

# Oral and Maxillofacial Surgery Team Anesthesia Model and Anesthesia Assistant Training



Stephanie J. Drew, DMD

## KEYWORDS

- Oral and maxillofacial surgery office-based team anesthesia • Anesthesia assistant training
- Crisis resource management • AAOMS anesthesia assistant training programs

## KEY POINTS

- Safety and efficacy of oral maxillofacial surgery (OMFS) office-based, open airway anesthesia is maximized with a systems-based team approach.
- Anesthesia assistants should receive training to enhance their skill sets.
- The AAOMS currently offers 5 training programs for anesthesia assisting.
- This document should be shared with all members of the anesthesia team.

## INTRODUCTION

The practice scope of the anesthesia assistant is ever increasing. The knowledge base encompasses several medical disciplines, as detailed in **Box 1**. As these components are embraced, focus will then turn to the support and participation in the 6 patient safety initiatives, as shown in **Box 2**.

Oral maxillofacial surgery (OMFS) offers various levels of sedation to mitigate anxiety, fear, and discomfort that can be associated with the delivery of care. Nitrous oxide, midazolam, fentanyl, ketamine, and propofol (among others) are currently popular drugs used to achieve these goals. Drug choice and dose are selected to achieve various levels of sedation as shown in **Table 1**. The reader will appreciate that the depth of sedation is a continuum, ranging from the sleepy but otherwise unaffected minimally sedated patient, to the moderately sedated patient who will follow commands and respond appropriately to verbal/tactile stimulation, to the patient under general anesthesia who cannot respond purposefully to any

level of stimulation. Further examination of this table will reveal that with deepening levels of sedation, adverse changes involving the ability to maintain an open airway, ability to maintain satisfactory ventilatory rate and depth, and the ability to maintain blood pressure can occur. At any given drug or dose, and in any given patient, movement between these arbitrary levels of sedation can be rapid and unexpected, hence the need for intense and redundant monitoring in order to anticipate impending trouble and permit adequate time for successful remediation. Because of the wide variability of patient response, achieving and maintaining an appropriate level of sedation can be challenging. Because of this, the risk of sedation often becomes greater than the risk of the procedure that it was meant to enable. This risk can be effectively managed by the anesthetic team.

The OMS anesthesia team model is one in which a team is responsible for the care of the patient. The OMS functions as team leader who performs patient selection, the immediate preoperative assessment, and the procedure; additionally, he

Disclosures: None.

Division of Oral and Maxillofacial Surgery, Emory University School of Medicine, 1365 Clifton Road NE, Building B, Suite 2300, Atlanta, GA 30322, USA

E-mail address: [Stephanie.drew@emory.edu](mailto:Stephanie.drew@emory.edu)

Oral Maxillofacial Surg Clin N Am 30 (2018) 145–153

<https://doi.org/10.1016/j.coms.2018.01.002>

1042-3699/18/© 2018 Elsevier Inc. All rights reserved.

**Box 1****Some components of anesthesia assisting**

1. Basics of anatomy, physiology, and pathophysiology, with emphasis on the cardiovascular, pulmonary, and nervous systems
2. Importance of an accurate medical history, as it relates to patient selection and preanesthetic evaluation for office-based sedation
3. Components of safe and effective anesthesia
4. Familiarization with equipment
5. Patient monitoring, during and after sedation
6. Duties for airway maintenance during sedation

or she oversees the anesthetic management. The surgical assistant assists with the surgery and has secondary roles in emergency management. The anesthesia assistant's sole duty is to maintain the airway, appraise ventilations, and follow the status of the patient on the patient monitors, especially end tidal CO<sub>2</sub> and secondarily pulse oximetry. A team coordinator is available in emergency management, and this person is responsible for activating emergency medical services (EMS) and frequently serves as a scribe to document actions in emergency management. The OMS anesthesia team model has served the public well and has a good safety record. Optimizing team performance for routine anesthetic care and preparation for emergency management is vital for patient safety.

**WHEN THINGS GO WRONG**

In an ideal scenario, a patient will present to the OMFS office, tender a written health history, which then is verbally reviewed. A diagnosis and treatment plan will be made; the preanesthetic evaluation will guide the intended level of sedation, and

**Box 2****Patient safety initiatives for the anesthesia team**

1. Culture of safety
2. Conservative patient selection
3. Depth of anesthesia limit setting
4. Intensive, redundant monitoring
5. Basic emergency airway management (discussed in Clive Rayner and Michael R. Ragan's article, "[Are You Ready for EMS in Your OMS Office?](#)," in this issue)

the patient will be sedated. Then, the procedure will be completed; the patient will recover (wake-up), meet criteria for safe discharge, and return home. In all instances, several staff members become involved with these processes, which require an adequate knowledge base, some level of decision making, and accurate communication.

Sometimes, errors (deviations from safe practice) are made. These mistakes may be caused by individual human error<sup>1,2</sup> (eg, forgetfulness, carelessness, lack of understanding, thought burden, inattention, cover-up) and/or systems (latent) error (eg, poor teamwork, overbooking, lack of team training, lack of protocols, and sloppy information gathering/communication).<sup>1</sup> In most cases, these mistakes will create either an unsafe condition or a near miss; in both instances, harm and injury never reach the patient. However, when a series of errors serendipitously and temporally align, the summation of both mistakes and misfortune can lead to patient injury, otherwise termed a sentinel event, unexpected, unplanned, unintended, and undesirable patient outcomes. This situation is graphically depicted in the now classic Swiss cheese model of accident theory.<sup>3</sup> As shown in [Fig. 1](#), the straight line trajectory from a practice deviation (error) to patient injury might have been blocked by the anesthesia team in several ways: communicating compromising patient factors to the OMFS, attentive patient monitoring during anesthesia, and crisis resource management during an emergent situation. Flaws in these safety road blocks are represented by the holes in the Swiss cheese. The importance of the anesthesia team embracing a culture of safety by improving anesthetic safety cannot be overstated.

**ANESTHETIC MEDICATION**

The type and dose of anesthetic medication are chosen to provide anxiolysis, forgetfulness, pain relief, and sleep, as necessary, to complete the planned oral surgical procedure. As stated previously, drug effect cannot always be accurately predicted, and when drugs are given in combination or repeatedly, the possibility of overdose leading to adverse effects increases. The 3 most important adverse effects all pertain to the inability to deliver oxygen to tissues: loss of upper airway patency, decrease or lack of ventilatory urge, and hypotension (a drop in blood pressure), which then fails to drive blood and oxygen flow to tissues. This is in contradistinction to underdosing, which triggers a fight or flight sympathetic discharge, which can decompensate a compromised heart. The severity and duration of these

Download English Version:

<https://daneshyari.com/en/article/8707063>

Download Persian Version:

<https://daneshyari.com/article/8707063>

[Daneshyari.com](https://daneshyari.com)