

Oral Health Fact Sheet for Dental Professionals

Children with Cerebral Palsy

Cerebral palsy is a disorder of movement and posture caused by nonprogressive abnormality of the immature brain that originates during the prenatal or perinatal period or first few years of life. This results in significant impairment of functional mobility. The four major subtypes are spastic, dyskinetic/athetoid (slow, writhing involuntary muscle movement), ataxic (low muscle tone and poor coordination), and mixed cerebral palsy, with spastic forms being the most common. (ICD 9 code 343.9)

Prevalence

- <1%
- 1.5:1 higher incidence in boys and higher incidence in African-Americans
- Increasing incidence: Modern medical technology allows improved survival in perinatal period
- Diagnosis based on recognition of significant delays in motor development

Manifestations

Clinical

- Intellectual disability (60% of patients)
- Seizure disorder (30-50% of patients)
- Delayed motor development
- Limb spasticity
- Persistent primitive reflexes
- Involuntary movements, and ataxia

Oral

- Increased risk for dental caries and periodontal disease
- Enamel hypoplasia
- Dental erosion due to gastroesophageal reflux that can increase thermal sensitivity and in significant cases cause pain
- Delayed eruption of permanent teeth
- Dilantin hyperplasia for those with epilepsy
- Increased incidence of Class II Div I malocclusion
- Increased risk for oral trauma and injury
- Others: Tongue thrust, mouth breathing, hyperactive or hypoactive gag reflex, dysphagia, oral hypersensitivity (overreaction to touch, taste, or smell), prolonged and exaggerated bite reflexes, bruxism, sialorrhea, poor oral hygiene, and food pouching.

Other Potential Disorders/Concerns

- Speech/communication disorders
- Vision and hearing impairments

Management

Medication

SYMPTOM	MEDICATION	SIDE EFFECTS
Control spasticity and rigidity	<i>Diazepam (Valium)</i>	Excessive drooling
	<i>Anticonvulsants</i>	Gingival hyperplasia, xerostomia , dysgeusia, stomatitis
	<i>Anticholinergics</i>	Xerostomia, bruxism
	<i>Muscle relaxants (antispasmodics)</i>	Xerostomia

Children with Cerebral Palsy continued

Drug Interactions

- Local anesthetics can be used without adverse reactions-unless specified by a specific drug the patient is taking.
- Some muscle relaxants and anticholinergics cause CNS depression and potentiate other CNS depressants used in dentistry; exercise caution with the use of Clonidine; conscious sedation is not recommended.

Behavioral: Difficulty cooperating in the dental chair.

Guidance:

- The degree of intellectual disability varies with each child. Some children may have normal cognition, while others may have severe deficit. Explain each procedure at a level the child understands.
- Use short, clear instructions. Give only one direction at a time. Place dental instruments slowly into mouth and place child's chin in downward position to mitigate hyperactive gag reflex. Consider using a mouth prop with dental floss attached.
- Listen actively. Be sensitive to communication methods the child uses- including gestures and verbal/nonverbal requests. Consult with caregiver if unable to understand patient's speech.
- Develop trust and consistency between the dental staff and the child. Use the same staff, dental operatory, and appointment time each visit if appropriate.
- Use the Tell-Show-Do approach when introducing new instruments or procedures as appropriate by age.
- Do not force limbs into unnatural positions or attempt to stop uncontrolled body movements. Exert a firm, gentle pressure to calm shaking limbs.
- Minimize lights, sounds, and sudden movements that trigger primitive reflexes or uncontrolled movements. Inform patient of any stimulus before it appears.

Dental Treatment and Prevention

- Children in wheelchairs may more easily be treated in the wheelchair- lock wheels, use sliding board to support back, head, and neck, and recline wheelchair if possible.
- Consider daily use of Chlorhexidine or other antimicrobial agents.
- Determine orthodontic needs for malocclusion; treatment may be feasible.
- Consider mouth guards to treat severe bruxism; only if gagging/dysphasia allow comfortable use
- General anesthesia is often indicated to accomplish restorative or surgical treatment
- Caregivers may benefit from guidance regarding oral home care. Brushing in a supine position with a mouth prop may be indicated.

It is not uncommon to encounter patients who are tube-fed among the population of Children with Special Healthcare Needs. Patients fed by tube typically have low caries, rapid accumulation of calculus, GERD (Gastro-esophageal Reflux Disease), oral hypersensitivity, and are at high risk for aspiration in the dental chair. No antibiotic premedication is needed for Gastric or Nasogastric tubes. Position the patient in as upright a position as possible and utilize low amounts of water and high volume suction to minimize aspiration.

Considerations due to associated medical conditions:

- Seizure management during treatment: **Remove** all dental instruments from the mouth. **Clear** the area around the dental chair. **Stay** with the child and turn child to one side. **Monitor** airway to reduce risk of aspiration. **Note time** seizure begins: if seizure continues >3 min call **EMS** – Danger of Status Epilepticus (potentially life threatening). Use suction frequently as tolerated by child.
- Review safety issues in office to prevent accidents such as slipping on rugs, etc.

Look for signs of physical abuse during the examination. Note findings in chart and report any suspected abuse to Child Protective Services, as required by law. Abuse is more common in children with developmental disabilities and often manifests in oral trauma.

Additional information: [Special Needs Fact Sheets for Providers and Caregivers](#)

Children with Cerebral Palsy continued

References

- Goncalves, GK, Carmagani, FG., Correa, M.S., Duarte, D.A., Santos, MTBR. (2008) Dental erosion in cerebral palsy patients. *J Dent Child*, 75(2): 117-120.
- Rodrigues dos Santos, M.T., Masiero, D., Novo, NF, Simionato, MR. (2003) Oral conditions in children with cerebral palsy. *J Dent Child*, 70(1): 40-46.
- Dymont, H.A., Casas, M.J. 1999 Dental care for children fed by tube: a critical review. *Spec Care Dentist*, 19(5):220-4. Review.

Additional Resources

- [NIH Institute for Cerebral Palsy](#)
- [Special Care: an Oral Health Professionals Guide to Serving Young Children with Special Health Care Needs](#)
- [Bright Futures Oral Health Pocket Guide](#)
- [American Academy of Pediatric Dentistry: 2011–2012 Definitions, Oral Health Policies and Clinical Guidelines](#)
- [MCH Resource Center](#)
- [ASTDD-Special Needs](#)
- [Block Oral Disease, MA](#)
- [NOHIC-NIDCR publications](#)
- Free of charge CDE courses: [MCH Oral Health CDE](#) (4 CDE hours); [NIDCR CDE](#) (2 CDE hours)