

# Dental Anatomy

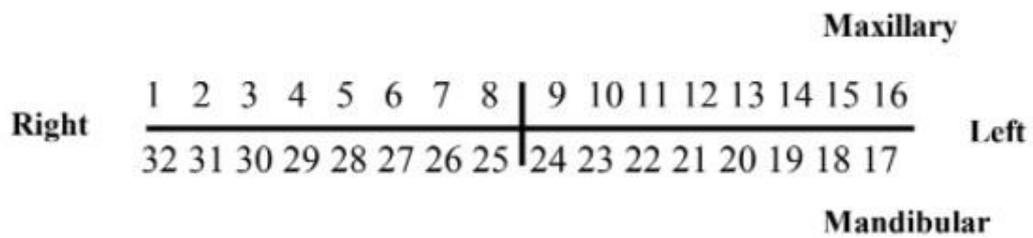
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## Numbering Systems

### 1. Universal notation

#### system A. Permanent Teeth:



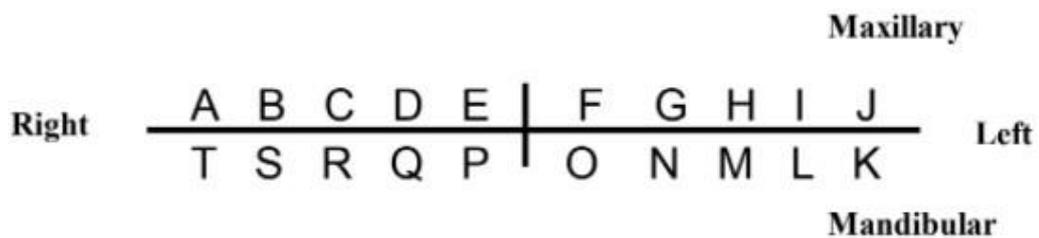
Examples:

#8: Permanent Maxillary Right Central Incisor.

#11: Permanent Maxillary Left Canine.

#18: Permanent Mandibular left Second molar. **B.**

#### Deciduous Teeth:



Examples:

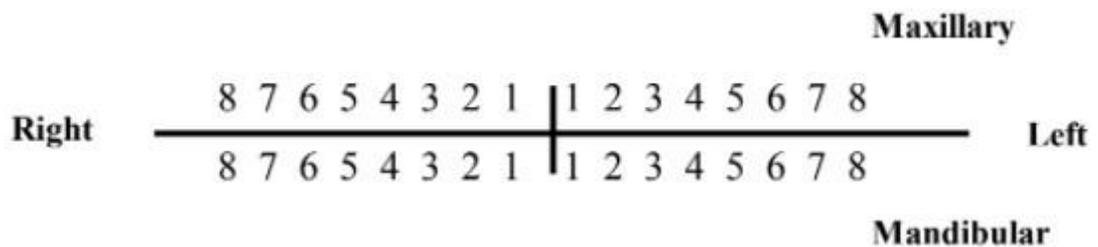
#C: Deciduous Maxillary Right canine

#O: Deciduous Mandibular Left Central Incisor

#S: Deciduous mandibular Right first molar

## 2. Palmer notation system

### A. Permanent Teeth:



Examples:

- $\overline{6}$  Permanent Maxillary Right First Molar
- $\overline{3}$  Permanent Mandibular Left Canine
- $\overline{8}$  Permanent Maxillary Left Third Molar

### B. Deciduous Teeth:



Examples:

- $\overline{B}$  Deciduous Mandibular Left Lateral Incisor
- $\underline{E}$  Deciduous Maxillary Right Second Molar
- $\overline{C}$  Deciduous Mandibular Right Canine

### 3. FDI system

A two-digit system proposed by Fédération Dentaire Internationale (FDI) for both the primary and permanent dentitions. The FDI system of tooth notation is as follows.

#### For the primary teeth:

Upper Right					Upper Left				
55	54	53	52	51	61	62	63	64	65
85	84	83	82	81	71	72	73	74	75
Lower Right					Lower Left				

Numeral 5 indicates the maxillary right side, and 6 indicates the maxillary left side. The second number of the two-digit number is the tooth number for each side. The number 8 indicates the mandibular right side, and the number 7 indicates the mandibular left side. The second number of the two-digit system is the tooth number. Thus, for example the number 51 refers to the primary maxillary right central incisor.

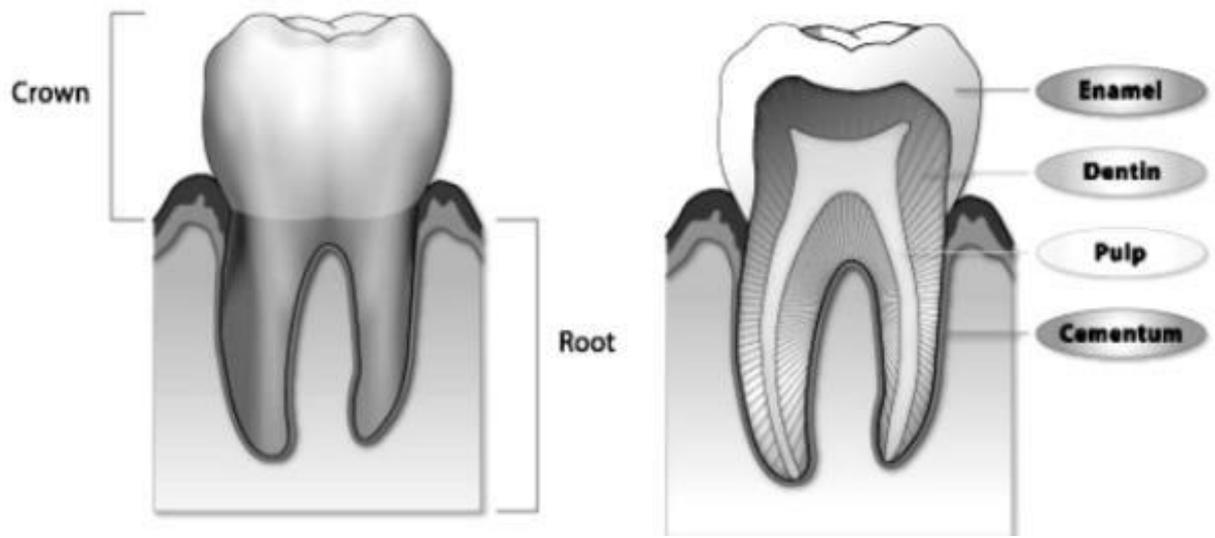
#### For the permanent teeth:

Upper Right								Upper Left							
18	17	16	15	14	13	12	11	21	22	23	24	25	26	27	28
48	47	46	45	44	43	42	41	31	32	33	34	35	36	37	38
Lower Right								Lower Left							

Thus, as in the two-digit FDI system for the primary dentition, the first digit indicates the quadrant: 1 to 4 for the permanent dentition. The second digit indicates the tooth within a quadrant: 1 to 8 for the permanent teeth and 1 to 5 for the primary teeth. For example, the permanent upper right central incisor is 11 (pronounced “one one,” not “eleven”).

## 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.



**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.

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 while 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.

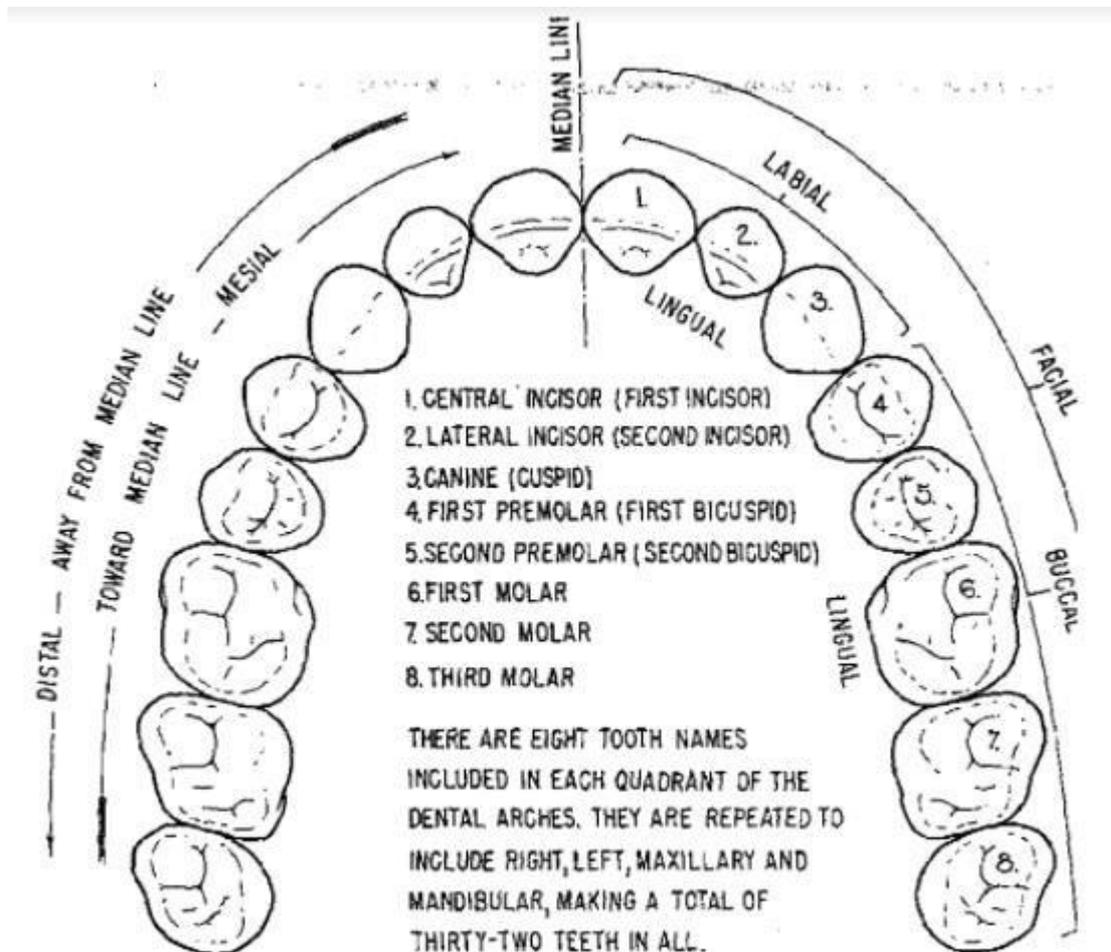
3. **Lingual surface:** is the surface which is facing the tongue (all teeth).
4. **Occlusal surface:** is the surface of the posterior teeth coming in contact with the teeth in the opposite jaw during closing the mouth.

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).



**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.

