# Dental Anatomy

## Numbering Systems

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**Lecture 2**

### 1. Universal notation system:

### A. Permanent Teeth:

| | Right | | | | | | | | Left | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Maxillary** | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| **Mandibular** | 32 | 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 |

Examples:

#11: Permanent Maxillary Left Canine.

#29: Permanent Mandibular Right Second Premolar.

#8: Permanent Maxillary Right Central Incisor.

### B. Deciduous Teeth:

| | Right | | | | | | | | | | Left |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Maxillary** | A | B | C | D | E | F | G | H | I | J | |
| **Mandibular** | T | S | R | Q | P | O | N | M | L | K | |

Examples:

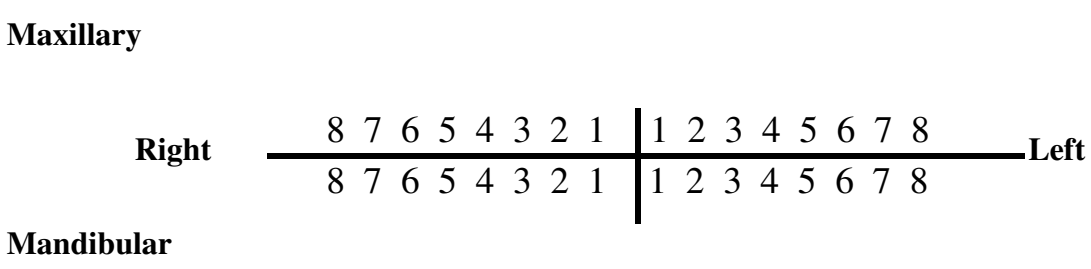
#B: Deciduous Maxillary Right First Molar

#O: Deciduous Mandibular Left Central Incisor

#D: Deciduous Maxillary Right Lateral Incisor

## 2. Palmer notation system:

A. Permanent Teeth:




Examples:

⌊6 Permanent Maxillary Right First Molar

⌜3 Permanent Mandibular Left Canine

⌊8 Permanent Maxillary Left Third Molar

B. Deciduous Teeth:

| | Right | Left |
|---|---|---|
| **Maxillary** | E D C B A | A B C D E |
| **Mandibular** | E D C B A | A B C D E |

Examples:

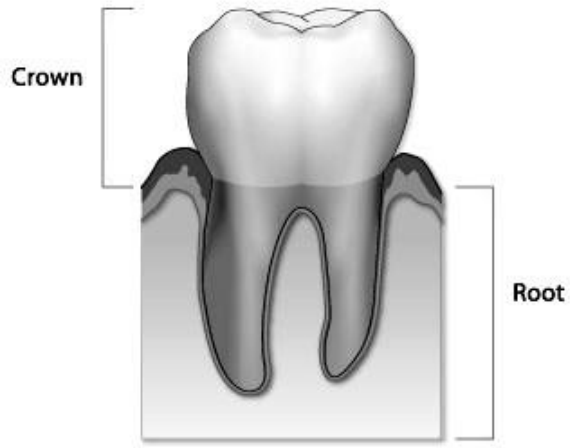
- ⌜B Deciduous Mandibular Left Lateral Incisor
- E⌟ Deciduous Maxillary Right Second Molar
- ⌜C Deciduous Mandibular Right Canine

**Crown and Root**

Each tooth has a crown and root. The crown is covered with enamel. The root is covered with cementum and they join at the cemento-enamel junction (CEJ) or cervical line.

The enamel, cementum and dentin are the hard tissues of the tooth. The major bulk of the tooth is dentin.

Figure 1



**Dental pulp:** is the soft tissue of the tooth and present in the pulp chamber and pulp canal.

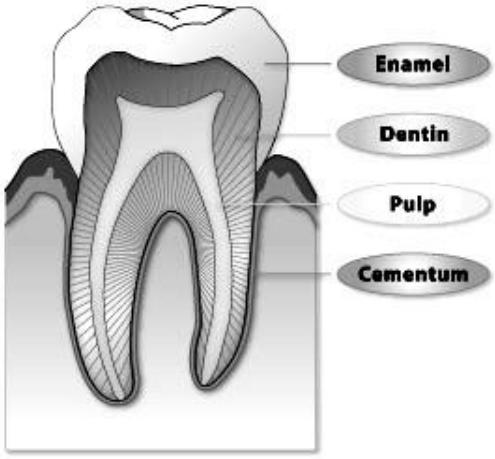
**Pulp chamber:** is the part of dental pulp in the crown.

**Pulp canal**: is the part of dental pulp in the root.

**Anatomical crown**: is the portion of the tooth which is covered by enamel.

**Clinical crown:** is the portion of the tooth which is visible in the mouth.

Figure 2




In healthy person, the anatomical crown is larger than the clinical crown.

**The number of roots**:

**1. Single root:** in all anterior teeth, mandibular premolars and maxillary second premolar.

**2. Two roots with bifurcation:** in mandibular molars and maxillary first premolar.

**3. Three roots with trifurcation:** in maxillary molars.

## Surfaces and Ridges

The crowns of incisors and canines have 4 surfaces and a ridge and the crowns of the premolars and molars have 5 surfaces.

The surfaces are:

1. **Labial surface:** is the surface which is towards the lip in incisors and canines (= in anterior teeth).

2. **Buccal surface:** is the surface which is towards the cheek in premolars and molars (= in posterior teeth).

The labial and buccal surfaces could be termed as the "**Facial**" surfaces.

3. **Lingual surface:** is the surface which is facing the tongue (all teeth).

4. **Occlusal surface:** is the surface of the posterior teeth coming in contact with the teeth in the opposite jaw during closing the mouth.

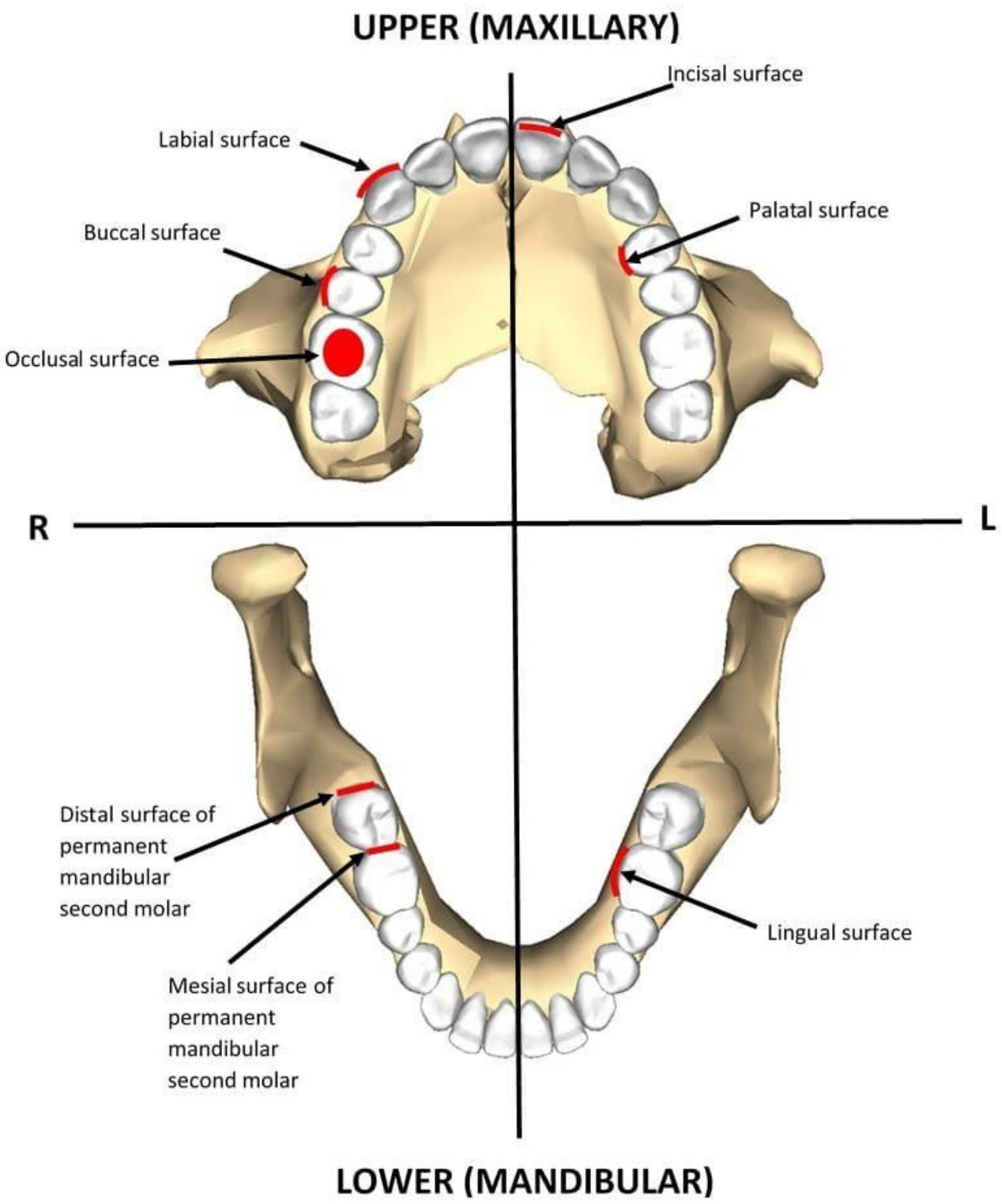
In anterior teeth, this surface is called "**Incisal ridge**".

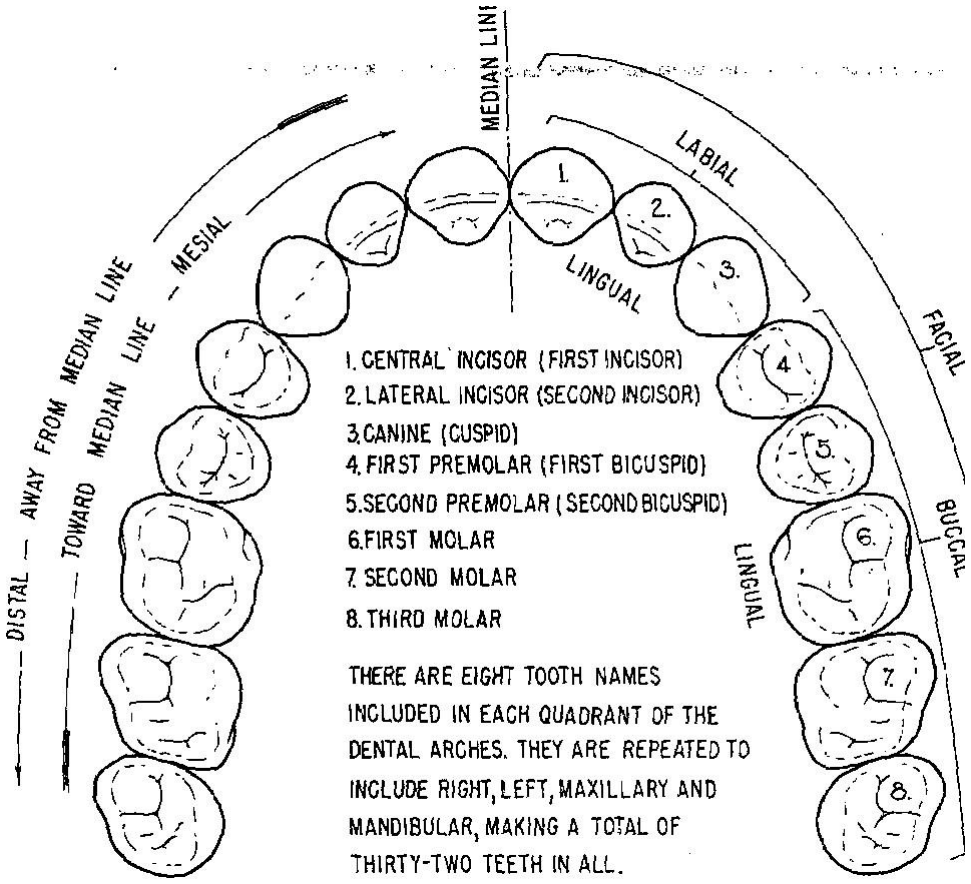
5. **Proximal surface:** is the surface of the tooth facing towards adjacent teeth in the same dental arch.

a. **Mesial surface:** is the surface which is facing towards the median line.

b. **Distal surface:** is the surface which is facing away from the median line.

All teeth have their mesial surfaces touching the distal surfaces of the adjacent tooth except the maxillary and mandibular central incisors (both permanent and deciduous).


UPPER (MAXILLARY)
Incisal surface
Labial surface
Palatal surface
Buccal surface
Occlusal surface
R
L
Distal surface of permanent mandibular second molar
Lingual surface
Mesial surface of permanent mandibular second molar
LOWER (MANDIBULAR)




**Contact area:** the area of the mesial or distal surface of the tooth which touches its neighbor in the arch.

**Line angle:** it is formed by the junction of two surfaces and gets its name from these surfaces. Example: mesio-labial line angle.

**Point angle:** it is formed by the junction of 3 surfaces and gets its name from these surfaces. Example: mesio-linguo-incisal point angle.

**Division of the crown into thirds:**

For description, the crown and the root are divided into thirds according to the position of the surface.

