The Patient with Special Needs: General Treatment Considerations

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Continuing Education Units: 3 hours


Disclaimer: Participants must always be aware of the hazards of using limited knowledge in integrating new techniques or procedures into their practice. Only sound evidence-based dentistry should be used in patient therapy.

Patients with disabilities, who make up a large segment of the population, are often overlooked when it comes to oral health care for a variety of reasons. However, it is our responsibility as dental health care professionals to meet the needs of this very special group of patients.

Conflict of Interest Disclosure Statement
• The author reports no conflicts of interest associated with this course.

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Overview

When you hear the term patients with “special needs” or “special care treatment” what comes to mind? As dental professionals we learn that every patient is an individual with his or her own set of special needs. A patient’s gender, age, race, culture, language, economic status, values, beliefs and past dental experiences all affect their treatment. The first dental visit for the pediatric patient, the emergency radiograph for the pregnant patient, or seating the geriatric patient with arthritis will not follow the same protocol.

While most dental patients can receive oral health care in private practice settings, some patients have medical, physical or mental conditions that require adaptations to treatment beyond routine. Patients with disabilities, who make up a large segment of the population, are often overlooked when it comes to oral health care for a variety of reasons. However, it is our responsibility as dental health care professionals to meet the needs of this very special group of patients.

Learning Objectives

Upon completion of this course, the dental professional should be able to:
• Define disability.
• Recognize the “patient with special needs.”
• Discuss deinstitutionalization.
• Identify reasons why preventive dental care is important for the patient with special needs.
• Describe the problems associated with access to oral health care for the special needs patient.
• Define the role of the dental team in providing care for the patient with special needs.
• Define special care dentistry.
• Consider physical factors in the office that influence provision of dental care for the special needs patient.
• State design characteristics of a barrier-free or universal design environment.
• Discuss simple design changes to an existing facility to improve access for disabled individuals.
• Discuss issues that may impact appointment schedules and treatment planning.
• List methods that will help desensitize the patient to dental treatment.
• Describe the rationale, methods and contraindications for use of protective body stabilization during dental treatment.
• Describe the rationale and precautions for use of a commercial and office-fabricated mouth prop.
• List the information that is necessary for proper record documentation for use of protective stabilization during dental care.

Course Contents
• Glossary
• Defining Disabilities
• Statistics
• Deinstitutionalization
• Oral Health and the Disabled
• Special Care Dentistry (SCD)
  • Creating a Barrier-free Environment
  • Assessment, Planning and Appointment Scheduling
• Desensitization
• Protective Body Stabilization
• Access to Care
• Conclusion
• Course Test
• References
• About the Author

Glossary
anomaly – Irregularity; deviation from normal.
Defining Disabilities
The Americans with Disabilities Act (ADA) of 1992 defines a disability “as a physical or mental impairment that substantially limits one or more major life activities such as caring for one’s self, performing manual tasks, walking, seeing, hearing, speaking, breathing, learning and working.” Several conditions that may allow one to qualify as disabled are orthopedic, visual, speech and hearing impairments, cerebral palsy, muscular dystrophy, multiple sclerosis, mental retardation, and specific learning disabilities. Less obvious impairments include epilepsy, cancer, heart disease, diabetes, emotional illness, drug addiction, and alcoholism.¹

Developmental disabilities occur during the period when most body systems of a child are developing before birth, at birth or before the age of 22 years and usually last a lifetime. Those with developmental disabilities often have several impairments and may have limitations in learning, communication and living independently. Cerebral palsy and mental retardation are examples of developmental disabilities. Acquired disabilities are the result of disease, trauma or injury to the body and include spinal cord paralysis, limb amputation and arthritis.² Both categories of disabilities may require the aid of a caregiver.

When providing dental care for individuals with disabilities, the dental healthcare team is treating “patients with special needs.” The Commission on Dental Accreditation (CODA), a branch of the ADA responsible for setting the standards for dental education, defines special needs patients as “those patients whose medical, physical, psychological, or social situations make it necessary to modify normal dental routines in order to provide dental treatment for that individual... people with developmental disabilities, complex medical problems, and significant physical limitations.”³

Statistics
What do these statistics mean to dental professionals and the populations we serve? There are currently 54 million people in the United States living with some type of disability (Table 1).⁴ Seventeen percent of children under 18 have a developmental disability. In 2000, U.S. births included:
- 12,500 children with cerebral palsy
- 5,000 children with hearing loss
- 4,400 children with vision impairment

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*Arthritis* – Inflammation of a joint, usually accompanied by pain, swelling and frequently changes in structure.

*Asthma* – A disorder of respiration marked by labored breathing.

*Bacterial endocarditis* – An infection of either the heart’s inner lining or the heart valves, caused by bacteria usually found in the mouth, intestinal tract or urinary tract.

*Cerebral palsy* – A group of problems that affects body movement and posture. It is related to a brain injury or to problems with brain growth, causing reflex movements that a person can’t control and muscle tightness that may affect parts or all of the body.

*Chronic* – Of long duration; designating a disease showing little change or of slow progression, opposite of acute.

*Contraindications* – Any symptom or circumstance indicating the inappropriateness of a form of treatment otherwise advisable.

*Epilepsy* – Convulsive disorder characterized by muscular spasms and loss of consciousness.

*Malocclusion* – A misalignment of teeth and/or incorrect relation between the teeth of the two dental arches.

*Multiple sclerosis* – An inflammatory disease of the central nervous system.

*Muscular dystrophy* – Wasting away and atrophy of muscles.

*Orthopedic* – Prevention or correction of deformities.

*Orthopedics* – Branch of medicine dealing with the surgery of bones and joints.

*Paralysis* – Loss of the power of movement or sensation in one or more parts of the body.

*Spasticity* – Sustained increased muscle tension.

*Spina bifida* – Condition in which there is a defect in the development of the spinal column.
Oral Health and the Disabled

According to former Surgeon General C. Everett Koop, M.D., “You are not healthy without good oral health.” The link between oral health and systemic health has shown that many systemic diseases and medical treatments have oral health implications. Poor oral health has an impact on learning, communication, self-esteem, and nutrition which affects activities in school, work and home. The prevalence and severity of caries and periodontal disease in the disabled population is significantly higher than the rest of the population. The chronic nature of dental disease makes this fact even more important when thinking of patients with special needs who already may have a lifetime of compromised oral and physical health.

Poor oral hygiene due to lack of ability for self-care may have serious health implications in persons with disabilities. Inflammation present in periodontal disease has been linked to cardiovascular disease while oral infection may cause bacterial endocarditis in susceptible patients with cardiac defects. Poor oral hygiene can also place a person at risk for pulmonary infection and lung disease.

Oral health starts in childhood. It is important for children with special needs to have healthy teeth and gingiva to aid in speech development and allow the child to chew a wider variety of foods. Some disorders can cause anomalies or variations in the eruption, number, size and shape of teeth (Figure 1).

Malocclusion is a frequent occurrence (Figure 2).

Developmental defects from high fever or medications can create under-mineralized, decay-prone enamel (Figure 3).

Oral trauma to the face and mouth occur more frequently for those who have poor muscle coordination or seizures (Figure 4).

Table 1. Results from the 2000 Census

- 9.3 million residents with a sensory disability involving sight or hearing.
- 21.2 million persons with a condition limiting basic physical activities, such as walking, climbing steps or carrying things.
- 12.4 million individuals with a physical or emotional condition causing difficulty in learning, remembering or concentration.
- 18.2 million individuals age 16 and over with a condition that made it difficult to go outside the home to shop or visit a doctor.
Poor motor coordination inhibits the natural cleansing ability of the tongue, lips and cheeks and hinders brushing and flossing. Habits such as pocketing food in the cheeks and mouth breathing also compromises self-cleansing abilities. Special diets of pureed foods stick to the teeth, and medications sweetened with syrup or sugar contribute to tooth decay. Several problems are caused by drugs used to treat the disability. Antiseizure medications cause gingival overgrowth, known as gingival hyperplasia, resulting in interference with chewing and speech, gingival bleeding, and periodontal disease. Sedative drugs used for muscle control may reduce flow of saliva that protects the teeth. Children and adults with a mental disability may not be able to express themselves or do not understand the importance of daily oral hygiene. Many rely on caregivers who themselves do not understand the importance of oral health.

Informed caregivers make the job easier for dental professionals. Older adult disabilities add complications to the normal aging process. This fact is significant when we consider that there has been a dramatic increase in the life expectancy of the disabled. “For example, in the 1960s the average life expectancy for a child with Down Syndrome was three to four years. Today it is 55 years, with many living into their sixties and seventies.”

While children with disabilities often receive oral health care in specialty pediatric practices, as they become adults their care ends when they “age out” of these practices. The chronic problems of aging such as heart disease, lung disorders, arthritis and type II diabetes may manifest themselves 15 to 20 years sooner in the person with disabilities. The oral health of a younger disabled adult may be similar to the level of oral health.
health in a person much older without disabilities. For many adults, oral problems experienced in childhood may have never been fully addressed. Decayed roots, adult periodontitis, missing teeth, and tooth replacement create an added burden to what already exists. Special Care Dentistry (SCD)

“Special care dentistry is the delivery of dental care tailored to the individual needs of patients who have disabling medical conditions or mental or psychological limitations that require consideration beyond routine approaches.” Patients with disabilities present with a wide range of conditions and levels of impairment. SCD may be necessary for persons with severe movement disorders, chronic mental illness, persons who are adults in age but who function at a child’s level, and those with serious medical conditions who are at risk for adverse outcomes in the dental setting unless treated by a knowledgeable practitioner. For some people, SCD may be needed only at certain periods of life and not at others. Disabled persons who can express need and can access dental care on their own do not require SCD. In order to provide a tailored care plan to meet the needs of each individual patient SCD requires a holistic view of oral health. Communication with all members of the health care team, family, caregiver, physician, social services, and the dental team is essential.

The following questions will help each dental office assess preparedness to offer the needed services:

- Does the office have handicap access?
- Are members of the dental team comfortable or have experience with transferring patients to the dental chair?
- Is the dental health team familiar with the oral health problems faced by people with disabilities?
- Does the office have mouth props or supportive devices to aid patients who may have difficulties in opening their mouths?
- Is the dental health team knowledgeable about assistive devices to enable these patients to be more independent in managing their own oral hygiene?
- Are members of the dental healthcare team able to develop a personal oral hygiene program for an individual with intellectual/physical disabilities based on his or her level of understanding and ability?

For many dental professionals, the thought of accommodating these patients may at first seem overwhelming. Lack of experience, disruption of the office routine, need for special facilities and equipment, and inadequate compensation are perceptions that can be overcome. Some individuals with severe medical or movement problems may need to be treated in a hospital, but those with mild or moderate disability can be treated in a private practice setting. Most procedures used for the general population can be applied to the patient with special needs. Some modifications to treatment may be necessary along with compassion and tolerance in each situation.

Creating a Barrier–free Environment

The Americans with Disabilities Act (ADA) of 1992 prohibits discrimination against a person with a disability who is seeking access to services, including dental services. Although the laws may vary by state, city, or county, the ADA sets standards and building codes for new construction to create barrier-free or universal design environments that make facilities and services usable by everyone. According to Title 3 of the law the office is required to make modifications to an existing facility that allows access by persons with disabilities. Design characteristics for a Barrier-free Facility are outlined in Table 2. Removal of barriers begins with a thorough evaluation of the physical office space. Simple changes need not be expensive, such as adding handrails to hallways and grab bars in restrooms, changing door knobs to a lever type, rearranging furniture in the reception area with various chair heights including space for a wheelchair, making magazine racks reachable, replacing high pile carpet with nonskid floor coverings, and eliminating hanging plants and area rugs. For easy entrance into the building, the office can consider a portable ramp. The dental team can become active planners by asking patients for their input on how to make the office more accessible or by contacting local disability organizations for advice on a broad range of disabilities. Compliance information for new construction as well as regulations and checklists for removal of existing barriers are available at the Americans with Disabilities Act website (www.ada.gov).
Assessment, Planning and Appointment Scheduling
Most patients with a disability, or their caregivers, will be prepared to discuss treatment issues when they first contact the office to schedule an appointment. An accurate and current health history is essential. Depending on the disability and/or medical condition, a consultation with the patient’s physician, counselor, and other members of the rehabilitation team may be necessary to ensure treatment is safe and effective. Table 3 outlines issues and questions that will help the dental team members gather information that is vital for appointment scheduling and treatment planning.

Pretreatment planning helps to determine what preparation needs to be taken before the appointment. It may save valuable time, making the appointment a successful and positive experience for everyone. Forms can be mailed and filled out ahead of time. A phone interview can provide a disability profile detailing problems or limitations that impact care. For example, if the patient is using a wheelchair, what is the degree of mobility and will there be a need for help in transferring the patient to the dental chair? Does the patient need antibiotic premedication for treatment? Who will legally provide consent for treatment? What are the patient’s likes, dislikes, fears and limitations?

Appointments may be dependent on transportation issues such as reserving special vehicles. There should be no conflict with bowel and bladder elimination, meals or medicine schedules. For the young patient, naptime can be a consideration.

Dental care for the disabled patient will almost always take extra time and cannot be hurried. However, mobility and neuromuscular problems, mental capabilities, behavior problems, physical stamina and sitting tolerance may require providing only a small amount of treatment at each visit. A mid-morning appointment may be the most ideal time. Persons with disabilities often need time to prepare for the visit, wait time is usually minimal, and early in the day the patient and the staff are at their best.14,20,21

Desensitization
Individuals with special needs may benefit from methods that help desensitize them to dental treatment. Before the visit family members or caregivers can familiarize the patient with oral care and a daily tooth brushing routine at home in familiar surroundings. Dental team members can instruct caregivers in proper technique to avoid any injury. Figure 5 and Figure 6 illustrate proper procedure allowing for head stabilization during toothbrushing.22

To reduce anxiety with strangers and unfamiliar environments, visits to the dental office before care begins may be helpful. Have the patient stop at the office during times other than routine office hours. Observing a family member receiving care in the treatment area may allow the patient to mimic desirable behavior. On the first visit for treatment, the patient can sit quietly in the chair with a family member or caregiver nearby to offer reassurance. While relaxing in the chair, the patient’s teeth can be gently brushed to provide a positive experience. For the second visit, the team should follow the same routine. If the patient remains cooperative, a minor dental procedure such as a cleaning or a simple restoration can be performed.

If this process is successful, more complex treatment may be gradually added. The dental team should continually monitor the patient’s behavior during each visit. If at any time the patient...

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Table 2. Design Characteristics for a Barrier-free Facility.

- Clearly marked and designated wide parking spaces close to the building.
- Accessible front entrance with ramp and curb cut at appropriate grades and surfaces.
- Interior and exterior doors that are wide and easy to open.
- Wide corridors to allow a 360-degree turn in a wheelchair without bumping into a wall.
- Clear floor space with nonskid surfaces.
- Signs posted no higher than five feet from the floor.
- Elevators in buildings with two or more floors.

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Table 3. Patient Assessment.

<table>
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<th>Nature of the Disability</th>
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<tbody>
<tr>
<td>• Is a physician consultation necessary?</td>
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<td>• What is the patient’s level of mental ability, muscular coordination, dexterity and grip strength, sitting tolerance, involuntary movements?</td>
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<td>• What is needed for the appointment (mouth prop, protective stabilization, special oral hygiene aids, someone to help with the appointment)?</td>
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<td>• Should the dental professional refresh memory/skills concerning special or modified radiographic techniques?</td>
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<tr>
<th>Degree of the Patient’s Independence</th>
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<td>• Will someone accompany the patient to the appointment?</td>
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<td>• Is the patient able to give consent to treatment?</td>
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<tr>
<td>• Is there a caregiver or guardian and if so is he or she legally appointed?</td>
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<th>Dental History</th>
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<td>• What is the patient’s and/or caregiver’s attitude concerning past treatment?</td>
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<td>• What is the patient’s history of oral infection and oral habits?</td>
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<tr>
<td>• What is the patient’s most recent care history: procedures, fluoride therapy, success during treatment?</td>
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<tr>
<td>• What are current home care methods and the degree of self-care?</td>
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<th>Social History</th>
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<td>• What is the patient’s and/or caregiver’s attitude toward the importance of dental healthcare?</td>
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<td>• What are the patient’s cultural values and beliefs?</td>
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<td>• Can the patient shop for and prepare food?</td>
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<th>Communication Ability – Hearing or Vision Loss</th>
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<td>• Does the patient speak English; is there a need for an interpreter?</td>
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<tr>
<td>• Does the office have necessary writing materials to effectively communicate?</td>
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<tr>
<td>• Does the patient utilize the services of a guide dog?</td>
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<th>Transportation</th>
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<td>• Does the patient come by him- or herself?</td>
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<tr>
<td>• Is the patient dependent on others for a ride?</td>
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<td>• Does the patient rely on the schedule of public transportation?</td>
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<th>Appointment Time*</th>
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<tr>
<td>• When is the best time for preventative and restorative appointments?</td>
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<tr>
<td>• Does the patient follow a medicine/meal schedule?</td>
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* The patient should not be expected to wait for a long period before treatment. * Adequate time must be allowed for the appointment and the pre-post requirements.
becomes uncooperative, the appointment should be terminated for the day. If a restoration has been started and treatment must end, the practitioner can quickly place a temporary restoration allowing the procedure to be completed at a later time. If these methods are not successful, dental procedures may have to be completed using sedation and/or protective stabilization.²⁰,²¹

**Protective Body Stabilization**

Disabled patients frequently have problems with support, balance, and even aggressive behavior. Sudden involuntary body movements such as muscle spasms can be a danger to the patient and the dental team during treatment. Severe cases could require sedation or general anesthesia and hospitalization might then be appropriate.

In the office, stabilization may be used to make the patient feel comfortable and secure and allow for safe and effective delivery of quality care. Pillows, rolled blankets or towels may be placed under the patient’s knees and neck to prevent muscle spasms and provide additional support. A beanbag chair placed on the dental chair will conform to the patient’s body while filling the space between the patient and the dental chair.

To minimize movement a member of the dental team or caregiver may gently hold the patient’s arms and/or legs in a comfortable position. A team member can sit across from the operator and lightly place their arm across the patient’s upper body to keep the working field clear. A child may lay on top of a parent in the dental chair, with the parent’s arms around the child. This positioning should be monitored carefully because the parent can tire and easily lose control of the child during treatment.

An inexpensive method for stabilization is a bed sheet wrapped around a patient and secured with tape that can be easily cut if necessary. This approach may be less intimidating and even provide the patient with a sense of security. A commercially available medical immobilization device (MID) is illustrated in Figure 7. MIDs may be used for patients who have extreme spasticity, increased muscle tension, or severe behavioral problems. However, this method should not be considered for routine use.¹⁴,¹⁷,²²,²³
Mouth props may be necessary to provide care due to a lack of ability, or unwillingness to keep their mouth open. Use of a mouth prop not only provides protection from the patient suddenly closing their mouth but can improve access and visibility for the dental team. Training on technique for safe use may be required. Figure 8 and Figure 9 illustrate commercially available devices.

A long piece of dental floss should be tied through the hole in a commercially available prop and extended outside the mouth for easy removal in case of a breathing problem. Inexpensive, easy to use mouth props can readily be assembled using materials in your office. One example is to tape together five wooden tongue depressors and fasten with waterproof tape. Then, wrap and tape several pieces of gauze around one end. To use, gently place the cushioned end between the teeth.

Another type of prop can be customized for the amount of bite opening desired. One end of a folded, moistened washcloth or several gauze squares folded together and moistened can serve to keep the mouth open. As with the commercial prop, some type of retrieval safety measure, such as a line of floss, must be incorporated. Precautions for the use of mouth props are outlined in Table 4.

When considering the use of protective body stabilization, clinicians should be aware of the standards and regulations of their state's Dental Practice Act. Additional education or a permit may be necessary in some states.

The dentist should always choose the least restrictive but safe and effective method. A thorough evaluation of the patient's medical history and dental needs is essential. Any use of protective stabilization has potential for patient injury, therefore its use during treatment must be carefully monitored and reassessed at regular intervals. Protective stabilization around extremities or the chest must not actively restrict circulation or respiration and must be terminated if the procedure is causing severe stress to the patient. Contraindications for protective stabilization include those who cannot be immobilized safely due to associated physical or medical conditions. For example, the use of protective body stabilization may compromise respiratory function for the patient who has a respiratory dysfunction such as asthma.

Informed consent from the patient or legal caregiver must be obtained before treatment. An explanation regarding the need for stabilization, proposed methods, risks and benefits, and possible complications is necessary. Any discussion should allow an opportunity for the patient or caregiver to respond. Documentation in the record must include:

- Informed consent
- Indication for use
- Type of protective stabilization
- Duration of application
- Behavior evaluation during procedure
- The level of success or failure of the procedure
Access to Care

It is ideal to believe that everyone in this country should have regular oral health care; however, the reality is very different, especially for the disabled. There are several reasons why this is the case. Most practitioners and office staff feel uncomfortable treating patients with special needs due to lack of adequate training in school. To eliminate this disparity the American Dental Association’s Commission on Dental Accreditation (CODA) in 2004 adopted new standards for education programs to ensure didactic and clinical opportunities to better prepare dental professionals for the challenge.

Cost is a considerable barrier to care. The disabled patient will typically rely on Medicaid for dental services. Inadequate compensation, extra time for treatment, extensive paperwork, and appointment no-shows are a few reasons why practitioners hesitate to participate in Medicaid. Budget deficits in federal, state, and local government support limit needed dental services for adults. There are practitioners who feel that if individuals with special needs are treated in their offices then the office will be inundated with referrals from other practices.

The Americans with Disabilities Act prohibits discrimination against a person with a disability who is seeking access to dental services. Title 3 of the law requires dentists to serve persons with disabilities. While patients with severe disability may require treatment in a hospital, “the majority of persons with physical or mental disabilities can be treated in the dental office environment with little if any modification in routine protocol.”

Conclusion

As dental professionals we must consider that there is a large number of individuals with special needs living in our communities requiring oral health care. The latest research linking systemic issues to the oral environment makes providing treatment crucial for patients with disabilities. Mandated by the Americans with Disabilities Act, it is the profession’s duty by law to provide access to care. Lastly, the ethics of the dental profession obligate the dental team to provide treatment to those in need. Persons with disabilities do present challenges for the dental team, but most can receive care in the private office with a few modifications to treatment. The first step that will allow access to care for these patients starts with the physical space of the practice. Most new buildings are designed to code and are considered “barrier-free.” For an existing office space, some simple changes will enable compliance with the ADA while providing access to care for everyone.

Pretreatment planning, proper patient assessment, scheduling and possible desensitization techniques help make a successful appointment possible. Because of sudden involuntary movements or behavior issues the patient may require some form of protective body stabilization. Thorough medical history, informed consent before treatment and proper documentation are essential. Patients who use a wheelchair present a different set of challenges.

According to Bird and Robinson in the text Torres and Ehrlich Modern Dental Assisting, the dental assistant has three important roles in the provision of oral health care for patients with special needs:

1. Knowledge of specialized techniques and equipment is critical to speed and ease treatment.
2. Preventive dentistry is important for all patients but particularly for those with physical, medical

Table 4. Precautions for the Use of a Mouth Prop

- Plastic evacuator tips should not be used for office fabrication due to possible splintering.
- Stainless steel evacuator tips may cause damage to teeth and are not recommended for use.
- Mobile teeth in adults and loose primary teeth in children can be knocked out and aspirated.
- Mouth props and bite blocks can cause fatigue of facial and masticatory muscles and the temporomandibular joint.
or mental challenges. The assistant may be asked to work with the patient, family or caregiver in developing and implementing a preventive program tailored to the needs of that patient.

3. Reducing anxiety for those who have had painful medical experiences by creating a comfortable relaxed atmosphere will provide a stress-free environment for everyone involved in the dental visit.\textsuperscript{13}

It is essential the dental team be ready to treat the special needs patient. As the American population continues to live longer, the dental team must be prepared to treat all patients safely and with respect.
Course Test Preview
To receive Continuing Education credit for this course, you must complete the online test. Please go to: www.dentalcare.com/en-US/dental-education/continuing-education/ce384/ce384-test.aspx

1. The act that protects people with special needs is the ______________ and was established in ______.
   a. American Dental Assistants Association (ADAA) / 1940
   b. American Dental Association (ADA) / 1935
   c. Americans with Disabilities (ADA) / 1992
   d. ADA Standards for Accessible Design / 1970

2. Developmental disabilities occur ______________.
   a. during the period of development before birth
   b. at the time of birth
   c. before the age of 22
   d. All of the above.

3. The result of disease, trauma and/or injury to the body is classified as ______________.
   a. an acquired disability
   b. a developmental disability
   c. A and B
   d. None of the above.

4. CODA refers to ______________.
   a. Comprehensive Occlusion of Dental Anomalies
   b. Committee on Dental Anomalies
   c. Commission on Dental Accreditation
   d. None of the above.

5. CODA defines special needs patients as people with ______________.
   a. developmental disabilities
   b. complex medical problems
   c. significant physical limitations
   d. All of the above.

6. Currently, in the United States, there are _____ million people living with some type of disability.
   a. 54
   b. 90
   c. 24
   d. 28

7. Dental appointments for patients with disabilities should include ______________.
   a. motivation of the patient and/or caregiver to maintain good oral health preventing infection and tooth loss
   b. preventing the need for extensive treatment due to their physical or mental condition
   c. making appointments pleasant and comfortable
   d. All of the above.
8. The prevalence and severity of caries and periodontal disease in the disabled population versus the rest of the population is significantly _________.
   a. lower  
   b. higher  
   c. about the same  
   d. unknown

9. Poor oral hygiene due to lack of ability for self-care may have serious health implications such as _________.
   a. cardiovascular disease  
   b. bacterial endocarditis  
   c. pulmonary infection  
   d. All of the above.

10. Disabled persons who can express need and can access dental care on their own continue to require specialized care dentistry (SCD). For some people SCD may be needed only at certain periods of life and not at others.
   a. The first statement is true. The second statement is false.  
   b. The first statement is false. The second statement is true.  
   c. Both statements are true.  
   d. Both statements are false.

11. Since the 1960's, the life expectancy of the disabled has _________.
   a. increased  
   b. decreased  
   c. remained about the same  
   d. not been researched

12. Chronic problems of aging such as heart disease, lung disorders, arthritis, and type II diabetes may manifest themselves sooner in the person with disabilities by up to ________ years.
   a. 2 – 5  
   b. 5 – 8  
   c. 10 – 13  
   d. 15 – 20

13. Communication is essential with _________.
   a. the family/caregiver  
   b. the physician  
   c. social services  
   d. All of the above.

14. Design characteristics for a barrier free facility include the following except _________.
   a. clearly marked designated narrow parking spaces further from the building  
   b. accessible front entrance with a ramp  
   c. wide corridors  
   d. signs posted no higher than five feet from the floor

15. The best time to schedule a special needs patient is _________.
   a. early morning  
   b. mid-morning  
   c. early afternoon  
   d. late afternoon
16. **Issues to consider during the assessment of a disabled person include ___________.**
   a. nature of disability
   b. ability to communicate
   c. dental history
   d. All of the above.

17. **A state of increased muscle tension is known as __________.**
   a. spasticity
   b. paralysis
   c. epilepsy
   d. muscular dystrophy

18. **Wasting away and atrophy of muscles is known as __________.**
   a. paralysis
   b. multiple sclerosis
   c. muscular dystrophy
   d. spina bifida

19. **The presence of bacteria in either the heart's inner lining or the heart valves is termed __________.**
   a. bactericidal
   b. bacterial endocarditis
   c. bronchitis
   d. bacteremia

20. **Disabled patients frequently have problems with __________.**
    a. support
    b. balance
    c. aggression
    d. All of the above.

21. **In considering the use of body stabilization, clinicians should be aware of the standards and regulations of __________.**
    a. their state's Dental Practice Act
    b. rules set forth by the governor in their state
    c. the Americans with Disability Act
    d. what their neighboring dentist might be doing

22. **Stabilization should not be considered for patients with __________.**
    a. epilepsy
    b. asthma
    c. arthritis
    d. cerebral palsy

23. **The adoption of new standards for educational programs to ensure didactic and clinical opportunities to better prepare dental professionals for the special needs patient was set forth by __________.**
    a. the Americans with Disabilities Act
    b. former Surgeon General C. Everett Koop, M.D.
    c. the Commission on Dental Accreditation
    d. the Special Care Dentistry committee
24. **For the patient with special needs, dental assistants should be knowledgeable in ____________.**
   a. specialized techniques and equipment
   b. implementing a preventive program tailored to the patient
   c. reducing anxiety
   d. All of the above.

25. **Inflammation of a joint or many joints resulting in pain and swelling are symptoms of ____________.**
   a. a blood disorder
   b. substance abuse
   c. arthritis
   d. an insulin dependent
References


**About the Author**

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