Traumatic Injuries to Primary Teeth

Prevention of Dental Trauma
Orofacial Injury Assessment

- Review Health History
- Assess Systemic/Neurological Effects
- Evaluate Tetanus Immunizations
- Be Alert to Potential Child Abuse
Soft Tissue Injuries

- Lacerations

- Treatment
  - Hemorrhage Control
  - Wound Cleansing
  - Suture as Indicated
  - Antibiotics for “through and through” lacerations
DISPLACEMENT

- INTRUSION
- EXTRUSION
- LABIAL
- LINGUAL
- LATERAL
INTRUSION
19 month old patient
One month post-trauma
X-ray to check intruded incisor
Mother helping with x-ray of child
Intrusion and Ankylosis of Primary Incisor
Intrusion and Ankylosis
Intrusion of Primary Incisors
INJURY CLASSIFICATION

- Fracture
- Displacement
- Avulsion
FRACTURE OF THE CROWN
FRACTURE OF PRIMARY CENTRAL INCISORS

NOTE PARULIS ON LABIAL MUCOSA # E
Restored with Composite and Celluloid Strip Crowns
5 y.o. Male - Fractured Primary Lateral Incisor
Celluloid Strip Crown
Maxillary Left/Lower Right
Try-in of Celluloid Strip Crown
Etch, Bonding Agent, Strip Crown with Composite
Completed Restoration

Dentsply’s TPH-3 Shade X-L
FRACTURE OF CROWN
FRACTURE OF THE CROWN
FRACTURE OF THE CROWN
Crown-Root Fracture of Primary Incisor
Midroot Fractures
Mid-root Fracture of Primary Incisor
Sam R. Age 5
Midroot Fracture #E, F

No mobility
Normal gingiva
Assymptomatic
Etiology ?
Displacement

Andrew S. 3yo Male Hit Chair - 1 day post-trauma
Cassidy V. 3 year old male
Displacement Tooth # F
Severe Displacement
Dislocation and Root Fracture
AVULSION  3 y.o. female:
Patient fell onto a picnic table
AVULSION: 2 y.o. Rope accident
Reimplanted Primary Central Incisor
28 month old daughter of dentist

Patient avulsed on bar of crib.
Extracted this reimplanted tooth within 24 hours.
Definition of Tooth Trauma to the Periodontal Tissues

- Concussion
- Subluxation
- Luxation
- Avulsion

- Sensitivity without abnormal mobility
- Mobility without displacement
- Displacement in any direction
- Exarticulation
Contusion of Lip and Gingival Laceration- 3 y.o. fell at pre-school
Carlos L.  6yo
Bicycle Handlebars
Carlos L. 6yo
Bicycle Handlebars
12 days post-trauma
Carlos L.  6yo
Bicycle Handlebars
12 days post-trauma
Etiology of Trauma to Maxillary Primary Teeth

- Fall Indoors - 52%
- Fall Outside - 16%
- Fall on Stairs - 9%
- Unknown - 9%
- Bicycle Accident - 5%
- Blow while Playing - 5%
When do you stop bleaching your teeth?
What to have parents watch for?

- Discoloration
- Pain
- Mobility
- Gumboil (Parulis)
THE DARK PRIMARY INCISOR

- Why is it dark?

- What Color is it?
  - Brown
  - Yellow
  - Grey

- Will the Color Return to Normal?
Yellow Central Incisor

What is this called?
Calcific Degeneration
COLOR RETURNED 12%
PULP TX 15%
COLOR REMAINED 67%
EXT. 6%
THE DARK PRIMARY INCISOR
Grey Tooth with Abscess
Dark Primary Incisors with Direct Bonded Veneers
The Dark Primary Incisor

Holan G. Development of Clinical and Radiographic Signs Associated with Dark Discolored Primary Incisors Following Traumatic Injuries: A Prospective Controlled Study. Dent Traumatol 2004; 20-276-287
- 73 children ages 18-72 months
- 97 discolored primary incisors
- Children examined every 6-12 mos.
- X-rays taken every 12 months
- All were discolored at start of study
  - Half lightened significantly
  - Half remained dark
- 75% remained asymptomatic-No tx needed
  - Half of teeth that remained dark needed no tx.
- Most of yellow teeth underwent pulp canal obliteration.
Discolored Incisors—do they need treatment?

Asymptomatic discolored incisors were followed until the eruption of the permanent successors.

The results indicate that 50% lightened up and most remained asymptomatic and required no treatment. It appears that the only indication for treatment is a clear evidence of pathology other than discoloration.

Jenna A. Age 5
2 weeks post-trauma
Jenna A. Age 5

- The tooth is asymptomatic.
- Why is the tooth dark?
- What is your treatment plan?
- What would you have the parents watch for?
- If the child were 3-4 years old, what alternatives do you have if the tooth stayed dark for more than 2 months?
Patient bumped with a pencil in her hand.
Root Resorption

- Internal Resorption
- External Resorption
INTERNAL RESORPTION
EXTERNAL RESORPTION
Abscess with Root Resorption
PULPOTOMY PROCEDURES

- TWO-STAGE PULPOTOMY
  NON-VITAL TOOTH

First Stage:
- COTTON PELLET WITH FC
- TEMPORARY RESTORATION
- WAIT 7-14 DAYS

Second Stage:
- Repeat First Stage PROCEDURE
- Place ZnOE in pulp chamber
Non-Vital Pulpotomy
Primary Molar
1st Visit

Formocresol on Cotton Pellet

Seal with Cavit G
2nd Visit

• Remove Cotton Pellet
• Place FC for 3 minutes
• Place ZnOE in pulp chamber
• Restore Tooth
Anterior Primary Tooth

Same as above except:
Use ZnOE powder/liquid
Abscess of Primary Incisor
Pulpectomy of Primary Incisor
Exarticulation = Avulsion
THE END!