Practical Care for People With Cerebral Palsy

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Providing oral care to people with cerebral palsy requires adaptation of the skills you use every day. In fact, most people with mild or moderate forms of cerebral palsy can be treated successfully in the general practice setting. This booklet will help you make a difference in the lives of people who need professional oral care.

Cerebral palsy is a complex group of motor abnormalities and functional impairments that affect muscle coordination. This developmental disability may be associated with uncontrolled body movements, seizure disorders, balance-related abnormalities, sensory dysfunction, and intellectual disability. For some, the disorder is mild, causing movements to appear merely clumsy or awkward. These patients may need little or no day-to-day supervision. Others, however, experience such severe forms of cerebral palsy that they require a wheelchair and a lifetime of personal care.

Cerebral palsy itself does not cause any unique oral abnormalities. However, several conditions are more common or more severe in people with cerebral palsy than in the general population.

Health Challenges in Cerebral Palsy and Strategies for Care

People with cerebral palsy may present with physical and mental challenges that have implications for oral care. Before the appointment, obtain and review the patient's medical history. Consultation with physicians, family, and caregivers is essential to assembling an accurate medical history. Also, determine who can legally provide informed consent for treatment.

The different **TYPES of CEREBRAL PALSY** are classified according to associated motor impairments:

Spastic palsy presents with stiff or rigid muscles on one side of the body or in all four limbs, sometimes including the mouth, tongue, and pharynx. People with this form of cerebral palsy may have legs that turn inward and scissor as they walk, or arms that are flexed and positioned against their bodies. Many also have intellectual disability, seizures, and dysarthria (difficulty speaking).

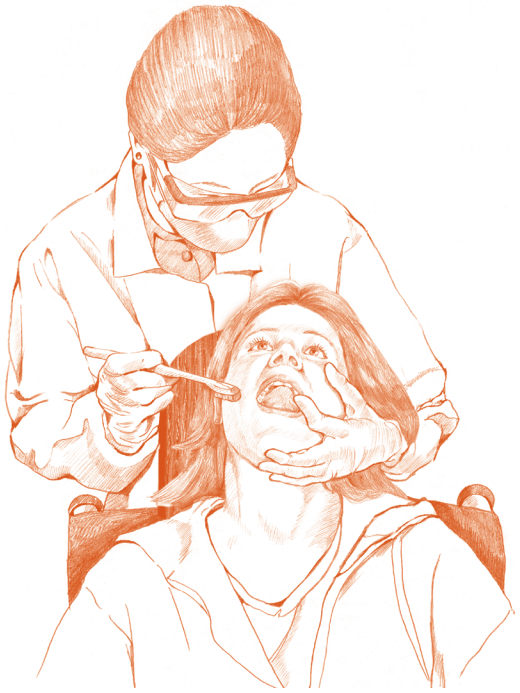
Dyskinetic or **athetoid palsy** is characterized by hypotonia and slow, uncontrolled writhing movements. People with this type of cerebral palsy experience frequent changes in muscle tone in all areas of their bodies; muscles may be rigid during waking hours and normal during sleep. Dysarthria is also associated with this type.

Ataxic palsy is marked by problems with balance and depth perception, as well as an unsteady, wide-based gait. Hypotonia and tremors sometimes occur in people with this rare type of cerebral palsy.

Combined palsy reflects a combination of these types.

Everyone who has cerebral palsy has problems with movement and posture. Observe each patient, then tailor your care accordingly.

- Maintain clear paths for movement throughout the treatment setting. Keep instruments and equipment out of the patient's way.
- Some patients cannot be moved into the dental chair but instead must be treated in their wheelchairs. Some wheelchairs recline or are specially molded to fit people's bodies. Lock the wheels, then slip a sliding board (also called a transfer board) behind the patient's back to support the head and neck.
- If you need to transfer your patient from a wheelchair to the dental chair, ask about special preferences such as padding, pillows, or other things you can provide to ease the transition. The patient or caregiver can often explain how to make a smooth transfer. (See *Wheelchair Transfer: A Health Care Provider's Guide,* also part of this series.)



Positioning for treating a patient in a wheelchair. Note the support a sliding board can provide. Sliding or transfer boards are available from home health care companies.

CEREBRAL PALSY

UNCONTROLLED BODY MOVEMENTS are common in people with cerebral palsy. Their limbs move often, so providing oral care can be difficult. When patients with cerebral palsy attempt to move in order to help, their muscles often tense, increasing uncontrolled movements.

- Make the treatment environment calm and supportive. Try to help your patient relax. Relaxation will not stop uncontrolled body movements, but it may reduce their frequency or intensity.
- Place and maintain your patient in the center of the dental chair. Do not force arms and legs into unnatural positions, but allow the patient to settle into a position that is comfortable and will not interfere with dental treatment.
- Observe your patient's movements and look for patterns to help you anticipate direction and intensity. Trying to stop these movements may only intensify the involuntary response. Try instead to anticipate the movements, blending your movements with those of your patient or working around them.
- Softly cradle your patient's head during treatment. Be gentle and slow if you need to turn the patient's head.
- Exert gentle but firm pressure on your patient's arm or leg if it begins to shake.
- Try to keep appointments short, take frequent breaks, or consider prescribing muscle relaxants when long procedures are needed. People with cerebral palsy may need sedation, general anesthesia, or hospitalization if extensive dental treatment is required.

PRIMITIVE REFLEXES are common in many people with cerebral palsy and may complicate oral care. These reflexes often occur when the head is moved or the patient is startled, and efforts to control them may make them more intense. Three types of reflexes are most commonly observed during oral care.

Asymmetric tonic neck reflex: When a patient's head is turned, the arm and leg on that side stiffen and extend. The arm and leg on the opposite side flex.

Tonic labyrinthine reflex: If the neck is extended while a patient is lying on his or her back, the legs and arms also extend, and the back and neck arch.

Startle reflex: Any surprising stimuli, such as noises, lights, or a sudden movement on your part, can trigger uncontrolled, often forceful movements involving the whole body.

- Be empathic about your patient's concerns and frustrations.
- Minimize the number of distractions in the treatment setting. Movements, lights, sounds, or other stimuli can make it difficult for your patient to cooperate. Tell him or her about any such stimulus before it appears. For example, tell the patient before you move the dental chair.

MENTAL CAPABILITIES vary. Many people with cerebral palsy have mild or moderate intellectual disability, but only 25 percent have a severe form. Some have normal intelligence.

- Talk with the parent or caregiver to determine your patient's intellectual and functional abilities, then explain each procedure at a level the patient can understand. Allow extra time to explain oral health issues, instructions, or procedures.
- Use simple, concrete instructions and repeat them often to compensate for any short-term memory problems. Speak

Observe your patient's movements. Try to blend your movements with those of your patient.

slowly and give only one direction at a time.

- Demonstrations can make patients more cooperative. For example, turn on the saliva ejector so the patient can hear it and feel it at the corner of the mouth. Then slowly introduce it inside the mouth, being careful not to trigger a gag reflex.
- Be consistent in all aspects of oral care. Use the same staff and dental operatory each time to help sustain familiarity. Consistency leads to improved cooperation.
- Listen actively, since communicating clearly is difficult for some—show your patient whether you understand. Be sensitive to the methods he or she uses to communicate, including gestures and verbal or nonverbal requests.

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SEIZURES may accompany cerebral palsy, but can usually be controlled with anticonvulsant medications. The mouth is always at risk during a seizure: Patients may chip teeth or bite the tongue or cheeks. Patients with controlled seizure disorders can easily be treated in the general dental office.

- Consult your patient's physician. Record information in the chart about the frequency of seizures and the medications used to control them. Determine before the appointment whether medications have been taken as directed. Know and avoid any factors that trigger your patient's seizures.
- Be prepared to manage a seizure. If one occurs during oral care, remove any instruments from the mouth and clear the area around the dental chair. Attaching dental floss to rubber dam clamps and mouth props when treatment begins can help you remove them quickly. Do not attempt to insert any objects between the teeth during a seizure.
- Stay with your patient, turn him or her to one side, and monitor the airway to reduce the risk of aspiration.

VISUAL IMPAIRMENTS affect a large number of people with cerebral palsy. The most common of these defects is strabismus, a condition in which the eyes are crossed or misaligned. People with cerebral palsy may develop visual motor skills, such as hand-eye coordination, later than other people.

- Determine the level of assistance your patient requires to move safely through the dental office.
- Use your patients' other senses to connect with them, establish trust, and make treatment a good experience. Tactile feedback, such as a warm handshake, can make your patients feel comfortable.
- Face your patients when you speak and keep them apprised of each upcoming step, especially when water will be used. Rely on clear, descriptive language to explain procedures and demonstrate how equipment might feel and sound. Provide written instructions in large print (16 point or larger).

HEARING LOSS and DEAFNESS can be accommodated with careful planning. Patients with a hearing problem may appear to be stubborn because of their seeming lack of response to a request.

- Patients may want to adjust their hearing aids or turn them off, since the sound of some instruments may cause auditory discomfort.

- If your patient reads lips, speak in a normal cadence and tone. If your patient uses a form of sign language, ask the interpreter to come to the appointment. Speak with this person in advance to discuss dental terms and your patient's needs.
- Visual feedback is helpful. Maintain eye contact with your patient. Before talking, eliminate background noise (turn off the radio and the suction). Sometimes people with a hearing loss simply need you to speak clearly in a slightly louder voice than normal. Remember to remove your facemask first or wear a clear face shield.

DYSARTHRIA is common in people with cerebral palsy, due to problems involving the muscles that control speech and mastication.

- Be patient. Allow time for your patient to express himself or herself. Remember that many people with dysarthria have normal intelligence.
- Consult with the caregiver if you have difficulty understanding your patient's speech.

GASTROESOPHAGEAL REFLUX sometimes affects people with cerebral palsy, including those who are tube-fed. Teeth may be sensitive or display signs of erosion. Consult your patient's physician about the management of reflux.

- Place patients in a slightly upright position for treatment.
- Talk with patients and caregivers about rinsing with plain water or a water and baking soda solution. Doing so at least four times a day can help mitigate the effects of gastric acid. Stress that using a fluoride gel, rinse, or toothpaste every day is essential.

Record in the patient's chart strategies that were successful in providing care. Note your patient's preferences and other unique details that will facilitate treatment, such as music, comfort items, and flavor choices.

Oral Health Problems in Cerebral Palsy and Strategies for Care

Cerebral palsy itself does not cause any unique oral abnormalities. However, several conditions are more common or more severe in people with cerebral palsy than in the general population.

PERIODONTAL DISEASE is common in people with cerebral palsy due to poor oral hygiene and complications of oral habits, physical abilities, and malocclusion. Another factor is the gingival hyperplasia caused by medications.

- Encourage independence in daily oral hygiene. Ask patients to show you how they brush, and follow up with specific recommendations on brushing methods or toothbrush adaptations. Involve your patients in hands-on demonstrations of brushing and flossing.
- Some patients cannot brush and floss independently because of impaired physical coordination or cognitive skills. Talk to caregivers about daily oral hygiene. Do not assume that all caregivers know the basics; demonstrate proper brushing and flossing techniques. A power toothbrush or a floss holder can simplify oral care. Also, use your experiences with each patient to demonstrate sitting or standing positions for the caregiver. Emphasize that a consistent approach to oral hygiene is

important—caregivers should try to use the same location, timing, and positioning.

- Explain that some patients benefit from the daily use of an antimicrobial agent such as chlorhexidine. Recommend an appropriate delivery method based on your patient's abilities. Rinsing, for example, may not work for a patient with swallowing difficulties or one who cannot expectorate. Chlorhexidine applied using a spray bottle or toothbrush is equally efficacious.
- If use of particular medications has led to gingival hyperplasia, monitor for possible delayed tooth eruption and emphasize the importance of daily oral hygiene and frequent professional cleanings.

DENTAL CARIES is prevalent among people with cerebral palsy, primarily because of inadequate oral hygiene. Other risk factors include mouth breathing, the effects of medication, enamel hypoplasia, and food pouching.

- Caution patients or their caregivers about medicines that reduce saliva or contain sugar. Suggest that patients drink water often, take sugar-free medicines when available, and rinse with water after taking any medicine.
- Advise caregivers to offer alternatives to cariogenic foods and beverages as incentives or rewards.
- For people who pouch food, talk to caregivers about inspecting the mouth after each meal or dose of medicine. Remove food or medicine from the mouth by rinsing with water, sweeping the mouth with a finger wrapped in gauze, or using a disposable foam applicator swab.
- Recommend preventive measures such as fluorides and sealants.

MALOCCLUSION in people with cerebral palsy usually involves more than just misaligned teeth—it is also a musculoskeletal problem. An open bite with protruding anterior teeth is common and is typically associated with tongue thrusting. The inability to close the lips because of an open bite also contributes to excessive drooling.

Unfortunately, correcting malocclusion is almost impossible in people with moderate or severe cerebral palsy. Orthodontic treatment may not be an option because of the risk of caries and enamel hypoplasia. However, a developmental disability in and of itself should not be perceived as a barrier to orthodontic treatment.

- The ability of the patient or the caregiver to maintain good daily oral hygiene is critical to the feasibility and success of orthodontic treatment.
- Inform caregivers of emergency procedures for accidents involving oral trauma, since protruding anterior teeth are more likely to be displaced, fractured, or avulsed.

DYSPHAGIA, difficulty with swallowing, is often a problem in people with cerebral palsy. Food may stay in the mouth longer than usual, increasing the risk for caries. Additionally, the semi-soft foods caregivers may prepare for people with this problem tend to adhere to the teeth. Coughing, gagging, choking, and aspiration are other related concerns.

- Keep the breathing passages open by placing your patient in a slightly upright position with the head turned to one side during oral care.
- Use suction frequently or as tolerated by the patient. Use a rubber dam when indicated, but make sure you introduce it slowly, perhaps over a few appointments.

- Advise the caregiver to inspect the patient's mouth after eating and remove any residual food.

DROOLING affects daily oral care as well as social interaction. Hypotonia contributes to drooling, as does an open bite and the inability to close the lips.

BRUXISM is common in people with cerebral palsy, especially those with severe forms of the disorder. Bruxism can be intense and persistent and cause the teeth to wear prematurely. Before recommending mouth guards or bite splints, consider that gagging or swallowing problems may make them uncomfortable or unwearable.

HYPERACTIVE BITE and GAG REFLEXES call for introducing instruments gently into the mouth. Consider using a mouth prop. A patient with a gagging problem benefits from an early morning appointment, before eating or drinking. Help minimize the gag reflex by placing your patient's chin in a neutral or downward position.

TRAUMA and INJURY to the mouth from falls or accidents occur in people with cerebral palsy. Suggest a tooth-saving kit for group homes. Emphasize to caregivers that traumas require immediate professional attention and explain the procedures to follow if a permanent tooth is knocked out. Also, instruct caregivers to locate any missing pieces of a fractured tooth, and explain that radiographs of the patient's chest may be necessary to determine whether any fragments have been aspirated.

Physical abuse often presents as oral trauma. Abuse is reported more frequently in people with developmental disabilities than in the general population. If you suspect that a child is being abused or neglected, State laws require that you call your Child Protective Services agency. Assistance is also available from the Childhelp® National Child Abuse Hotline at (800) 422–4453 or the Child Welfare Information Gateway (*www.childwelfare.gov*).

Making a difference in the oral health of a person with cerebral palsy may go slowly at first, but determination can bring positive results—and invaluable rewards. by adopting the strategies discussed in this booklet, you can have a significant impact not only on your patients' oral health, but on their quality of life as well.

Additional Readings

Pelligrino, L. Cerebral Palsy. In Batshaw ML, Pellegrino L, Roizen NJ (eds.). *Children With Disabilities* (6th ed.). Baltimore, MD: Paul H. Brookes Publishing Co., 2007.

Weddell JA, Sanders BJ, Jones JE. Dental problems of children with disabilities. In McDonald RE, Avery DR, Dean JA. *Dentistry for the Child and Adolescent* (8th ed.). St. Louis, MO: Mosby, 2004. pp. 543–546.

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TIPS FOR CAREGIVERS ARE AVAILABLE IN THE BOOKLET *DENTAL CARE EVERY DAY: A CAREGIVER'S GUIDE,* ALSO PART OF THIS SERIES.

Practical Oral Care for People With Developmental Disabilities

Making a Difference

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This booklet is one in a series on providing oral care for people with mild or moderate developmental disabilities. The issues and care strategies listed are intended to provide general guidance on how to manage various oral health challenges common in people with cerebral palsy.

Other booklets in this series:

Continuing Education: Practical Oral Care for People With Developmental Disabilities

Practical Oral Care for People With Autism

Practical Oral Care for People With Down Syndrome

Practical Oral Care for People With Intellectual Disability

Wheelchair Transfer: A Health Care Provider's Guide

Dental Care Every Day: A Caregiver's Guide

For additional copies of this booklet, contact

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