TOOTH IDENTIFICATION SYSTEMS

(Tooth Numbering System)

Teeth are arranged in the jaws forming two dental arches:

➢ Maxillary Arch (Upper Arch)
➢ Mandibular Arch (Lower Arch)

Two arches together constitute the dentition

Each arch is divided by an imaginary midline into

➢ A right and left half called – QUADRANTS
➢ Maxillary right/left quadrants
➢ Mandibular right/left quadrants

Humans have two sets of teeth in their lifetime

▪ Deciduous teeth - 20
▪ Permanent teeth-32

Denomination and number of all mammalian teeth expressed by a formula called dental formula. Each tooth is represented by the initial letter of its: E.g.:

• Incisor--------I
• Canine--------C
• Premolar - ---P
• Molar--------M
Tooth Numbering System

- System used by dentists to associate information to a specific tooth.
- In clinical practice some “shorthand” system of tooth notation is necessary for recording data.

To do so efficiently, adopting a type of code or numbering system for teeth is necessary.

THREE MAIN types of numbering systems are commonly used

1-Universal Tooth Numbering System (UTNS)

- The universal numbering system [Parreidt, 1882; Cunningham, 1883] is the official tooth designation system in the USA.
- Adopted by the American Dental Association in 1975.
- It includes a sequence of Arabic numbers (1-32) for Permanent and the alphabet system (A-T) for Deciduous teeth, moving clockwise around the dentition.
Advantages

▪ Separate number/ alphabet is given for individual teeth.
▪ Easy to visualize.

Disadvantages

▪ Confusing when comparing with the palmar notation system.
▪ Cannot be coded by computer.
▪ Confusing and difficult to remember.
▪ It does not consider the jaw quadrant clearly.
2-Zsigmondy and Palmar Tooth Numbering System

- In 1947 a committee at the American Dental Association (ADA) recommended the symbolic (Zsigmondy/Palmar) system as the numbering method of choice.
- Originally called the Zsigmondy system by an Austrian dentist Adolf Zsigmondy who developed the idea in 1861.
- The Zsigmondy-Palmer system [Zsigmondy,1861; Palmer,1891] called the “eight numerical quadrant system ”1 through 8,) is meant for permanent dentition only).
- Initially, it was not designed for primary teeth, but in 1874 it was adopted for primary dentition.
- This is one of the oldest and most widely used systems of dental notation. This method is used by orthodontists, dental students, and practitioners in the United Kingdom.
- The Palmer notation consists of a symbol) L-J (designating in which quadrant the tooth is found and a number indicates the position from the midline.

![Diagram of tooth numbering system](image)
Advantages

- The system is simple to use.
- Easier for beginners due to less confusion as permanent teeth and deciduous teeth are indicated differently.

Disadvantages

- There is no differentiation between right upper, right lower, left upper, and left lower.
- Segments have only one number and are used to designate a particular tooth.
- No provision to identify supernumerary teeth.
- Difficult for verbal transmission.

3-FDI Tooth Numbering System

- The Federation Dentaire Internationale (FDI system).
- It is a two-digit system.
- It has been accepted in 1970 by the FDI and adopted by WHO and the International Association for Dental Research.
▪ This dental notation meets all the basic requirements set by an FDI special committee.
▪ The first digit indicates the quadrant (5 through 8) and the second digit indicates the tooth type (1 through 5) (for primary teeth).
▪ The first digit indicates the quadrant (1 through 4) and the second digit indicates the tooth type (1 through 8) (for permanent teeth)

PERMANENT DENTITION
1 = Permanent dentition, maxillary, right quadrant
2 = Permanent dentition, maxillary, left quadrant
3 = Permanent dentition, mandibular, left quadrant
4 = Permanent dentition, mandibular, right quadrant
PRIMARY DENTITION
5 = Primary dentition, maxillary, right quadrant
6 = Primary dentition, maxillary, left quadrant
7 = Primary dentition, mandibular, left quadrant
8 = Primary dentition, mandibular, right quadrant

Advantages
▪ It is very simple, accurate, and easy to memorize.
▪ It is user-friendly, and prevents errors in differentiating left and right, upper and lower arches, and tooth type.
▪ Simple to teach and easy to understand.
▪ Simple to translate into computer input.
▪ Simple in conversation and direction.
▪ Readily communicable in print.
Disadvantages

▪ In the case of deciduous teeth, there can be confusion and it is difficult to memorize.
▪ For specialists other than pedodontists, it can be difficult to understand or define teeth.
▪ For an example of 64,85 ....... It is the combined use of the Palmer and the FDI systems that may be accurate and create no confusion, but it is time-consuming and needs much concentration.
▪ It is difficult to enter multiple teeth in different arches and it would be too long to use routinely.

<table>
<thead>
<tr>
<th>Table 1-1 MAJOR TOOTH IDENTIFICATION SYSTEMS</th>
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<tr>
<td>Canine</td>
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<tr>
<td>First molar</td>
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<td>Second molar</td>
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<table>
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