



Selection of **Teeth** & **Esthetics** in Complete Denture.

Done by :

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Contents :

1. Selection of anterior teeth.
2. Selection of posterior teeth.
3. Selection of teeth material.



Smiling :

It is the best way to face every problem, to crush every fear, to hide every pain – **Un known Author** .

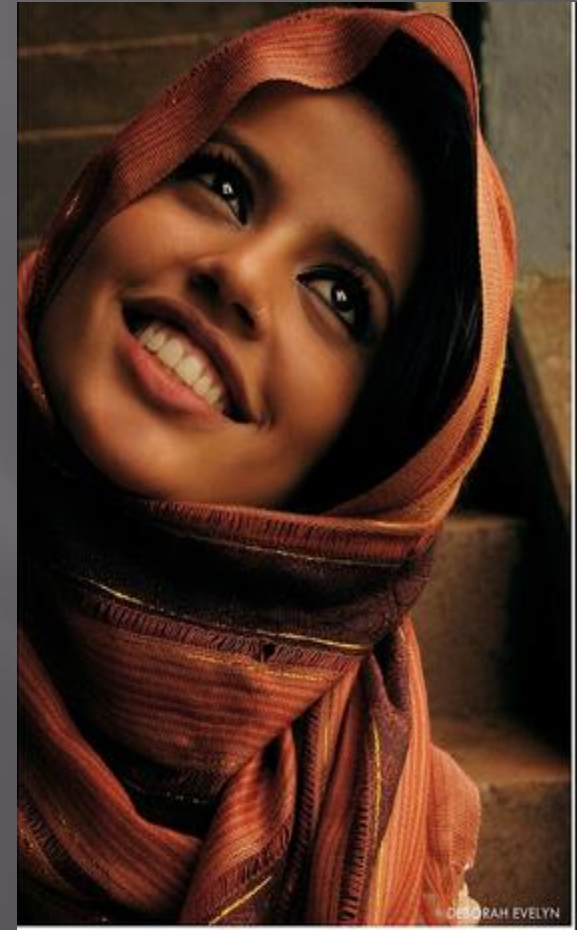
ANIMALS SMILE :



Innocent Smile :



ATTRACTING SMILE :



Fake Smile :





Our Goals Are:

- To let them socialize normally by restoring the esthetics.
- Function well by restoring the functions: Mastication & Speaking without abusing residual ridge and overlying mucosa.

Anterior teeth selection

▣ Guides for the anterior teeth selection:

1.Pre-extraction guides.

2.Examination of existing dentures.

3.Indirect methods of tooth selection
(post extraction guides).

1. Pre extraction guides:

- a. Study casts
- b. Photographs.
- c. Radiographs.
- d. Extracted teeth.

a. Study casts

- Are the most reliable guides in selecting the size, shape, & position of the artificial teeth.



b. Photographs

- Are of far more help in determining the placement of anterior teeth, arch form, lip support & the actual size of the mould of an artificial teeth.
- The most valuable one is with the patient smiling & the most recent one.



c. Intra oral radiographs

- Can supply information about the width, length, & shape of the teeth to be replaced.



d. Extracted teeth

- They may be utilized in selecting the size & form of the mould of the artificial teeth but are of little use in shade selection (because of color changes).



2.Examination of existing dentures

- If the patient had a denture, ask him:
 - what he likes or dislikes about his appearance.
 - What changes would he want to.
- So, the new denture will provide some solutions to these problems or wishes.



3. Indirect methods of tooth selection (post extraction guides)

a. Size (width, length, & thickness).

b. Form \ Shape.

c. Shade.

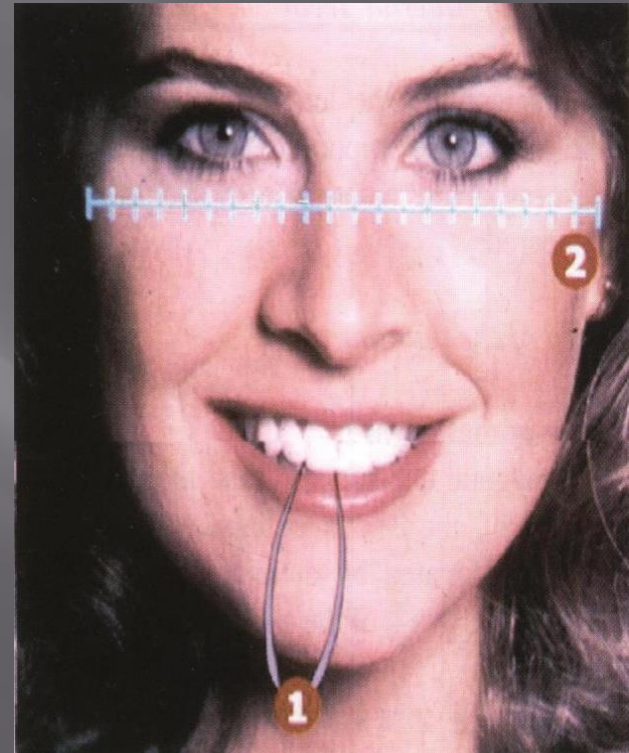
d. Material.

A. Size of anterior teeth:

- Width of anterior teeth:
 1. Bizygomatic width.
 2. The buccolingual centers of hamular notches.
 3. The size & contour of the residual ridges.
 4. Corners of the mouth.
 5. Canine eminence.
 6. The width of the nose.
 7. The incisive papillae.
 8. Maxillomandibular relations.
 9. Cranial circumference.

1. Bizygomatic width:

- A study of 555 skulls indicated that :
 - 1/ The bizygomatic width divided by 16 equals the width of a single incisor.
 - 2/ the bizygomatic width divided by 3.3 equals the approximate width of the 6 upper anterior teeth.



2.The buccolingual centers of hamular notches:

- The width of the 6 anterior teeth = The distance between the buccolingual centers of the hamular notch + 5mm.



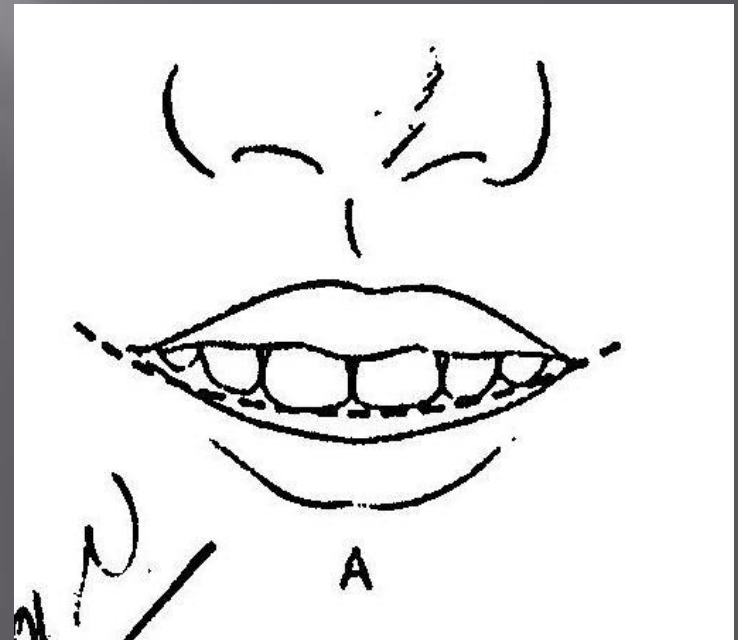
3.The size & contour of the residual ridges:

- The size of the casts have a relationship to the size of the anterior teeth.



4. Corners of the mouth:

- The distal surface of many natural canines is positioned at the corner of the relaxed mouth.
- The width of the 6 anterior teeth = The distance measured between the two angles of the mouth.



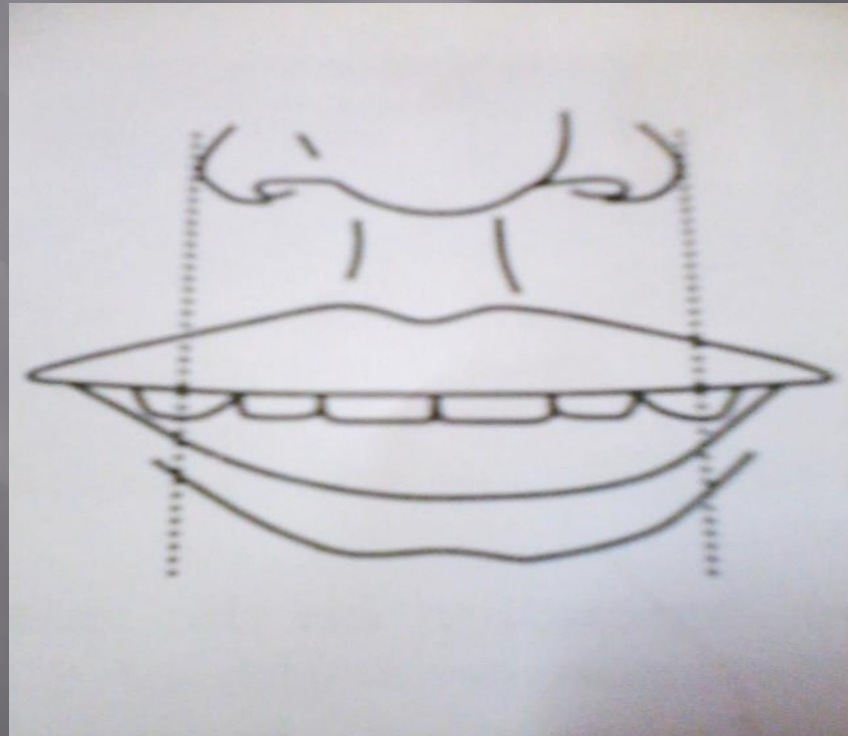
5.Canine eminence:

- If well defined; it's distal aspect may be taken as the mesiodistal width of the maxillary anterior teeth.
- If not well defined, the attachments of the buccal frenum are used as a guide . a line placed slightly anterior to it represent the canine eminence.

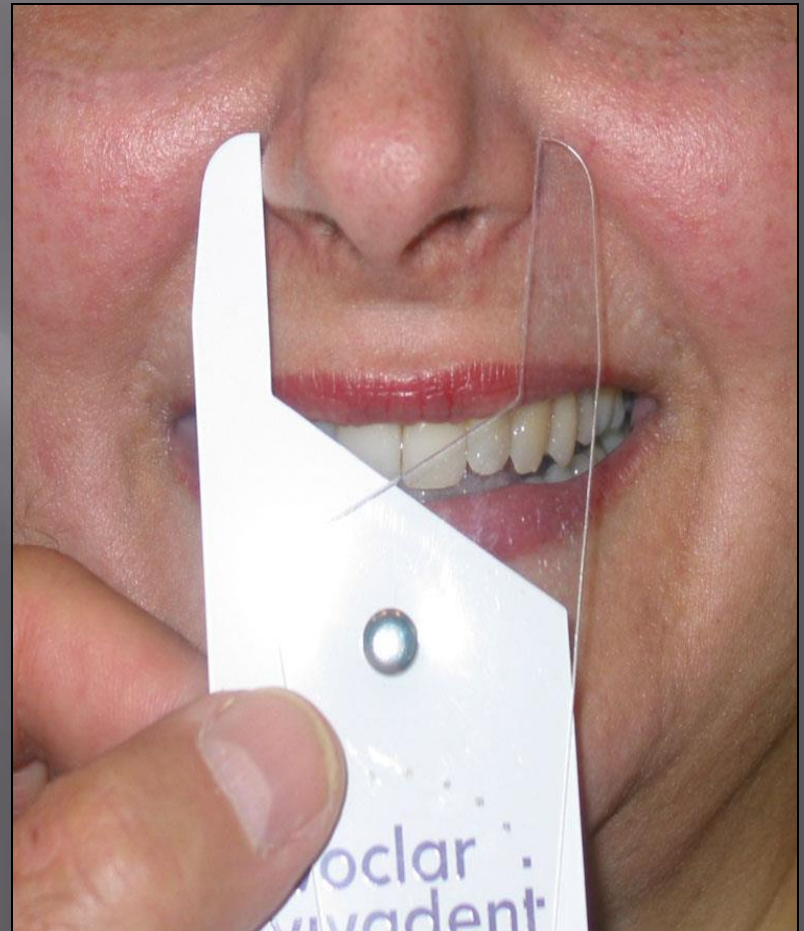
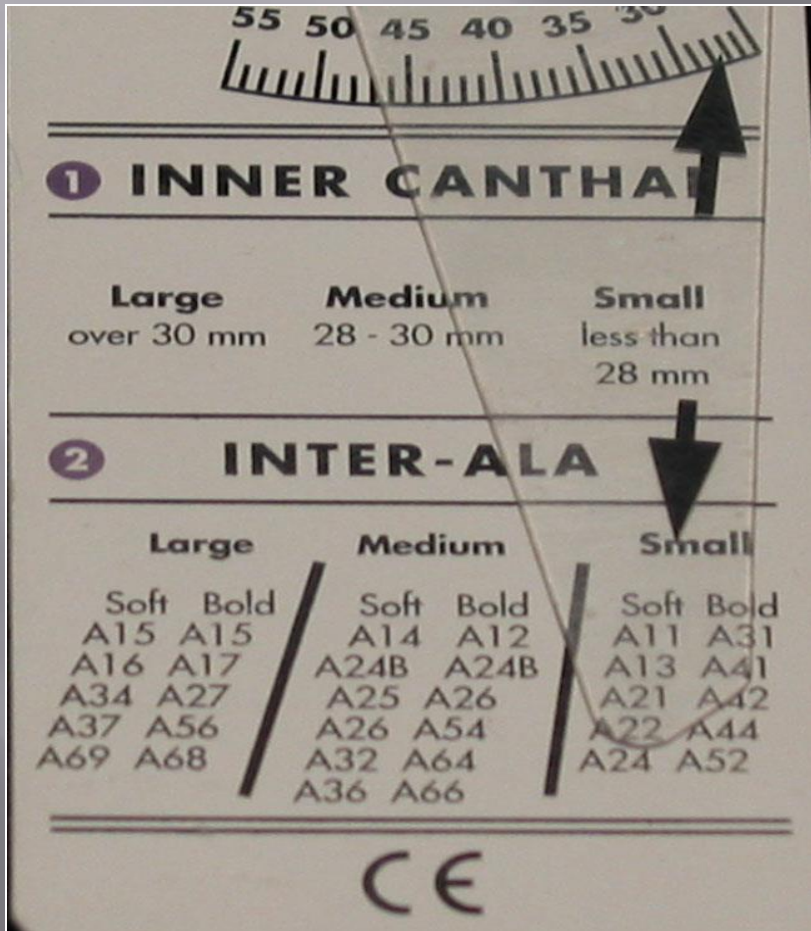


6.The width of the nose:

- If a vertical parallel lines extending from the lateral surfaces of the ala of the nose onto the labial surface of the upper occlusion rim will give an indication of the position of the cusp tips of the maxillary canines.

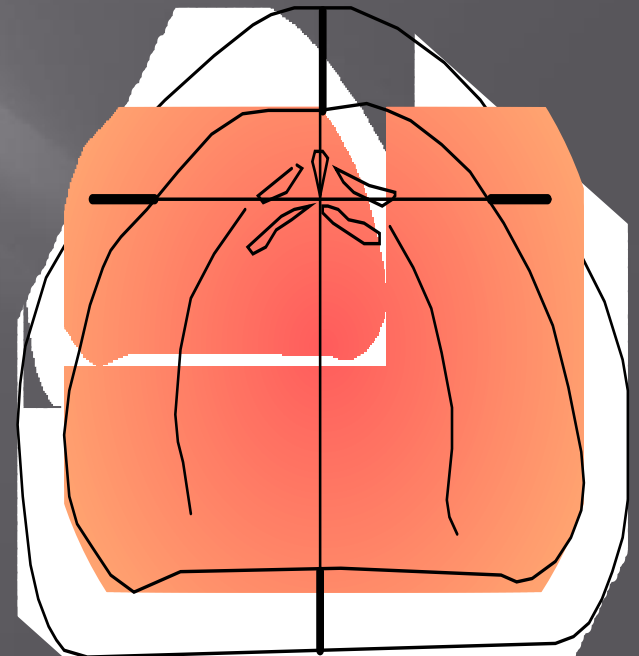
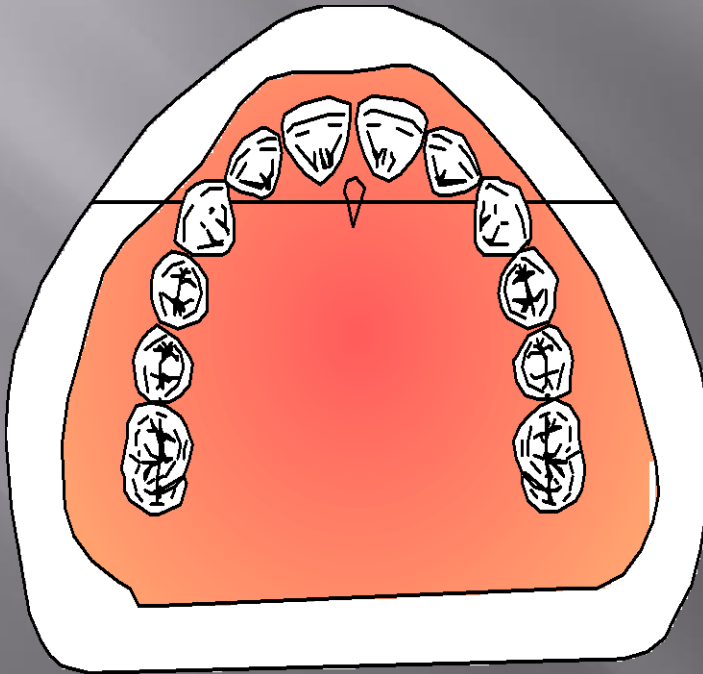


Facial Meter



7.The incisive papillae:

- It has been found that a transverse line bisecting the incisive papilla contacts the natural canine teeth near the tips of the cusps.



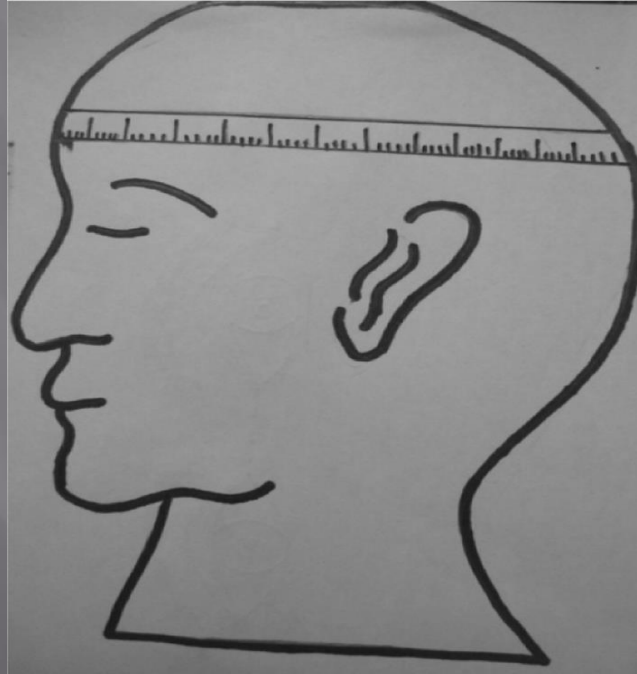
8. Maxillomandibular relations:

- Any disproportion in size between the maxillary and mandibular arches influences in the length, width, & position of the teeth:
 - In protruded mandibles (Class III) ,the face is usually longer & require longer mandibular teeth.
 - If the mandibles are retruded (Class II), the mandibular anterior teeth are frequently smaller.



9.Cranial circumference:

- The horizontal circumference of the cranium (about a plane passing through the glabella & the maximum occipital point) is said to be 10 times the width of the maxillary anterior teeth.



Length of anterior teeth:

- Can be determined by:
 1. The vertical distance between the ridges.
 2. The lips.

Length of anterior teeth:

1. The vertical distance between the ridges:
 - The length of the teeth is determined by the available space between the alveolar ridges.



Length of anterior teeth:

2. The lips :

- The incisal length or vertical composition of the upper anterior teeth at rest (Frush and Fisher):
 - Young women are 3mm below upper lip line.
 - Young men are 2mm below upper lip line.
 - Middle age are 1.5mm below upper lip line.
 - Old age are 0 mm below the upper lip line to 2mm above lip line (Vig and Brundo).

Exposure of Upper & Lower Teeth in Younger & Elder Individuals:



Figure 8 - Exposure of upper incisor is greater in younger individuals (A, B, C) while exposure of lower incisor is greater in elder individuals (D, E, F).

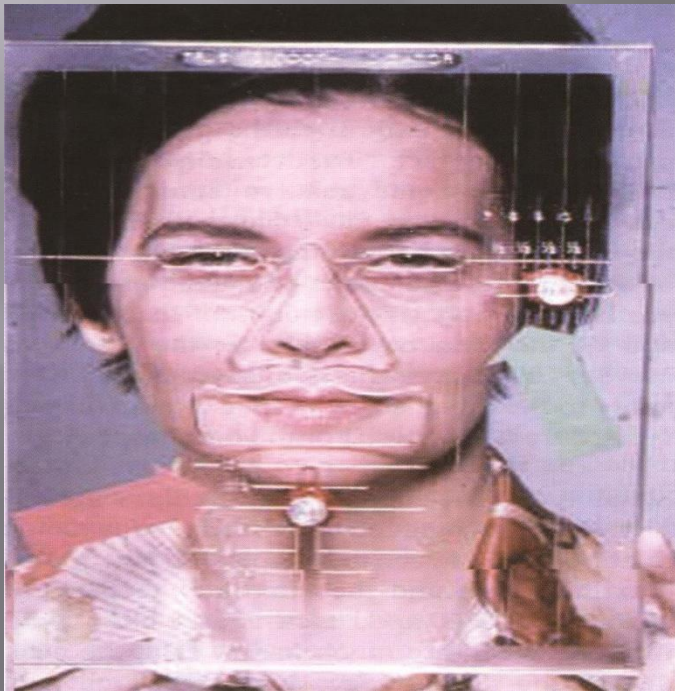
Post extraction guides :

B. Form of anterior teeth:

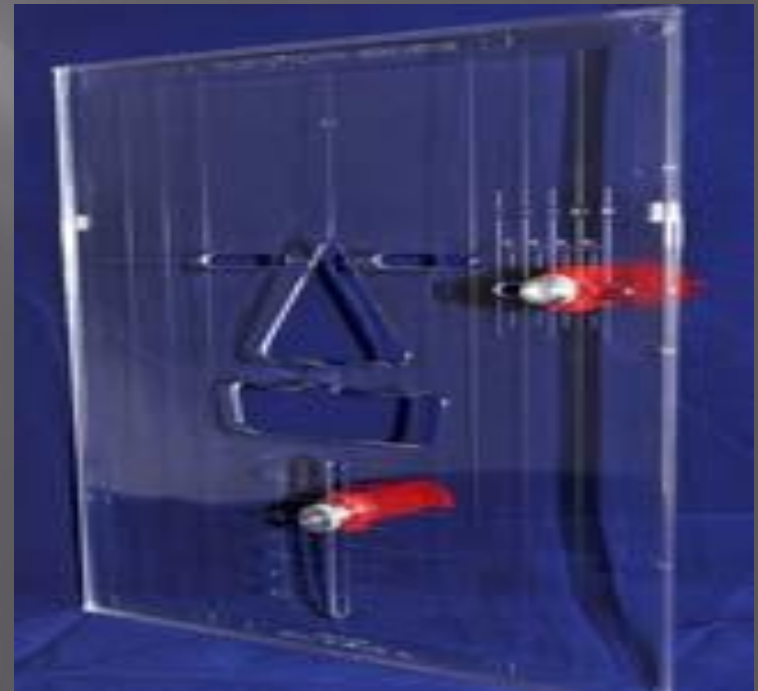
- Can be determined by :
 1. The form & contour of the face.
 2. Shape of the edentulous maxillary arch.
 3. Sex (Gender).
 4. Age.

1.The form & contour of the face:

- ▣ The shape of the anterior teeth should harmonize with the shape of the patient's face. (frontal & profile).
- ▣ **Leon Williams** (1914) claimed that , the shape of the maxillary central incisor bears a definite relationship to the shape of the face.



Trubyte
Tooth
Indicator

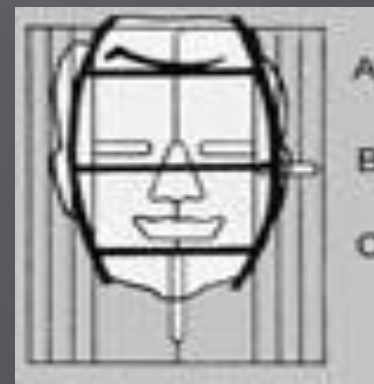
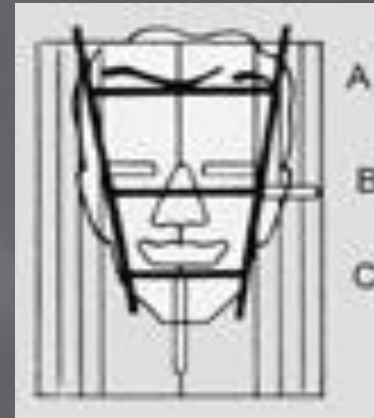
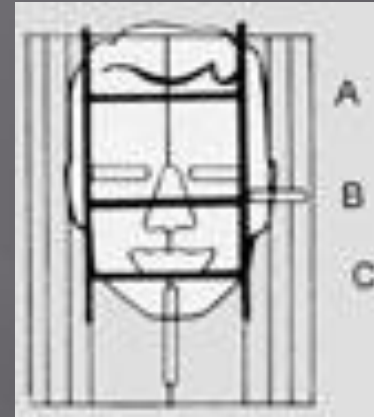


1. The form & contour of the face:

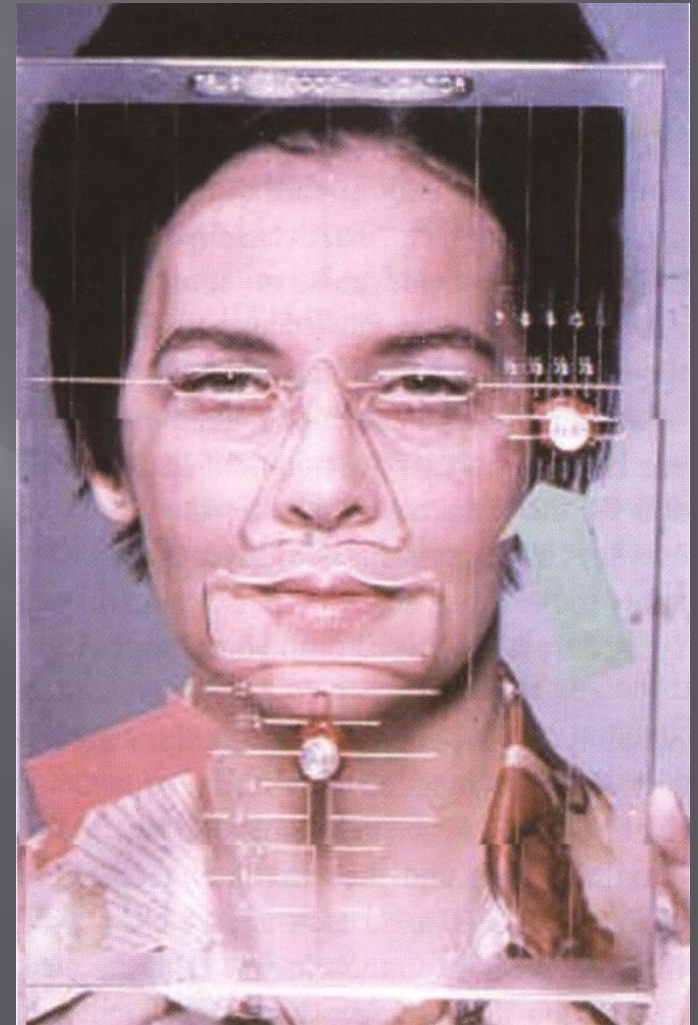
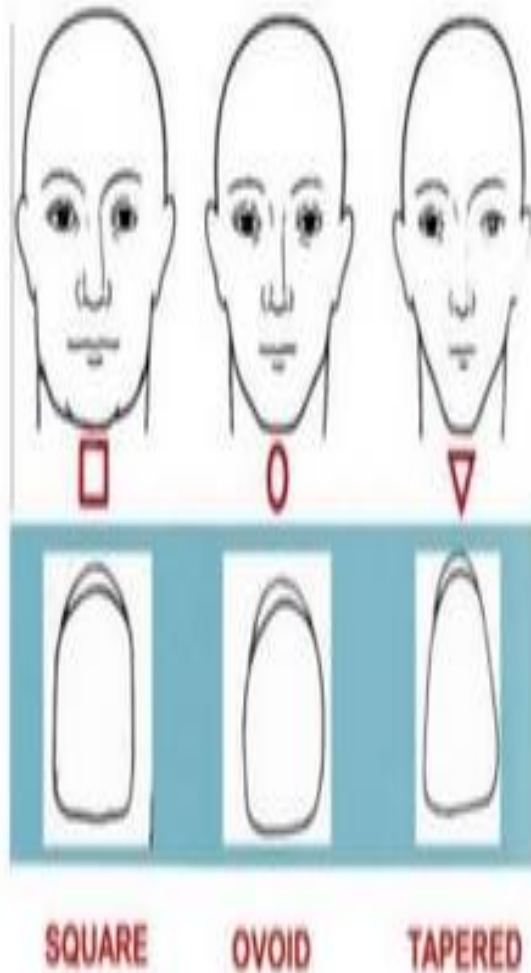
- ▣ **Leon Williams** classified the form of the human face into:

1. Squire.
2. Tapering.
3. ovoid, or a combination of two or more of these basic forms.

- ▣ The method of tooth selection become known as the **geometric theory**.

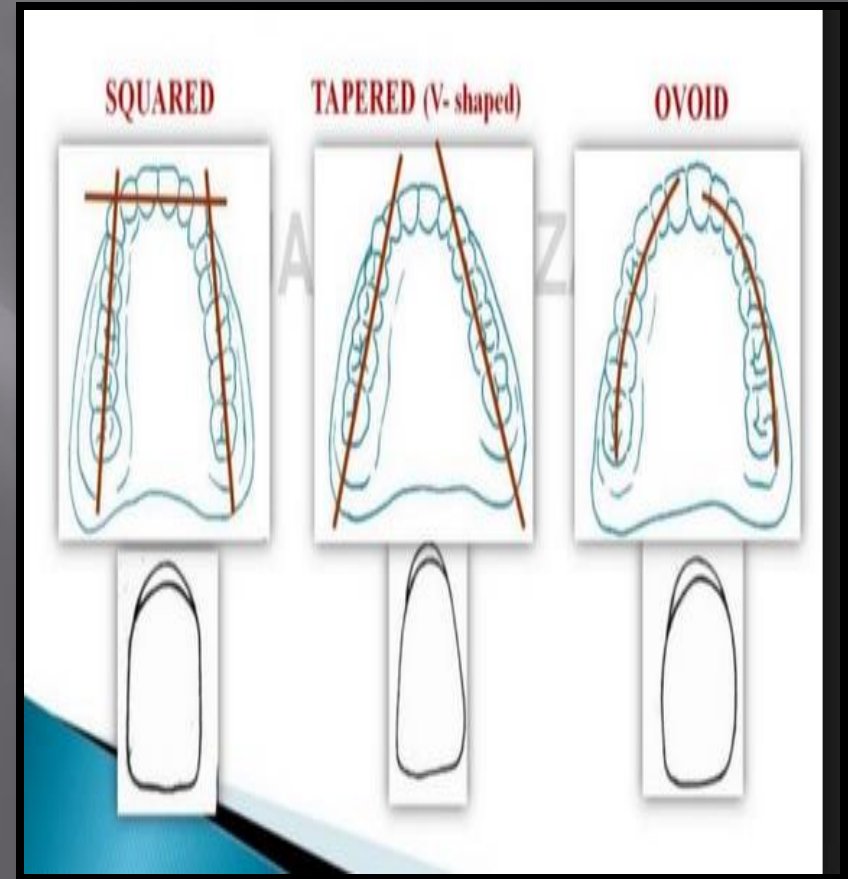


1.The form & contour of the face:



2. Shape of the edentulous maxillary arch:

- ▣ It was recognized that, there was some relationship between the Shape of the edentulous maxillary arch & the maxillary teeth:
 - **V-shaped arch**
incisors narrower at the neck than at the incisal edge (triangle).
 - **Square arch**
parallel sided incisors.
 - **Rounded arch**
ovoid teeth.



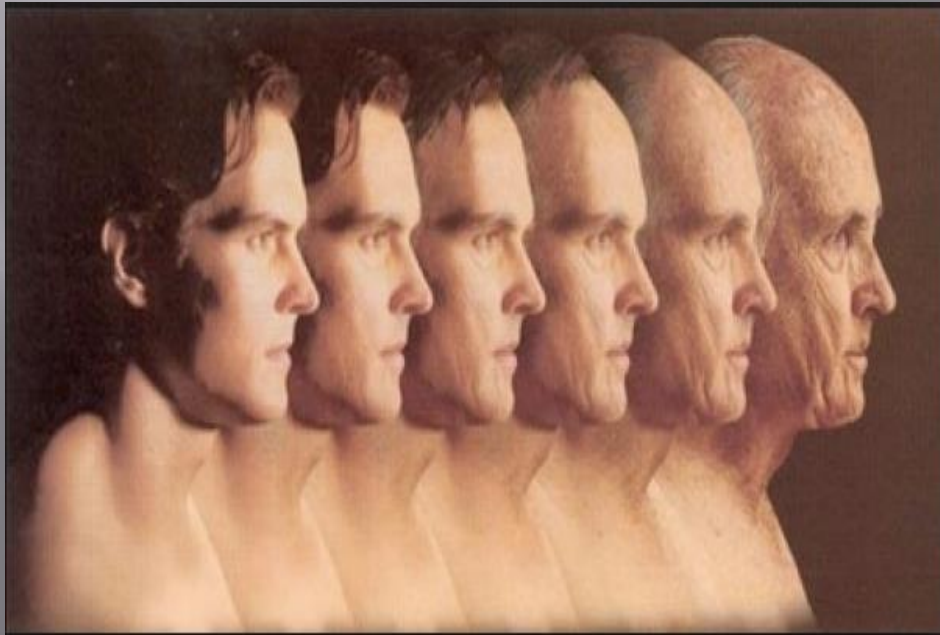
3. Sex (Gender):

- Ovoid teeth are more feminine & square teeth are more masculine; likewise a curved labial surface is more feminine & a flat labial surface is more masculine.



4. Age:

- As the features change with the aging process; so does the form of the teeth. The teeth wear at the incisal edges & interproximal surfaces, the labial surfaces seem flatter & the outline form appears more square.



Post extraction guides

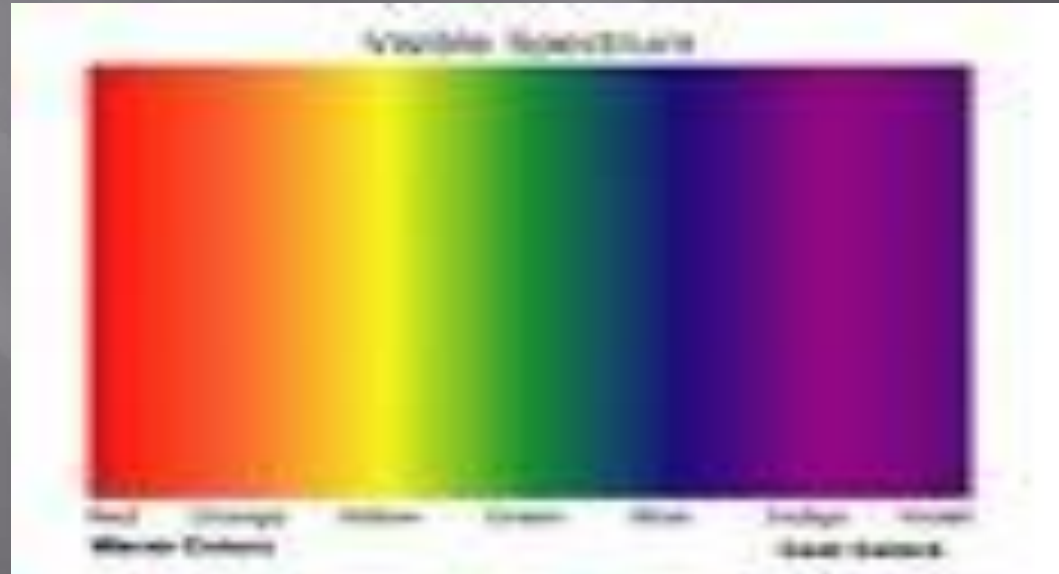
C. Shade of anterior teeth:

- The skin color is the best guide of tooth shade:
 - People with fair complexions generally have a lighter teeth.
 - People with dark complexions generally have a darker teeth.



The three dimensions of color:

1. **Hue:** it's the dominant color of an object.
2. **Value :** it's the lightness and darkness of a color.
3. **Chroma :** it's the degree of saturation of the color.



General guidelines for shade selection:

- Maxillary central incisors are the lightest teeth in the mouth; maxillary laterals & mandibular incisors are slightly darker, canines are more darker.
- Posterior teeth are usually uniform in color & very slightly lighter than canines.

General guidelines for shade selection:

- Generally, when selecting the mandibular anterior teeth shade, the same shade selected for the maxillary anterior teeth may be used

Clinical guides for shade selection:

- ▣ When in doubt about a particular shade....
 - Remember that, the lighter the shade the more artificial the tooth looks.
 - Patient participation in shade selection can be a very delicate matter.

Dentogenic concept in selecting artificial teeth:

- Introduced by Frush & Fisher in the mid 1950s.
- Their theory was based on patient's age , sex & personality.
- They held that age and tobacco smoke tend to darken the teeth.
- They also tended to use darker shades in men or patients with bold and vigorous personalities.
- Conversely, they used lighter shades in women and patients with delicate personalities.











Posterior teeth selection

- The selection of posterior teeth will be considered in relation to:

- 1.Shade.

- 2.Size & number.

- 3.Form.

- 4.Material.

1. Shade of the posterior teeth

- The shade of posterior teeth should harmonize with the shade of the anterior teeth.
- The maxillary premolars may be slightly lighter than the other posterior teeth, but not lighter than the anterior teeth.

2. Size & No. of posterior teeth

- The space available for posterior teeth may be defined in three dimensions:

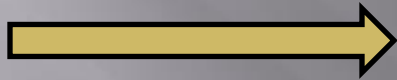
A. Buccolingual dimension.

B. Mesiodistal dimension.

C. Occluso-gingival dimension.

A. Buccolingual dimension

- It is desirable to have the bucco-lingual width of the artificial teeth \ occlusal table less than that of the natural teeth

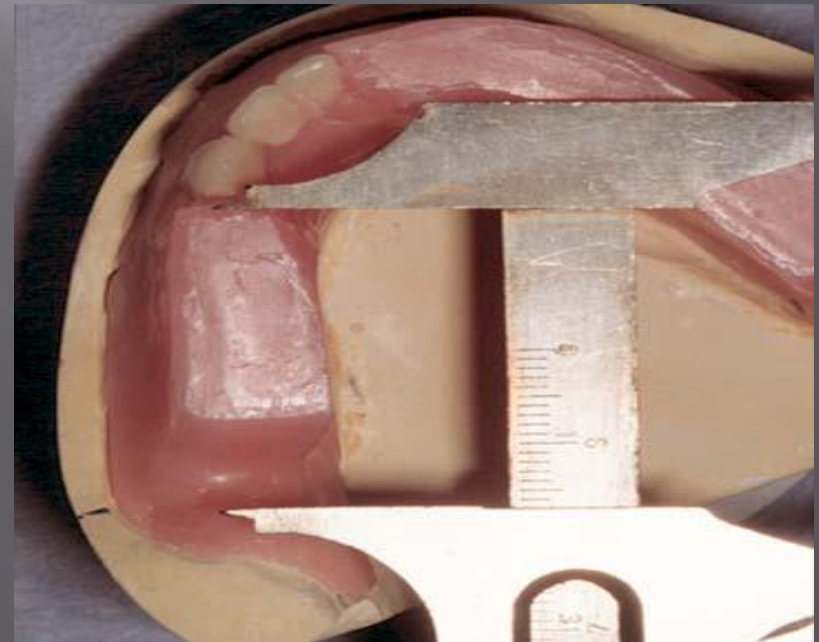


This will decrease stresses transferred to the denture supporting area, increase tongue space, & allow for improved contouring of the polished surface of the lingual denture flange.



B. Mesiodistal dimension (Mould No.)

- The mesiodistal width of the posterior teeth is measured from the distal surface of the mandibular canine to the mesial end of the retromolar pad.
- The total mesiodistal width in millimeters of the posterior teeth is often used as a mould number.



C. Occlusogingival dimension (length)

- The length of posterior teeth is determined by the amount of interarch distance.
- The longer teeth which can be used are more esthetically pleasing than short teeth specially for the upper premolars (to be esthetically in harmony with the canine).

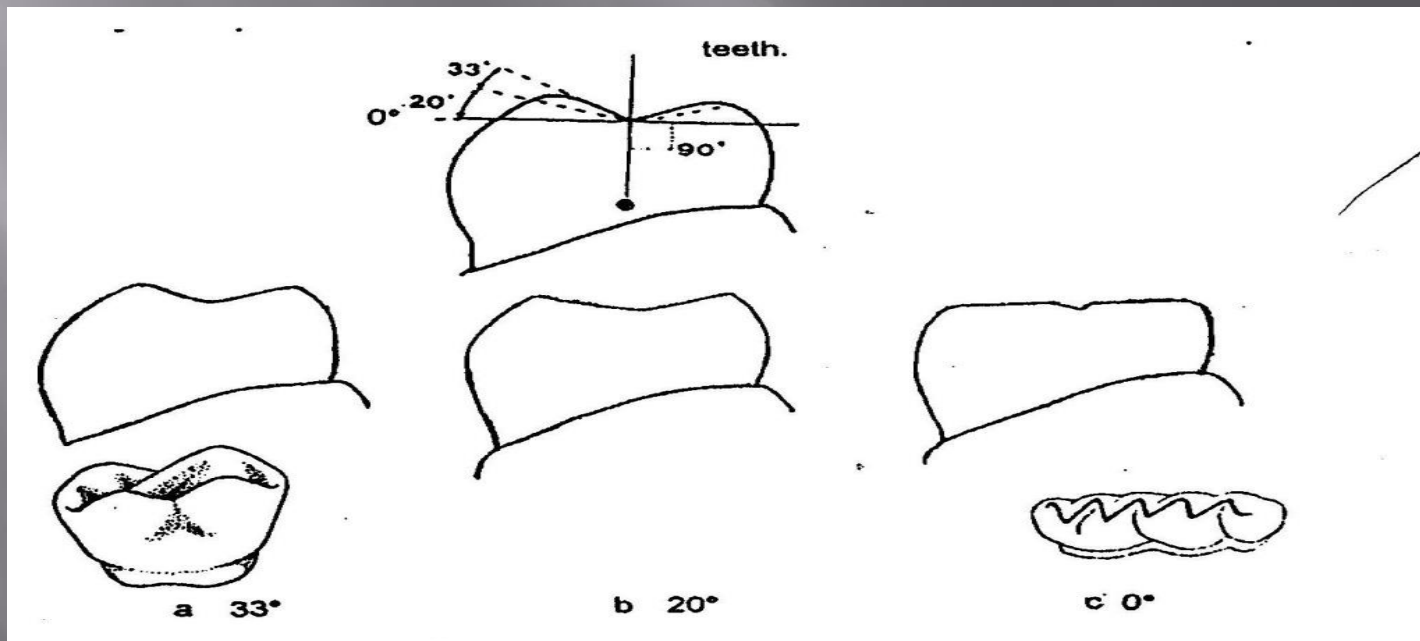


C. Occlusogingival dimension (length)

- Most manufacturers supply posterior teeth in L (long), M (medium) and S (short) length.

3. Form of posterior teeth (**mould**):

- There are three basic tooth moulds:
 - A. Anatomic.
 - B. Semi anatomic.
 - C. Non anatomic.



A. Anatomic teeth

- Simulate the natural teeth form.
- Have cusps inclines of approximately 30- 33 degree or more.



A. Anatomic teeth

- **Indication:**
 - Normal opposing ridge relation & good ridge size.
 - Young patients.
- **Advantages:**
 - Maximize esthetics.
 - Provide balanced occlusion with greater ease.
 - Provide better initial penetration of the food bolus.

B. Semi-anatomic teeth

- The cusps incline is less steep than the conventional anatomic teeth. About 10 - 20 degree.
- Look like well worn natural teeth.



C. Non-anatomic teeth

- Are essentially flat (0 degree or cusplless).
- **Indications** : patients with:
 1. Cross bite tooth relationships.
 2. Poor muscular control.
 3. Severely resorbed ridges.



4. Materials of the posterior teeth

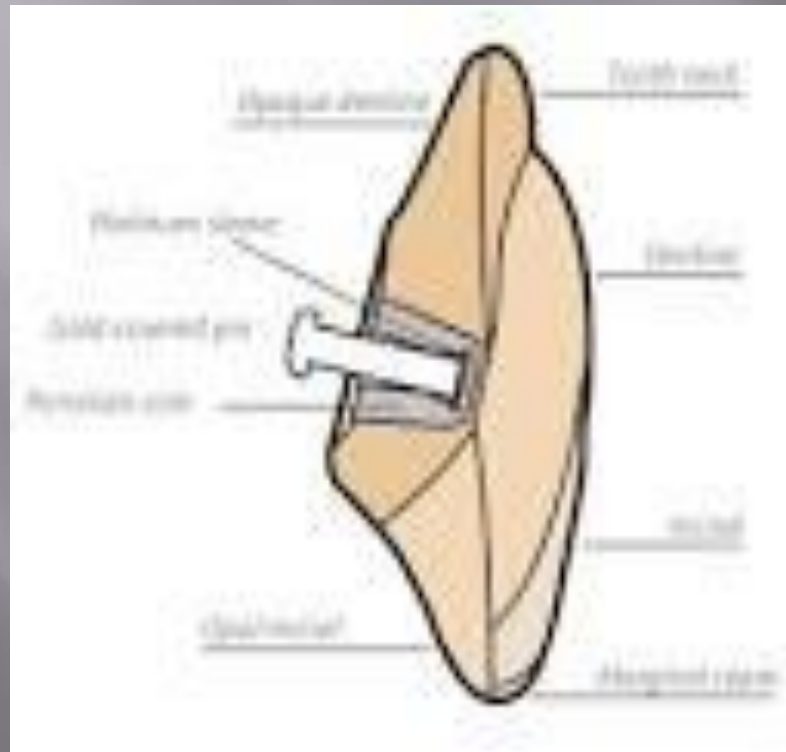
Porcelain

- ❑ Excellent esthetics
- ❑ Difficult to stain.
- ❑ Excellent wear resistance.
- ❑ Brittle, susceptible to breakage.
- ❑ Bond mechanically to denture base (by Pins).

Acrylic

- ❑ Excellent esthetics initially.
- ❑ Easy to stain.
- ❑ Wear more.
- ❑ Tough, durable & highly resistant to breakage.
- ❑ Bond Chemically to denture base.

Porcelain Teeth (**mechanical retention**) :



4. Materials of the posterior Teeth:

Porcelain

- ❑ Difficult to modify.
- ❑ Difficult to polish.
- ❑ Produce sharp impact sound.
- ❑ Transmit all forces to the tissues.

Acrylic

- ❑ Easier to modify.
- ❑ Easily polished.
- ❑ Produce less noticeable sounds.
- ❑ Absorb some of the masticatory stresses.

Acrylic

**Vs.
Teeth:**

Porcelain



4. Materials of the posterior Teeth:

- Upper and lower teeth can be:
 - Both porcelain.
 - Both acrylic resin.
 - A combination of porcelain and acrylic resin teeth, e.g. : resin anterior teeth & porcelain posterior teeth.

BUT

- Resin posterior teeth with porcelain anterior teeth is **contraindicated** because the resin teeth will wear rapidly resulting in anterior occlusal discrepancies which in turn cause destruction of the underlying tissues.

Reference :

- Clinical complete Denture Prosthodontics (Moustafa A. Hassaballa).
- Complete Denture – A Clinical Manual for the General Dental Practitioner – Hugh Devlin.

Thanks for listening

