Reasons for Early or Late Loss of Primary Teeth

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Outline

- What is the “normal” exfoliation time for primary anterior teeth?
- Reasons for early exfoliation of primary teeth
- Reasons for late exfoliation of primary teeth
- What to ask parents
- Case studies
- The infamous “shark tooth” scenario
Normal age ranges for primary anterior tooth exfoliation

- Mand central incisors: 6-7 y
- Max central incisors: 7-8 y
- Mand lateral incisors: 7-8 y
- Max lateral incisors: 8-9 y
- Mand canines: 9-11 y
- Max canines: 11-12 y
- Females are often ahead of males

Reasons for early exfoliation

- Could be normal for that child
- Trauma
  - Important to ask parents if there’s been a history of dental trauma
- Underlying disease or medical disorder

References: 1, 2
Diseases or Disorders

- Hypophosphatasia*
- Fibrous dysplasia
- Papillon-LeFevre
- Cyclic neutropenia
- Neoplasms (Leukemia, Lymphoma)
- Localized/generalized aggressive periodontitis
- Hemifacial hypertrophy
- Dentin dysplasia (Type 1)

References: 1, 2, 8
Diseases or Disorders (cont’d)

- Chediak-Higashi
- Acrodynia
- Facial burns
- Langerhans Cell Histiocytosis
- Regional odontodysplasia
- Dental abscess
- Vitamin C deficiency (scurvy)

- References: 1,2,8
Reasons for late exfoliation

- May be normal for that child
- Trauma
- Ankylosis
- Impacted permanent successor tooth
- Supernumerary tooth – PA or pan
- Underlying disease or medical disorder

Reference: 1

http://askanorthodontist.com/braces/wp-content/uploads/2012/10/Ankylosed-Primary-Central-Incisor1.jpg
Diseases or Disorders

- Cleidocranial dysplasia
- Chondroectodermal dysplasia
- Achondroplasia
- Osteogenesis imperfecta
- Gardner syndrome
- Down syndrome
- Apert syndrome

References: 1, 8
Diseases or Disorders (cont’d)

- Hypothyroidism
- Hypopituitarism
- Ichthyosis
- Hunter syndrome
- Incontinentia pigmenti
- Hereditary gingival fibromatosis
- Low birth weight and/or premature baby

References: 1, 8
Questions to ask parents for early loss of a primary incisor

- Was the child early or late to get his or her primary teeth?
  - You can refer to the normal tooth eruption timeline chart as a guide
- Is there a history of trauma?
- Did they bring in the tooth?
  - An exfoliated primary central incisor with a complete root (no root resorption): suspect hypophosphatasia

Reference: 1,2

http://www.cabinetmagazine.org/issues/36/N0025954_FINAL.jpg
Questions to ask parents (cont’d)

- Past medical history
- Premature birth or LBW
- Existing medical conditions
- History of broken bones
- Medications & allergies
- History of recurrent infections

References: 1, 2
Clinical exam

- Are soft tissues normal?
  - Rule out gingivitis / periodontitis
  - Rule out trauma
- Are other primary incisors mobile?
- Is there any pathology?

References: 1,2

http://www.columbia.edu/itc/hs/dental/d7710/client_edit/AnatomyofPrimaryTeeth_files/slide0001_image013.jpg
Case Study – Early Loss of Primary Teeth

- A healthy 20 month old female patient presented at a pediatric dental office.
- She was referred by her general dentist re: mobility of 71 and 81 that had been increasing over several weeks.
- Medical and family histories: clear except for a previous bacterial skin infection and a systemic viral infection.

Reference: 3

http://ecx.images-amazon.com/images/I/51vrh5ydT2L._SL1500_.jpg
Case Study – Early Loss

- Reference: 3
Case Study – Early Loss (cont’d)

- Clinical examination:
  - All primary teeth present except E’s
  - 71 and 81 had grade III mobility
  - All other teeth were WNL
  - Soft tissues WNL except for gingivitis around 71/81 (mother reports not brushing this area due to the mobility)
  - Overall, oral hygiene was good

- Reference: 3
Case Study – Early Loss (cont’d)

Reference: 3
Case Study – Early Loss (cont’d)

- Diagnosis: Hypophosphatasia
- Made by:
  - Microscopic examination of 71 and 81 after they exfoliated (no cementum)
  - Blood testing by physician: would see deficient tissue non-specific alkaline phosphatase
- May or may not be a family history

- Reference: 3,4
Case Study – Early Loss (cont’d)

- Management:
  - Referral to physician for blood testing
  - Radiographic screening of long bones
  - Genetic screening and counseling for family members
  - Maintain excellent oral hygiene
  - Often only the primary teeth are affected
  - Will likely have early loss of other primary teeth
  - Prosthetic replacement of exfoliated permanent teeth

References: 3, 4
Case Study – Late Loss of Primary Teeth

- A 10 year old boy presented to the pediatric dentist with a chief concern of retained 51 / 61
- Medical and family histories: clear
- Clinical exam: class I mixed dentition, unerupted 11 / 21
- Occlusal and panoramic radiographs taken

Reference: 5

Case Study – Late Loss (cont’d)

- Reference: 5
Case Study – Late Loss (cont’d)

- Reference: 5
Case Study – Late Loss (cont’d)

- Reference: 5
Case Study – Late Loss (cont’d)

- Diagnosis: supernumerary teeth
- Management: referral to OMFS for surgical removal of the 2 supernumerary teeth
  - After removal, wait and monitor to allow 11 and 21 to spontaneously erupt
  - If no spontaneous eruption after 6-12 months, surgical exposure and orthodontic repositioning should be considered

- References: 5, 6
Case Study – Late Loss (cont’d)

- Reference: 5
Case Study – Late Loss (cont’d)

- Reference: 5
Case Study – Late Loss (cont’d)

- Reference: 5
Case Study – Late Loss (cont’d)

Reference: 5
When to suspect a mesiodens?

- Mesiodens: a supernumerary tooth in the maxillary anterior midline
- Suspect a mesiodens if:
  - Maxillary permanent incisors have an asymmetric eruption pattern
  - Maxillary permanent incisors exhibit delayed eruption (+/- retained primary incisors)
  - Maxillary permanent incisor erupts ectopically

References: 6,7

Complications of a mesiodens

- Delayed eruption of permanent incisors
- Crowding
- Root / crown resorption of adjacent teeth
- Dentigerous cyst
- Removal usually necessary

Reference: 6

http://isdent.org/ArticleImage/2080ISD/isd-42-255-g006-l.jpg
When to extract a mesiodens?

- AAPD recommends extracting a mesiodens no earlier than the time of 2/3 root development of the adjacent incisors.
- This reduces the risk to the developing adjacent teeth posed by surgical extraction but there is still a chance for spontaneous eruption of the incisors.

Reference: 6

https://s3.amazonaws.com/rapgenius/1365193232_Guy-with-Question-Mark-over-his-headFotolia_102829_XS.jpeg
“Shark teeth”

- Common concern of parents (10%)
  - Reference 9

- What advice should you give them?

Questions?

- Thank you for your attention!


