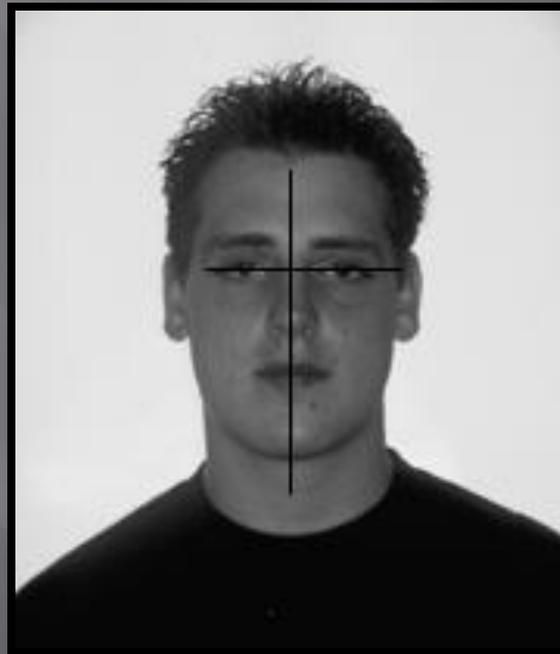
Asymmetry

- ▣ A reduction of proportion between the left and right sides of the face.
- ▣ Often associated with syndromes which can Complicate treatment.

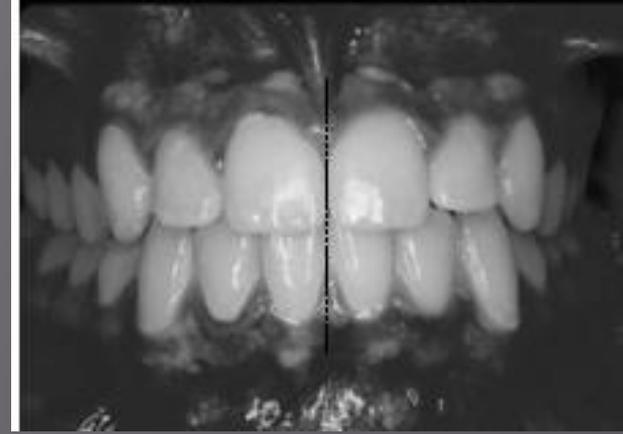


Facial Midline

- ▣ A line drawn perpendicular to the interpupillary line from glabella to the tip of the nose, passing through the philtrum of the upper lip, and the midline of the chin



Dental Midline



- ▣ Maxillary Dental Midline

- A line drawn perpendicular to the maxillary occlusal plane through the proximal contacts of the central incisors.

- ▣ Mandibular Dental Midline

- A line drawn perpendicular to the mandibular occlusal plane through the proximal contacts of the central incisors.



▣ Lip Line

- The amount of tooth and/or gingival tissue that is exposed at rest.



▣ Smile Line

- The amount of tooth and/or gingival tissue exposed upon smiling.



Lip Incompetence

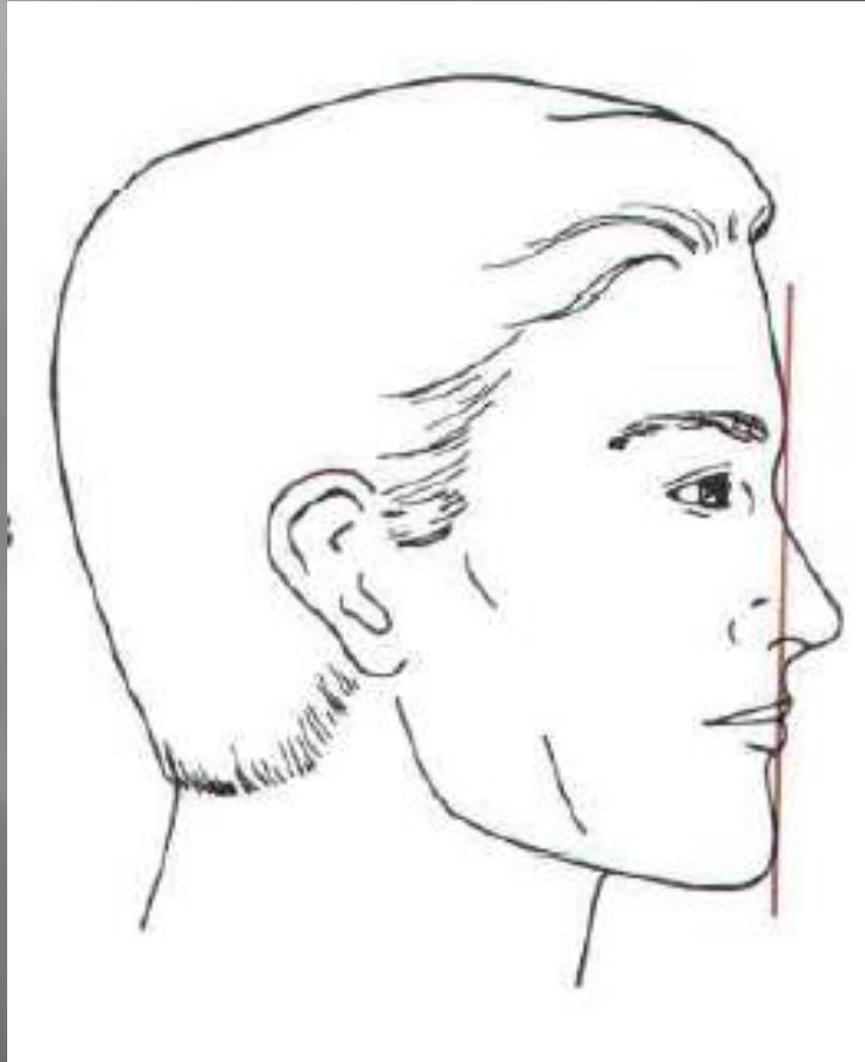
- ▣ The inability of the patient to have the lips contacting in the rest position without showing muscle strain.



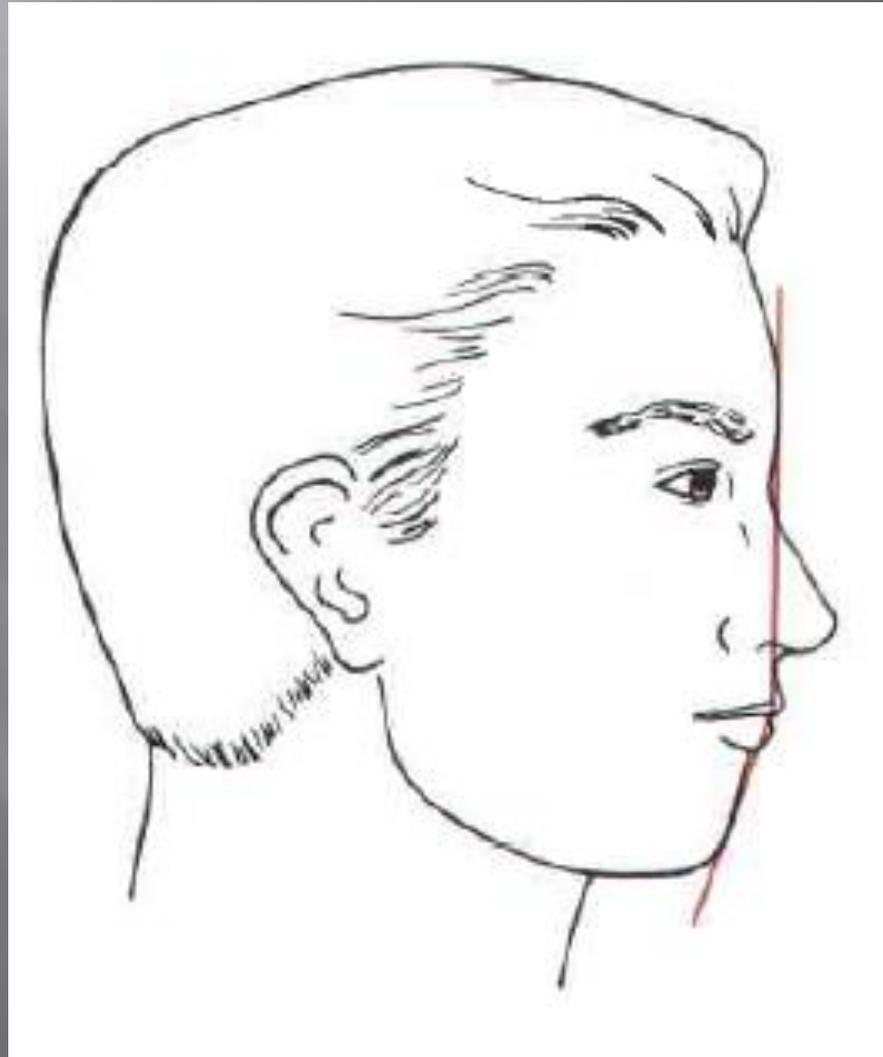
Profile Facial View

- ▣ The profile facial view is use to evaluate the the nose, chin, lips and facial convexity. There are three profile types:
 - Straight
 - Convex
 - Concave

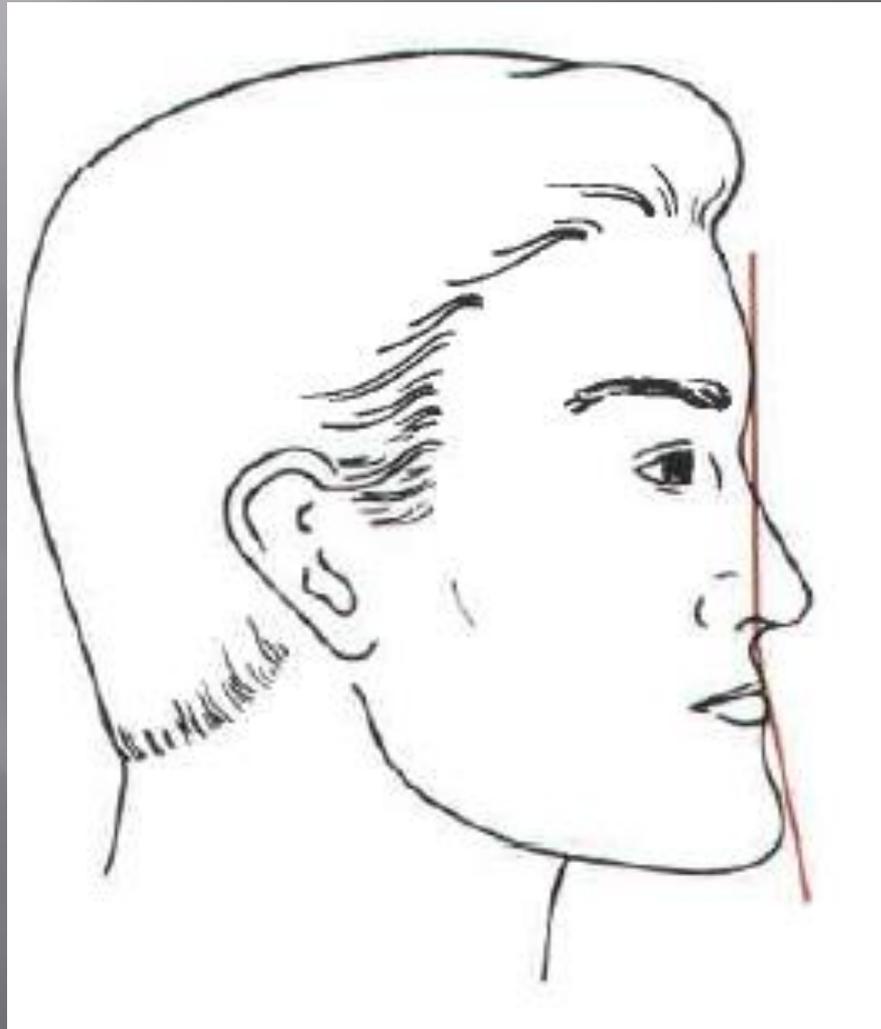
Straight Profile



Convex Profile



Concave Profile



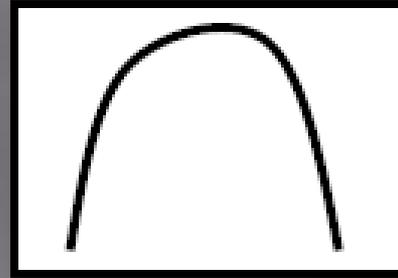
Dental Relationships

Terms to Consider

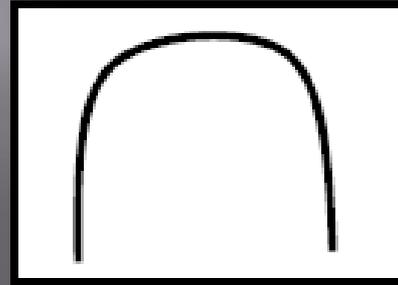
- Arch form: Shape of the individual dental arches.
- Crowding: Dental misalignment caused by inadequate space for the teeth.
- Diastema: A space between two or more teeth in the dental arch.
- Supernumerary teeth: Extra teeth that usually erupt ectopically.
- Anodontia: Congenitally missing teeth.

Arch Forms

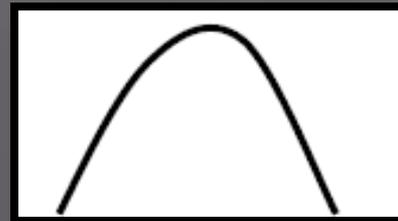
▣ Elliptical



▣ Square



▣ Tapering



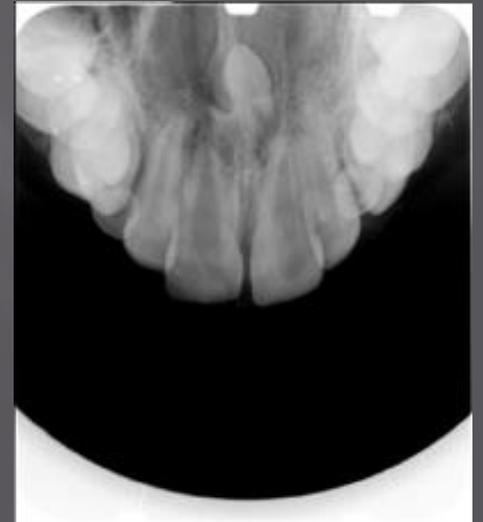
Crowding



Diastema



Supernumerary Teeth



Anodontia



Terms used to describe the position of teeth

- Mesioversion: a tooth in the arch located more mesial than normal
- Distoversion: a tooth in the arch located more distal than normal
- Labioversion: an incisor or canine outside of arch towards the lips
- Transversion (Transposition): Teeth that are in the wrong sequential order.
- Torsiversion: a tooth rotated on its axis

Terms used to describe the position of teeth

- Supraverision: a tooth the has over-erupted
- Infraverision: a tooth that has not erupted to the occlusal plane
- Linguoverision : a tooth inside the arch form toward the tongue
- Buccoverision: a posterior tooth outside the arch toward the cheek

Sagittal Dental Relationships

Angle Classification

- In 1890 Edward H. Angle published the first classification of malocclusion.
- The classifications are based on the relationship of the mesiobuccal cusp of the maxillary first molar and the buccal groove of the mandibular first molar!!!!!!
- If this molar relationship exists then the teeth can align into normal occlusion

The advantage and disadvantage of the angle classification

advantage: Simple, so be used widely

disadvantage:

- does not consider the relationships in the transverse and vertical direction
- HAS ADOPTED the fixed position of the maxillary first molar tooth in the jaw. not taken into account for possible drift due to early loss of deciduous teeth
- not examine etiology
- does not take into consideration the muscle functions

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Normal Occlusion

- ▣ The mesiobuccal cusp of the maxillary first molar is aligned with the buccal groove of the mandibular first molar. There is alignment of the teeth, normal overbite and overjet and coincident maxillary and mandibular midlines.



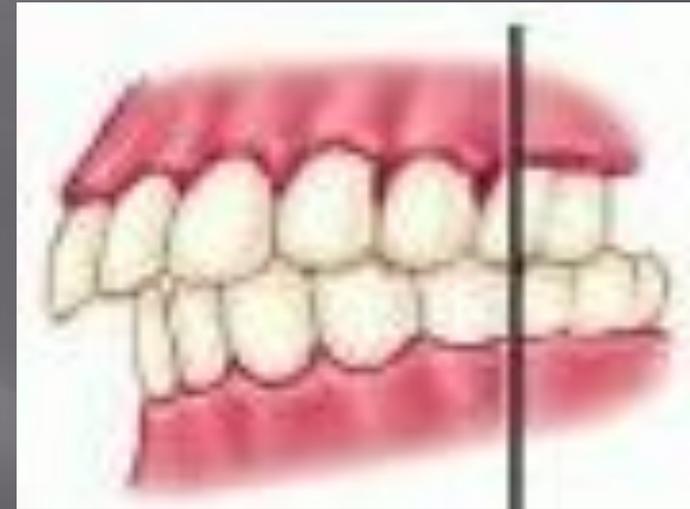
Class I Malocclusion

- ▣ neutral occlusion: A normal molar relationship exists but there is crowding, misalignment of the teeth, cross bites, etc.



Class II Malocclusion

- ▣ A malocclusion where the molar relationship shows the buccal groove of the mandibular first molar distally positioned when in occlusion with the mesiobuccal cusp of the maxillary first molar.



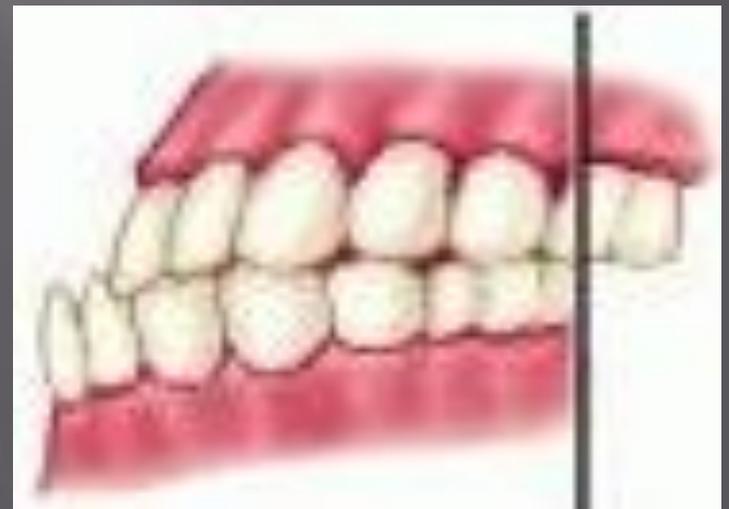
Class II Malocclusion

- ▣ Class II Malocclusion has two divisions to describe the position of the anterior teeth.
 - Class II Division 1 is when the maxillary anterior teeth are proclined and a large overjet is present.
 - Class II Division 2 is where the maxillary anterior teeth are retroclined and a deep overbite exists.



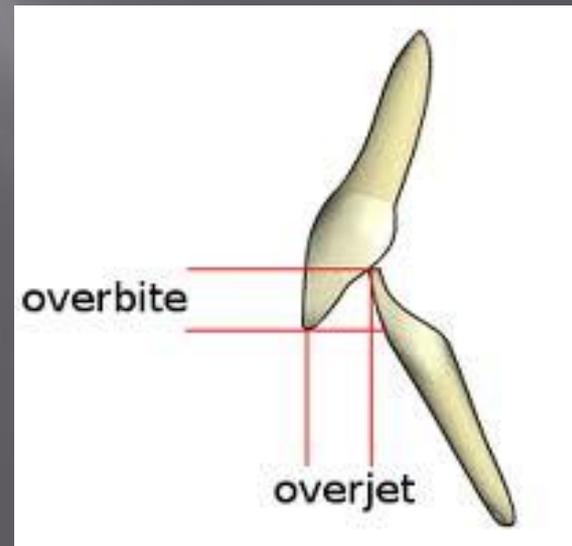
Class III Malocclusion

- ▣ A malocclusion where the molar relationship shows the buccal groove of the mandibular first molar mesially positioned to the mesiobuccal cusp of the maxillary first molar when the teeth are in occlusion.

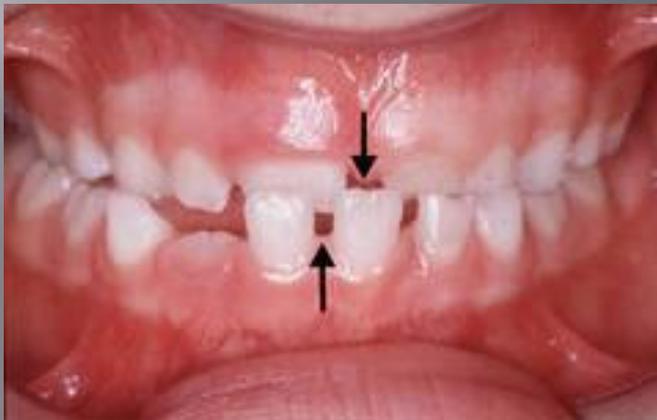


Anterior Tooth Positions

- Overjet is a term used to describe the distance between the labial surfaces of the mandibular incisors and the incisal edge of the maxillary incisors.



- Anterior Crossbite is a malrelation between the maxillary and mandibular teeth when they occlude with the antagonistic tooth in the opposite relation to normal.



Posterior Crossbites

- A Posterior Crossbite is present when posterior teeth occlude in an abnormal buccolingual relation with the antagonistic teeth.
- Posterior Crossbites can be the result of either malposition of a tooth or teeth, and/or the skeleton.
- Examining the transverse dimension allows us to evaluate the intermolar and intercanine widths and determine which arch is the offending unit.
- Posterior crossbites can be unilateral or bilateral.
- A Functional Crossbite results from an occlusal interference that requires the mandible to shift either anteriorly and/or laterally in order to achieve maximum occlusion.



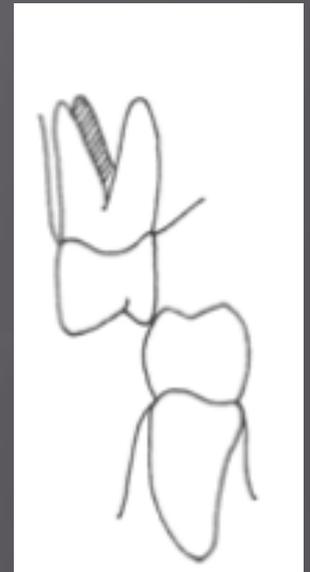
Transverse Dental Relationships

Descriptive Crossbite Terms

- ▣ Buccal Crossbite: Buccal displacement of the affected posterior tooth or teeth as it relates to the antagonistic posterior tooth or teeth.
- ▣ Lingual Crossbite: Lingual displacement of the mandibular affected tooth or teeth as it relates to the antagonistic tooth or teeth.



- ▣ Palatal Crossbite: Palatal displacement of the maxillary affected tooth or teeth as it relates to the antagonistic tooth or teeth.
- ▣ Complete Crossbite: When all the teeth in one arch are positioned either inside or outside to all the teeth of the opposing arch
- ▣ Scissor-bite: Present when one or more of the adjacent posterior teeth are either positioned completely buccally or lingually to the antagonistic teeth and exhibit a vertical overlap.



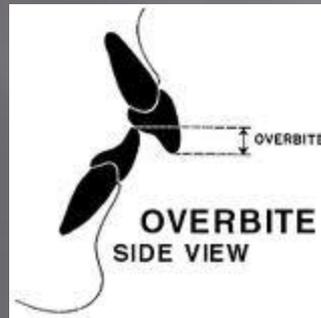
Vertical Dental Relationships

Overbite

- ▣ The amount of overlap of the mandibular anterior teeth by the maxillary anterior teeth measured perpendicular to the occlusal plane.



Normal Overbite



Deep Overbite

Open Bite

- ▣ An open bite is present when there is no vertical overlap of the maxillary and mandibular anterior teeth or no contact between the maxillary and mandibular posterior teeth.



Ankylosis

- ▣ The fusion between the teeth and the alveolar bone.
- ▣ Ankylosed teeth do not erupt with the vertical growth of the patient and are seen in the infraversion position

