Natal and Neonatal Teeth

Regina Rodman, MD
Faculty Advisor: Harold Pine, MD
The University of Texas Medical Branch
Department of Otolaryngology
Grand Rounds Presentation
November 22, 2010
What *are* natal and neonatal teeth?

- **Natal teeth** - teeth that are already present at the time of birth.
- **Neonatal teeth** - teeth which grow in during the first 30 days after birth.
Baby born with teeth!
# Timeline of tooth eruption

<table>
<thead>
<tr>
<th>Primary teeth</th>
<th>Central incisor</th>
<th>Lateral incisor</th>
<th>Canine</th>
<th>First premolar</th>
<th>Second premolar</th>
<th>First molar</th>
<th>Second molar</th>
<th>Third molar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maxillary teeth</td>
<td>10 mo</td>
<td>11 mo</td>
<td>19 mo</td>
<td>16 mo</td>
<td>29 mo</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mandibular teeth</td>
<td>8 mo</td>
<td>13 mo</td>
<td>20 mo</td>
<td>16 mo</td>
<td>27 mo</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Permanent teeth</th>
<th>Central incisor</th>
<th>Lateral incisor</th>
<th>Canine</th>
<th>First premolar</th>
<th>Second premolar</th>
<th>First molar</th>
<th>Second molar</th>
<th>Third molar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maxillary teeth</td>
<td>7–8 yr</td>
<td>8–9 yr</td>
<td>11–12 yr</td>
<td>10–11 yr</td>
<td>10–12 yr</td>
<td>6–7 yr</td>
<td>12–13 yr</td>
<td>17–21 yr</td>
</tr>
<tr>
<td>Mandibular teeth</td>
<td>6–7 yr</td>
<td>7–8 yr</td>
<td>9–10 yr</td>
<td>10–12 yr</td>
<td>11–12 yr</td>
<td>6–7 yr</td>
<td>11–13 yr</td>
<td>17–21 yr</td>
</tr>
</tbody>
</table>
What are natal and neonatal teeth?

- **Natal teeth** - teeth that are already present at the time of birth.
- **Neonatal teeth** - teeth which grow in during the first 30 days after birth.
- **Precocious Dentition** - teeth erupting during the 3-5th month of life
- **Normal Dentition** - 8 months
Shakespere in *Richard the Third*

“Marry, they say my uncle grew so fast
That he could gnaw a crust of bread at two hours old”

**King Henry the Sixth, Richard says about himself:**

“The midwife wondered; and the women cried,
‘O, Jesus bless us, he is born with teeth!’
And so I was; which plainly signified
That I should snarl and bite and play the dog.”
Cajus Plinius secundus, “The Elder” thought a splendid future awaited male children born with teeth and cited Manius Curius, who owed his nickname of “Dentatus” to this occurrence.

“Born with two teeth in his mouth an omen that he will be strong, fierce and harsh, but without fear”
Born Heroes

- England - children born with teeth will grow into famous soldiers
- France and Italy - they will "get on in the world"
- Sweeden - they can cure an injured finger if placed in the mouth
Ill Omen

- China- If a baby is born with teeth, it is an ill omen for the family. When the precocious teeth begin to bite, one of the parents will die. If it is a boy, the father, if a girl, the mother.
Premature death

- Denmark-
  “Old age dentition is a rare thing, just as are children born with teeth”  Hallager

- Italian and German proverb:  “The one whose teeth grow early, will sink early into the grave”
In some native African tribes, the child was put to death shortly after birth, as it was believed that natal teeth not only foretell disaster to the child, but to anyone with whom it comes into contact.
Reports vary widely, most certainly under reported because in some cultures great fear and negativity was associated with natal teeth.

Natal teeth are relatively uncommon, one review of 359 recorded cases suggests an incidence of 1 in at least 3,000 births.

- Ob/Gyn residency programs average 2,000-7,000 deliveries/ year.
- 2007 UTMB did 7,100

Natal teeth are more common that neonatal teeth, with a ratio about 3:1.
85% are the deciduous mandibular incisors
Location

- 85% mandibular incisor
- <.01% lateral mandibular incisor
- 2.5% other mandibular teeth
- 4% upper central incisors
- <.01% other maxillary teeth
In analysis by Bodenhoff

- 103 were prematurely erupted deciduous teeth
- 13 were supernumerary teeth.
  - Aka “hyperdontia”
  - Usually permanent
    - 0.8% deciduous
    - 2.1% permanent
Derived from the ectoderm of the first branchial arch, and the ectomesenchyme of the neural crest.

For human teeth to have a healthy oral environment, enamel, dentin, cementum, and the periodontium must all develop during appropriate stages of fetal development.

Primary (baby) teeth start to form between the sixth and eighth weeks.

Permanent teeth begin to form in the twentieth week.
1) Mandible
2) Anlage of the permanent tooth
3) Enamel organ
4) Enamel
5) Dentin
6) Labiogingival sulcus
There has been good agreement among histologic investigations.
- NO root formation, despite eruption
- Increased size of pulp with increased number of dilated blood vessels in the pulpal tissue as well as the odontoblasts
- No cementum formation.
The straight course of the dentinal tubules in the incisal part.

Irregular course of the dentinal tubules in the cervical area.

In the cervical part proper, the dentin is without tubules.
Etiology of Eruption Unknown

- Although researchers agree that tooth eruption is a complex process, there is little agreement on the identity of the mechanism that controls eruption.
- Some commonly held theories that have been disproven over time include:
  - the tooth is pushed upward into the mouth by the growth of the tooth's root.
  - the tooth is pushed upward by the growth of the bone around the tooth.
  - the tooth is pushed upward by vascular pressure
  - the tooth is pushed upward by the cushioned hammock
Etiology of Natal Teeth also unknown

- Unknown.
- Possible genetic link, as often occurs in same family.
- No clear genetic pattern has been identified.
- Gates thought it may be an irregular dominant trait, perhaps associated with an inhibitor gene, or the presence of two genes.
Natal teeth are usually not well formed, but they are firm enough that, because of their placement, they may cause irritation and injury to the infant's tongue when nursing. Natal teeth may also be uncomfortable for a nursing mother.
Frequently, natal teeth are removed shortly after birth while the newborn infant is still in the hospital.

*Must* be removed if the tooth is loose and the child runs a risk of aspiration, or "breathing in" the tooth.
Most of the time, natal teeth are not related to a medical condition. However, sometimes they may be associated with:

- Ellis-van Creveld Syndrome
- Hallermann-Streiff syndrome
- Jadassohn-Lewandowski Syndrome
- Soto syndrome
Ellis-van Creveld syndrome
(chondroectodermal dysplasia)

- Bimanual ulnar polydactyly
- Chondrodysplasia of long bones → dwarfism
- Hidrotic ectodermal dysplasia affecting nails
- Congenital heart malformations
Hallermann-Streiff syndrome (Oculomandibulo-dyscephaly)

- Parrot nose
- Mandibular hypoplasia
- Proportionate nanism
- Hypotrichosis
- Blue sclerae
- Congenital cataract
Jadassohn- Lewandowski syndrome (pachyonychia congenita)

- Congenital thickening of the nails
- Palmo-plantar keratosis
- Oral leukokeratosis (keratinized leukoplakia)
Soto Syndrome

- excessive physical growth during the first few years of life ➔ taller, heavier
- disproportionately large and long head with a slightly protrusive forehead
Natal teeth are relatively rare (1:3000 births), but you WILL likely see it in your career. We don’t know what causes it, possibly genetics. It’s awesome or scary, depending where you come from. The teeth are usually the lower incisors, and those are the first teeth to erupt normally (8 mo). They are usually premature deciduous teeth and will fall out, they have no roots, and are not well formed. You can pull them out if they are causing mouth ulcers, or pain to mother. They may be associated with syndromes, so a good physical exam is necessary.


Harris, *Craniofacial Growth and Development*, pp. 1–3.