

ABSTRACT

Patients with special needs often present a challenge for the dental care team. The exacting and surgical nature of dental procedures requires significant patient cooperation to ensure the safe delivery of care. Some individuals who have special care needs have difficulty cooperating during treatment, thus creating a potentially harmful situation. Modern dentistry, particularly pediatric dentistry, provides the dental team with a variety of strategies designed to enable the team to safely provide comprehensive care in the least restrictive manner. These techniques range from tell-show-do, to medical stabilization, to general anesthesia. The effective use of noninvasive, nonpharmacologic behavioral guidance/support techniques cannot only avoid the need for sedation or general anesthesia, they can teach the patient to develop coping skills that may enable them to receive comprehensive care in a traditional dental setting over a lifetime. Unfortunately, many providers are inadequately trained in behavioral support strategies. This paper presents a review of noninvasive, nonpharmacologic behavioral support techniques with discussion regarding their application to persons with special care needs.

KEY WORDS: special needs, behavior management, dental treatment, developmental disabilities, sedation, anesthesia

Understanding basic behavioral support techniques as an alternative to sedation and anesthesia

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Introduction

The discipline of special care dentistry involves providing care to patients who present with a complex variety of cooperative, cognitive, and physical abilities in the least restrictive manner.¹ There is a perceived hierarchy of methodology or treatment strategies available to dentistry to assist patients in their attempt to cope with clinical oral health treatment.^{2,3} These techniques range from tell-show-do, to medical stabilization, to general anesthesia. This article intends to review the principles of basic behavioral support as the fundamental starting point of this hierarchy and examine how those principles apply to assisting people with special needs during clinical care using the least restrictive approach. The practitioner who successfully facilitates patient cooperation without resorting to use of advanced techniques (pharmacologic, medical stabilization, general anesthesia) theoretically opens a door for patient access to comprehensive oral care in a traditional setting for a lifetime. Unfortunately, there is evidence that suggests that a majority of dentists have doubts regarding their own skill or feel inadequately trained in patient behavioral support, especially when it is applied to people with special needs.⁴

“Behavior management” has been the traditional term that describes the effort by families, caregivers, therapists, and also dentists to control disruptive behaviors of people with special needs during daily activities or clinical treatment. Advocates have tried to help others understand that “no one likes to be managed” and that such terminology stigmatizes or dehumanizes the individual. Through life experience every human grows, learns, and benefits from many sources of support and guidance in order to function in social and family settings. Thus, the American Academy of Pediatric Dentistry (AAPD) has recently changed its terminology from “behavior management” to “behavioral guidance” to better describe a continuum of indi-

vidualized interaction involving the dentist and patient directed toward communication and education “which ultimately builds trust and allays fear and anxiety.”² In a synonymous and complimentary fashion, the term “behavioral support” is used to describe a collaborative philosophy that is person-centered in that it considers the individual, evaluates their environment and support resources, and attempts to plan how challenging behavior can best be moderated.⁵ Families, care staff, and health care providers assume the role of teacher in the effort to assist people with special needs to gain skills that allow them to participate in activities, adapt to stressful situations, and tolerate medical treatment in as typical a manner as possible.

Several authors suggest that the majority of people with special needs can receive routine dental care in the conventional dental office, presenting minimal or no behavior management difficulties for the dentist.^{1,6,7} However, there are still many people with special needs who present with unique and complex characteristics that challenge the dental practitioner's traditional approach to care. There are those people with special needs who have cognitive or physical impairments that complicate basic communication with the dental team.^{8,9} Other people with special needs present with repetitive behaviors, psychiatric symptoms, and even aggression that may disrupt care.¹⁰ Uncontrolled, impulsive, or intentional body movements may endanger patient safety and pose a risk of injury to dental staff.¹¹ Finally, studies have shown that people with special needs have a greater level of fear and anxiety to seeking dental treatment than the general population.¹² If the dental team is not familiar with strategies for successfully accommodating the behavior of patients with special needs, the tendency is to refuse to treat the person and refer him or her *somewhere else*. Depending on the community or region, that "somewhere else" may be hours away, may be overwhelmed by treatment demands, or may not exist at all.

Dentistry's challenge

Most people with special needs must utilize some or all of the following entities within the healthcare system: primary and specialty physician care, routine nursing supervision, pharmacological management, a full spectrum of therapy support services (occupational, physical, speech and language, behavioral, dietary, etc.), case management, and/or assistance with skills of daily living. Although this segment of our population often poses a unique challenge to all members of the healthcare team, few disciplines face the extremely delicate and exigent task required of dentistry. "Clinical dental treatment is the most exacting and demanding medical procedure that persons with special needs undergo on a regular basis

throughout their lifetime. Dental treatment is basically surgical in nature, usually requiring controlled placement of sharpened instrumentation in intimate proximity to the face, airway, and highly vascularized and innervated oral tissues."¹³ Impulsive patient movements during a dental debridement can pose as much of a threat of serious injury, as the same movements during a true surgical procedure. Most dentists would claim that clinical treatment is challenging enough with a cooperative patient. It is no wonder that many practitioners perceive that advanced behavioral support/management modalities, such as sedation and general anesthesia, are necessary to safely treat many people with special needs. Certainly, most medical surgeons would not proceed without such control. Yet by utilizing noninvasive, nonpharmacologic behavioral support techniques, philosophies, and combined approaches, many dentists are able to provide meaningful care in moderately routine fashion to many people with special needs, without resorting to use of deep sedation or general anesthesia.

Behavioral support of the dental patient: review of literature

Dental treatment is inherently intrusive and sometimes transiently painful.¹⁴ Many people become anxious and fearful at the thought of visiting the dentist, yet most develop an ability to cope with ("endure, if not enjoy") clinical dental treatment.¹⁴ Fear and anxiety are purely psychological in nature and are considered to be learned either from experience during medical or dental procedures, or as a result of observed parental anxiety.^{15,16} People with special needs typically have increased need for medical treatment and may have experienced multiple medical procedures prior to initial entry to the dental office. One study of children with intellectual disabilities suggested that achieving a mental age of 29 months was the delineating factor in the acceptance of dental treatment.¹⁷

Traditional pediatric theory describes 30 to 36 months as the age at which the neurotypical child has developed the needed skills to respond positively to dental treatment.¹⁸ This relative agreement demonstrates a correlation between behavioral support in children and people with special needs. In other words, young children and many individuals with developmental delays have potential to or are in the process of developing coping skills to deal with stressful situations. The skillful dental practitioner can facilitate the development of those skills in both populations.

The primary principles of behavioral support for dentistry have their origins in the pediatric approach, where the goals are to create a means to communicate, limit patient anxiety, and build a trusting attitude toward dentistry while providing quality dental treatment.² A majority of dental and psychological studies examining dental fear and anxiety are focused on children, as this is the time in human development when we hopefully develop skills that allow tolerance of clinical care. Because of this behavioral focus, it is no wonder that pediatric dentists have been asked (or even expected) to provide the majority of care for children and adults with special needs. However, many in the pediatric dental community now believe the role of caring for adults with special needs should be taken on by general dentistry.¹⁹

The pediatric dental approach provides the foundation for teaching a patient appropriate coping behavior during dental treatment. The techniques have two main objectives: to establish or maintain communication between dentist and patient (necessary for learning) and to extinguish inappropriate behaviors (hopefully to be replaced by growth in cooperative skills).² The AAPD Clinical Guideline on Behavior Guidance for the Pediatric Patient describes six concepts as basic approaches to behavioral support: voice control, nonverbal communication, tell-show-do, positive reinforcement, distraction, and parental presence/absence. Additional terms and strategies described in the literature

include the following: modeling, shaping, flexibility, foreshadowing, visualization, relaxation, consistency, desensitization, contingent escape, hypnosis, repetitive tasking, and escape extinction.^{14,15,20,21} The American Dental Association, in its guidelines on control of anxiety, recognizes three behavioral methods (anxiety management, relaxation technique, and systematic desensitization), but concentrates, almost exclusively, on the use and training requirements for pharmacological management and accepted administration of sedation/anesthesia.³

Each of these concepts has potential applicability to children and people with special needs. A short summary of the techniques listed above follows. Several will be discussed more extensively because of their particular importance to behavioral support of people with special needs.

Voice control

Voice control describes alterations of vocal volume, pace, and intonation to gain patient's attention and influence behavioral direction.² Although communication is key to behavioral support, this technique is not as much about the message (words) as the means of delivery. People with special needs may have unpredictable ability to comprehend language, but most are quite adept at sensing the mood of others during interactions. Variation in delivery of spoken communication can relay temperament and acceptance, gain patient attention and focus, relax and soothe, direct and provide warning, and/or coach and create trust.

Nonverbal communication

Nonverbal communication recognizes that patients may be equally, or even more sensitive to touch, body language and facial expression, than he or she is to spoken language.¹⁴ For many people with special needs, nonverbal communication may be the primary means of sensing and reading the intentions of others and interpreting situations during daily socialization. Calm and confident actions of staff in the dental operator

will help facilitate successful behavioral support. Most patients will positively sense that a dental team is genuine and relaxed in their interactions. Additionally, it is important to recognize that people with special needs may also use nonverbal techniques themselves to try to control or influence their environment. The skillful dental team probably develops its own skills of observation and learns to react to specific nonverbal cues.

Tell-show-do

Tell-show-do (TSD) is the traditional approach of adding sensory demonstration cues (visual, auditory, touch, proprioception, sometimes taste/smell), to a simple verbal description of a procedure prior to performance of the procedure.^{2,22} "Foreshadowing" and "visualization" are similar concepts that use positive images and measured talk or play to explain to a patient what to expect during new procedures.²⁰ Oftentimes, TSD provides an ancillary benefit by educating and building parental trust, as parents observe a dentist supporting their child through difficult clinical treatment. If parents understand the how and why of specific behavioral approaches, they tend to become more positive and accepting of the dentist's intent and direction of support.²³

Positive reinforcement

Positive reinforcement is the process of rewarding acceptable or desired behavior with verbal praise, expression, touch, or tokens. Behaviors that are positively reinforced will increase.¹⁴ Positive reinforcement may be administered moment-by-moment throughout a procedure in an effort to direct compliance, during the procedure or at the completion of major milestones during or post-treatment. For many people with special needs, there is no such thing as too much positive reinforcement. In a life hindered by disability, success may be a seldom-enjoyed occurrence. Patients who have institutional or congregate living experiences (group homes, nursing homes) may find positive reinforcement

in something as simple as personal recognition as an individual. Most humans crave personalized attention: verbal praise, a high five, or even a smile can make a people with special needs feel very exceptional. In the same way that the Special Olympian wears his or her award medal for months after an event, a small token or sticker can signify courage and achievement at the dental office. Consequently, this token of achievement serves to create self-esteem and coping skills that will hopefully transfer to the next appointment.

Contingent escape

Contingent escape offers momentary cessation in treatment or other positive reinforcers, conditional upon periods of acceptable target behavior.^{20,21} Escape, in this technique, is used as positive reinforcement and is usually nothing more than a rest period from the stimuli (procedure). The rest period is earned (contingent) upon completion of a desired behavior (acceptable tolerance or participation in the procedure for a specific period of time).¹⁵ The wise practitioner is sensitive to each individual's abilities and sets the "timer" accordingly. A common technique involves counting aloud (distraction) as a promise that "we're going to rest in a second," at the same time incremental progress is being made in provision of care.²¹

Noncontingent escape

Noncontingent escape provides breaks from demands in relation to a prescribed period of time and is not related (contingent) upon patient compliance. This technique has been described as having some benefit for children with disruptive behaviors.²⁴ However, contingent reinforcement is considered superior to the noncontingent approach because there is "a vast body of evidence indicating that acquisition of new behavior is facilitated by differential consequences *contingent upon performance or nonperformance*" of desired behavior.²⁵

Distraction

Distraction is a method of diverting a patient's mental focus to positive

thoughts, favorable environmental stimuli, or other stimulating sensory images in an effort to override unpleasant procedures or as redirection from negative behavior.² Because many people with special needs have shortened attention spans, they are remarkably amenable to distraction techniques. As described above, counting may require the patient to focus on a mental task that “keeps his or her mind busy” while otherwise negative activity is occurring. A favorite music CD can concentrate the mind on something familiar and comforting and can change a tantrum to compliance. The skilled dental team makes an effort to discover topics of interest or stimuli that are important to the individual, and then uses their mention to redirect escalating behavior back toward cooperative participation. Remarkably, something as simple as addressing the patient by name can redirect a patient to focus. Humor can also be effective for certain patients.

When sensory overload is an issue for the people with special needs, a nonstimulating environment may be the ideal setting. Music, excessive conversation, and other distractions should be eliminated to support behavior.

Parental presence/absence

Parental presence/absence is intended to utilize the parent to increase patient psychological comfort and reduce patient anxiety. This debated concept may increase communication during treatment, or sometimes proves distracting of the dentist’s attempt to remain the focus of the patient attention.²⁰ Parents of children with special needs may present to the dental office with a number of possible emotions or concerns that will affect how the dentist interacts with and treats their child. A child with special needs implies that there is a family with special needs.²⁶ Emotions common to parents are varied, but consequential: grief, shock or numbness, denial, depression, frustration, anger, guilt, and acceptance are all understandable attitudes reflective of the challenges and uncertainties related to disability.²⁷ The dentist may initially need to earn a family’s trust by demonstration of a caring and skilled

approach.²⁸ Parental presence will allow messages to be delivered to the parent and child simultaneously, and parents will feel part of the process of decision making.²⁰ When difficult behavioral support techniques must be utilized, there should never be an attempt to hide that reality from the parents. It is better that they understand and consent to the process, or refuse a treatment approach outright, than to accuse the dentist of mistreatment. It should be made clear to parents that the dentist must maintain primary communication with the child, and similarly may need to be reminded to resist expression of fear-provoking messages.²⁰ Although most dental staff might prefer parents remain in the waiting room, current parental attitudes reflect their overwhelming interest in being present during stressful procedures.²⁹

Modeling

Modeling involves having patients observe the positive behavior of either a filmed or in vivo model undergoing similar procedures proposed for the patient.¹⁵

Participant modeling involves active imitation or practice by the patient of the skills exhibited by the model.³⁰ Although there is evidence that modeling can be effective in children and many patients with special needs, it may be less effective in persons with severe disabilities who may be unaffected by the behavior of those around them.¹⁴ One study provided evidence that desensitization is more effective than video modeling for persons with intellectual disability.³¹

Shaping

Shaping is a concept inherent to many of the above techniques. Proper use of positive reinforcement for approximation of a task or behavior³² (and lack of reinforcement to undesirable behavior) guides or shapes increased coping by the patient. Modeling shapes by providing a positive example and sets expectations for patient tolerance of a procedure.

Flexibility

Flexibility describes the recognition of patients as unique individuals with

varied abilities and temperaments. Practitioners must adapt their communicative techniques, possibly moderate office tempo or routine, and assess or even alter office environment to successfully support patient behavior.²⁰ Dental care of people with special needs typically is more time-consuming³³ and can require additional staff.³⁴ Flexibility asks the practitioner to relinquish some of his or her customary practice “ritual,” in much the same fashion as we ask the patient with special needs to give up some of the comfort of his or her “traditional structured habits!”

Consistency

Consistency can be simply, but energetically, described as the fact that *patients learn what they’re taught!* If a message or an expectation is inconsistently delivered, the patient is confused in his or her attempt to develop skills, and may be more likely to learn undesirable behavior as a result of this conflict.

If one considers that the vast majority of caregivers employed in group and nursing home turnover in the course of a year, and that most lack adequate training in behavioral support, it is no wonder that people with special needs have difficulty adapting to stressful situations (or even daily tooth brushing).²⁹ Patients literally have hundreds of individuals revolving through their lives, resulting in unbalanced or contradictory guidance in learning and growth. But when a message or situation is repeatedly presented in simple increments and in a regularly consistent fashion, people with special needs can adapt, learn, and begin to predictably function in an environment with which they have become familiar. The necessity for familiarity may translate to the same operator, the same assistant, or even the same stuffed animal being present during treatment. The realization that patients can adapt to consistent approach is the cornerstone of “basic behavior support 101.”

Desensitization

Desensitization is a general and somewhat variably defined term in dental and behavioral literature. Kemp defines

desensitization “as the gradual exposure of the patient to the feared object or situation with the concurrent training of and reinforcement of relaxation as a response incompatible with anxiety or fear.”¹⁴

Desensitization to the dental office and procedures has been shown to be effective for persons with special needs.^{31,35} A common goal for desensitization would be to increase compliance or to reduce the amount of behavioral support, restraint, or sedation needed by patients as they receive clinical dental care.³¹ However, the desired end points of desensitization studies are not universally described and are highly variable between studies (simulated dental exams vs. local anesthetic injection/actual restorative treatment).^{31,21}

Desensitization can be an expensive methodology in terms of time, number of staff, availability of facility, and amount of repeated efforts.^{14,21,31} Desensitization programs are also difficult to apply to broad populations due to variables unique to each individual in the population. In contrast, “on-going desensitization programming” describes an approach where in vivo basic behavioral support is combined with advanced technique (sedation, stabilization) during the course of actual treatment.³⁶ Rather than delay needed treatment, this approach provides person-centered care with an intended desire to improve patient compliance and reduce interventions. Considering the inherent constrictions in the typical dental practice, most dentists resort to this combined in vivo desensitization approach.³⁶ As a final point on desensitization, the *foundation of oral desensitization* (and oral health) begins with parents and caregivers accepting the responsibility of providing or teaching tolerance of daily tooth brushing!

Repetitive tasking

Repetitive tasking is a component in a desensitization model based on task analysis. The technique involves recurring, prompted rehearsal, or shaping of compliance with tasks necessary for cooperative behavior during dental treatment.²¹ Physical guidance, social praise,

and clear expectations are utilized by members of the dental team to support patient behavior.¹⁴

Hypnosis

Hypnosis is a method of guided self-imagery that focuses on relaxation and analgesia.²⁰ A PubMed search using the terms “hypnosis” and “dental care” yielded 84 articles, predominantly citing the use of hypnosis in children, to mediate gagging, or to overcome dental phobia. Only one article addressed the use of hypnosis “in a minimal brain dysfunction patient.”³⁷ There did not appear to be any broadly applied studies of the use of hypnosis for people with special needs. However, there are practitioners who profess skill in this once traditional approach and, there are undoubtedly select patients, with particular cognitive abilities, who could benefit from the approach.

Escape extinction

Escape extinction utilizes medical stabilization and physical guidance to provide needed treatment in response to a history of escaping treatment by physical resistance.¹⁴ When a patient’s disruptive behavior results in termination of (escape from) treatment, resistive behavior is reinforced and results in delay of needed care, while setting the stage for increased disruption in the future.³⁸ Although restraint is not covered as a focus of this paper, this psychological methodology is included here because escape extinction relies upon a comprehensive use of behavioral support concepts and techniques in an effort to increase cooperation over time and reduce the need or degree of restraint in the future. It is ethically critical that behavioral support approaches are used throughout the course of medical immobilization. If this principle is ignored, stabilization appears more like “tie ‘em up and do the work” restraint than a recognized effort at in vivo desensitization (i.e., the patient receives needed dental care assisted by protracted behavioral support, including medical stabilization).³⁶

Other authors in the context of this consensus discussion will describe and endorse the more advanced and accepted techniques in the hierarchy of behavioral support, such as medical immobilization and chemical restraint. Although the next, generally accepted, step in the hierarchy of behavior management/support techniques is medical immobilization and pharmacologic restraint, it is critically important that parents, advocates, and caregivers understand that the concepts of behavioral support are not terminated with the employment of the more restrictive alternatives. In fact, short of deep sedation/general anesthesia, the competent practitioner continues to utilize basic behavioral support techniques in an effort to comfort, shape, and teach a patient coping strategies. There should always be an expectation of increased development of skills and consideration of possible reduction in degree of physical and chemical support use in the future.

Using the above techniques in a skilled and thoughtful fashion may require more time and patience from the practitioner (at least initially), but the results can be dramatic and rewarding. Unlike many procedures in dentistry, there is no universal formula or simplistic step-by-step recipe for practitioners to follow in the application of behavioral support techniques to the broad spectrum of individuals with special needs. Thus, the following section examines some of dentistry’s distress over behavioral support.

Behavioral support as a barrier to access

There is evidence that dentists consider behavioral support to be one of the most challenging aspects of special needs care, and suggests that a patient’s behavioral stress and anxiety are reflected and transmitted to the members of the dental team.^{15,22} The patient who behaviorally refuses treatment certainly creates an ethical and legal burden for the practitioner.³⁹ Informed consent, urgency of treatment needs, and guardianship are

often additional issues that must be addressed during the course of care for the people with special needs. Casamassimo states that “adult-oriented general practices have little interest in or ability to manage parental/family issues” which are commonly inherent in care of both children and adults with special needs.⁴⁰ In another study, one-third of dentists actually reported feeling aggression toward their physically resistive patients.⁴¹ Burtner and Dicks found that private practitioners tend to avoid these patients with special needs or react with frustration or apathy related to the maladaptive behaviors they exhibit.⁴² The AAPD realistically points out that there is lack of trained, knowledgeable providers willing to take over care of the child with special needs who is aging into adulthood.⁸ Ultimately, Glassman *et al.* point out that “there are inadequate incentives for dental professionals to become involved in treatment of people with complex special needs who may take more time to treat and may provide less income for the dental professional.”⁴³

On occasion, physical resistance can escalate to the point of property damage or physical aggression toward caregivers and dental personnel.⁴⁴ Clevenger *et al.* indicated that 80% of dentists surveyed were unwilling to treat patients with developmental disabilities because of their resistance.⁴⁵ Analysis of a more recent survey by Casamassimo *et al.* identified that the *greatest* barrier to dentists’ willingness to treat children with disabilities was patient behavior. To place this finding in perspective, the same study showed that patient behavior was almost three times more likely to be named as a high-level barrier to care than lack of funds.⁴

The AAPD states that behavioral support “is a clinical art form and skill built on a foundation of science.”² Acknowledging dentists’ “distress” with behavioral support, the debate could ensue as to whether the profession is more lacking in its “behavioral artistry” or its “scientific foundation.” Without a firm base and understanding of basics of human psychology and behavior, admin-

istration of behavioral support technique is likely to be ineffective or even detrimental. Furthermore, failure to thoroughly understand the principles of behavioral support can actually lead to iatrogenic negative behavioral response or precipitate increased patient anxiety and noncompliance.^{20,46} A study by Romer *et al.*, documented the fact that most dental students received little didactic, clinical, and hands-on training in care of persons with disabilities.⁴⁷ And Casamassimo *et al.* found that 40% of practicing dentists described additional training pertinent to treatment of people with special needs to be very desirable or desirable.⁴ This would suggest that most dental students fail to receive adequate experience in mediating patient behavior related to dental treatment.

The “art part” of behavioral support

There seems to be a consensus regarding distinctive characteristics most common to dentists who find care of people with special needs to be rewarding. They are typically described as having a high degree of empathy, patience, and compassion, and a friendly and caring demeanor.^{2,14,27,33,40,48} The practitioner who is willing to be flexible about the usually stringent routines of the typical dental practice will find ways to adapt care to the needs of the patient. Another way of approaching this care is to consider “turning your mental tension level down a couple of notches,” or “be patient with your patient, patient with your staff, and patient with yourself.” So something as simple as giving a patient time to respond to a request can produce remarkable results. The patient may have understood everything that was said, but they require a more time to process information than a typical patient. Consider the contrast of a patient who will try to perform, if given time, to the patient whose behavior escalates out of frustration simply because they have not been given the time or a chance to comply.

From a similar perspective, the practitioner who can be forgiving of patient, staff, and self will ultimately find more success and satisfaction in providing care to people with special needs. Realize that everyone is probably doing the best he or she can, and profess a confidence that “it will get better” with time as learning progresses and as relationships and familiarity grow. It may be beneficial to hold postoperative debriefings where dental staff may de-stress, discuss their impression of how treatment progressed (what went well, what could have gone better), and decide on strategies to improve support at subsequent appointments. A similar debriefing and reassurance may be beneficial to the patient and family or caregivers.

Few, if any, of these principles are sufficient alone to reduce uncooperative behaviors. Almost all approaches share elements from other concepts. The dentist must blend application of multiple techniques concurrently, in order to specifically support the moment-by-moment behavior of the patient. The skilled practitioner uses these principles much like a painter uses a color palette; all techniques are on hand to be selectively dabbed or blended into the picture to achieve precise behavioral effect. The dental staff accepts responsibility for setting up the easel and making sure that the lighting is just right (prepare the environment and review specific needs of the patient). The end result may not always be a masterpiece, but even a picture worth hanging on the fridge represents success!

Issues/characteristics specific to people with special needs

Although many of the behavioral support techniques available to dentistry are common to both pediatric and special needs care, there are additional and important issues that are specific to the field of special needs care. As a group, people with special needs represent a significantly more diverse or heterogeneous

segment of the population than that treated in the pediatric dental office. Patients with special needs present as both children and adults with a wide array of disabling conditions and varied degrees of severity of impairment.³³ Most of these issues further complicate care provision and present significant challenges for the dental team.

The life expectancy of children with disabilities is increasing.⁴⁹ Adulthood may produce growth in coping skill and cooperative behaviors. However, aging may also simply be a chronological event, which has little benefit or even detrimental effect on the overall quality of life for the person with special needs. As students with developmental disabilities graduate from special education programs, they may suffer a cut in therapeutic behavioral support services. At the same time, in most states they will “age out” of Medicaid dental benefit coverage.⁴⁴ This may result in less routine dental visits, which may lead to decreased carryover of learned skills and increased resistance, not to mention advancement of oral disease.

Other factors related to behavioral support demands for patients with special needs as they age into adulthood include the following:

- Physical resistance exhibited by an adult may have far more dramatic consequences than similar behavior in a three year old!
- Parents of children with special needs may not try to access dental treatment until later in their child's life, due to pressing medical and developmental concerns that pervade the childhood years.⁵⁰ Parents may also be apprehensive about finding a dentist who will treat their child or are nervous as to how their child will behave in the dental chair. After many unsuccessful attempts to find a dentist to treat their child, they simply give up. Because of this delay, there is greater likelihood that a patient has built up anxiety as a result of multiple medical encounters or has developed fear of dentistry, transferred from familial attitudes, or input from siblings and peers.⁵¹ As a

result, dental disease may have progressed and treatment needs may be excessive.³²

- As a result of the above factors, people with special needs often initially present to the dental office with emergent treatment needs. There is no more difficult situation for dentist and patient than to initiate a relationship under the cloud of acute pain, infection, and possibly complex surgical demands. The practitioner is challenged to utilize all of his or her behavioral support skills, but it is likely that all involved players will remember the encounter as an aversive and difficult event. (Contrast this example to the ideal treatment planning process, where initial treatment focuses on completion of the least demanding procedure in order to shape cooperative success.)
- Patients with special needs who have experienced institutional and other congregate living situations may present with behaviors that are modeled from observing the disruptive actions of their peers. These behaviors may be learned out of a common environmental need (attention seeking, escape, self-stimulation) or may simply be adaptive imitation of the “surrounding culture.”
- People with special needs are exceedingly vulnerable to exploitation and neglect, and are estimated to suffer abuse at the hands of others at a rate 10 times greater than that of the general population.^{42,52} This fact complicates aspects of trying to interpret patient behavior when dentistry by its nature, demands violation of personal space. What appears to be a noncompliant tantrum may actually be posttraumatic stress disorder reflective of a prior abusive experience.
- Mental illness (psychiatric disorders) occurs more commonly in persons with intellectual disability than in the general population.⁵³ Clinical presentation, diagnosis, and treatment of the mental disorder is often complicated by poor language and cognitive skill inherent in a dual diagnosis.

- Because of their extensive life experience, patients with special needs may develop an extensive and effective repertoire of avoidance behaviors that includes the following: behavioral gag, volitional emesis, willful voiding (or repeated false claim for “toileting need”), nontearful vocalization, and hysteria. These actions reflect adapted use of basic human functions or behavior, sometimes in sophisticated fashion, as a means to manipulate one's environment. Many patients learn well that these behaviors allow them to “get their way” or otherwise eliminate stimuli. Avoidance behaviors may also be avoidance coping in that they serve as means of coping, repressing, ignoring, or diverting attention from stressful stimuli.^{54,55} Remarkably, the committed dental team can work to extinguish avoidance behaviors by utilizing the basic techniques described in the literature. It takes time, perseverance, and may require employment of escape extinction as a strategy to establish communication. The dental teams focus remains unchanged: reinforce positive behaviors, while ignoring the “melodramatics.” This description is not meant to sound judgmental, in any way. Each of us has learned to manipulate our environment within the limits that family and society have set for us. Sometime today, it is likely that each reader of this article will theatrically “act” in some fashion, in order to influence his or her environment!

Nature versus nurture

“Diagnostic overshadowing” occurs when a patient's problematic behaviors are attributed *solely* to their neurodevelopmental disability.⁵⁶ Dentists unfamiliar with people with special needs may assume that all patient behavior is the direct result of their disability, when actually only a portion may be attributable to the primary impairment. The majority of patient behaviors may be representative of overall life circumstance

and experience, such as parent-related stress and familial dysfunction,^{2,57} extent and quality of nurturing, directive consistency, and/or setting of expectations during the developmental period. Overindulgence, failure to establish boundaries, emotional abandonment, or failure to bond may “socially disable” the individual to a greater degree than the primary disability itself. Similarly, abuse or an imposed institutional culture may be evident as “psychological scarring” in the behavioral profile of the patient with special needs, regardless of the form or nature of his or her primary disability. This discussion just accentuates the challenging and complex nature of the task required of the dental team to behaviorally support a patient through the course of clinical care.

Behavioral support of the geriatric dental patient with special needs

Just as the life expectancy of children with disabilities is increasing, so is the life expectancy of the general population being extended.⁵⁸ But with advancing age, fully functional adults face an increased likelihood of acquiring geriatric related disabilities, such as arthritis, cardiovascular disease, diabetes, and hip fracture.⁵⁹ These conditions may affect delivery of dental care, but they seldom would require extra behavioral support from the dental team beyond a gentle communicative approach and an effort to limit stress. However, when sensory loss affects changes in intelligence, memory, and learning ability, the loss of cognitive function creates new dilemmas in the behavioral support of the geriatric patient with special needs.⁹ Alzheimer’s disease, the most common form of dementia, occurs in approximately 11% of Americans over age 65, but by age 85, this rate increases to 50%.⁶⁰ Dementia initially impairs cognitive function, and later results in impaired behaviors.⁹

Discussion of behavioral support for people with special needs up to this point portrays the dentist in a teacher’s role and advocates for the patient’s potential to learn and enhance his or her coping skills. In diametrical contrast, the geriatric patient with cognitive impairment creates a new dilemma for dentistry in that the coping skills that were once perfected are now in flux and are erratically on the decline. Remarkably though, behavioral support for this population utilizes many of the same principles already described, but with a slightly different focus.

Chalmers, in her comprehensive review, states “it is the individual dental professional’s skills and strategies in *behavior management* and *communication* that often determine the course of clinical dental treatment for patients with dementia.”⁶¹ The effective dentist is described as understanding and empathetic. Again, *nonverbal communication*, including facial expression, body posture, direct eye contact, and gentle touch, are emphasized as basic behavioral support strategies for persons with dementia.⁶⁰ *Flexibility* is repeated as a characteristic critical to successful care of people with dementia. Techniques that work for some patients may not work for others, and what works one day for one person, may not be effective the next day for the same person.⁶² Dr. Janet Yellowitz, past president of the American Society of Geriatric Dentistry, aptly states that “patients with cognitive impairment not only have good days and bad days, they have good minutes and bad minutes,” such that, in as little as 5 minutes, a patient may completely change his or her mood, lucidity, and ability to participate in care (*coping*).⁶³ Waiting times should be minimized⁶¹ and short appointments may be required, especially for patients in advanced stages of dementia (“*respect the patient’s cooperative window*”).⁶⁰ The nursing literature provides this pearl, “successful care of adults with cognitive impairment is not task-oriented but is oriented toward the person with dementia” (*person-centered*).⁶⁴

Communication strategies for adults with cognitive impairment include use of short words, simple sentences, repetition, and speaking slowly and clearly in a lower voice tone (*voice control*).⁶⁵ Virtually every other behavioral support technique previously described in this article is represented in the literature as adaptable to the adult with dementia including explaining procedures before performing them (*TSD*), rest periods⁶⁶ (*escape*), quiet environment,⁶⁶ distraction,⁶¹ and use of praise and positive reinforcement.⁶⁷

Although the learning and coping abilities of the geriatric patient with special needs are presumed to be waning, it is reassuring to discover that basic behavioral support techniques are considered to be applicable for use during clinical dental care. Their effectiveness will undoubtedly depend on the skills and sensitivity of the dental team and the relative stage or level of cognitive impairment of the patient.

Basic strategies and additional concepts applicable to people with special needs

“*You treat my son like he’s a real person!*” The patient with special needs must be granted the respect and dignity that we extend to any patient. Their reflection of basic human characteristics and needs should be acknowledged and serve as a reminder that each of us shares similar attributes central to our humanity. People with special needs share our common desires for safety, comfort, and affection, and experience anxiety and uncertainty, just as we might when we face situations that are unfamiliar to us. We should respectfully understand that these patients’ lives may be complicated by limitations in problem-solving skills, coping skills,⁵⁶ cognitive processes, motor abilities, psychological assets, developmental experience, and balanced sensory input. A basic conceptualization assumes that people with special needs

possess the ability to learn (at their own rate). By espousing expectation of eventual success, the practitioner's role as supportive teacher, actually builds a patient's own perception of capabilities for performance.⁶⁸ If some people with special needs have less ability to cope with dental treatment, our goal is to help them increase their socially appropriate coping strategies.⁶⁹ Ultimately, the task for the dental team is to accept each patient as an individual, appreciate his or her unique characteristics, and discover how we can collaborate to best facilitate learning and growth of new skills.

Basic behavioral support begins at the time of the initial patient encounter, when the basic foundation of a *relationship* is poured, and when desensitization to dental treatment begins. When compared to a medical exam room (minimal stimuli, benign atmosphere), the typical dental operatory may appear threatening and perplexing.⁴⁸ Thus, experts in dental and psychology literature suggest eliminating environmental stressors by using the practitioner's private office or an interview room to perform the initial patient medical and behavior assessment.^{14,48} An empty waiting room, set aside for a new patient intake, can prove to be a spacious, nonthreatening setting where socialization can occur. The dental team can also observe fundamental patient behavioral characteristics during the course of health history review. This is a time when the practitioner and each staff member should meet and focus on the patient, addressing them by name and establishing eye contact (if possible). The intent is to express welcome, acceptance, and to acknowledge his or her identity as an individual of importance. To further this intent and build trust, whenever possible, efforts should be made to communicate directly with the patient.⁵⁰ A socially acceptable degree of touch (handshake, shoulder pat, etc.) will establish the concept that dental care will require touch and necessitates some "violation of personal space." Tactile defensiveness, if present, will become evident in the course of this encounter.

Other important characteristics that deserve evaluation during the initial interview include assessment of communicative abilities, cognitive level, and attention span. It is not uncommon that patients' receptive and expressive communicative levels vary.⁵⁰

Nonverbal cues, such as body language, may have more impact than words and practitioners may be humbled to discover how much is actually understood in comparison to what is assumed based on the individual's ability to provide intelligible feedback. Research has established that mental age is a greater determinant of acceptance of treatment than chronological age.⁷⁰ An honest assessment of a patient's cognitive or functional level may be key to the provision of appropriate behavioral support and communication technique.¹⁴ Such assessment will guide the practitioner in sculpting individualized patient care that reflects each patient's stage of development and level of coping and learning skills. The practitioner's intent is to help people with special needs through a stressful situation at a level that meets his or her needs, but does not seek to negate the concept of "age appropriateness" in overall personal dignity and respect. Finally, gaining some measure of the length of an individual's attention span will help the practitioner design treatment strategies, while formulating a treatment plan.

Reflective of or unrelated to attention span, each person with special needs has what might be called a "cooperative window" that reflects how long they can stay in the "cooperative ballpark." For many, there appears to be a predictable period of time where they can muster their coping skills and tolerate or allow treatment. But when that time is used up, they seem to say "I can't play anymore," and behavior tends to deteriorate. A practitioner who learns to respect this phenomenon will likely guide the patient through numerous successful treatment encounters. The dentist who insists on completing the quadrant because "that's the way I do things," will likely damage the trust

of the patient and iatrogenically precipitate increased resistance at future appointments simply because the patient's cooperative efforts were not respected.

Nowhere else in dentistry is "team work" more critical than when providing behavioral support to the people with special needs. Because many people with special needs are keenly adept at reading nonverbal cues, they more readily sense anxiety or uncertainty in individual staff members. The patient may use this perceived "chink in the armor" to try to manipulate or disrupt proposed treatment. A special care team that presents itself as calmly confident and committed to successful treatment will actually discover it can guide a patient through treatment, where other clinicians have failed. This confident team carries an expectation that it can discover a means to support the patient in some fashion that will provide for meaningful care. Such a staff creates a "circle of behavioral support" that is consistent in its message, thus facilitating patient learning and development of enhanced coping skills.

In a similar fashion, it is critical that family or caregivers continue to bolster this learning postoperatively by responding in positive terms, and providing reinforcing attention for a job well done. Nothing undermines positive growth more effectively than a parent who greets his or her child with a "my poor baby attitude" in the waiting area after that child has worked hard to complete care. The patient becomes confused, one minute being regaled for his or her coping behavior; the next minute receiving sympathy for what must have been a horrible event. Thus the dental team's expectation for success must also be transferred to family and caregivers, in order to reinforce continued behavioral growth. A dental team should find it rewarding to share in a celebration of accomplishment with a patient and his or her family; such accomplishments are the seeds of self-esteem. This perpetuates the concept that consistency, in message and method, helps people with

special needs learn to cope during stressful events.

The importance of sedation and general anesthesia: the most restrictive may be the most valuable

In order to provide the best appropriate care to patients with special needs, a dental care system or community should be able to utilize or access all possible methodologies in the hierarchy of behavioral support techniques. Deep sedation and general anesthesia may be the most valuable of these resources. Although dentistry currently seems to have placed most of its focus on the *pharmacological management of patient behavior and anxiety*, organized dentistry and many state boards have increasingly placed limitations of the use of preoperative and in-office sedation, and anesthesia. Thus, many practitioners are less willing to provide these services, which creates an additional barrier to access for patients with special needs who might benefit from their use. Additionally, because medical procedures typically generate more income for a hospital than dental procedures, dentists in many parts of the country are finding it increasingly difficult to schedule operating room time to treat patients with special needs.⁷¹

Considering this lengthy discussion of the importance of basic behavioral support, there are admittedly classic situations where general anesthesia is the best alternative. When a dental team cannot assure the physical safety of the patient or staff, deep sedation or anesthesia is an obvious and necessary treatment alternative. Even for the patient who can be treated using basic behavioral support techniques, there may be certain procedures, such as complicated extractions, that would best be performed with a patient "asleep." There will be certain medically compromised or delicate patients who may be more safely moni-

tored and less stressed with treatment in the operating room. Some patients, who may ultimately benefit from behavioral support, may initially present with emergent needs (acute pathology, rampant progressive caries, systemic conditions affected by oral disease) that cannot wait for desensitization. And sometimes practical issues such as extensive rehabilitative needs, cost of parental time away from work, difficulties with extraordinary scheduling demands, great distance and/or transportation burdens may force the dentist to recommend comprehensive care utilizing the assistance of the anesthesiologist. So a very justifiable use for general anesthesia would be for the full mouth rehabilitation of a rampantly diseased mouth in one session, *even when long-term care and maintenance of a patient may be achievable using simple behavioral support techniques*. And in a final contrast, an advantage of anesthesia may be a relative amnesia of much of the event, whereas, any potential for patient learning and growth of coping skills is negated using this approach.

Conclusions

Dentistry's focus on behavioral support is primarily based on the pediatric concept, approach, and technique. The pediatric dentist is trained and skilled in the behavioral guidance of children during clinical dental treatment. Similarly, the practitioner who cares for people with special needs must possess a spectrum of skills founded in the concept of communicative learning, but those skills must be further adapted, honed, and applied to a much more heterogeneous segment of humanity, than children alone. The patient with special needs typically presents to the dental office with a more complex behavioral profile, a broader life experience, a multitude of prior medical encounters, a possible history of congregate living arrangements, and is more likely to have been a victim of abuse than a child patient. Whereas children and many people with special needs are perceived as having potential for cognitive growth,

there is the portion of people with special needs whose cognitive abilities are deteriorating.

Skillful application of behavioral support techniques is somewhat intuitive and empirical. It is as much an art form as it is a science. Practitioners who provide oral health care to people with special needs typically possess a unique temperament, and possibly a holistic view of dentistry's intertwined relationship with psychology and human behavior. Success in treating people with special needs depends on allowing additional time, having adequate trained staff, and creating an environment that the patient with special needs can recognize as familiar. Caring for people with special needs can be physically and emotionally demanding and requires patience and a vision of customized behavioral support for a patient who may perceive treatment to be aversive and threatening. The degree to which people with special needs will be relegated to treatment utilizing deep sedation or general anesthesia may be more dependent on a practitioner's skill and commitment to behavioral support techniques than on the unique presenting characteristics of the patient.

Finally, there is evidence that dental education lacks scope and breadth in the concepts of behavioral support. Some dental educators have renewed an emphasis on training students in special needs care.⁷² It is hoped that in addition to hands-on experience in clinical care provision, students will also receive advanced exposure to behavioral concepts. It is humbling, but critical to recognize that dentistry's lack of proficiency with behavioral support techniques may be the biggest barrier to access to oral health care for people with special needs.

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