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Sedation risks and complications: Strategies to reduce liabilities

Sedation has become a valuable tool in modern dentistry; however, its use comes with certain challenges and risks. From minor side effects to life-threatening complications, sedation requires a careful balance of skill, preparation, and vigilance. Understanding these risks and implementing proactive strategies is essential for dental professionals to ensure patient safety and minimize legal and professional liabilities. This article delves into these risks and challenges as well as best practices for safe and effective sedation in dental practice.

Fundamental risks and complications

Sedation carries inherent risks that can range from mild side effects to severe complications. The most common side effects include lingering drowsiness, xerostomia (dry mouth), nausea and vomiting, and headaches. Patients undergoing IV sedation may experience bruising or discomfort at the venipuncture site. Though rare, allergic reactions to sedation medications can also occur and must be anticipated by dental teams.

A particularly concerning complication is over-sedation, which can lead to respiratory depression, hypoxia, impaired cognitive function, and other life-threatening outcomes. Reaching a sedation depth beyond what is clinically necessary is particularly hazardous for medically compromised patients. For these reasons, dentists typically use the lowest effective dose of sedative agents.

Addressing high-risk patients and special healthcare needs

High-risk dental patients and those with special healthcare needs present unique sedation challenges, and understanding the American Society of Anesthesiologists (ASA) patient classification system is crucial. This system ranges from Class 1 (perfect health) to Class V (life-threatening conditions) and Class VI (deceased). Patients with an ASA designation greater than Class II (mild but well-managed or treated conditions) often require specialized care. In such cases, a medical or dental anesthesiologist may be necessary to manage sedation when performed in the dental setting.

Patients with special healthcare needs, such as those with autism spectrum disorder, cerebral palsy, or cardiovascular conditions, may require tailored sedation plans. Behavioral or medical comorbidities can complicate sedation delivery and necessitate a multidisciplinary approach that include consultations with the patient's primary care physician or specialists.

For patients with conditions like obstructive sleep apnea or obesity, there is an increased risk of airway obstruction during sedation. These individuals may need additional monitoring or alternative sedation methods to mitigate complications.

Case study

A recent case highlights the consequences of inadequate sedation practices. A dentist faced sanctions for sedating a patient with multiple risk factors, including severe obstructive sleep apnea and chronic obstructive pulmonary disease (COPD). Despite the patient's high-risk classification (ASA Class III), they proceeded with in-office sedation without delegating anesthesia management to a qualified specialist. Compounding the issue, the practitioner failed to account for the differing half-lives of the sedative (Midazolam) and its reversal agent (Flumazenil), leading to prolonged sedation effects. The penalties included a fine, suspension, and loss of their sedation permit.

Managing sedation for high-risk individuals and those with special healthcare needs requires a thorough understanding of patient-specific risks. The safety of patients depends on tailored sedation plans, a collaborative environment, and adherence to best practices. Prioritizing these measures can significantly reduce complications and uphold the highest standards of care in dental practice.

When to consult physician colleagues

Collaborating with physicians is vital to safe sedation practices, especially for medically complex patients. Dentists should engage with a patient's healthcare team in cases involving, but not limited to, the following:

- **Chronic medical conditions:** Patients with conditions such as heart disease, respiratory disorders, or diabetes may require adjustments to sedation protocols. For instance, a cardiologist's input might be necessary to assess the risk of cardiac complications.
- **Medication interactions:** When a patient is taking medications, such as anticoagulants, anticonvulsants, or psychotropics, that could interact with sedative agents, it may be necessary to review sedation plans with their prescribing physician.
- **Adverse reaction history:** If a patient has experienced prior allergic or adverse reactions to sedation, working with a physician can be beneficial to determine alternative medications or approaches.
- **Pregnancy considerations:** Certain sedative agents may pose a risk for these patients. Consulting an obstetrician can help identify the safest options and timing for dental care.

Integrating multidisciplinary expertise into sedation planning can significantly reduce the likelihood of complications and improve patient outcomes.

Training and emergency equipment needs

Proper training and readily available emergency equipment are imperative for managing sedation-related emergencies. A lack of preparedness can result in severe consequences for patients and significant liabilities for dental practices.

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Dentists should complete advanced sedation training that emphasizes safe sedative administration, recognizing adverse reactions, and mastering emergency protocols like airway management, CPR, and ACLS (Advanced Cardiac Life Support). For example, the American Dental Association (ADA) guidelines for IV moderate sedation require 60 hours of classroom training, CPR certification, a course in managing emergencies, and at least 20 supervised IV infusions of patients.

Regular emergency drills are also essential to reinforce readiness and build confidence among staff members. Every dental practice offering sedation should have a fully equipped emergency kit with oxygen delivery systems, bag-valve masks, AEDs, suction devices, and essential medications like epinephrine and reversal agents. Real-time monitoring tools, such as pulse oximeters and capnography, are crucial for tracking patient vitals during sedation. These measures collectively enhance patient safety and reduce professional liability.

Risk reduction strategies

To reduce sedation-related liabilities, dentists should perform a comprehensive pre-sedation assessment to identify high-risk patients who may need specialized care. Informed consent is another key component and requires clear communication regarding sedation risks, benefits, and alternatives, with thorough documentation. Strict adherence to guidelines from organizations like the ADA or American Academy of Pediatric Dentistry (AAPD) ensures best practices are maintained.

Sedation dentistry offers immense benefits but carries risks that demand meticulous planning and preparation. Dentists and their teams must prioritize patient safety by understanding potential complications, accommodating high-risk individuals, consulting physicians when needed, and maintaining emergency readiness. By adopting these strategies, dental professionals can minimize liabilities, improve patient outcomes, and foster trust in their practices.

Article by: Jennifer Flynn, CPHRM, Risk Manager, Dentist's Advantage

AT A GLANCE: SEDATION SAFETY TIPS

- Perform a comprehensive pre-sedation assessment to identify high-risk patients needing specialized care.
- Complete advanced sedation training that includes recognizing adverse reactions and providing emergency care like airway management, CPR, and Advanced Cardiac Life Support.
- Use real-time monitoring tools and have emergency equipment readily accessible.
- Conduct regular emergency drills to reinforce readiness and build confidence among staff members.
- Collaborate with multidisciplinary physician colleagues when caring for patients with specific health conditions.
- Adhere to sedation guidelines and best practices from organizations like the ADA, AAPD, and ASA.

HELPFUL ONLINE RESOURCES

American Dental Association (ADA)	Guidelines for the use of Sedation and General Anesthesia by Dentists
American Academy of Pediatric Dentistry and American Academy of Pediatrics (AAP)	Guidelines for Monitoring and Management of Pediatric Patients Before, During, and After Sedation for Diagnostic and Therapeutic Procedures
American Society of Anesthesiologists (ASA) and the American Academy of Pediatrics (AAP)	Joint Statement on Pediatric Dental Sedation

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Dentist's Advantage Risk Management Manual https://www.dentists-advantage.com/Prevention-Education/Risk-Management-Manual/Risk-Management-Manual

Statement on ASA Physical Status Classification System https://www.asahq.org/standards-and-practice-parameters/statement-on-asa-physical-status-classification-system

Management of Dental Patients With Special Health Care Needs https://www.aapd.org/globalassets/media/policies_guidelines/bp_shcn.pdf

Sedation of High-Risk Patient Leads to Sanctions Against Dentist https://medprodental.com/practice-more-safely/sedation-of-high-risk-patient-leads-to-sanctions-against-dentist

Legal Case: Are you ready to perform sedation dentistry? https://www.drbicuspid.com/dental-practice/article/15379726/legal-case-are-you-ready-to-perform-sedation-dentistry

Alleged Negligence Involving Maxillary Pre-Implant Surgery and Patient Injury Leads to Dental Board Disciplinary Action

State boards of dentistry across the United States may require that reports be submitted when a malpractice settlement or judgment involves a professional licensee. Depending upon the facts of the case and state board procedures, a dental board may or may not pursue an investigation of the matter. When a dental board proceeds to investigate, their findings may or may not justify disciplinary action under the state dental practice act, or other applicable laws and regulations. Although the professional liability lawsuit against this dentist settled before trial with no admission of negligent care, the dental board identified concerns that warranted investigation.

CLAIM CASE STUDY

Practitioners: General dentist

Claimant: 65-year-old female with a history of smoking, hypertension, hepatitis C with associated cirrhosis, supraventricular tachycardia (SVT) and periodontal disease.

Risk management topics: Medical history/assessment, clinical/radiographic assessment, documentation, informed consent and specialist referral

Professional Liability Brief Facts and Outcome: The professional liability matter resulted from alleged injuries associated with maxillary sinus lift procedures. The insured general dentist recommended the surgical procedures to prepare the maxilla for successful implant placement and integration. The treatment course involved right and left side sinus lifts performed separately over a two-week period. Due to less than desirable results, left and right-side revision surgery followed about a month later.

The patient's poor overall health, smoking habit and surgically perforated sinus membranes contributed to delayed/inadequate healing and a left side oral-antral fistula. Expert review questioned patient selection, primarily based upon the patient's health and a history of poor post-surgical healing that was revealed during discovery. Despite the post-operative issues, the dentist did not timely refer the patient for specialty consultation and/or treatment. However, the patient self-referred approximately three months after surgery, after suffering from ongoing pain, incomplete healing and infection.

After corrective surgery was performed by an oral surgeon and otolaryngologist, several dentists advised the patient against future implant placement. The patient sought care for traditional dentures after complete healing. The case settled at mediation with indemnity payment plus claim expenses (total incurred) of approximately $225,000.

Board Investigation, Findings and Actions: After receiving a medical malpractice payment report (MMPR) pertaining to the settlement, the board proceeded to open an investigation. The board informed the insured dentist in writing of its intent to review the facts of the case and determine if the dentist violated applicable state laws or regulations in the course of patient care. To facilitate their investigation, the board requested:

- A copy of the patient's treatment record, including radiographs and other diagnostic information
- A detailed narrative describing the treatment provided as well as the supporting rationale for clinical decisions and recommendations
- Description of treatment errors, complications, and/or adverse outcomes
- A critical self-analysis of the treatment provided
- A copy of depositions taken during the professional liability discovery process
- A copy of expert witness opinions and/or malpractice review panel opinions
- A copy of the professional liability settlement agreement

More than 18 months after receiving the professional liability claim details, the board responded with a proposed consent order. A counter proposal from counsel for the insured dentist led to a hearing on the matter, after which the board communicated that the original order would remain unchanged.

Key "findings of fact" documented in the consent order included that disciplinary actions against the insured's license were issued under two previous consent orders. Furthermore, the order listed approximately fifteen state Code violations, including:

- Failure to complete and document an adequate clinical and radiographic pre-operative patient evaluation
- Negligence in prescribing medications that were contraindicated due to the patient's history of significant liver disease
- Failure to document strengths and/or dosages for medications prescribed, including multiple controlled substances
- Billing for services not described in the patient healthcare information record
- Failure to document that informed consent was obtained, and no documentation of the discussion of treatment benefits, risks and alternatives, including the option for treatment by a dental specialist
- Failure to document surgical techniques and materials, including bone graft and membrane materials placed
- Failure to document multiple telephone conversations with the patient regarding post-surgical status, complaints, and recommendations

Analysis: Dental licensure complaints (AKA "board complaints" or "license protection matters") may result in profound consequences, up to and including license suspension or revocation. See **Figure 1** for key points comparing license protection and professional liability matters for reference.

Board complaints may result from various sources, such as doctor-patient miscommunications and misunderstandings, a patient's treatment concerns or injuries, or concerns from third parties (e.g., other dentists, other healthcare professionals, dental benefits companies). Regardless of the source, even a so-called "simple" board matter may take many months or years to conclude.

This dental board's investigation revealed numerous instances of non-compliance with state requirements, leading to a disciplinary consent order. However, many license protection matters, including those resulting from professional liability judgments or settlements, are investigated and closed with no disciplinary action. A jury decision for the plaintiff (patient), or a settlement payment before trial do not necessarily confirm that the dentist failed to comply with state laws or regulations, or that the dentist failed to meet the standard of care.

Irrespective of the case facts or a state board's investigative process, it is in each dentist's best interest to seek legal representation for any licensing board investigation, since a board investigation may lead to serious allegations and disciplinary action. Inadequate documentation is one of the most common—and potentially serious—issues that may arise in licensing board investigations. Without appropriate documentation, the board may conclude that a dentist did not follow safe practices, putting patients at risk.

This case highlights a number of "failure to document" findings. States may adopt specific requirements on WHAT to document. For example, Illinois requires that dentists make a record of "all dental work performed for each patient. The record shall be made in a manner and in sufficient detail that it may be used for identification purposes" IL Dental Practice Act (225 ILCS 25/50). States may also include more stringent requirements. One example is the state of Florida, which requires that records justify patient treatment (Title XXXII Chapter 466.018(3)). Therefore, documenting WHAT you did without the WHY (diagnosis, clinical findings and assessment, treatment rationale, etc.) may be inadequate to comply with state law. Review, understand and comply with requirements specific to the state in which you are licensed.

Also consider that complying with state requirements may NOT meet the standard of care. Dentists should always endeavor to document events comprehensively, including treatment decisions made and/or actions taken, with the supporting rationale. Describe what was heard, seen, said or thought in relation to patient assessment, treatment planning, informed consent, the care provided, and recommendations for future treatment.

Figure 1
(from the Dental Professional Liability Claim Report: 2nd Edition)

License Protection vs. Professional Liability.
What is the difference?

License Protection	Professional Liability
Inquiry by the State Board of Dentistry, arising from a complaint.	**Civil lawsuit** arising from a patient's malpractice claim.
Allegations can be directly related to a dentist's clinical responsibilities, and they can be of a nonclinical nature, such as physical abuse, unprofessional behavior, or fraud.	**Allegations are related to clinical practice** and professional responsibilities.
The State Board of Dentistry can suspend or revoke a license. Its primary mission is to protect the public from unsafe practice.	**The civil justice system cannot suspend or revoke your license to practice.** Professional liability lawsuits serve to fairly compensate patients who assert that they have suffered injury or damage as the result of professional negligence.
	A professional liability claim with or without a civil lawsuit may result in a license protection inquiry.

Outcome: With a history of previous disciplinary action, the consent order called for license revocation. However, the board stayed the revocation and ordered a two-year suspension, followed by a two-year period of clinical oversight for implant-related surgery, including sinus lift procedures. Further, the board ordered the dentist to reimburse its investigation expenses and pay a $2,500 fine. The dentist had previously planned to sell his practice and discontinue patient care within a few years. Therefore, in lieu of these requirements, the board agreed to accept the dentist's offer to voluntarily surrender his license to practice dentistry.

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