



## **Complete Denture**

### **Selection of anterior & posterior teeth**

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**Lecture 9**

## Selection of anterior & posterior teeth

**Artificial teeth:** are teeth made for denture to restore natural teeth and its function.

Teeth selection is not simply a mechanical procedure but requires dexterity and knowledge of biology. Selection of teeth forms an important step before teeth arrangement.

### Principles of selection of artificial teeth

1. The teeth should appear natural and life-like.
2. It should serve the functional need of the patient.
3. They should be easy to use in laboratory procedures.
4. It should be possible to position them within the anatomical limits of the foundation.

### Methods of anterior teeth selection

#### Pre-extraction Records

**a. Diagnostic casts:** The diagnostic casts of patient's natural teeth or restored teeth prior to extraction of remaining teeth provide a basic idea for teeth selection.

**b. Recent photographs:** They will often provide general information about the width of the teeth and possibly the outline form that is more accurate than information from any other source.

**c. Radiographs of teeth:** Radiographs, made before the natural teeth were lost, can provide information about the size and form of the teeth to be replaced.

**d. Previous partial denture.**

#### Post-extraction Examination

- a. Size and form of edentulous foundation.
- b. Matching teeth to face forms and arch form.

## Factors of selection of anterior teeth

- 1- Size.
- 2-Form.
- 3-Colour.

### Size of anterior teeth:

The **length** and the **width** of the teeth determine it.

**Length:** -the length of the upper anterior teeth is control by:

#### A. Inter ridge distance.

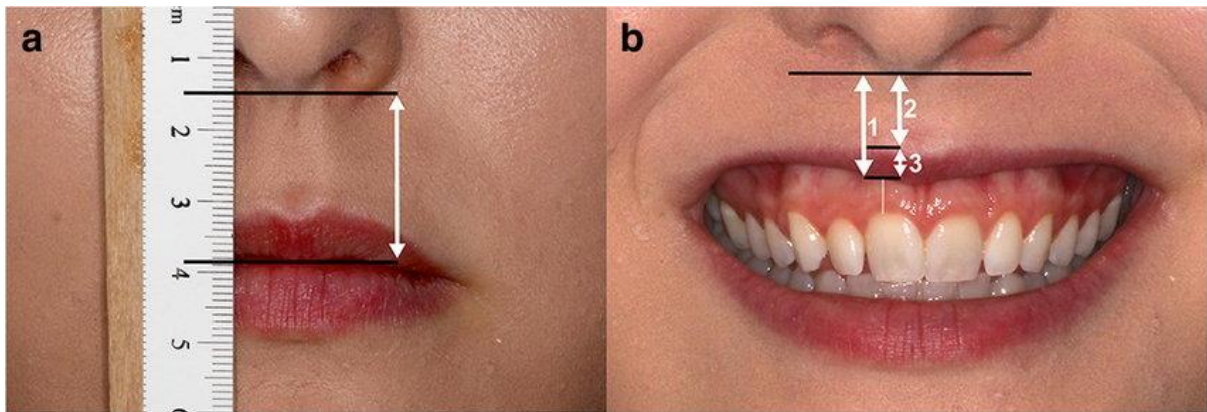
When the space is available, it is more esthetically acceptable to use a tooth long enough to eliminate the display of the denture base (teeth are more attractive in appearance than denture base materials).



#### B. Length of the lip

- In short lip more than (2mm) seen from upper central incisor.
- In medium lip (1-1.5mm) seen from upper central incisor.
- In long lip nothing can be seen from upper central incisor.

\*Normally 1-2mm from the labial length of the upper central incisor can be seen but we must put in mind the long and the short lips.



**Width:** -several methods were used to select the anterior teeth as ex:

1- the width of natural central incisor is approximately 1/16 of the bizygomatic width, and the width of upper 6 anterior teeth is about 1/3 of bizygomatic width of the face.

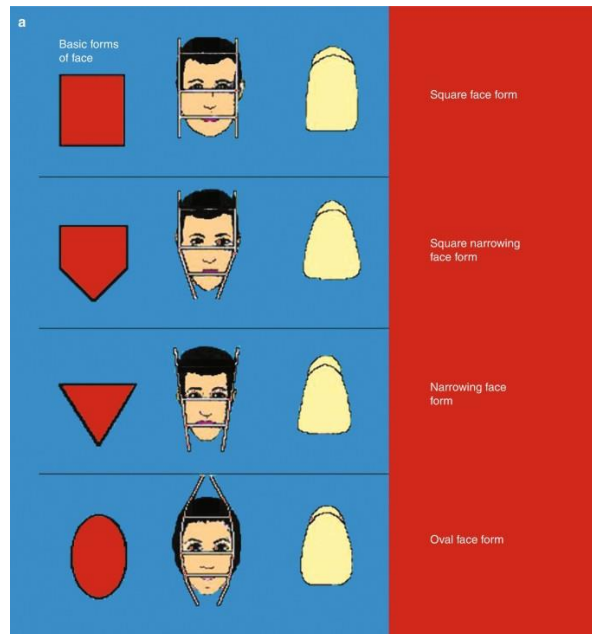
2- the width of the upper anterior teeth can be measured on the upper occlusal rim depend on:

- **Corner of the mouth.**
- Buccal frenum.**
- Canine eminence.**

### **Form of anterior teeth**

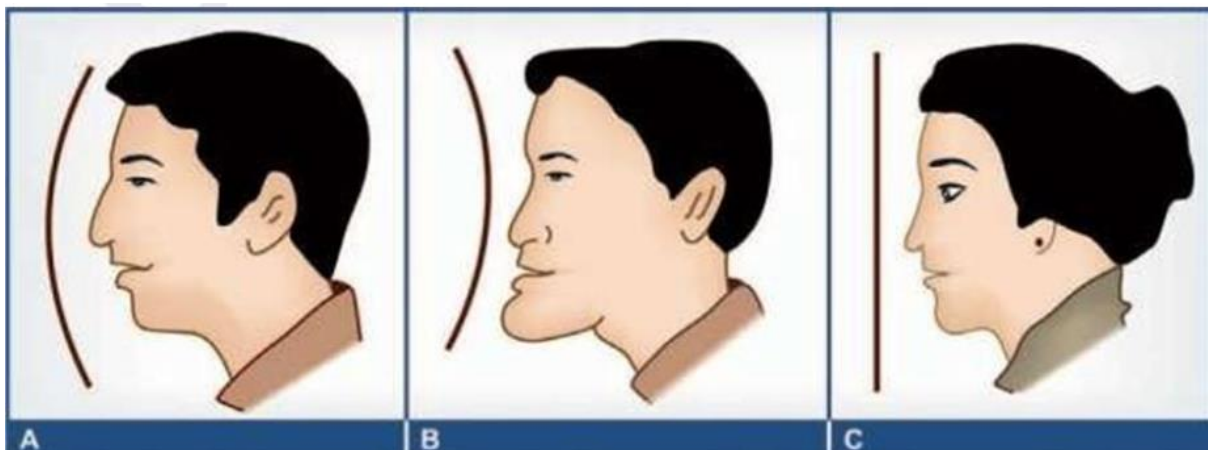
#### **1- Based on face form and arch form**

It can be square, tapering or ovoid depending on the arch form



## 2-Based on profile of the face:

The labial surface of the tooth viewed from the mesial aspect should show a contour similar to that when viewed in profile.



## Factors influencing size and form of anterior teeth

1. Size of the face.
2. Amount of available inter arch space.
3. Measured distance between distal of right and left maxillary cuspids.
4. Length of the lip.
5. Size and relation of arches.
6. Sex of the patient.

**For example: in old patient the teeth tend to have square form due to attrition.**



**The factors of shade selection are: -**

1.Age. 2. Gender. 3. Complexion. 4. Patient -preference

**1. Age:** - The younger the patient, the lighter the shade is preferred. The shade of natural teeth will be darkened with age because of:

1. Deposition of secondary dentin.
2. Consequent reduction in size of the pulp chamber.
3. Wearing away of the enamel.
4. External staining of the exposed dentin from oral fluids, foods or tobacco.

**2. Gender:** - The sex may affect color; it seems that females have given lighter and brighter teeth than males.

**3. Complexion:** - The color of the face should harmonize the color of teeth. Lighter teeth are suitable for lighter skin, while darker teeth are suitable for darker skin, although people with dark skin seemed to have very light teeth, this is because of the contrast in the skin and tooth colour.

**4-Patient preference (method of pair comparison):** - Show the patient a complete shade guide, and select the two tabs that are

lightest and darkest, hold them against the patient lip and ask them to point to the one that they prefer. More than two or three shades should be selected, and comparison between them would help in the final right selection.



### **Factors of selection of posterior teeth**

- 1- Shade.
- 2- Size and Number of Posterior Teeth.
- 3- Buccolingual width of posterior teeth.
- 4- Mesio-distal width of posterior teeth.
- 5- Vertical length of buccal surface of posterior teeth

**1- Shade:** It should harmonies with the shade of anterior teeth.

### **2- Size and Number of Posterior Teeth:**

- The posterior teeth must support the cheek and tongue and function in harmony with the musculature in swallowing and speaking as well as in mastication.

### **3- Buccolingual width of posterior teeth:**

The buccolingual width of artificial teeth should be greatly reduced in comparison to the width of natural teeth they replace .Narrow occlusal surfaces with proper escape-ways for food also reduce the amount of

stress applied on food during mastication and to the supporting tissues of the basal seat. On the other hand, the posterior teeth should have sufficient width to act as a table upon which to hold food during trituration.

**4- Mesio-distal width of posterior teeth:** After the six mandibular anterior teeth have been placed in their final position, a point is marked on the crest of the mandibular ridge at the anterior border of the retro molar pad. This is the maximum extent posteriorly of any artificial teeth on the mandibular ridge

**5- Vertical length of buccal surface of posterior teeth:** It is best to select posterior teeth corresponding to the inter arch space and to the length of anterior teeth. The length of the maxillary first premolars should be comparable to that of the maxillary canines to have the proper aesthetic effect.

### **Types of teeth according to materials**

Most artificial teeth are made of porcelain, acrylic resin or a combination of acrylic resin and metal occlusal surface.

#### **1-Porcelain Teeth**



### **Advantages**

- 1- More esthetic
- 2- Wear is clinically insignificant.

3- Better retention of surface polish and finishing

### **Disadvantages**

- 1- Cause dangerous abrasion to opposing gold crowns and natural teeth.
- 2- Chipping of teeth.
- 3- Difficulty in restoring surface polish after grinding.
- 4- Cannot be used in cases where available space is minimal

## **2- Resin Teeth**



### **Advantages**

1. Ease of adjustment.
2. Resistance to breaking and chipping of teeth.
3. Capability to bond to most denture base resins.

### **disadvantages**

1. Less resistance to wear
2. Tendency to dull in appearance during use as a result of loss of surface luster.
3. Care should be taken when polishing the denture to prevent undesirable modifications in tooth contour.

## **Types of teeth according to cuspal angulation**

### **Advantages of anatomic teeth (cusp form)**

1. They are considered more efficient in cutting of food, thereby reducing the forces that are directed at the support during masticatory movements.
2. They can be arranged in balanced occlusion in the eccentric jaw positions.
3. When the cusps are making contact in the fossae at the correct vertical dimension of occlusion with the jaws in vertical relation, the position is comfortable. This position is a definite point of return, as through proprioception the jaws will return to this position.
4. They look more like natural teeth and therefore, are acceptable esthetically.
5. More compatible with the surrounding oral environment.

### **Advantages of monoplane teeth (non-anatomical teeth, cusp less teeth, non-balanced occlusion):**

1. Offer less resistance to non-masticatory movement like bruxism.
2. In cases of resorbed ridges, dislodgement by horizontal or torque forces can occur. Monoplane teeth offer less resistance to these forces.
3. These teeth will allow a greater range of movement, which is necessary in patients who do not provide a static jaw relation.
4. In Diabetic patients, where underlying bone is vulnerable to damage, these teeth are indicated.
5. More comfortable
6. Used in class II and class III occlusion.