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Dentoalveolar surgeries are among the more common procedures performed by oral maxillofacial surgeons. It is only natural that there are several controversies associated with many aspects of this type of surgery. Although good scientific evidence is the basis of most oral maxillofacial procedures, some of what is accepted as common wisdom may not meet strict guidelines of evidence-based practice. This article explores some controversies that are relevant to the current practice of dentoalveolar surgery.

Controversies in Maxillofacial Trauma 391
Daniel J. Meara and Lewis C. Jones

Craniomaxillofacial trauma management has continued to improve and evolve as a result of advances in technology and scientific inquiry. Controversies exist where there is little evidence-based literature to guide treatment in frontal sinus management, rigid versus absorbable fixation, open versus closed treatment of mandibular condyle fractures, extraction of teeth in the line of fracture, optimal timing for repair of mandible fractures, antibiotic use for facial wounds and fractures, and reconstructive materials in orbital fracture reconstruction. This article reviews current literature to resolve some of the controversies, and to improve patient care by reducing variability and uncertainty in the optimal management of patients with facial trauma.

Controversies in Traditional Oral and Maxillofacial Reconstruction 401
John S. Vorrasi and Antonia Kolokythas

Traditional reconstruction of the head and neck has significantly evolved over the past 20 to 30 years with advances in microvascular surgery, biologic materials such as bone morphogenetic protein, and dental implant predictability. Earlier and more definitive reconstruction can now be achieved with combining therapies, allowing patients immediate restoration of function and improved cosmetics. Antiresorptive medications, such as denosumab and bisphosphonates, have complicated bony reconstruction treatments with altered biology and less-predictable results. Virtual surgical planning is a major advancement for reconstruction pretreatment planning and designing of intraoperative tools to expedite the operation and achieve more predictable results.

Controversies in Microvascular Maxillofacial Reconstruction 415
Adam P. Fagin and Daniel Petrisor

The effectiveness and reliability of microvascular reconstruction for large defects in the head and neck is no longer disputed; however, many controversies still persist in the ideal perioperative management of patients undergoing free tissue transfer. The optimal method of postoperative monitoring, the use of vasoconstrictors in the perioperative period, and the use of anticoagulants in the postoperative period remain topics of debate. This article offers recommendations on each of these controversies based on a review of the current literature.
Controversies in Orthognathic Surgery

Controversy has accompanied orthognathic surgery since its adaptation for the correction of dentofacial deformities. With the development of less invasive and less morbid osteotomy designs, questions regarding overall osteotomy stability have abounded. The transition from prolonged intermaxillary fixation and wire osteosynthesis to rigid internal fixation has spurred questions regarding the most effective fixation technique, and challenged previously accepted hierarchies of stability. These questions represent only the surface of a sea of debate and discussion, as measures have been taken to optimize patient outcome, minimize patient morbidity, and maximize operating room productivity.

Controversies in Facial Cosmetic Surgery

Facial cosmetic surgery techniques are constantly updated to meet the expectations of patients who demand less invasive procedures and less recovery time. Current trends in lower eyelid surgery call for periorbital fat repositioning instead of excision of fat. Controversies still exist in chin augmentations regarding osseous genioplasty versus alloplastic chin implant. The benefits, disadvantages, and considerations of these procedures are discussed.

Current Controversies in Metopic Suture Craniosynostosis

Metopic craniosynostosis is being reported with an increasing incidence and is now the second most common type of isolated suture craniosynostosis. Numerous areas of controversy exist in the workup and management, including defining the diagnosis in the less severe phenotype, the association with neurodevelopmental delay, the impact of surgical treatment, and the applicability of various techniques and their timing on outcomes.

Controversies in the Management of Oral and Maxillofacial Infections

The management and treatment of odontogenic infection, and its frequent extension into the head and neck, remains an important section of oral and maxillofacial surgical practice. This area of maxillofacial expertise is widely recognized by the medical community and an essential component to the hospital referral system. Although the general principles of infection management have not changed, there have been modifications in the timing of treatment sequences and treatment techniques. These modifications are influenced by the development of diagnostic methods and advances in bacterial genetics and antibiotic usage. This article reviews treatment considerations and controversies surrounding this subject.

Controversies in Oral and Maxillofacial Pathology

Several benign pathologic entities that are commonly encountered by the oral and maxillofacial surgeon remain controversial. From etiology to treatment, no consensus exists in the literature regarding the best treatment of benign lesions,
such as the keratocystic odontogenic tumor, giant cell lesion, or ameloblastoma. Given the need for often-morbid treatment to prevent recurrence of these lesions, multiple less-invasive treatments exist in the literature for each entity with little agreement. As the molecular and genomic pathogenesis of these lesions are better understood, directed treatments will hopefully lessen the contention in management.

Controversies in Oral and Maxillofacial Oncology 487
Kyle S. Ettinger and Jacob G. Yetzer

Imaging studies are essential components of tumor diagnosis, staging, assessing tumor response to neoadjuvant and adjuvant therapies, and postoperative surveillance on completion of definitive treatment. Treatment of early-stage clinically node-negative oral cavity squamous cell carcinoma is controversial. Approximately 3% of all head and neck tumors arise within the parotid gland and most often within the superficial lobe, lateral to the facial nerve; approximately 80% are benign and most are pleomorphic adenoma. In patients with dry eyes failing multiple other treatment modalities and facing ongoing pain and loss of vision, microvascular transplant of the submandibular gland is a viable option.

Controversies in Obstructive Sleep Apnea Surgery 503
Carolyn C. Dicus Brookes and Scott B. Boyd

Obstructive sleep apnea (OSA) is a common chronic disease characterized by repetitive pharyngeal collapse during sleep. OSA is associated with cardiovascular disease and increased mortality, among other issues. Continuous positive airway pressure (CPAP) is considered first-line therapy for OSA, but is not always tolerated. Both nonsurgical and surgical alternative management strategies are available for the CPAP-intolerant patient. This article explores controversies surrounding airway evaluation, definition of successful treatment, and surgical management of the CPAP-intolerant patient with moderate to severe OSA. Controversies specific to maxillomandibular advancement also are discussed.

Controversies in Anesthesia for Oral and Maxillofacial Surgery 515
Brett J. King and Adam Levine

The future of office-based anesthesia for oral and maxillofacial surgery is at risk. Oral and maxillofacial surgeons have been on the forefront of providing safe and effective outpatient anesthesia for decades. Recent changes in Medicare policies have had, and will continue to have, a significant effect on the training of oral and maxillofacial surgery residents regarding anesthesia. The outcome of these changes can have a major effect on the specialty of oral and maxillofacial surgery and a cornerstone of the profession.

Controversies in Implant Surgery 525
Tara L. Aghaloo, Martin Mardirosian, and Brando Delgado

Dental implants are a mainstream treatment protocol to replace missing teeth. Patient and clinician demands have led to shorter length and narrower diameter implants, immediately placed implants into infected sites, and the use of implants in children. This article reviews some of the controversial topics in implant dentistry, and presents the evidence that supports and challenges these newer techniques. Because long-term studies are often not available, especially for implants in infected sites, mini implants, and implants in the growing patient, the field continues to evolve.