

Pediatric Dentistry For Pediatricians:
Part II



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DISCLOSURE

**I do not have any relevant
financial/non-financial relationships with
any proprietary interests**

Reference

Reference Manual: AAPD
Pediatr Dent 2013-2014



Purpose

- Pediatricians play a *vital role* in the diagnosis and treatment of oral conditions
- Communication between pediatricians and pediatric dentists is *paramount* to optimum patient care





Overview

Part I

- Newborn Anomalies
- Eruption Problems
- Orthodontic Concerns
- Soft Tissue Lesions
- Dental Infections

Part II

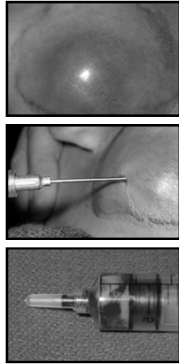
- Lymphadenopathies
- Discolored Teeth
- Trauma
- Prevention
- What's New!

VI. Lymphadenopathies

- Dental infections
- Cat Scratch Fever
- Actinomycosis
- Tuberculosis
- Hodgkin's Disease
- Leukemia



Needle Aspiration Biopsy

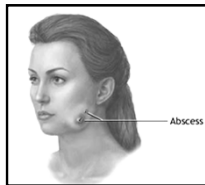


Cat Scratch Fever



- Fall / winter; most patients under 20 (80%)
- Pustule or ulcer at scratch site; symptoms 1-3 weeks later
- Fever, malaise, headache, chills, lymphadenopathy; may fistulate (without scarring)
- Viral vs. Bacterial? Not conclusively established
- Doesn't respond well to antibiotics
- Self-limiting; resolves in 1-2 months

Actinomycosis "Lumpy jaw"



- Typical "barnyard scratch"
- Not a *true* fungal infection; resembles both bacteria and fungi
- Filamentous bacteria; non-acid fast; anaerobic; gram +; "sulfur granules"
- TX: Long-term antibiotics; surgical drainage; excision of infected tissue



Tuberculosis



- Infectious, granulomatous disease
- “Mycobacterium tuberculosis”
- 1.5 / 100,00 children; on the rise; American Indian reservations
- Symptoms: lassitude, malaise, anorexia, night sweats, fever, cough
- May fistulate; submaxillary or cervical nodes; “scrofula”

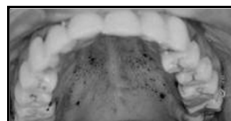
Hodgkin’s Lymphoma



- Type I; unilateral lymphatics
- Common cancer in children:
 - Lymphomas are 10% of all pediatric cancers
- Peak incidence between 15-19 years
- Enlarged lymph node in neck
- If not resolved in 2-4 weeks...no underlying inflammatory process...consider biopsy!
- Unilateral has a 90% cure rate

Leukemia

- Most common form of childhood cancer
 - Peak incidence 4 years
- Children usually get the acute form:
 - ALL (76%)
 - ANLL (20%)
- Gingivitis, due to neutropenia, is *rare* in children
- Most commonly reported, dentally-related finding (RED FLAG):
 - Lymphadenopathy of cervical, submandibular, and submental nodes
 - With petechiae



VII. Discolored Teeth



CASE #8

- Two year old male:
 - Generalized grey stain
 - PMHx: Anemia
 - Asymptomatic



- What is your diagnosis?
- What is your treatment?
- What do you tell the parents?

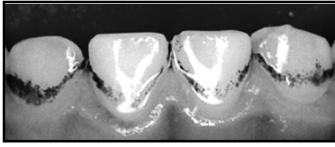
Discolored Teeth

- Extrinsic stain
 - Surface of tooth
- Intrinsic stain
 - Inside the tooth



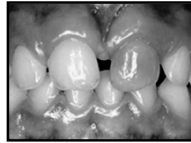
Extrinsic Stain

- Foods:
 - Tea, coffee
- Tobacco
- Medicaments:
 - Iron sulfide (anemic patients)
 - Stannous fluoride (Gel Kam; Dentin Block)
 - Chlorhexidine (Peridex)
 - Silver nitrate (cauterizing agent)
 - Plaque disclosing agents (red, vegetable dyes)



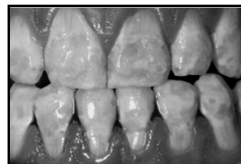
Intrinsic Stain

- Drug Administration
 - Tetracycline (Cystic Fibrosis)
 - Systemic Fluoride
- Trauma
 - Internal Hemorrhage (Blue-gray)
 - Calcific Metamorphosis (Yellow)



Drug Administration

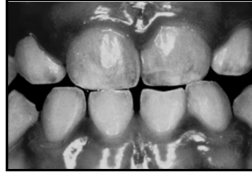
- Tetracyclines
 - Cystic Fibrosis Patients
- Sulfa Drugs
- Fluorides



Trauma

Internal Hemorrhage (Blue-gray)

-Traumatized capillaries may rupture and bleed into dentin



Calcific Metamorphosis (Yellow)

-Tooth does "root canal" on itself

VIII. Trauma

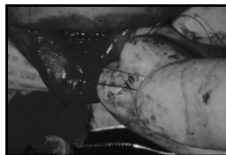
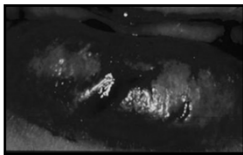
- Soft Tissue
- Primary Teeth



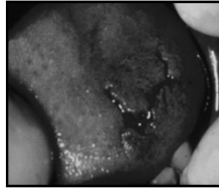
Soft Tissue Management

■ Four major steps

- Cleansing
- Debridement
- Hemostasis
- Closure



CASE #9

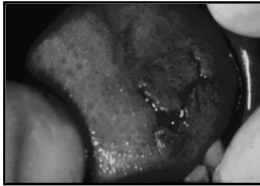


- Two year old male:
 - Playground fall 2 hours ago
 - Tongue is sore; bled for 10 minutes
 - No hemorrhage now
 - Playing calmly in E.R. waiting room

- What is your diagnosis?
- What is your treatment?
- What do you tell the parents?

Soft Tissue Management

- Tongue lacerations
 - Suture to control bleeding
 - Suture lacerations on the lateral border
 - Suture deep v-shaped lesions


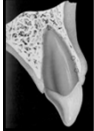


Soft Tissue Management

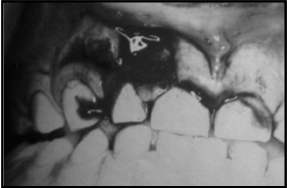


Trauma to the Supporting Structures and the Teeth

- Concussion: no movement
- Subluxation: loose, but not displaced
- Extrusion: coronal displacement
- Lateral luxation: lateral displacement
- Intrusion: apical displacement
- Avulsion: complete displacement
- Trauma to teeth:
 - Root Fracture
 - Crown Fracture


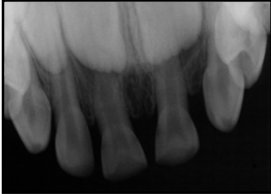
Trauma to the Supporting Structures and the Teeth



- 62% of injuries to the primary dentition will be displacement injuries

Concussion

- TX: radiographs, observe, follow-up

*Photo courtesy Dr. Charles Stuart, Capt

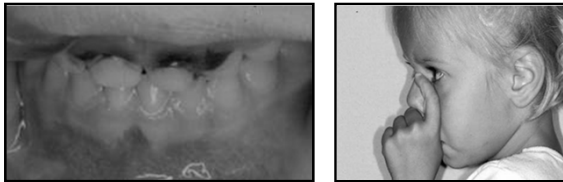
“Three Month Rule”

- If something unfavorable is going to happen to a primary tooth following trauma, it will usually happen *within three months*.



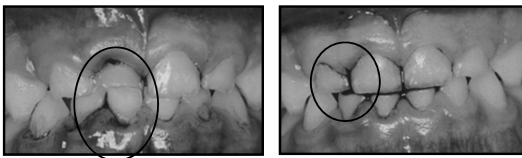
Subluxation

- TX: radiographs, observe, follow-up



Lateral Luxation

- TX: radiographs, reposition if less than 2-3 hours, observe, follow-up



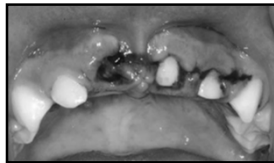
Extrusion

- TX: radiographs, reposition/extract, observe, follow-up



CASE #10

- 18 month old male:
 - Fell while running with "Tippy Cup" 2 hours ago
 - Front, top teeth now shorter than before



- What is your diagnosis?
- What is your treatment?
- What do you tell the parents?

Intrusion

- TX: radiographs, allow to re-erupt, observe, follow-up



Re-eruption of a Primary Incisor

Initial evaluation



3 months



15 Months



“Rule of Threes”

- Crown formation complete three years *before* eruption
- Root formation complete three years *after* eruption



CASE #11



- Two year old female:
 - Daycare fall 30 minutes ago
 - Intact tooth is in cup of cold milk



- What is your diagnosis?
- What is your treatment?
- What do you tell the parents?

Avulsion

- TX: radiographs, rule out intrusion, do not re-implant



Avulsion

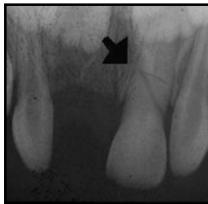
- Parents: "When will permanent tooth erupt?"

- Accelerated eruption
 - Tooth loss occurs *after* 2/3 Perm root formation
 - Tooth loss occurs *within* one year of eruption
- Delayed eruption
 - Tooth loss *prior* to 2/3 Perm root formation
 - Tooth loss *outside* of one year of eruption



Root Fracture

- TX: radiographs, observe, follow-up



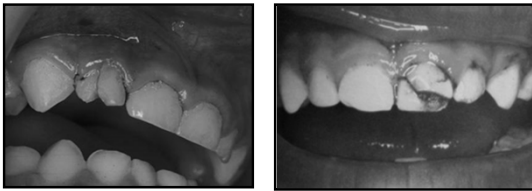
Fractures of Primary Teeth

- Crown Fractures: Ellis Classification
 - Class I: enamel only
 - Class II: enamel/dentin



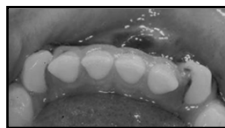
Fractures of Primary Teeth

- Crown Fractures: Ellis Classification
 - Class III: enamel/dentin/pulp
 - Class IV: entire crown



Alveolar Fractures

- Loss of arch continuity
- Occlusal disharmony
- "Step" defects
- Vertical gingival tears
- Sublingual hematoma



IX. Prevention



Initial Dental Visit

- The American Academy of Pediatric Dentistry recommends “a dental consultation shortly after the eruption of the first primary tooth”.
- Within 6 months of the first primary tooth
- No later than 12 months of age



Well Baby Dental Visit

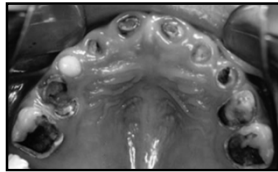
- History
- Oral examination
- Counseling on systemic / topical fluoride
- Diet counseling
- Oral hygiene instructions / demonstration
- Non-nutritive sucking habits



Well Baby Dental Exam



CASE #12



■ Two year old male:

- Still on night-time nursing bottle
- Pain x 2 weeks; difficulty eating

- What is your diagnosis?
- What is your treatment?
- What do you tell the parents?

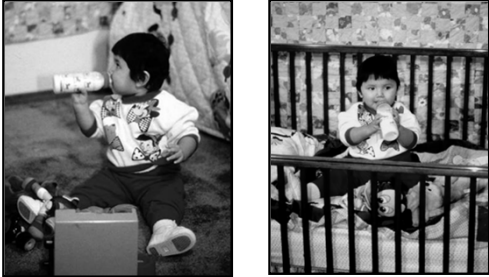
Early Childhood Caries (ECC)

■ Outdated terminology:

- "Baby Bottle Tooth Decay" or "Bottle Mouth"
- "Nursing Decay" or "At-will Breast Feeding"
- "Sippy-cup Decay"



“Baby Bottle Tooth Decay” or “Bottle Mouth”



X. What's New!

- At-will breast feeding controversy
- Fluoride supplements
- Preventing infective endocarditis



At-will Breastfeeding Controversy!



- Case reports have long suggested that prolonged, ad lib breastfeeding is associated with ECC

Controversy!



- Erickson et al:
 - Human breast milk:
 - DOES NOT cause plaque pH drop
 - Supports only moderate bacterial growth
 - Deposits Ca and P on tooth surfaces
 - Is a poor buffer
 - DOES NOT cause demineralization.... *BY ITSELF*
 - Human breast milk, with just 10% sucrose
 - DOES cause dental caries

Controversy!



- Weerheijmet al:
 - Prolonged breast feeding *WAS NOT* associated with high caries prevalence
 - Frequent breast feeding + low fluoride exposure *MAY BE* contributing factors for nursing caries
 - Prolonged, frequent breast feeding *MAY BE* associated with other factors that influence caries development



Feeding Habits and Dental Caries

- Frequent bottle feeding at night, breast feeding on demand, and extended and repetitive use of a no-spill training cup are all associated with, *but not consistently implicated in, ECC.*

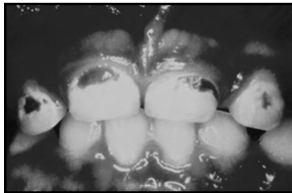




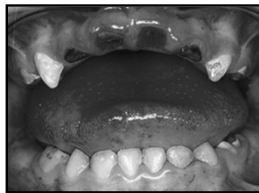
Feeding Habits and Dental Caries

- Poor feeding practices *ALONE* will not cause caries
- Thus, terms like “baby bottle tooth decay”, “bottle mouth”, and “nursing decay” are misleading
- ECC is a term that better reflects the multifactorial etiologic process

Severity of ECC is associated with poor feeding habits!



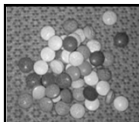
Mild ECC



Severe ECC

Fluoride Supplements: A Systemic Review

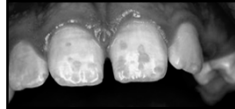
- Examined evidence regarding the effectiveness of F1- supplements in *preventing caries* and their association with *dental fluorosis*
- Search filters:
 - Medline, Cochrane Central Register, OVID, EMBASE



■ Source: Ismail, A.I. and Hasson, H.:
 Fluoride supplements, dental caries and
 fluorosis. JADA 139: 1457, 2008.

Conclusions

- *Weak and inconsistent evidence* that F1- supplements prevent dental caries in primary teeth
- Some evidence that F1- supplements prevent caries in permanent teeth
- Mild-to-moderate dental fluorosis is a *significant* side effect



Recommendations

- The use of F1- supplements during the first six years of life *should be re-examined!*





Preventing Infective Endocarditis

- Revised guidelines for antibiotic prophylaxis from the American Heart Association (**April 19, 2007**)
- Nine modifications of the AHA recommended antibiotic regimens from 1955- to 1997



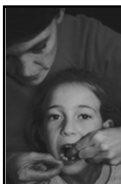
Conclusions

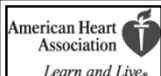
- The ability of antibiotic therapy to prevent or reduce the frequency, magnitude or duration of bacteremia associated with a dental procedure is *controversial!*
- Only *an extremely small number* of cases of infective endocarditis might be prevented by antibiotic prophylaxis, even if it were 100% effective.



Conclusions

- Available evidence supports an emphasis on *maintaining good oral hygiene* and *eradicating dental disease* to decrease the frequency of bacteremia from routine daily activities
- Recommend greater emphasis on *improved access to care and improved oral health* in patients with underlying cardiac conditions with the highest risk of adverse outcome





High Risk Cardiac Conditions

- Previous infective endocarditis
- Cardiac transplant recipients (with cardiac valvulopathy)
- Prosthetic cardiac valves or material (for cardiac valve repair)



High Risk Cardiac Conditions

- Congenital Heart Disease (CHD):
 - Unrepaired, cyanotic CH Defects (including palliative shunts and conduits)
 - Repaired CH Defects with prosthetic material or device (via surgery or cath) for the first 6 months
 - Repaired CH Defects with residual defects at (or adjacent) to the site of the prosthetic patch or device



High Risk Dental Procedures

- Only procedures that involve manipulation of:
 - Gingival tissues
 - Periapical region of teeth
 - Perforation of the oral mucosa
- Dropped:
 - Routine anesthetic injections (non-infected tissues)
 - Most restorative procedures
 - Most removable and some fixed ortho and prosth appliances
 - Shedding of primary teeth
 - Bleeding from trauma to lips and oral mucosa

The End



Questions?