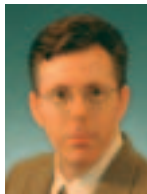




In Practice

WITH DR. RONALD E. GOLDSTEIN

Beyond Conscious Sedation: Anesthesiologists as Partners in Dental Care



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In recent years, the emphasis on patient comfort has led to more treatment achieved under conscious sedation. The newest addition to that capability is to bring an anesthesiologist into the dental office to actually assist with the treatment. The result is that more extensive treatment can be accomplished within a given time with the patient at maximum comfort level. In this regard, I am pleased to offer this column written by guest author Dr. Howard Odom, whose firsthand experience with our practice has contributed to our own team considerably. I'm sure what he has to say will be informative and enlightening. Thanks Howard!

Anesthesia care for patients undergoing dental treatment means different things to different people. The patient interpretation is usually, "I don't want to hurt, and I don't want to be nervous."



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Dentists think of injectable combinations of anesthetic and vasoconstrictors, which help the patient remain reasonably comfortable and relatively immobile, and provide a working field minimally infringed by blood. Both perspectives are critically important to the therapeutic relationship between patient and dentist. However, challenges arise when medical, psychological, or technical issues that extend the needs beyond the patient's reserve or the dentist's resources complicate the expectations on either part.

A resource is available that can improve the patient's experience, expand the technical possibilities for the dentist, and enhance the overall outcome of the treatment. This article addresses a collection of issues that dentists should consider when entertaining the question of adding in-office anesthesia to their list of services.

PARTNERSHIP OF PROFESSIONS

A partnership of professions can significantly extend the range of options available to patient and dentist alike (Figure 1). Adding medical anesthetic care brings another, more comprehensive definition of "anesthesia." The anesthesiologist's role is to balance the needs of the patient and those of the practitioner in a comprehensive manner to provide the safest, most satisfactory experience possible and facilitate the best technical execution of the treatment plan. This means that the medical, pharmacologic, and technical expertise of acute patient management is applied in a manner targeted to the care environment and the planned procedure.

NECESSITY VS LUXURY

Dentistry has been practiced

in the office for many decades without medical anesthesia. Is the availability of the anesthesiologist in the dental office just another "high-end" service for the patients who seek distinctive anesthetic care? For some patients the level of expected care is consistent with their expectations for services in business or travel. These individuals may identify an optional service as a necessity in their treatment plan. In-office anesthesia can be a distinctive service in the esthetic dental practice. In most instances, however, anesthesia is sought for patients who present particular challenges or limitations in the range of dental care options.

IDENTIFYING CANDIDATES FOR ANESTHESIA

Matching the care to the patient is a challenge in all health-care professions. In most cases, patients direct doctors to particular care options. But in some instances, the care options tend to favor patients with particular needs. These are the factors that come into play when considering anesthesia during esthetic or restorative dental procedures:

- A complex or "at risk" medical history is perhaps the most obvious patient selection criterion. Offering management of these medical issues during treatment is a specific rationale for recommending or requiring an anesthesiologist in the care team.
- Procedure-related anxiety can be a predominant limiting factor in treatment. Patients are caught between their desire for an improved appearance and a negative anticipation of the dental procedure. Managing distress and controlling its physiologic consequences are fundamental tasks in comprehensive anesthetic care.

- The type and complexity of the procedure present significant issues in treatment planning. Some patients embark on an extensive treatment plan that can involve multiple areas of the mouth or require multiple treatment phases. These plans present difficulties in scheduling and technical logistics. Anesthetic care can allow dentists to combine some phases of treatment. Also, minimizing movement, maximizing patient compliance, and improving control of the micro-environment at the work site, can optimize the technical working conditions.
- Expected procedure duration in the dental chair is another factor to consider. The amount of time a patient can comfortably tolerate restorative dental procedures is highly variable. The prospect of a more comfortable and pleasant experience during treatment is desirable even when factors of complexity or anxiety may not be prominent issues. Offering anesthesia care becomes a highly



Figure 1—Dr. Odom is providing in-office IV Sedation anesthesia care during a multi-staged esthetic procedure by Dr. Goldstein.

valued service for both the patient and the practice.

TYPES OF ANESTHESIA

Options for dentists who wish to augment the basic local anesthetic injection techniques have been developed through decades of experience. The use of nitrous oxide/oxygen “dental analgesia” extends back to the 19th century. The oral ‘conscious sedation’ path-

way is well traveled and adequately fills many patients’ need for procedure related anxiety management. Recently publicized developments include ‘virtual’ techniques of sensory distraction and soothing stimuli to provide a more favorable patient experience.

Beyond these techniques are the options of intravenous sedation and general anesthesia. Many dentists and dental anesthesiolo-

gists use these with great success. However, for the dentist without the required training and credentials, these options are not available outside of the hospital setting. Anesthesia techniques commonly used in hospitals and ambulatory surgical centers may be safely and efficiently adapted to the office environment. The emerging role of the office-based anesthesiologist is to appropriate-

ly translate these fixed facility options into diverse environments including the dental office.¹ The two types of care provided by an anesthesiologist that are most applicable to office procedures are monitored anesthesia care (MAC) and general anesthesia (GA).

MAC is a specific type of anesthesia service in which an anesthesiologist provides all aspects of anesthesia care—a pre-procedure evaluation, intra-procedure care, and post-procedure anesthesia management—but uses a reduced toolset of sedatives and analgesics.² The dentist adds local anesthesia to allow the patient to tolerate the anticipated painful aspects of the procedure with lower amounts of sedation. These more conservative doses leave a broader margin of safety related to protective airway reflexes, adequate spontaneous respiration, and rapid recovery following treatment.

General anesthesia entails similar phases of care but applies the full range of drugs, airway management, and patient monitors to provide the most complete oral access possible. This is perhaps the most practical solution for those patients with a potent gag reflex or who repeatedly invade the work area with their tongue. Though GA alleviates such patient compliance issues, an increased level of complexity and higher resource usage must also be factored into the decision.

THE ANESTHESIA PERIOPERATIVE PROCESS

Anesthesiology takes a whole-patient approach that accounts for and addresses all significant medical issues of an individual patient.³ The anesthesia perioperative process is one which comprehensively deals with the patient before, during, and after the surgical procedure. The anesthesiologist works closely with the dentist, assistants, and office staff to integrate the process components into office management and care procedures. The patient sees a seamless system focused on his/her particular situation and needs. The list below identifies the major aspects of an “episode of care” by the anesthesiologist.

- Pre-anesthetic medical questionnaire.

- Day-of-surgery preoperative exam and separate anesthesia consent.
- Intra-operative anesthesia care.
- Post-operative recovery and discharge from facility.
- Postoperative follow-up.

Patients who have office-based procedures are required to follow precautions similar to those in a hospital or an ambulatory surgical center. For example, patients are not to eat or drink anything for a specified time before the surgery, and they are required to arrange for a responsible adult relative or friend to drive them home after surgery. A caregiver is required at home to assist the patient following general anesthesia and serve as a contact person as needed during the first 24 hours.

LIMITATIONS OF ANESTHESIA CARE

The airway is a shared resource during a dental procedure. Preservation and protection of the airway prevails as the

first and most acute concern of the anesthesiologist. Consequently, requests to take the sedated patient 'deeper' cannot always be safely accommodated. Meticulous attention to eliminating liquids and particulates from the oral cavity will reduce chances of a deleterious airway event.

Medical anesthetic care does not automatically make all things possible or even reasonable in the office setting. The task sequence of some restorative techniques can require a high degree of patient cooperation, which is difficult to attain in the sedated patient and impossible in the generally anesthetized patient. For sedated patients, the depth of sedation can be changed only so quickly even with the most skillful control by the anesthesiologist. Some patients may desire general anesthesia but are either poor candidates for this level of care in the office setting or require a measure of co-operation that excludes this option.

RISK REDUCTION AND SHARED

LIABILITY

Despite everyone's best hopes, unpredictable and undesirable problems can arise during any type of patient care. Perhaps the most realistic perspective is how well such risks can be identified and managed. Therefore, the important issue is what range and sophistication of responses can be mounted when such events occur. No care provider can escape the responsibility of anticipating these events. While extending services to include anesthesia does change the spectrum of risk, the anesthesiologist also brings skills in risk identification and management.

Does provision of intravenous sedation or general anesthesia in the dental office increase risks to the patient? Actually, some risks may be reduced through the combination of additional medical care planning, anxiety management, and vigilant care by the anesthesiologist. Here the patient selection for anesthesia plays a significant role. Though problems can occur even during a routine case, care by the anesthesiologist may have been specifically planned because of medical risk. Emergencies can occur despite all reasonable preventive measures. When a critical event happens, there is no substitute for a prompt, appropriately planned response. Ability to initiate and carry on a BLS (or even ACLS) type emergency care response is a prudent effort in routine dental practice. It is an absolute requirement when embarking on in-office anesthesia care. Anesthesiologists have experience in defining care procedures and in care during acute events. Office staff can be trained to facilitate patient transfer to a nearby hospital whether needed by the anesthesiologist or on a day when the dentist is providing solo care. Recommending anesthesia for those patients with known medical problems is a reasonable risk reduction strategy.

Viewed from the dentist's perspective, what is the liability exposure associated with in-office anesthesia? Dentists in solo or group practices bear all liability whatever the level of patient risk. Medical risks may be small

but cannot be ignored. The powerful tools of risk reduction and shared liability can be brought to bear on the daily concerns of caring for at-risk patients. Evidence of this is best illustrated by the physician partnership of surgeons and anesthesiologists, which has allowed surgeons to do increasingly complex procedures on progressively sicker or higher risk patients. Continual risk reduction and management in anesthetic care have quietly supported the widely publicized surgical accomplishments. It is reasonable to predict that similar gains are possible in dentistry through prudent collaboration.

STANDARDS OF CARE FOR OFFICE-BASED ANESTHESIA

The system of facility certification and regulations applied to hospitals and surgical centers is available^{4,5} but not uniformly required in dentist's offices. This does not mean, however, that the dental and medical communities have ignored or are unconcerned about quality of care and the safety of patients. On the contrary, there are a growing number of resources available to assure the public of professional efforts in their best interest. Some dental practices have attained accreditation by outside entities as tangible evidence of a commitment to safe, quality care.

The American Society of Anesthesiologists (ASA) and the Anesthesia Patient Safety Foundation (APSF) have been leaders in the effort to improve safety of anesthesia in all environments. The ASA has developed standards for patient monitoring,⁶ preoperative evaluation,⁷ qualifications of anesthesia providers in an office-based setting,⁸ and guidelines for office-based anesthesia practice by anesthesiologists and is urging states to adopt these same guidelines as regulations to protect all patients.

National dental societies have been at the forefront promoting safety during sedation and anesthesia by their members. The American Dental Association,^{9,10} American Association of Oral and Maxillofacial Surgeons,¹¹ and the American Academy of Pediatric Dentistry¹²⁻¹⁴ have all developed sedation and general anesthesia guidelines for application by their

members in their respective practice environments. The American Society of Dental Anesthesiologists and the Dentist Organization for Conscious Sedation provide continuing educational resources targeted to their respective membership.

PRACTICE RESOURCES

Expanding the range of services offered usually translates

into additional practice resource requirements. This is certainly true when considering in-office anesthesia care. The office staff contributes treatment coordination and scheduling, fee payment arrangements, and other clerical support. Chairside assistants, always vital to successful treatment, are absolutely crucial as their familiar daily tasks have an even greater impact on the

smooth flow of operative care. An additional assistant is usually required to maximize efficiency when the instrumentation systems or materials' preparation impose demands made greater by having a sedated or generally anesthetized patient.

The consumables, disposables, and various equipment used must be provided either by the practice or through an arrange-

ment with the anesthesiology group providing the service. Some states place restrictions on offices where sedation care is provided requiring that patient monitors and other such items must permanently reside at the facility along with use and service records.

CONCLUSION

Adding in-office medical anesthesia care to your practice is a not a trivial undertaking. However, each week many patients present to dentists with issues ranging far beyond their teeth alone. A growing understanding of the ways general health and dental health are interrelated warrants consideration of how an expanded partnership between dentistry and medical anesthesia can enhance patient care. ○

REFERENCES

1. American Society of Anesthesiologists. Guidelines for Office-Based Anesthesia. Available at: <http://www.asahq.org/publicationsAndServices/standards/12.htm>. Accessed November 21, 2003.
2. American Society of Anesthesiologists. Continuum of Depth of Sedation-Definition of General Anesthesia and Levels of Sedation/Analgesia. Available at: <http://www.asahq.org/publicationsAndServices/standards/20.htm>. Accessed November 23, 2003.
3. American Society of Anesthesiologists. Guidelines for Patient Care in Anesthesiology. Available at: <http://www.asahq.org/publicationsAndServices/standards/13.htm>. Accessed November 23, 2003.
4. Joint Commission Resources, ed. Accreditation Manual for Office-Based Surgery Practices. Joint Commission on Accreditation of Healthcare Organizations, 2001.
5. 2003 AAAHC Guidebook for Office Based Surgery Accreditation. Accreditation Association for Ambulatory Health Care, Inc. 2003.
6. American Society of Anesthesiologists. Standards for Basic Anesthesia Monitoring. Available at: <http://www.asahq.org/publicationsAndServices/standards/02.pdf#2>. Accessed November 24, 2003.
7. American Society of Anesthesiologists Task Force on Preanesthesia Evaluation. Practice Advisory for Preanesthesia Evaluation: a Report by the American Society of Anesthesiologists Task Force on Preanesthesia Evaluation. *Anesthesiology*. 2002; 96(2):485-496.
8. American Society of Anesthesiologists. Qualifications of Anesthesia Providers in an Office-Based Setting. Available at: <http://www.asahq.org/publicationsAndServices/standards/29.htm>. Accessed November 23, 2003.
9. ADA Policy Statement: The Use of Conscious Sedation, Deep Sedation and General Anesthesia in Dentistry. Available at: <http://www.ada.org/prof/resources/positions/statements/useof.asp>. Accessed November 23, 2003.
10. ADA. Guidelines for the Use of Conscious Sedation, Deep Sedation, and General Anesthesia for Dentists. http://www.ada.org/prof/resources/positions/statements/anesthesia_guidelines.pdf. Accessed November 23, 2003.
11. American Society of Oral & Maxillofacial Surgeons. Office Anesthesia Evaluation Manual, 6th Edition, 2000.
12. American Academy of Pediatric Dentistry. Guideline on the elective use of conscious sedation, deep sedation and general anesthesia in pediatric dental patients. *Pediatr Dent*. 2002;24(7):74-80.
13. American Academy of Pediatric Dentistry. Guideline on the use of anesthesia-trained personnel in the provision of general anesthesia/deep sedation to the pediatric dental patient. Available at: <http://www.aapd.org/members/referencemanual/pdfs/02-03/Anesthesia%20personel.pdf>. Accessed November 23, 2003.
14. American Academy of Pediatric Dentistry. Policy on the use of deep sedation and general anesthesia in the pediatric dental office. Available at: http://www.aapd.org/members/referencemanual/pdfs/02-03/Sedation_anesthesia.pdf. Accessed November 23, 2003.