

# Oral Health and Down Syndrome

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What is unique in people  
with Down syndrome?

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# Teeth

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



# Oral Health

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- 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

Desai et al *Oral Surgery Oral Medicine Oral Pathology Oral Radiology* 1997; 84: 279 - 285

# 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

Zigmond et al *Journal of Intellectual Disability Research* 2006; 50: 492 - 500

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

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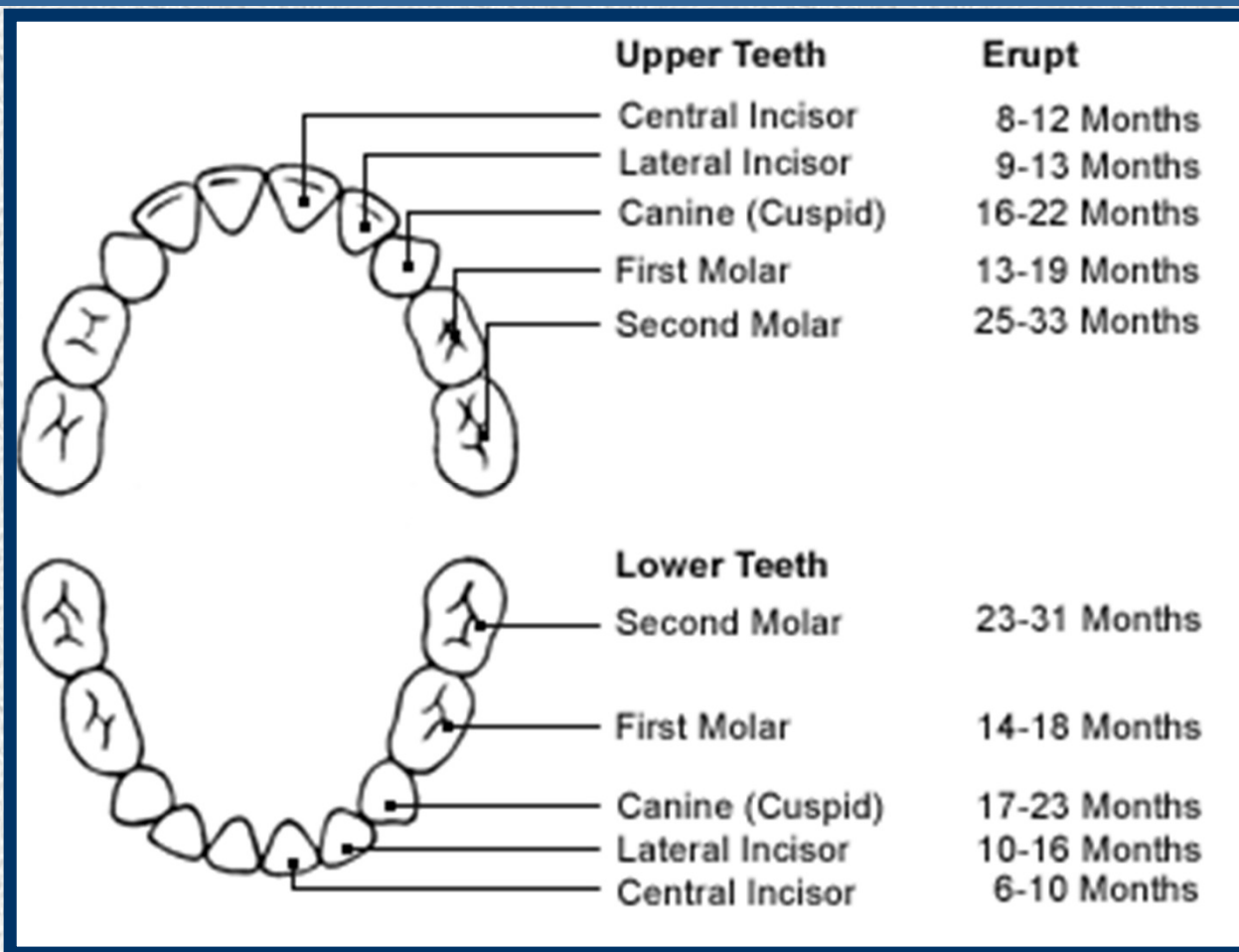
# Orthodontics

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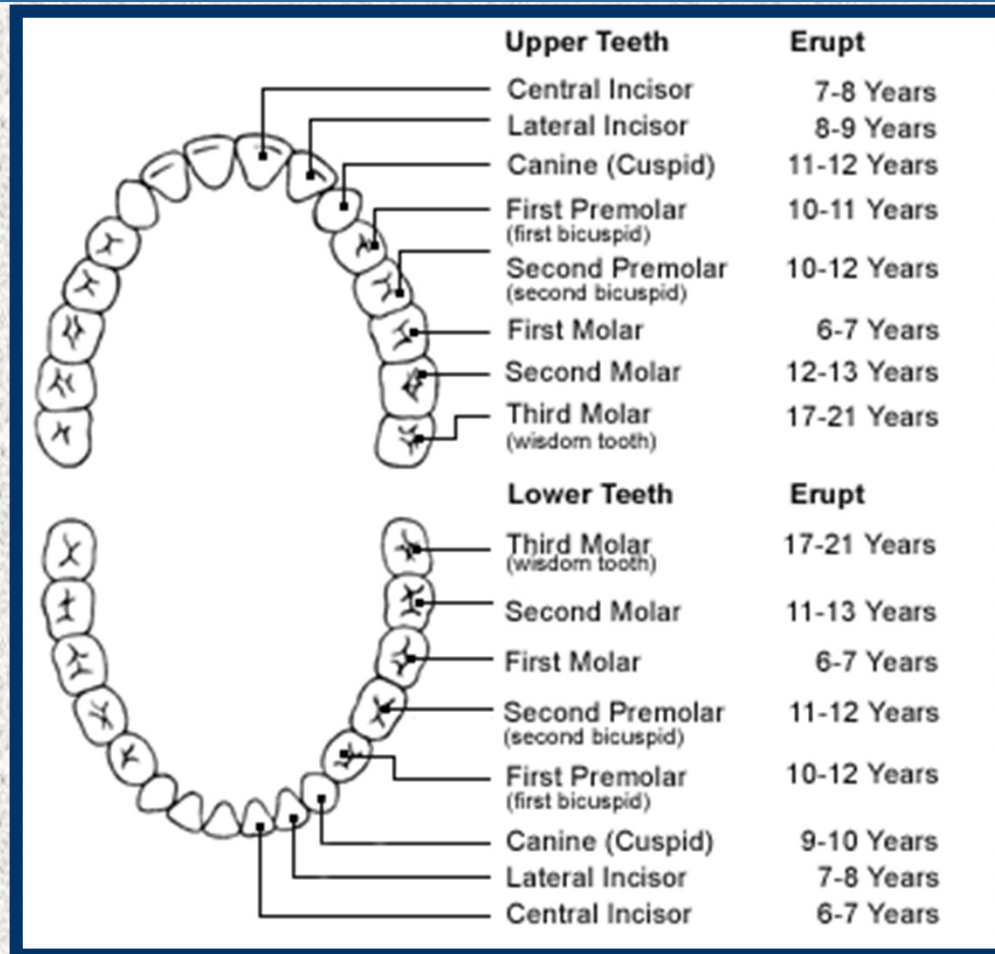
- May be best to defer braces or orthodontic treatment to allow for speech development which can be delayed by orthodontic appliances



# Eruption of Baby Teeth



# Eruption of Permanent Teeth

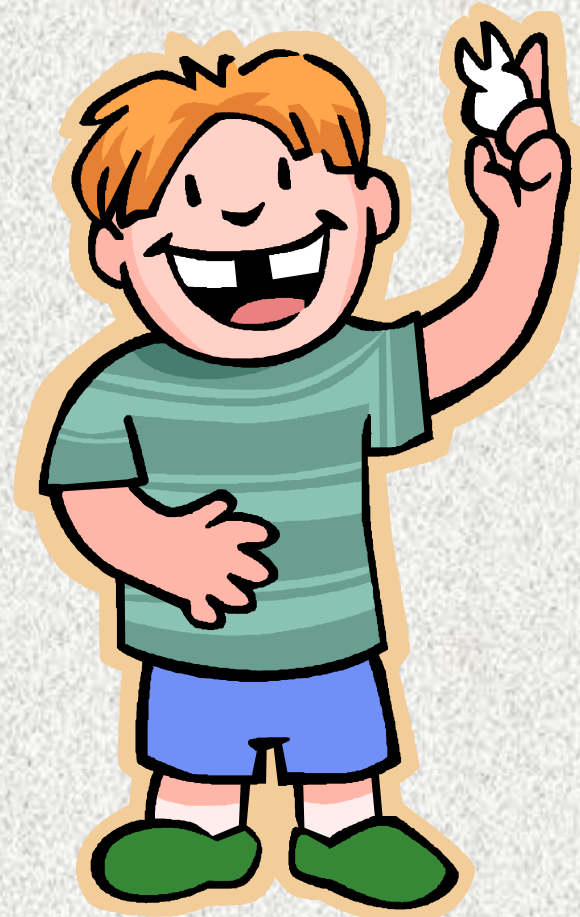




# Delayed Eruption

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- 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

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



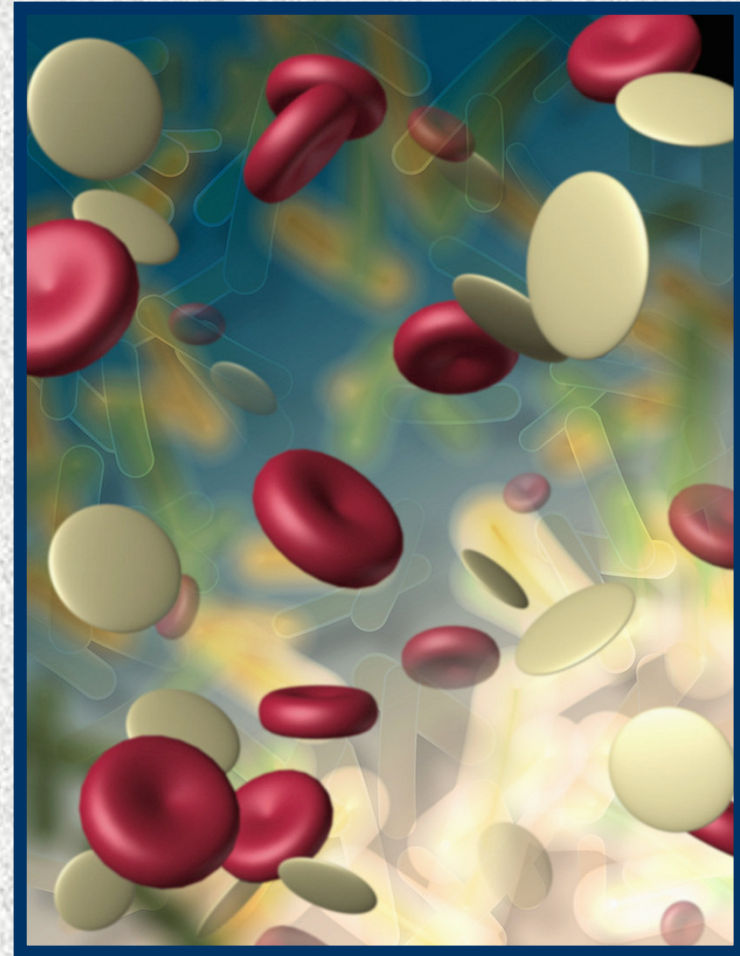
# Bruxism

- 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



Cichon et al *Annals of Periodontology* 1998; 3: 370 - 380

Ulseth et al *Special Care Dentistry* 1991; 11: 71 - 73

Zigmond et al *Journal of Intellectual Disability Research* 2006; 50: 492 - 500

# 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



# How can cavities be prevented ?

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Photo Courtesy of the American Academy of Pediatric Dentistry

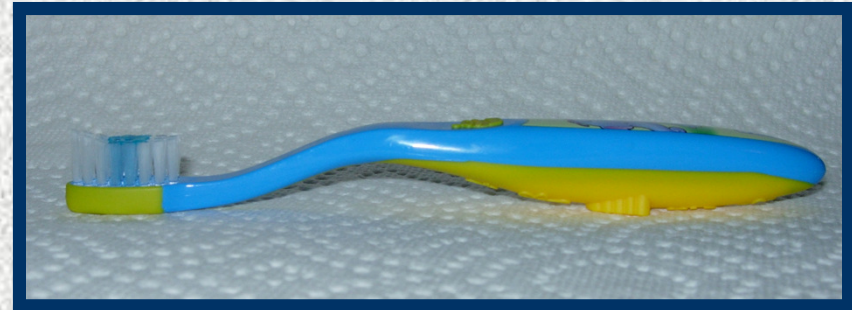
# Preventing Cavities

- 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



Smear



Pea-sized amount



# Prevention Tips

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



# Prevention Tips

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



# Prevention Tips

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- 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

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# Antibiotics for Dental Visits

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- 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



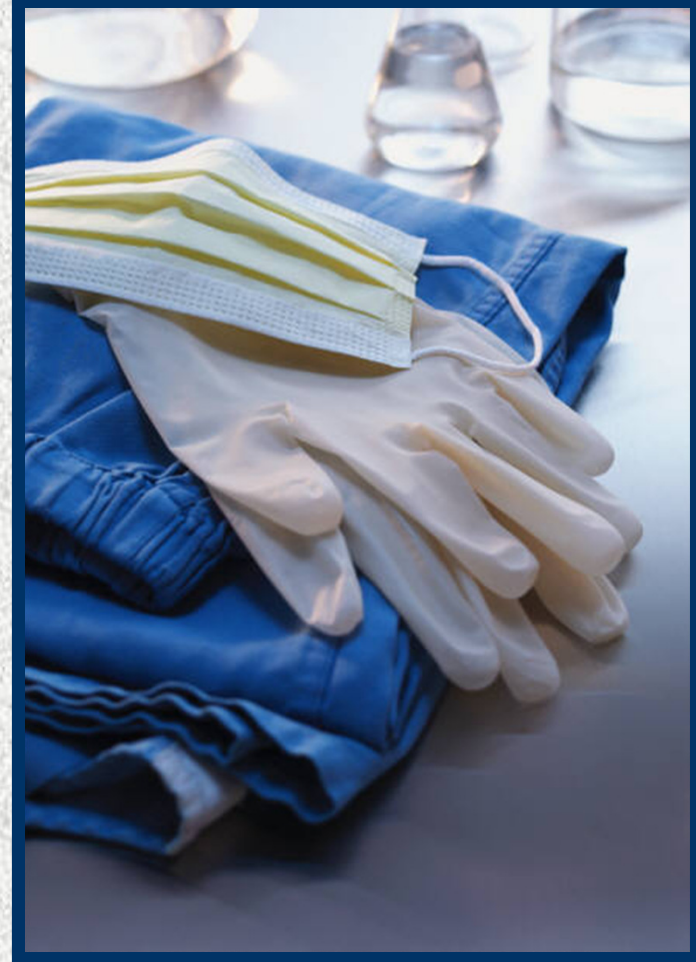
# Knee - to - Knee



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



# Treatment Options

- 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

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



# Resources

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- American Academy of Pediatric Dentistry
  - [www.aapd.org/finddentist](http://www.aapd.org/finddentist)
- Pediatric dentists receive an extra 2 – 3 years of training beyond dental school in caring for children, including those with special needs



# Resources

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- Special Care Dentistry Association
  - [www.scdaonline.org](http://www.scdaonline.org)
  - Click on “Online Referral System”



# Resources

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- Your local dental school will typically have residents or faculty who are experienced in caring for people with Down syndrome



# Resources

- Some hospitals have dental departments and these dentists are typically trained in caring for people with Down syndrome



# References

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