

MODULE 4 FACIAL ANATOMY AND THE TOOTH NUMBERING SYSTEM

OBJECTIVES:

After reading this module you should be able to:

- Understand facial anatomy and name the bones in the face
- Understand primary dentition and the numbering system
- Understand permanent dentition and the numbering system
- Understand Medicaid modifiers
- Understand the universal tooth numbering system

Introduction

There are 22 bones that make up the skull. The bones of the skull are grouped into two categories. The first category, the neurocranium, surrounds and protects the brain and there is a total of eight bones in this category. Some of the bones are single and some are paired meaning there are two; one on each side:

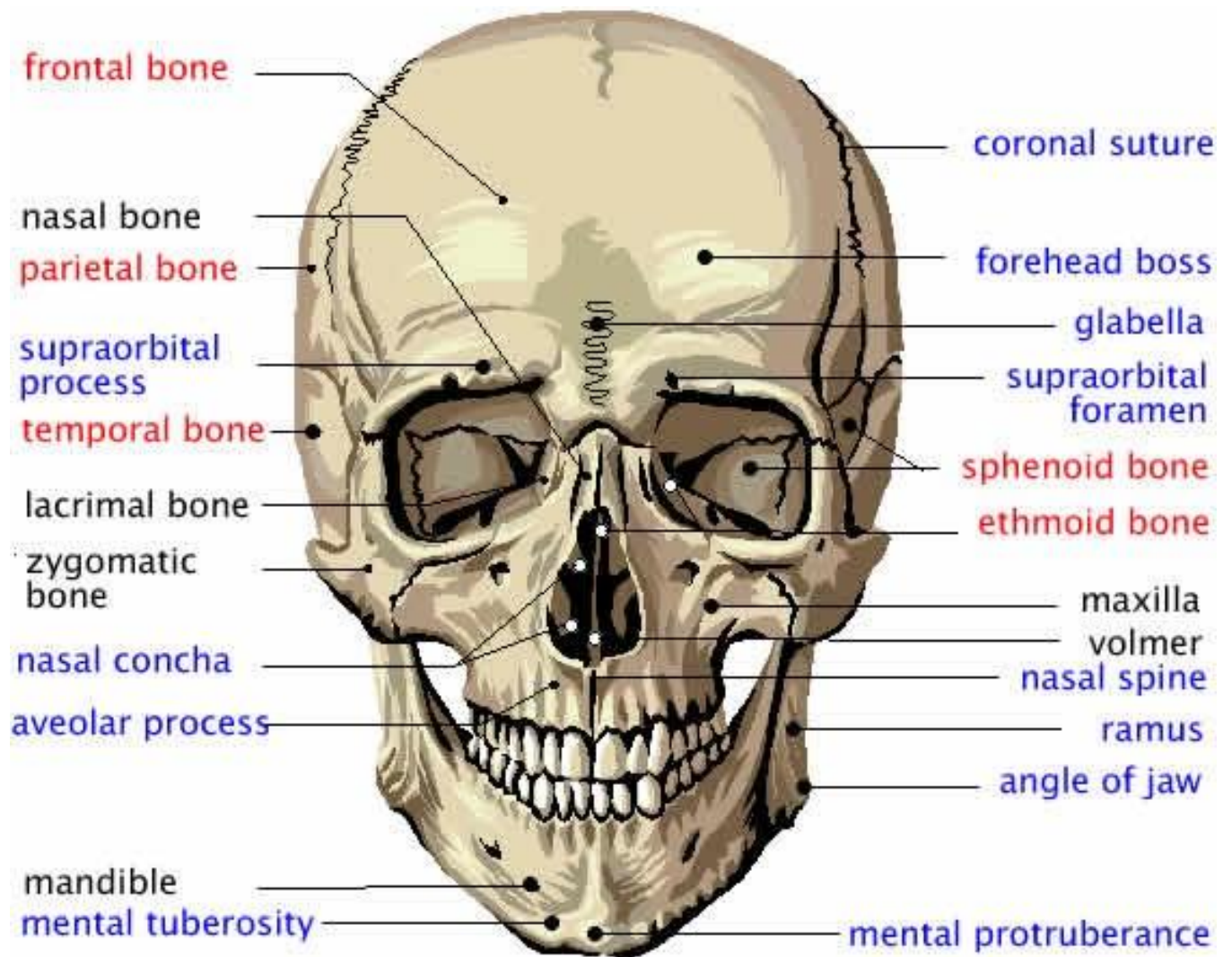
- Frontal bone forms the forehead (single)Parietal bones form most of the roof and upper sides of the skull (paired)
- Occipital bone forms the posterior floor and wall of the skull (single)
- Temporal bones form the sides and base of the skull (paired)
- Sphenoid bone forms part of the base of the skull and parts of the floor and sides of the orbit or bony socket that surrounds and protects the eyeball. (single)
- Ethmoid bone forms part of the nose, the orbit, and the floor of the skull (single)

The second category is the viscerocranium, or the bones of the face. Some of the bones are single and some are paired, as with the neurocranium bones. There are 14 bones that make up the face:

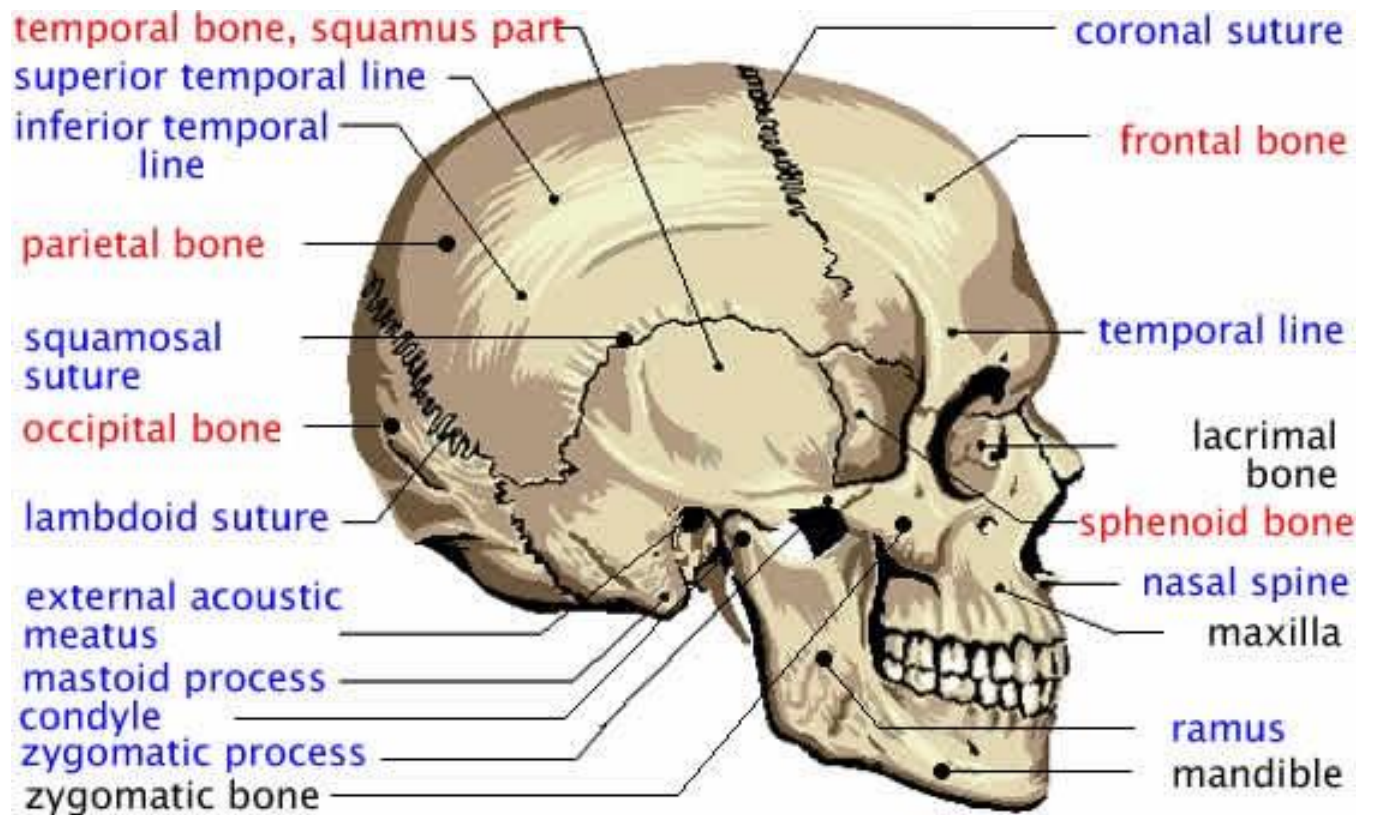
- Mandible, also known as the lower jaw, is the only movable bone of the skull. It is attached to the skull at the temporomandibular joint (single)
- Vomer bone forms the base for the nasal septum or the cartilage structure that divides the two nasal cavities (single)
- Nasal bones form the upper part of the bridge of the nose (paired)
- Lacrimal bones make up part of the orbit and inner angle of the eye (paired)
- Zygomatic bones are also known as the cheekbone (paired)

- Inferior nasal conchae are thin scroll like bones that form part of the interior of the nose (paired)
- Palatine bones form part of the hard palate of the mouth and the floor of the nose (paired)
- Maxillae, also known as the maxillary bones, form most of the upper jaw (paired)

Frontal View



Side View



The Oral Cavity

The oral cavity is made up of the lips, also known as the labia, which form the anterior border of the mouth. The lips are formed both internally by the mucous membrane and externally by the skin. The vermilion border, or the red free margins of the lips, represents a zone of transition from skin to the red mucous membrane portion.

Next is the frenum, which is a narrow band of tissue that connects two structures. There are three types of frenum in the oral mucosa. The first is the upper labial frenum; this connects the upper lip to the gingiva of the outer surface of the maxillary arch. The second is the lower labial frenum which connects the lower lip to the gingiva of the outer surface of the mandibular arch. The third is the lingual frenum, which passes from the floor of the mouth to the midline of the undersurface of the tongue.

The cheeks then form the side walls of the oral cavity. The buccal (cheek) vestibule, also known as the alveolar ridge, is the area between the cheeks and the teeth.

After the cheeks is the oral mucosa. The entire oral cavity is lined with mucous membrane. The oral mucosa, or lining, covers the inside of the cheeks, vestibule lips, ventral surface of the tongue and soft palate.

The hard palate is next and serves as the roof of the mouth. It is the bony anterior or forward portion and separates the mouth from the nasal cavity. The soft palate forms the flexible posterior or back portion of the palate.

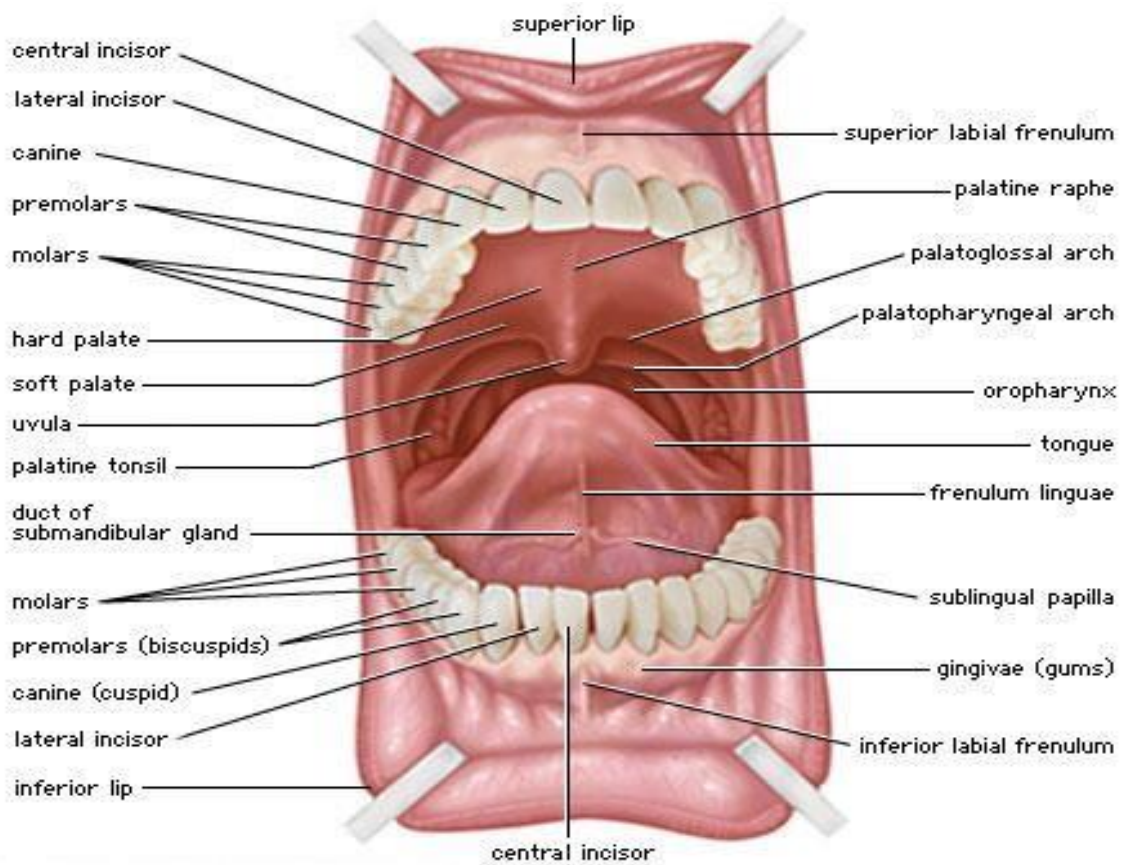
The tongue, which is attached only at the back or posterior end, consists of a very flexible muscle. For billing purposes, the tongue is broken up into the anterior two-thirds and posterior one-third.

There are three salivary glands. The parotid glands are the largest and are located just in front of and below each ear subcutaneously. The sublingual glands are the smallest and are located underneath the tongue on either side. Last is the submandibular gland which lies on the floor of the mouth and are equivalent to the size of a walnut.

See Figure 1.A

Diagram of Oral Cavity

Figure 1.A



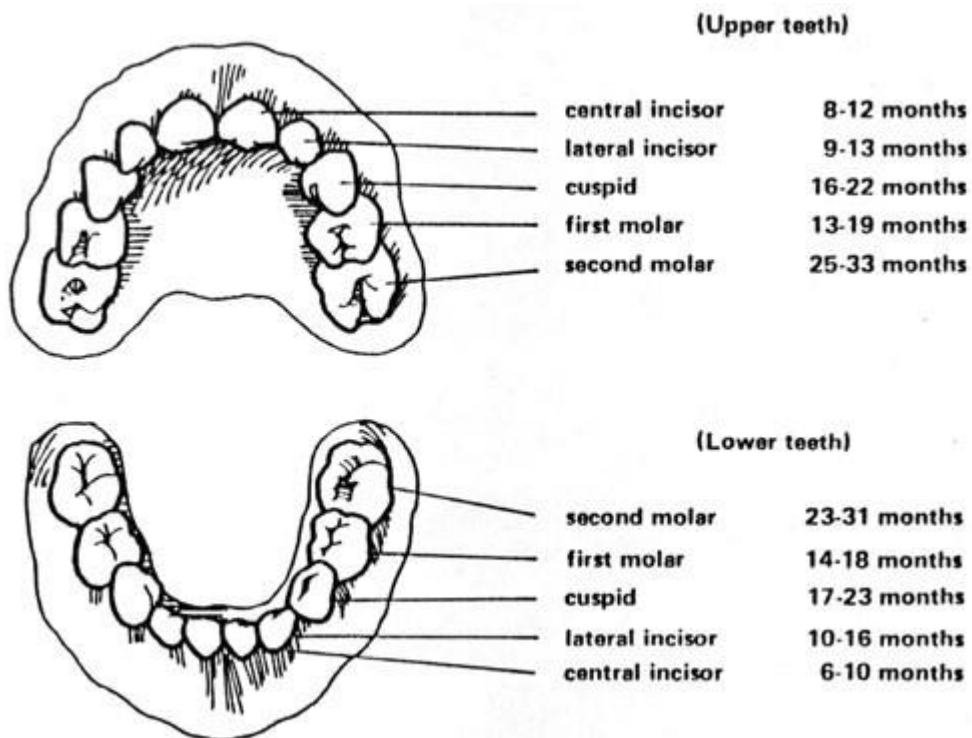
Tooth Numbering System

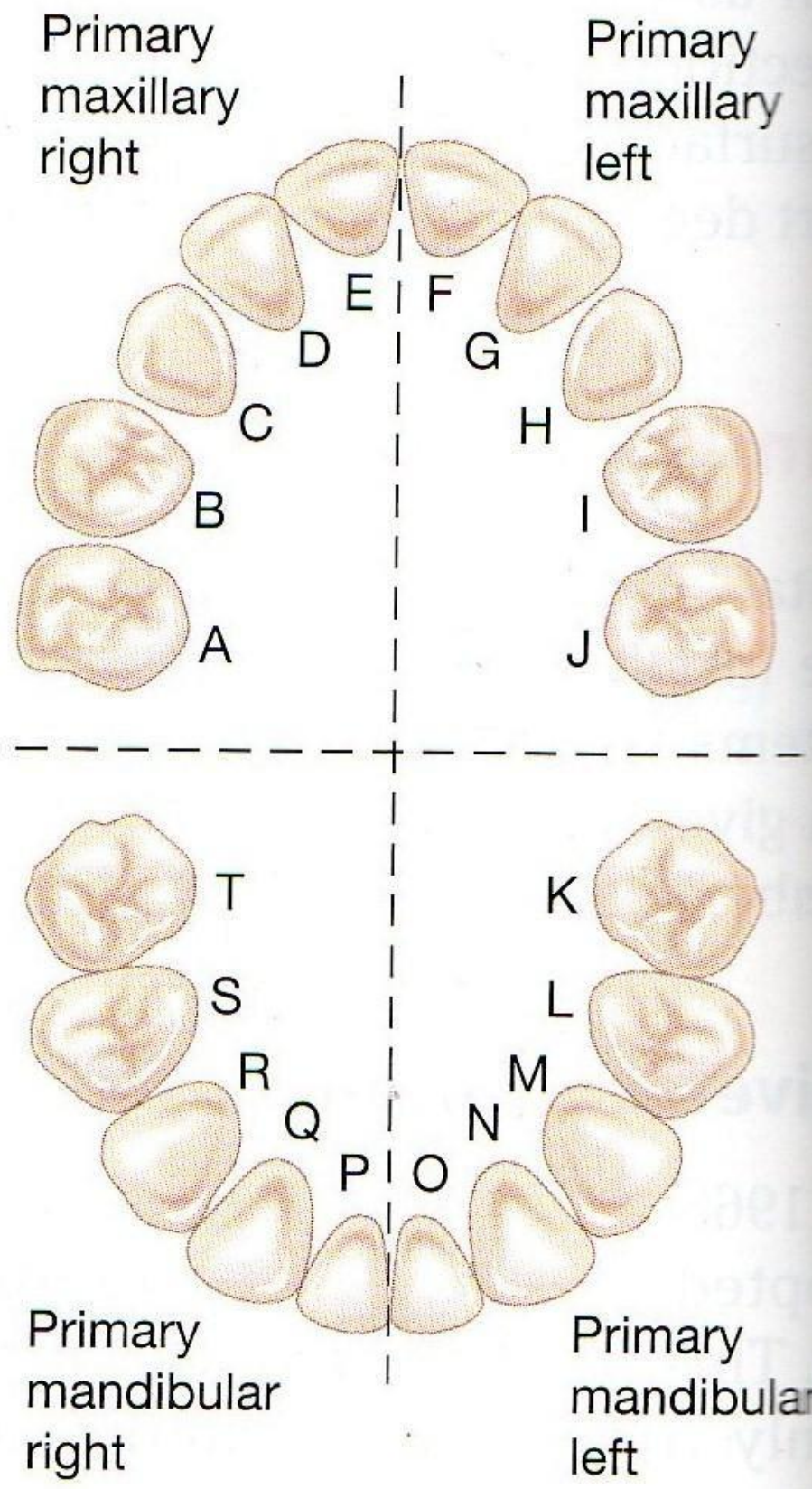
In 1968 the ADA[®] (American Dental Association) adopted the use of the universal numbering system. To ensure accuracy and universal identification, as well as increasing the speed of charting, dictation and transcription a numbering system was developed and used in the charting and description of the teeth. This system is designed to uniquely identify permanent and primary dentition.

Primary

In this universal numbering system, the primary or baby teeth are lettered using capital letters A through T starting with the upper right second primary molar and ending with the lower right second primary molar. There is a total of 20 primary teeth. The shedding or exfoliation of the primary teeth begins between the fifth and twelfth years of age. See Figure 2.A

Figure 2.A

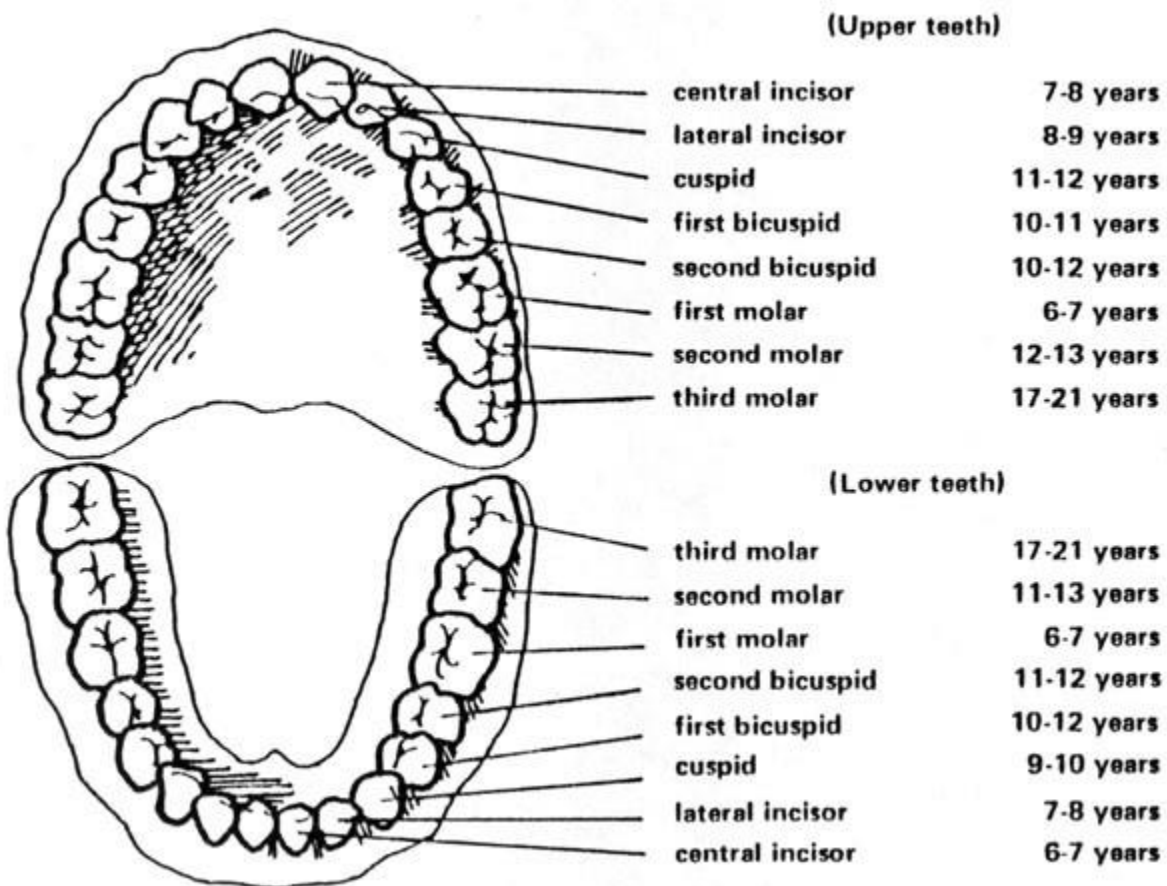


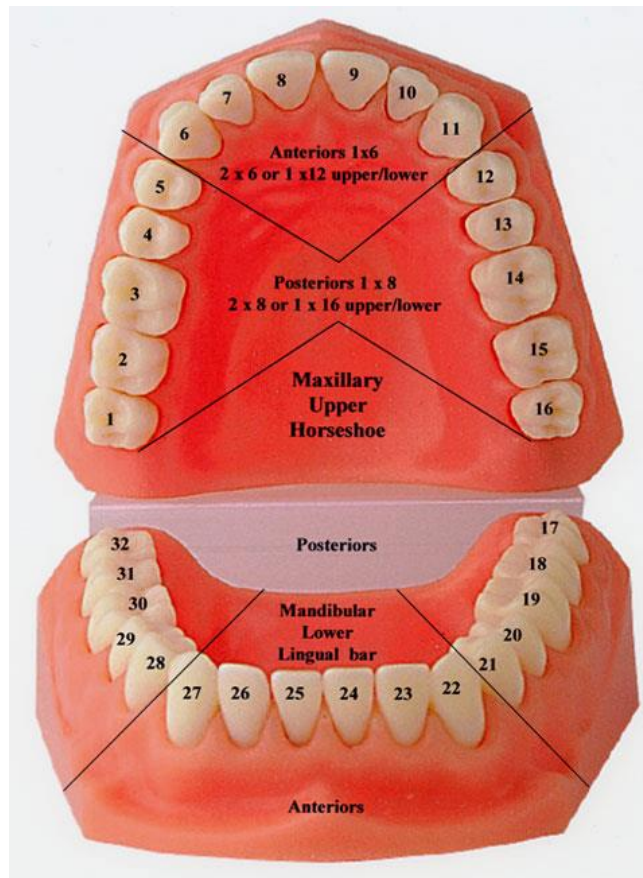


Permanent Dentition

In this universal numbering system, the permanent or adult teeth are numbered 1 to 32, starting with the upper right third molar and working around to the upper left third molar. This gives you teeth 1 through 16 on the top and then dropping down to the lower left third molar with tooth number 17 and carrying it around to the lower right third molar ending at 32. There are typically 32 teeth in permanent dentition with eight teeth per quadrant. Each quadrant will consist of one central incisor, one lateral incisor, one cuspid, two premolars, and three molars. See Figure 2.B

Figure 2.B





Designation of Teeth

Teeth are also designated by a two-digit code. The first digit of the code indicates the quadrant and the second indicates the tooth in the quadrant.

First digit (quadrant) numbered clockwise from the upper right side

Permanent teeth – 1 through 4

Primary teeth – 5 through 8

Second digit (tooth) numbered from the medial line in a distal direction

Permanent teeth- 1 through 8

Primary teeth – 1 through 5

Examples

Permanent Dentition

12 upper right incisor

36 lower left 1st molar

Primary Dentition

53 upper right canine and/or cuspid

72 lower left incisor