Chapter 1
The Office Anesthesia Evaluation Program: Component Society Guidelines and Evaluation Guidelines

Introduction

Outpatient anesthesia administered in the offices of oral and maxillofacial surgeons (OMSs) has an exceptional record of safety. The anesthesia training of OMSs is extensive and progressive throughout residency. In addition, the American Association of Oral and Maxillofacial Surgeons (AAOMS) develops continuing education programs and parameters of care to help its members stay apprised of all aspects of anesthesia care.

On completion of an accredited residency program, the new OMS will have their facility and office protocols evaluated by their peers in accordance with the *Office Anesthesia Evaluation (OAE) Manual*. The on-site evaluation is conducted every 5 years thereafter. The purposes of this section of the OAE Manual are to provide a protocol for the performance of the on-site evaluation by component OMS societies and to present a model for those endeavoring to establish an outpatient facility that is in compliance with AAOMS guidelines and adheres to current standards of care.

Component Society Guidelines

The Committee on Anesthesia recognizes that professional licensing regulations vary from state to state with respect to office evaluation. It further recognizes that some state licensing boards are mandated by law to conduct an evaluation in a prescribed manner. When state licensing board regulations are in partial compliance with the OAE Manual, the component society is required to evaluate only that part of the evaluation that is not mandated by the state licensing board. For example, some state licensing board regulations require all the components of the on-site OAE evaluation and re-evaluation, with the exception of currency in Advanced Cardiovascular Life Support (ACLS). In such cases, the component society would only need to verify its members' ACLS statuses. The AAOMS Committee on Anesthesia is available to answer questions that the component society may have on the conformance of state licensing board regulations with the AAOMS OAE Manual.

Situations undoubtedly arise that have not been discussed in this manual. Knowledgeable OMSs with a concern for patient care and compassion for their peers will be able to adapt to those situations. The AAOMS Committee on Anesthesia is willing to assist with specific problems that a component society anesthesia committee may encounter. Inquiries from component society committees, as they attempt to perform the important task of office anesthesia evaluation, are welcomed.

The Anesthesia Committee

Since the inception of the OAE program, it has been the purview of component society officials to appoint an anesthesia committee composed of local OMSs who are knowledgeable and interested in outpatient anesthesia. The many hours of work that may be required annually by each committee member to complete the evaluations makes it essential to choose committed individuals. The committee should have established administrative procedures that include the following:

- A tracking system of all component society members and those AAOMS members grandfathered from state component society membership whom the component society may evaluate.
- An attestation form for those members not subject to evaluation (e.g., those who administer only local anesthesia, full-time military and for those in academic practice).
- Procedures for scheduling site visits.
- Procedures and timeframes for re-evaluation of those who are found deficient in specific areas.
- Reporting of results to component society leadership and AAOMS.

Once a member has been evaluated, they may be eligible to serve as an evaluator of others upon completion of the stated requirements of the anesthesia committee and/or per state guidelines. In this way, the pool of evaluators may be enlarged quickly to reduce the workload of committee members. Two evaluators comprise the team visiting an office. More than two on a team may produce congestion during the evaluation process, complicate scheduling of office visits and be detrimental to the smooth flow of the evaluation. It is appreciated that finding willing people to participate is difficult; however, two examiners during the initial evaluation should always be the goal.

At the end of the evaluation visit, one member of the evaluating team should complete the required form (see supplemental material at end of Chapter 1, Required Anesthesia On-Site Inspection and Evaluation Form) confirming completion. Any deficiencies should be noted, discussed with the member and sent to the state society. The OMS should be given a specific period of time to correct any deficiencies, after which time they will either be recorded as satisfactory/complete or will be considered no longer a member in good standing. The evaluation includes review of the office emergency equipment and drugs.

The Anesthesia Committee Chair

It is important that a Chair be appointed by the component society. The Chair must obtain frequent reports from their committee members on progress in completing assigned evaluations. They must intervene if a committee member fails to complete an assignment and see that the evaluations are completed. The Chair is responsible for reporting committee progress to the component society officer(s). The Chair should be an individual who can make a compatible match between evaluators and OMSs to be evaluated and avoid assignment of evaluations by competitors, if problematic.

The Permanent Record File

The committee Chair, or in some cases the component society administrator, should be responsible for annually compiling a permanent record summary of the committee's activities. This updated summary should be maintained at the society's headquarters, and a copy of the entire file should be given to each incoming member of the committee. The data should be reported, as requested, to the AAOMS Committee on Membership.

At a minimum, data should include the following:

- Names of all participants and dates of all evaluations conducted.
- Copy of the required AAOMS form.
- Recording of successful completion or need for re-evaluation within a specified period for specified deficiencies.
- The total number of evaluations.
- A list of members who have not been evaluated and who have resisted multiple attempts by the committee to schedule an evaluation (the component society should have a mechanism for dropping these individuals from membership).
- ACLS certification approved by the American Heart Association (AHA).

In addition, the permanent record may contain suggestions for additional activities. These suggestions may include recommendations for the anesthesia committee programs, morbidity and mortality studies, assistant certification programs, research projects and publications the committee may wish to undertake.

Scheduling the Office Evaluation

Because of the difficulties involved in scheduling three or more surgeons for a meeting, usually it is more efficient for committee members to obtain an oral commitment from the individual to be evaluated. A confirming letter may be sent to all parties involved once the arrangements have been made (see supplemental material at end of Chapter 1, Sample Letter A). The member should be referred to Part I of this manual for an overview of the content of the evaluation, to supplemental material at the end of Chapter 1, Sample Anesthesia On-Site Inspection and Evaluation Form and to Appendix 2, Suggested Emergency Equipment and Drugs (also available at AAOMS.org/practice/anesthesia/office-anethesia-evaluation-program/anesthesia-and-medical-emergency-forms).

Suggested Guidelines for a Member Who Does Not Meet the OAE Standards

Any member found deficient in complying with the guidelines set forth in the AAOMS OAE Manual should receive documentation of the evaluation, including the specific deficiencies and a plan to provide documentation of the correction of the specific deficiencies and/or a re-evaluation in accordance with the policies and timeframes for successful completion established by the component society.

Management of Members Who Resist an Initial OAE

Illness, changes in office personnel or any number of other factors may cause postponement of a scheduled office anesthesia evaluation. Such problems, although annoying, can be overcome by persistence and a desire to complete the evaluation. The individual who procrastinates repeatedly

or who refuses evaluation must be given a deadline for compliance. Usually, one or more members of the anesthesia committee can convince all but the most stubborn members into compliance. If all persuasion fails, a deadline must be set. A suggested letter (sent by certified mail with return receipt) may follow the format in Sample Letter B found in supplemental material at the end of Chapter 1.

Evaluation of AAOMS Members Who Are Not Component Society Members

One requisite for membership within AAOMS and any component societies is an on-site OAE and re-evaluation every 5 years. This was a mandate from the AAOMS House of Delegates. Evaluations are based on the AAOMS OAE program or required applicable state regulations, provided they meet the AAOMS OAE program guidelines. The 2004 AAOMS House of Delegates clarified that these requirements are applicable to all AAOMS members regardless of membership in the component society.

The AAOMS Committee on Anesthesia requests the component society evaluate these AAOMS members who are not members of the component. In the event the component society is unable to fulfill this request, the Committee on Anesthesia will arrange for evaluation of these AAOMS members.

Members Eligible for Exemption from the OAE

The AAOMS Board of Trustees recognizes that there are institutional barriers that prevent an on-site evaluation of members who practice in academic institutions and federal service facilities. These members – and members who do not provide moderate sedation, deep sedation or general anesthesia services in their offices – are eligible for a waiver of the OAE requirement. For the AAOMS policy on exemptions from evaluations, see supplemental material at the end of Chapter 1 or access the waiver form at AAOMS.org/practice/anesthesia/office-anethesia-evaluation-program/anesthesia-and-medical-emergency-forms.

On-Site OAE Protocol

The OAE protocol consists of four components, as described in this section.

Part I: Office Facilities, Equipment and Monitoring

See the supplemental materials at the end of Chapter 1 for the required Anesthesia On-Site Inspection and Evaluation Form and Appendix 2 for Suggested Emergency Equipment and Drugs.

All office equipment and records related to patient care should be available for inspection by the visiting OMS.

This section describes the physical requirements for performing office anesthesia with concern for the safety, comfort and well-being of patients. Each OMS facility is unique; not all facilities have or should have the same physical requirements. Proper equipment in a well-planned office is one of many important factors contributing to patient management by an experienced, well-trained OMS and a well-trained staff.

The fundamental physical requirements for the anesthesia facility are as follows:

- Operating room
- Operating table or chair
- Lighting system with backup
- Suction equipment with backup
- Oxygen and supplemental gas delivery systems with backup
- Gas storage
- Monitoring
- Preparation, storage and handling of medications
- Transport equipment
- Recovery facilities or area with monitoring, and oxygen and suction source
- Communication equipment
- Nitrous oxide exposure control
- Inhalation volatile anesthetic exposure control
- Patient records
- Emergency management equipment

The office should also have a fire safety protocol in place (RACE – Rescue, Activate alarm, Confine the fire, Evacuate/extinguish), especially in a free-standing facility.

Operating Room

The operating area should be large enough to accommodate the patient on a table or in an operating chair and permit the OMS anesthesia team and the surgical assistants to move freely around the patient. Small operating rooms can inhibit the activities of the anesthesia team, particularly during the management of emergency situations.

Access to and from the operating room is important. A door width of at least 36 inches provides easy access for wheeled equipment and allows two full-size persons to walk side-by-side through the door. This is desirable for assisting patients to and from the operating room.

Operating Table or Chair

The most important features of the table or chair are as follows:

- The ability to position the patient so the anesthesia team can maintain the airway.
- The ability to alter the patient's position quickly in an emergency.
- The ability to provide for a firm platform for the management of cardiopulmonary resuscitation.
- The ability to provide for easy access to the patient's mouth and facial area.
- The ability to place the patient in Trendelenburg position.

Headrests on dental chairs must be tight enough to resist unintentional release when the patient is asleep, which could result in a cervical injury. The table or chair should be surfaced with material that is easy to clean and maintain. The table or chair should be capable of withstanding the patient's weight and the pressure of the performance of cardiopulmonary resuscitation.

Lighting Systems

Room lighting must be adequate to permit evaluation of the patient's skin and mucosal color. Fluorescent overhead lights with daylight tones are desirable. Operating lights may be ceiling- or wall-mounted, or the OMS may prefer to use a headlight system.

It is vital to provide for auxiliary lighting in the event of a power failure in the operating suite. Although hospitals have emergency generators that activate immediately to maintain electrical power to the operating room, most outpatient facilities do not have this capacity. Backup lighting should be battery powered and of sufficient intensity and duration to permit completion of any operation underway or safe termination at a point that will allow easy completion after power is restored.

Suction Equipment

Suction may be provided by either a portable suction unit or a central suction installation. Most OMSs prefer a central installation, with the pump located away from the operating suite to reduce noise. It is important to adhere to a regular maintenance schedule and provide for auxiliary suction in the event of pump or electrical power failure.

A portable suction unit powered by the line current generally is a satisfactory substitute for a failed central suction unit. This unit can provide suction in the recovery area or in other parts of the office not generally serviced by a central unit.

If electrical power fails, suction must be provided by an alternate source. Such devices can be water vent, oxygen venturi or battery-powered portable suction. Multiple suction tips should be available in the operating room.

Oxygen and Supplemental Gas Delivery Systems

This manual does not discuss at length the advantages and disadvantages of various anesthetic machines. The capability of the machine to deliver oxygen under pressure to the patient is the fundamental requirement.

A flow-meter machine is the most accurate method for delivering anesthetic gases. Any unit capable of delivering metered oxygen under positive pressure meets the requirements for the anesthetic machine. This type of machine should be calibrated periodically according to the manufacturer's guidelines. Gas outlets for remote delivery systems must be pin-indexed to prevent unintentional administration of the wrong gas. Fail-safe mechanisms on anesthetic machines prevent the flow of nitrous oxide or other gaseous agents if the flow of oxygen is depressed below a safe level (i.e., prevents delivery of hypoxic mixture). Other aspects of the gas delivery system are discussed in the "Gas Storage" section.

The OMS office should be equipped with a portable oxygen unit that is capable of delivering this gas under positive pressure.

Gas Storage

Remote gas storage in an outpatient facility decreases the hazards associated with the sudden release of gas contents, explosion, possible fire hazards and the activity that normally attends the replacement of depleted tanks. When tanks are stored in a remote location, the following requirements must be met:

- Tank gauges must be accessible for checking.
- Rapid changeover to reserve supplies must be possible. At least two tanks of oxygen must be connected to the system so that one can be activated manually or automatically if line pressure drops in the other.

Supplemental gases, such as nitrous oxide, need not be connected in this manner, but it is strongly recommended that they be in tandem to facilitate changeover.

- If an automatic changeover system is used, an audible or visible low-oxygen pressure warning device is mandatory to alert the staff when the reserves are being used.
- A system must be in place to secure tanks. It is strongly recommended that a warning system be installed in all facilities with remote gas systems. Furthermore, local fire department regulations and building and plumbing codes for remote gas storage and delivery systems should be followed carefully.

Monitoring

Anesthetics may directly or indirectly alter the metabolic, electrolytic or hemodynamic parameters of various tissues and organ systems. The resulting quantitative and qualitative changes depend on various factors, including the pharmacologic properties of the agents, drug concentrations, mode of administration, tissue perfusion, metabolism, excretion of the agent (biotransformation) and the patient's autonomic response. Preoperative baseline vital signs should always be recorded to understand the magnitude of any changes that might occur during the anesthetic.

Monitoring Equipment

Continuous, time-sensitive monitoring of all patients is required. Equipment must include a blood pressure monitor with an automated time determined capability and a method for recording the data. An electrocardiographic (ECG) monitor to visualize cardiac rhythms is required for interpretation. Pulse oximetry must be used to follow the oxygen saturation in the blood throughout the procedure as a measure against the baseline value. Monitors with print and/or storage capability are available. Capnography should be considered in all anesthetics. During moderate or deep sedation and general anesthesia, the adequacy of ventilation shall be evaluated by continual observation of qualitative clinical signs and monitoring for the presence of exhaled carbon dioxide unless precluded or invalidated by the nature of the patient, procedure or equipment. AAOMS Office Anesthesia Evaluations require capnography for moderate sedation, deep sedation and general anesthesia. During general anesthesia where volatile inhalation agents or succinylcholine are used, temperature must be continually monitored. Consideration should be given to the use of a precordial stethoscope during anesthesia administration to listen to breath sounds and cardiac rhythm.

Monitoring equipment should be checked and calibrated in accordance with the manufacturer's recommendations and documented on an annual basis.

Visual Observation

Monitoring devices have limitations and do not replace the need for careful observation of the anesthetized patient by the healthcare professional, but they serve as adjuncts to alert the practitioner to any change in the patient's status. Visual methods of monitoring involve close observation of the patient for the following:

- Is the patient breathing?
- What is the character of the respiratory pattern (e.g., depth, rate and rhythm)?
- Is the respiratory exchange unobstructed?
- What is the patient's level of responsiveness?

These observations provide some information about the adequacy or deficiency of the oxygen carrier system, which is composed of the blood components, the respiratory system and the cardiovascular system. The degree of autonomic tone and perfusion may be inferred by observing the patient's color and temperature. For example, pallor and coolness of the extremities may indicate increased sympathetic tone and marked peripheral vasoconstriction caused by stress, increased blood pressure or increased cardiac rate. These signs and symptoms do not necessarily pinpoint the exact cause but – when coupled with information obtained from monitoring devices (e.g., sphygmomanometer, pulse oximeter or ECG) – can help establish the diagnosis and facilitate treatment. The information provided by continuous monitoring allows for anesthetic management to minimize or prevent any adverse reactions induced by the stress of surgery, anesthesia or preexisting systemic disease.

Preparation, Storage and Handling of Medications

Strict adherence to sterile techniques should be followed in preparation and use of all medications. Techniques for mixing and storing anesthetic agents must be formalized and simplified to prevent errors in dilution. Label and date all syringes clearly and immediately discard any unused medications with documentation of disposal in conformance with Drug Enforcement Administration (DEA) requirements. Syringes, extension tubing, connectors and intravenous fluid containers must be single-use and

discarded after each patient. It is important to use one vial with one syringe for one patient.

Controlled pharmaceuticals should be secured and maintained in accordance with state and federal guidelines.

A designated refrigerator may contain medications but may not contain food or other personal items. Continuous temperature monitoring of the refrigerator is required to alert the staff if a power outage occurs and to prevent medications and products from deteriorating and becoming ineffective.

Transport Equipment

A variety of techniques are used to transfer patients from the operating suite to the recovery area. Patients should be kept in the surgery area until all protective reflexes have fully returned unless the OMS staff is in immediate attendance at all times in the recovery area to continue monitoring vital signs and airway observation. Numerous portable chairs are available for safe movement of the patient to the recovery area. Maximum safety is attained when the patient recovers in the operating room and walks with assistance to the recovery area. A protocol for emergency evacuation of the anesthetized patient from the building should be available.

Recovery Facilities

In the recovery area, the staff must be able to continuously observe a patient recovering from an anesthetic procedure and have sufficient room to respond to an emergency situation. Oxygen under pressure, adequate lighting, suction and electrical outlets for pulse oximetry, cardiac monitoring and defibrillation equipment must be available when battery-powered equipment is not being used.

Nitrous Oxide Exposure Control and Inhalation Anesthetic Exposure Control

The AAOMS Committee on Anesthesia refers to the U.S. Centers for Disease Control and Prevention (CDC) for recommendations on controls for exposure to nitrous oxide and other potential chemical hazards (CDC.gov/niosh/npg/npgd0465.html).

Communications Equipment

It is important for the operating team to have a method of communicating with other members of the office staff in an emergency. In some small facilities, direct oral communication may be sufficient. In most, however, a call button or an intercom system should be used. It is also mandatory to have the telephone numbers of an ambulance service or a paramedic squad and the nearest hospital readily available. These numbers should be displayed prominently and their location made known to the office staff. In most communities, the emergency number 911 is used to summon help.

Records in the Operating Room

The medical database, including history and results of the physical examination of the patient undergoing an office anesthetic procedure, should be available for review by the anesthesia team before any procedure. Findings of significance should be made known to all members of the team. A Sample Patient Heath History Form is found in the supplemental materials at the end of Chapter 1. Consent for anesthesia and surgery, signed by the patient and/or other responsible person, should be in the operating room at the time of the surgical procedure. The Universal Protocol for Preventing Wrong Site, Wrong Procedure, Wrong Person Surgery should be implemented, as follows:

1. Conduct preprocedural verification.
2. Mark the procedure site/radiograph and/or identify tooth number.
3. Perform immediate pre-procedure timeout where team members agree to correct patient, correct site and correct procedure.

For further information, visit jointcommission.org/standards/universal-protocol.

The anesthesia record is time-oriented and includes the patient's vital signs, types of drugs and amounts administered, length of the procedure, names of the personnel in the room and any complications of anesthesia (see supplemental material at end of Chapter 1, Sample Anesthetic Record). Furthermore, oxygen saturation on room air is recorded before anesthetic agents are administered and before discharge. For moderate sedation, deep sedation and general anesthesia, the respiratory rate, oxygen saturation, end-tidal CO_2, heart rate, blood pressure and cardiac rhythm are monitored and recorded every 5 minutes during the intraoperative period. When endotracheal anesthesia is used, expired carbon dioxide levels and temperatures are recorded every 5 minutes until extubation.

Emergency Management

Airway equipment must be immediately available to the office anesthesia team. These items may be in the operating suite and the recovery room area or on a portable device that can be brought immediately to the patient's side.

Emergency airway equipment should include the following:

- Full-face mask (in appropriate sizes with connectors)
- Oral and nasopharyngeal airways
- Bag-mask-valve device with ability to provide positive pressure ventilation
- Laryngeal mask airway or other supraglottic airway devices
- Endotracheal tubes (various sizes for children and adults) with appropriately sized stylets
- Laryngoscope (with reserve batteries and bulbs plus an assortment of adult and pediatric blades)
- Airtraq or other video laryngoscope
- Equipment for performing a cricothyrotomy

Fellows and members are required to complete an AHA-approved ACLS course every 2 years. This implies that the office surgical suite is properly equipped to begin ACLS protocols. In addition to the appropriate emergency drugs, a defibrillator with quick-look paddles or an automated external defibrillator is necessary. Pediatric Advanced Life Support (PALS) certification is recommended for the practitioners who treat pediatric patients.

Part II: Simulated Emergencies (See Appendix 10)

Part II of the OAE consists of a demonstration by the OMS and their anesthesia team of the management of simulated office emergency scenarios. The OMS and their staff should manage the emergencies in as realistic a manner as possible.

The evaluators and the OMS anesthesia team should talk about emergency situations and how they should be managed. The OMS anesthesia team should demonstrate their methods for managing the following specific emergencies:

- Laryngospasm
- Bronchospasm
- Emesis and aspiration
- Airway obstruction
- Angina/myocardial infarction
- Hypotension; hypertension
- Venipuncture complications
- Neurocardiogenic (vasovagal) syncope
- Hyperventilation syndrome
- Seizures
- Allergic reaction
- Local anesthetic toxicity
- Malignant hyperthermia

For more information, see Appendix 10.

Part III: Discussion Period

Part III of the OAE consists of a discussion between the evaluators and the OMS that involves a critique of the emergency demonstrations and/or facilities. This discussion should not become an examination; it should be a means of communicating suggestions to improve anesthesia safety.

This part of the evaluation should be conducted in private with the OMS. The evaluators should note deficiencies and make positive suggestions for improving the office facility and patient management. It is appropriate at this time to discuss management of high-risk patients if this has not been covered during an earlier phase.