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**SUBJECT = ORTHODONTICS**

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**PROGRAMME = BS DENTAL TECHNOLOGY (6<sup>TH</sup> SEMESTER)**

**Answer no.1:**

For missing upper central incisor due to trauma at young age, if it is deciduous dentition, implant is contraindicated in this case, we will definitely go for aesthetic bridge. And if this type of trauma occur in permanent dentition, implant is the best option considered. Because due to implant presence in bone, bone height and width will be preserved/maintained.

**Answer no.2:**

The case presented here is class III malocclusion. Because the mesio buccal cusp of maxillary first molar lies posterior to buccal groove of mandibular first molar and anterior maxillary teeth are in under jet position .

**EFFECTS OF CLASS III MALOCCLUSION ON JAW AND FACE:**

- 1) Increased mandibular length
- 2) Reduced maxillary length
- 3) Orbital rim hypoplasia and increased scleral show
- 4) Paranasal hallowing
- 5) Reduced incisor show add smile
- 6) Increased buccal corridor dark space
- 7) Upper lip looks thin with reduced vermilion border show while lower lip may be full and pendulous
- 8) Prominent chin
- 9) Concave or straight profile
- 10) Maxilla probably crowded, mandible is usually spaced
- 11) Proclined maxillary and retroclined mandibular incisor to compensate for skeletal base

**Answer no.3:**

- 1) Pre- dental period
- 2) The deciduous dentition
- 3) The mixed period
- 4) The permanent dentition period

**1) PRE- DENTAL PERIOD:**

The alveolar process at the time of birth.

- DENTAL GROOVE: separate the labiobuccal and the lingual portion.
- TRANSVERS GROOVE: divides the gum pad into ten segments representing each deciduous tooth.
- GINGIVAL GROOVE: Separates the gumpad from the palate and the floor of the mouth.
- LATERAL SULCI: present between the canine and the first molar.

**INFANTILE OPEN BITE:**

- When the upper and the lower gum pad are approximated there is a complete overjet all around.
- This infantile open bite is considered to be normal.
- It helps in sucking.

**2) THE DECIDUOUS DENTITION:**

ERUPTION AGE AND SEQUENCE:

- The mandibular central incisor are the first to erupt around 6-8 months of age.
- A variation of three months from the mean age is accepted to be normal.
- The sequence of eruption is :  
A-B-D-C-E
- The primary dentition is usually established y the age of 3 year

### 3) MIXED DENTITION PERIOD:

#### ERUPTION AGE AND SEQUENCE:

- The mixed dentition period begins at around 6 year of age with the eruption of the first permanent molar.
- The period can be divided into the following 3 phases:
  - 1) 1<sup>st</sup> transitional period
  - 2) Inter transitional period
  - 3) 2<sup>nd</sup> transitional period

#### 1) 1<sup>st</sup> TRANSITIONAL PERIOD:

##### EMERGENCE OF 1<sup>ST</sup> PERMANENT MOLAR:

- The mandibular 1<sup>st</sup> molar is the first permanent tooth to erupt at around 6 years of age
- The location and relation of the 1<sup>st</sup> permanent molar depend on the distal relationship between the upper and lower 2<sup>nd</sup> deciduous molars

#### 2) INTER TRANSITIONAL PERIOD:

- In this period between the permanent incisor and the 1<sup>st</sup> permanent molars are the deciduous molars and canines
- This phase is relatively stable and no change occurs.

#### 3) SECOND TRANSITIONAL PERIOD:

##### LEEWAY SPACE OF NANCE:

- The second transitional period is characterized by the replacement of deciduous molars and canines by the permanent premolars and canines respectively
- The combined mesio distal width of the permanent canines and premolars is less than that of the deciduous canines and molars.
- This excess space is called leeway space of nance
- 1.8mm – maxillary arch
- 3.4mm – mandibular arch

#### 4) THE PERMANENT DENTITION:

##### FEATURES:

- The permanent dentition forms within the jaw soon after birth except for the formation of the cusps of the 1<sup>st</sup> permanent molar which form before birth
- The permanent incisors develop lingual or palatal to the deciduous incisors and move labially as they erupt
- The premolars develop below the diverging roots of deciduous molars

##### **Eruption sequence:**

In maxillary arch:

- 6-1-2-4-3-5-7

Or

- 6-1-2-3-4-5-7

In mandibular arch:

- 6-1-2-3-4-5-7

Or

- 6-1-2-4-3-5-7