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Policy on the Use of Deep Sedation and General Anesthesia in the Pediatric Dental Office

Originating Council

Ad Hoc Committee on Sedation and Anesthesia

Review Council

Council on Clinical Affairs

Adopted

1999

Revised

2004, 2007, 2012, 2017

Purpose

The American Academy of Pediatric Dentistry (**AAPD**), as the advocate for oral health in infants, children, adolescents, and persons with special health care needs, recognizes that there exists a patient population for whom routine dental care using nonpharmacologic behavior guidance techniques is not a viable approach. It also recognizes that a population of patients, because of their need for extensive treatment, acute situational anxiety, uncooperative ~~age-appropriate~~ behavior, ~~immature~~ cognitive functioning, disabilities, or medical conditions, ~~would~~ benefits from deep sedation or general anesthesia. [1]

Methods

This document is an update of the previous policy, adopted in 1999 and last revised in ~~2007~~ 2012. This revision included an electronic search using the following parameters: Terms: safety, deep sedation, general anesthesia dental offices; Fields: all; Limits; within the last 10 years, humans, all children from birth through age 18, English, clinical trials and literature reviews. The reviewers agreed upon the inclusion of ~~six~~ seventeen articles that met the defined criteria. When data did not appear sufficient or were inconclusive, recommendations were based upon expert and/or consensus opinion by experienced researchers and clinicians.

Background

Pediatric dentists have long sought to provide dental care to their young and disabled patients in a manner which will promote excellence in quality of care and concurrently induce a positive attitude in the patient toward dental treatment. While ~~B~~behavior guidance techniques have allowed most ~~children~~ patients to receive treatment in the dental office with minimal discomfort~~, and without expressed fear. Sedation has provided others with the ability to accept treatment. However,~~ some children, adolescents, and patients with special health care needs ~~and developmentally disabled patients~~ require general anesthesia or deep sedation to receive comprehensive dental care ~~in a safe and humane fashion~~. In-office deep sedation and/or general anesthesia services have been shown to be safe and successful procedures [2,3,4]. Many pediatric dentists ~~(and others who treat children)~~ have sought to provide for the administration of general anesthesia by trained individuals in their offices or other facilities (eg, ~~outpatient~~ ambulatory care ~~clinics~~ facilities) outside of the traditional hospital setting. In an effort to unify guidelines for sedation used by medical and dental practitioners, the American Academy of Pediatrics and the AAPD in 2006 co-authored a statement titled Guideline for Monitoring and Management of Pediatric Patients During and After Sedation for Diagnostic and Therapeutic Procedures.[5] Updated in 2016, ~~T~~this revised guideline [5] reflects the current understanding of appropriate monitoring needs and, further, provides definitions and characteristics of three levels of sedation (minimal, moderate, and deep) and general anesthesia involving pediatric patients.

When deep sedation or general anesthesia is provided in a private pediatric dental office, the pediatric dentist must be responsible for evaluating the educational and professional qualifications of the general anesthesia or deep sedation provider (if it is other than the pediatric dentist) and determining that the provider is in compliance with state rules and regulations associated with the provision of deep sedation and general anesthesia. The pediatric dentist is also responsible for establishing a safe environment that complies with local, state, and federal rules and regulations [2], as well as the Guideline for Monitoring and Management of Pediatric Patients Before, During and After Sedation for Diagnostic and Therapeutic Procedures: Update 2016 [5] for the protection of the patient.

Educational requirements

Deep sedation and general anesthesia must be provided only by qualified and ~~trained~~ individuals licensed in accordance with state regulations. Such providers may include pediatric dentists who have completed advanced education in anesthesiology beyond their pediatric residency training program, dental or medical anesthesiologists, certified registered nurse anesthetists, or anesthesia assistants.

Only dentists who have completed an advanced education program which meets the requirements of the American Dental Association (**ADA**) are considered qualified to provide deep sedation and general anesthesia in practice. This includes:

1. Completion of an advanced training program in anesthesia and related subjects beyond the predoctoral dental curriculum that satisfies the requirements described in the ADA Guidelines for the Use of Sedation and General Anesthesia by Dentists[6] at the time training was commenced.
2. Completion of an ADA-accredited post-doctoral training program (eg, oral and maxillofacial surgery) which affords comprehensive training necessary to administer and manage deep sedation/general anesthesia to pediatric patients.

Expert pediatric specialists recommend that practitioners administrating deep sedation and general anesthesia to a pediatric population have training in, and maintenance of, advanced pediatric life support and airway skills.[5]

Risk management

As stated above, the pediatric dentist is responsible for providing a safe environment for the in-office provision of office-based deep sedation and general anesthesia. Anesthesia providers should have an in-depth knowledge of the agents they intend to use and their potential complications.[5] This level of pharmacologic behavioral modification should be used with extreme caution in patients younger than 2 years of age[7] and only to promote dental care when the risk of orofacial disease outweighs the benefits of monitoring, interim therapeutic restoration, or arresting medicaments to slow or stop the progression of caries. Practitioners should always be mindful of the increased risk associated with office-based deep sedation/general anesthesia in the infant and toddler populations.[8,9]

In addition to evaluating the qualifications of the anesthesia provider, the dentist must also be involved with the following aspects of care to minimize risks for the patient:

- Facilities and equipment.
- Monitoring and documentation.
- Patient selection utilizing medical history, physical status, and indications for anesthetic management.
- Preoperative patient instructions, with particular consideration to fasting guidelines.
- Preoperative physical and airway evaluation.

- ~~Appropriately trained~~ Appropriately trained support personnel.
- Emergency medications, equipment, and protocols.
- ~~Preoperative and p~~Postoperative patient instructions.
- Criteria and management of recovery and discharge.
- Post-anesthesia follow-up.

Pre-procedural pregnancy evaluation

Pregnant females undergoing all levels of elective sedation or general anesthesia for dental care may expose a developing fetus to increased risk of birth defects. [7,10,11.12,13,14] In an effort to minimize such risk, female patients of childbearing age, defined as the onset of menses [15,16,17], not meeting the exclusion criteria depicted in the AAPD Pre-Sedation/General Anesthesia Pregnancy Decision Tree, must undergo testing for urine human chorionic gonadotropin (hCG) hormone on the morning of all sedation nor general anesthesia procedures. Those with a negative urine hCG test result may proceed with sedation or general anesthesia procedure as scheduled.

All uncertain negative and positive test results will require a second urine test.

Patients with two inconclusive or positive tests should not receive sedative or general anesthetic agents. These individuals should be referred for definitive serum hCG testing to establish gestational status. Should the accompanying parent or legal guardian wish to defer such testing, a pregnancy informed consent must be signed (eg. AAPD Pregnancy Informed Consent – Table ?). This document must include current information depicting possible sedative and anesthetic risks to the fetus.

Continuous quality improvement

To reduce the chance of medical error and determine the cause of adverse events, aspects of continuous quality improvement are applied in the outpatient setting during the administration of deep sedation and general anesthesia as described in the Guideline for Monitoring and Management of Pediatric Patients Before, During, and After Sedation for Diagnostic and Therapeutic Procedures[5]. Adverse events are recorded and examined for assessment of risk reduction and improvement in patient safety and satisfaction.

Policy statement

The AAPD endorses the ~~in-office~~ use of office-based deep sedation or general anesthesia on select

pediatric dental patients administered by a ~~certified~~ properly credentialed anesthetic provider. It should occur in an appropriately-equipped and staffed facility as outlined in the Guideline for Monitoring and Management of Pediatric Patients Before, During, and After Sedation for Diagnostic and Therapeutic Procedures.[5]

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