Oral Health and Down Syndrome

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What is unique in people with Down syndrome?
Teeth

- Short roots
- Missing teeth
- Microdontia
  - Small teeth
  - Can result in spacing between the teeth
- Peg lateral incisors
  - Small lateral incisors

Hennequin et al, Developmental Medicine and Child Neurology 1999; 41: 275 - 283
Oral Health

- Fissured tongue
- Macroglossia
  - Large tongue
- Hypotonia
  - Low muscle tone
- Low muscle tone and large tongues lead to an open mouth posture

Hennequin et al Developmental Medicine and Child Neurology 1999; 41: 275 - 283
Malocclusion

- Small midface
- Small upper jaw
- Crossbites
  - Top teeth are inside the bottom teeth
  - Can happen in the front, back, or both
- Open bite
  - Top and bottom teeth do not touch
- Crowded teeth
- Impacted canines

Photo Courtesy of the American Academy of Pediatric Dentistry

Hennequin et al Developmental Medicine and Child Neurology 1999; 41: 275 - 283
Orthodontics

- May be best to defer braces or orthodontic treatment to allow for speech development which can be delayed by orthodontic appliances
Eruption of Baby Teeth

- **Upper Teeth**
  - Central Incisor: 8-12 Months
  - Lateral Incisor: 9-13 Months
  - Canine (Cuspid): 16-22 Months
  - First Molar: 13-19 Months
  - Second Molar: 25-33 Months

- **Lower Teeth**
  - Second Molar: 23-31 Months
  - First Molar: 14-18 Months
  - Canine (Cuspid): 17-23 Months
  - Lateral Incisor: 10-16 Months
  - Central Incisor: 6-10 Months

ADA.org
Eruption of Permanent Teeth

Upper Teeth
- Central Incisor: 7-8 Years
- Lateral Incisor: 8-9 Years
- Canine (Cuspid): 11-12 Years
- First Premolar (first bicuspид): 10-11 Years
- Second Premolar (second bicuspид): 10-12 Years
- First Molar: 6-7 Years
- Second Molar: 12-13 Years
- Third Molar (wisdom tooth): 17-21 Years

Lower Teeth
- Third Molar (wisdom tooth): 17-21 Years
- Second Molar: 11-13 Years
- First Molar: 6-7 Years
- Second Premolar (second bicuspид): 11-12 Years
- First Premolar (first bicuspид): 10-12 Years
- Canine (Cuspid): 9-10 Years
- Lateral Incisor: 7-8 Years
- Central Incisor: 6-7 Years
Delayed Eruption

- The 1st tooth in children with Down syndrome typically erupts at 12 to 14 months
  - Can be up to 24 months
- A child with Down syndrome may be 4 or 5 years old before all the baby teeth come in
- The order the teeth come in may be different than children without Down syndrome

Delayed Eruption

- Permanent front teeth and 6 year molars may not erupt until 8 - 9 years of age

Bruxism

- Bruxism
  - Tooth grinding
- Common in children
  - Typically resolves on its own
  - Typically does not damage the teeth
- In children with developmental disabilities
  - May be severe
  - May continue beyond childhood
- Mouthguards are avoided because they may break and be choking hazards
Periodontal Disease

- Increased periodontal disease
  - “Gum disease”
  - Even when compared to people of the same age with other intellectual disabilities and people without intellectual disabilities
- Disease not proportional to oral hygiene
- Due to impaired immunity

Ulseth et al Special Care Dentistry 1991; 11: 71 - 73
Risk of Cavities

- Data mixed
  - Some studies say fewer cavities
  - Other studies say no significant difference
- Many of the studies are from when people with Down syndrome were institutionalized and do not account for modern, non-institutionalized diets

Ulseth et al. Special Care Dentistry 1991; 11: 71 - 73
How can cavities be prevented?
Preventing Cavities

- Begin brushing with Fluoride tooth paste when the first teeth erupt
- The **first dental visit** should be within 6 months of first tooth eruption, no later than **12 months of age**
- Avoid carbohydrate containing liquids from a bottle or sippy cup, especially for long durations of time
- Avoid carbohydrate containing between meal snacks and drinks
Toothbrushing

• Before tooth eruption
  • Wipe mouth with a moistened cloth
• First tooth - 2 years
  • Soft toothbrush and a smear of F- toothpaste once per day
  • Do not rinse
• 2 - 6 years
  • Pea-sized amount of F- toothpaste twice daily
  • Spit, do not rinse
• > 6 years
  • F- toothpaste twice daily

Ramos-Gomezet al California Dental Association Journal 2010; 36: 746 - 760
Prevention Tips

• ACT Fluoride Rinse
  • Can dip a toothbrush in ACT and brush the teeth for children with sensory issues who cannot tolerate toothpaste
Prevention Tips

- Flosser
  - Handle helps to floss another person
  - Helps to protect fingers when flossing someone else
Prevention Tips

• Electric toothbrush
  • Can be helpful
  • Some people with developmental disabilities find it difficult to tolerate the vibration
  • Start with an inexpensive electric toothbrush to ensure it is tolerated before purchasing an expensive one
Visiting the Dentist
Antibiotics for Dental Visits

- People with certain heart conditions have to take antibiotics prior to going to the dentist
- Ask your cardiologist if antibiotics are needed for dental visits
- Make sure to let your dentist know about all health conditions especially heart conditions
Knee - to - Knee

Photo Courtesy of the University of Washington Department of Pediatric Dentistry
Sensory Issues or Aversions

- Light
- Sound of handpiece
- Sound of suction
- Water or air syringe
- Tastes and textures of gloves, gauze, dental materials
- Movement of chair
  - Before the exam consider laying the chair flat first rather than moving the chair with the patient in it
Many people with Down syndrome can cooperate for dental care in the traditional office setting.

In-office sedation may not be appropriate for some people with Down syndrome due to:
- Small airway
- Low muscle tone causing airway collapse
- Large tongue

General anesthesia may be needed to complete dental treatment.
Resources

- Ask other people with Down syndrome and their families for recommendations
Resources

• American Academy of Pediatric Dentistry
  • www.aapd.org/findedentist
• Pediatric dentists receive an extra 2 – 3 years of training beyond dental school in caring for children, including those with special needs
Resources

• Special Care Dentistry Association
  • www.scdaonline.org
  • Click on “Online Referral System”
Resources

- Your local dental school will typically have residents or faculty who are experienced in caring for people with Down syndrome
Some hospitals have dental departments and these dentists are typically trained in caring for people with Down syndrome.
References


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