Quality Improvement and Reporting Systems
What the Oral and Maxillofacial Surgeon Should Know

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KEYWORDS

- Patient safety • Safety program • Safety culture • Risk assessment • Medical error
- Surgical time-out • Surgical checklist

KEY POINTS

- Patient safety is a discipline in health care that aims to reduce the incidence and impact of adverse events.
- A safety program in the OMS practice can be used to implement standardized patient safety practices, incident reporting, and adverse event analysis.
- The surgical checklist and surgical time-out can prevent perioperative adverse events in OMS.
- A standardized tool for risk assessment and internal and external benchmarking is currently lacking in OMS.

INTRODUCTION

The Hippocratic "primum non nocere" is a fundamental principle in medicine and oral and maxillofacial surgery (OMS). Paradoxically, health care is a highly hazardous industry, and surgery is inherently risky for patients.[1] A recent review[2] found that 1 in every 150 inpatients dies as a consequence of an adverse event (AE) and nearly two-thirds of in-hospital events are associated with surgical care. Medical error is now estimated to be the third leading cause of death in the United States, killing approximately 250,000 people each year.[3]

OMS is not immune to risk. Between 1988 and 1999, a total of 136 anesthesia claims were managed by the American Association of Oral and Maxillofacial Surgeons National Insurance Company including 37 claims relating to death or brain damage[4] (**Table 1**). Promoting patient safety should thus be a priority within OMS.

DEFINING PATIENT SAFETY

In 2000, the Institute of Medicine[5] published the report, "To Err is Human: Building a Safer Health System," which launched the modern patient safety movement. Following the report, the federal Agency for Healthcare Research and Quality (AHRQ) was directed to lead the national effort to combat medical errors and to improve patient safety through multiple initiatives.[6] Patient safety has since developed into a discipline that applies

Table 1 Anesthesia claims from 1988 to 1999	
Vein/nerve injuries	52
Death or brain damage	37
Falls	6
Inadequate anesthesia	7
Premature discharge	3
Allergic reactions	3
Stormy emergence	5
Arrhythmia/resuscitation	6
Acute myocardial infarction	2
Other	15
Total anesthesia claims	136

From Deegan AE. Anesthesia morbidity and mortality, 1988-1999: claims statistics from AAOMS National Insurance Company. Anesth Prog 2001;48(3):90; with permission.

safety science methods with the goal of achieving a trustworthy system of health care delivery.[7]

The National Patient Safety Foundation[8] defines patient safety as "the avoidance, prevention and amelioration of adverse outcomes or injuries stemming from the processes of healthcare." Errors in safety are reduced by redesigning systems of care using human factors principles.[7] In OMS, accepting a paradigm shift in which patient safety is given a high priority as an outcome that is tracked, measured, and benchmarked over time is paramount in optimizing patient outcomes.

PROMOTING A SAFETY CULTURE

Cultivating a "culture of safety" is necessary to establish the foundation for a successful safety program in OMS. Safety culture is defined as "the product of individual and group values, attitudes, perceptions, skills and patterns of behavior which lead to commitment, style and ability in the management of the health and safety of an organization."[9,10]

The traditional "culture of blame" is pervasive in health care and surgery. It focuses on determining fault and disciplining the offender. The fear of reprimand inherently leads to chronic underreporting of adverse effects, thus limiting the possibility of learning from error.[1,11] In contrast, a culture of safety promotes nonpunitive responses to AEs. It focuses on preventing future injury and improving clinical outcomes rather than on individual mistakes.[11,12]

To establish a safety culture, patient safety should be a priority corporate objective and should be understood to be the shared responsibility of all staff members.[5] Rather than viewing errors as unique and sometimes tragic events, the focus should be to continually improve the organizational safety system design and practices.[5] The importance of a culture of safety has been recognized in dentistry[13–15] and other surgical specialties.

IMPLEMENTING A SAFETY PROGRAM

OMS can learn from the success of highly reliable industries including aviation, nuclear power, oil and gas, and the military, all of which have developed sophisticated safety systems for minimizing errors and accidents.[16] The positive effects on clinical outcomes, patient safety, and efficacy of care following changes in health care safety practices have been widely reported.[17–23]

Fundamental components of a safety program include implementing practices to minimize risk and developing a systematic approach for the management of AEs.

Minimizing Risks

Patient safety interventions designed to prevent harm were first described by the Institute of Medicine[5] (**Box 1**). The AHRQ developed evidence-based patient safety practices aimed to reduce the probability of AEs over a broad range of diseases and procedures.[24] These practices were recently categorized as "strongly encouraged" and "encouraged" based on critical analysis of available data[25] (**Box 2**). Patient safety practices have been implemented at various levels of health care and have been endorsed by the National Quality Forum.[26]

Managing Adverse Events

A systematic approach for managing AEs is important for organizations to continuously modify safety systems to allow for future risk reduction. Key components include practices for incident reporting and AE analysis.

Incident reporting

To date, the detection of AEs occurs primarily by voluntary reporting. Consequently, most AEs are not tracked, with only an estimated 10% to 20% of errors ever reported.[27] In OMS, the most common sources of information regarding AEs are published case reports, ethical complaints, court claims, and voluntary anonymous reports by professionals or patients. There is thus a need in OMS for active surveillance, systematic notification, and recording of AEs.

Many reporting systems have been described. The "trigger tool system" developed by the