

# Pediatric Dentistry.

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# Introduction

- Pediatric dentistry is the specialized area of dentistry that is limited to the care of children from birth through adolescence, with particular focus on providing oral health care to patients with special needs.

# Introduction

- Evidence of development of human teeth can be observed as early as 7<sup>th</sup> week of embryonic life .
- 11 weeks in utero first macroscopic indication of morphologic development
- 14 weeks in utero calcification of the primary maxillary central incisor .

# stage of tooth development

- Initiation (extra teeth ,anodontia ,odontoma)
- Histodifferentiation (amelogenesis imperfecta,dentinogenesis imperfecta)
- Morphodifferentiation(peg teeth,microdontia,macrodotia,talon cusp)
- Apposition(enamel hypoplasia)

# The Pediatric Patient

- **Chronologic age**

- The child's actual age in terms of years and months.

- **Mental age**

- The child's level of intellectual capacity and development.

- **Emotional age**

- The child's level of emotional maturity.

# Behavior Management

- Be honest with a child.
- Consider the child's point of view.
- Use "tell, show, do."
- Give positive reinforcement.
- Negative reinforcement .
- Appointment time of children should not exceed 5 minutes.

# Diagnosis and Treatment Planning

- **Medical and dental history**

- Past hospitalizations and surgeries.
- Date of child's last visit to the physician.
- Medications, daily medications.
- Unfavorable reaction to any medicine, allergies.
- Weight at birth and any problems at birth.
- Level of learning.
- Main concern about the child's dental health.
- Finger, thumb, or pacifier habits.
- Fluoride and toothbrush habits.
- Inherited family dental characteristics

# Diagnosis and Treatment Planning— cont'd

- **Clinical examination**
  - Radiographic examination
  - Extraoral examination
  - Intraoral soft tissue examination
  - Clinical examination



# Preventive Dentistry

- **Oral hygiene**

- Geared to improving a child's brushing and flossing technique.

- **Fluorides**

- Na F 2% 2 weeks period at 2-3 years interval 20% caries reduction .
- **instruction after fluoride application**

- **Diet**

- Review specific nutrients a child needs to grow.

# Preventive Dentistry

- **Sealants**
  - Applied to the teeth to help keep them cavity-free.
- **Oral/Facial development**
  - To identify malocclusion, crowded or crooked teeth, bite problems, and actively intervene.

# Pulp therapy in primary teeth

- The aim of vital pulp therapy is to treat reversible pulpal injuries in both permanent and primary teeth, maintaining pulp vitality and function. In addition to these, in primary teeth it is important to preserve the tooth until its natural exfoliation time, thus preserving arch integrity

# Pulp therapy in primary teeth

- Vital pulp therapy includes 2 therapeutic approaches: indirect pulp treatment (IPT) in cases of deep dentinal cavities and direct pulp capping (DPC) or pulpotomy in cases of pulp exposure.

# Pulp therapy in primary teeth

- **indirect pulp capping**

IPT, contrary to what was believed in the past, can also be an acceptable procedure for primary teeth with reversible pulp inflammation, provided that the diagnosis is based on a good history and proper clinical and radiographic examination, and the tooth has been sealed with a leakage-free restoration

# Pulp therapy in primary teeth

- **Direct pulp capping**
- DPC is carried out when a healthy pulp has been inadvertently exposed during an operative procedure. The tooth must be asymptomatic, and the exposure site must be pinpoint in diameter and free of oral contaminants. A calcium hydroxide medicament is placed over the exposure site to stimulate dentin formation and thus “heal” the wound and maintain the pulp’s vitality.

# Pulp therapy in primary teeth

- **Direct pulp capping**

DPC of a carious pulp exposure in a primary tooth is not recommended but can be used with success on immature permanent teeth. DPC is indicated for small mechanical or traumatic exposures when conditions for a favorable response are optimal. Even in these cases, the success rate is not particularly high in primary teeth. Treatment failure might result in internal resorption or acute dentoalveolar abscess.

# Pulp therapy in primary teeth

- **Pulpotomy**

Pulpotomy is still the most common treatment for cariously exposed pulps in symptom-free primary molars. The aim of this treatment is to preserve the radicular pulp, avoiding pain and swelling, and ultimately to retain the tooth, preserving arch integrity



# Traumatic dental Injuries

- Traumatic dental injuries (TDIs) occur frequently in children and young adults, comprising 5% of all injuries. Twenty-five percent of all school children experience dental trauma and 33% of adults have experienced trauma to the permanent dentition, with the majority of the injuries occurring before age 19.

# Traumatic dental Injuries

- Luxation injuries are the most common TDIs in the primary dentition, whereas crown fractures are more commonly reported for the permanent teeth

# Traumatic dental Injuries

- INFRACTION

An incomplete fracture (crack) of the enamel without loss of tooth structure.

In case of marked infractions, etching and sealing with resin to prevent discoloration of the infraction lines. Otherwise, no treatment is necessary.

# Traumatic dental Injuries

- ENAMEL FRACTURE

A complete fracture of the enamel. ● Loss of enamel.

No visible sign of exposed dentin.

If the tooth fragment is available, it can be bonded to the tooth.

Contouring or restoration with composite resin depending on the extent and location of the fracture.

# Traumatic dental Injuries

- ENAMEL-DENTIN FRACTURE

A fracture confined to enamel and dentin with loss of tooth structure, but not exposing the pulp

If a tooth fragment is available, it can be bonded to the tooth. Otherwise perform a provisional treatment by covering the exposed dentin with glassIonomer or a more permanent restoration using a bonding agent and composite resin, or other accepted dental restorative materials

# Traumatic dental Injuries

- ENAMEL-DENTIN-PULP FRACTURE

A fracture involving enamel and dentin with loss of tooth structure and exposure of the pulp.

In young patients with immature, still developing teeth, it is advantageous to preserve pulp vitality by pulp capping or partial pulpotomy. Also, this treatment is the choice in young patients with completely formed teeth. Calcium hydroxide is a suitable material to be placed on the pulp wound in such procedures.

# Traumatic dental Injuries

- In patients with mature apical development, root canal treatment is usually the treatment of choice, although pulp capping or partial pulpotomy also may be selected
- If tooth fragment is available, it can be bonded to the tooth. • Future treatment for the fractured crown may be restoration with other accepted dental restorative materials.

# Traumatic dental Injuries

- CROWN-ROOT FRACTURE WITHOUT PULP EXPOSURE

A fracture involving enamel, dentin and cementum with loss of tooth structure, but not exposing the pulp. Crown fracture extending below gingival margin.



# Traumatic dental Injuries

- CROWN-ROOT FRACTURE WITH PULP EXPOSURE
- A fracture involving enamel, dentin, and cementum and exposing the pulp.

# Traumatic dental Injuries

- CONCUSSION

The tooth is tender to touch or tapping; it has not been displaced and does not have increased mobility.

No treatment is needed

# Traumatic dental Injuries

- SUBLUXATION

- The tooth is tender to touch or tapping and has increased mobility; it has not been displaced.

Bleeding from gingival crevice may be noted.

Normally no treatment is needed, however a flexible splint to stabilize the tooth for patient comfort can be used for up to 2 weeks.

# Traumatic dental Injuries

- EXTRUSIVE LUXATION

The tooth appears elongated and is excessively mobile

# Traumatic dental Injuries

- LATERAL LUXATION

The tooth is displaced, usually in a palatal/lingual or labial direction.

It will be immobile and percussion usually gives a high, metallic (ankylotic) sound.

Fracture of the alveolar process present.

# Traumatic dental Injuries

- INTRUSIVE LUXATION

The tooth is displaced axially into the alveolar bone.

It is immobile and percussion may give a high, metallic (ankylotic) sound.

# Traumatic dental Injuries

## Avulsion

Avulsion of permanent teeth is seen in 1,5-3% of all dental injuries

Replantation is in most situations the treatment of choice, but cannot always be carried out immediately

# Child Abuse

- **Child abuse must be suspected when:**
  - Injuries are in various stages of healing.
  - Chipped or injured teeth.
  - Scars inside the lips or on the tongue and tears of the labial frena.
  - Battering or other injuries around the head and neck.
  - Facial bruises, swelling of the facial structures, or black eyes.
  - Bite marks.
  - Injuries not consistent with the explanation presented by the parent



# Reporting Child Abuse

- **Required information**

- The name, address, gender, age, height, and weight of the child.
- The name and address of the adult with custody of the child.
- A description of the current physical and emotional abuse or neglect of the child.
- Evidence of previous injuries or negligence.
- Any information that may assist in establishing the cause of the injuries.
- Sketches or photographs documenting the nature and location of the injuries.



THANK YOU