Basic Flap Design
Todd A. Schultz, Kelly Cunningham, and Jonathan S. Bailey

Basic flap design utilization for reconstruction of head and neck defects requires creativity from the surgeon. Ultimately, the surgeon must closely restore the basic functions and properties of the surgical flap and adjacent tissue. All options within the reconstructive ladder should be considered. When possible, like should be replaced with like (similar tissue) within an esthetic zone. When considering a flap design, the surgeon must remember that the donor site must be closed in an esthetic and functional manner. Finally, knowledge of normal anatomy, the extent of the defect, and the patient is vital for successful outcomes.

Palatal Flap
Jason A. Jamali

The esthetic and functional demands of maxillofacial reconstruction have driven the evolution of an array of options. The palatal flap offers a technically simple and predictable option for intraoral reconstruction. Moreover, the palatal island flap is the only available flap that can provide keratinized mucosa for defect reconstruction. Patients usually encounter minimal postoperative morbidity, and should expect a rapid return to a normal diet. Although the palatal flap cannot serve as a panacea for most intraoral reconstruction, it provides the reconstructive surgeon with a great armamentarium.

Tongue Flaps
Robert A. Strauss and Nicholas J. Kain

The tongue flap is a robust, versatile flap that can be used for reconstruction of oral, pharyngeal, and perioral defects of congenital, traumatic, and ablative origin. The rich blood supply and ease of use make the tongue flap a reliable and predictable reconstructive technique for indicated defects.

Maxillofacial Reconstruction with Nasolabial and Facial Artery Musculomucosal Flaps
Daniel Cameron Braasch, Din Lam, and Esther S. Oh

The nasolabial and facial artery musculomucosal (FAMM) flaps are predictable methods to reconstruct perioral and intraoral defects with vascularized tissue. The nasolabial flap can be harvested as an axial or random patterned flap, whereas the FAMM flap is truly an axial patterned flap, with either a superior or an inferior base. Both flaps have been widely used to provide predictable results, with low morbidity. Future studies are needed to further prove their use in compromised patients, including patients with a history of head and neck radiation and neck dissections.
Lip Reconstruction

Mehdi B. Matin and Jasjit Dillon

The lips consist of 2 fleshy folds that surround the mouth in humans. They play a dynamic role in facial esthetics, human communications, and oral functions. Defects may result from trauma, malignancy, and congenital disorders. These defects may cause significant alterations of normal lip appearance and function that profoundly impact patients’ quality of life. Surgical management of patients in need of lip reconstruction requires a clear understanding of the lip anatomy, aesthetics, and function as well as extensive knowledge and background information of various techniques proposed to this date. This article is a comprehensive review of lip defects reconstruction.

The Temporalis Muscle Flap and Temporoparietal Fascial Flap

Din Lam and Eric R. Carlson

The temporal arterial system provides reliable vascular anatomy for the temporalis muscle flap and temporoparietal fascial flap that can support multiple reconstructive needs of the oral and maxillofacial region. The minimal donor site morbidity and ease of development of these flaps result in their predictable and successful transfer for reconstructive surgery of the oral and maxillofacial region.

Submental Island Flap

Allen Cheng and Tuan Bui

The submental island flap is a local flap that is simple to raise and is useful for oral and lower face reconstruction of soft tissue defects. It is based on the submental artery and the facial vein. Using a retrograde flow design allows for reconstruction of forehead, temporal, and periorbital defects. Raising the flap with the ipsilateral digastric and a portion of the mylohyoid muscle is helpful in protecting the vascular pedicle. Extra care is required when raising the flap when performing an elective or therapeutic neck dissection, because Level I lymph-node-bearing tissue may be harvested with the flap.

The Platysma Myocutaneous Flap

Dale A. Baur, Jonathan Williams, and Xena Alakaily

Reconstructing defects of the oral mucosa or skin of the lower one-third of the face can be accomplished by a variety of techniques. This article presents two versions of the platysma myocutaneous flap, which is a reliable, axial pattern, pedicled flap capable of providing excellent one-stage reconstruction of such defects. As discussed herein, the superiorly based and posteriorly based versions of the flap have wide application in the oral and facial region. Also provided is a review of other uses of this flap in head and neck surgery.

The Use of Cervicofacial Flap in Maxillofacial Reconstruction

Anastasios Sakellariou and Andrew Salama

One of the most useful reconstructive techniques in repairing cheek defects is the cervicofacial (CF) flap. The CF flap offers an excellent texture and color match with the recipient area. This flap can be used for defects of the cheek, temple, and orbit. The flap can be used alone or in combination with regional and free flaps.
depending on the extent of the defect. This article discusses the indications and anatomy of this flap and the surgical procedure for the use of this flap for maxillofacial reconstruction.

**Paramedian Forehead Flap** 401
Ryan J. Smart, Melvyn S. Yeoh, and D. David Kim

The paramedian forehead flap (PMFF) is a versatile flap with a robust vascular supply that is well suited for reconstruction of complex or large nasal defects. Although a 2-stage technique is most common, a single-stage procedure involving tunneling the proximal pedicle and 3-stage procedures involving tissue expansion, vascular delay, and flap tailoring after inset before pedicle division have also been described. This article describes a traditional 2-stage technique and presents the case of a patient with a posttraumatic nasal deformity reconstructed with a PMFF.

**The Supraclavicular Artery Island and Trapezius Myocutaneous Flaps in Head and Neck Reconstruction** 411
Carlos A. Ramirez and Rui P. Fernandes

Video of SCAF FLAP ELEVATION accompanies this article

The supraclavicular artery island flap can be readily used to reconstruct defects within the neck, parotid, lateral temporal region, and lower third of the face. Benefits of the supraclavicular flap include good color and texture match, an ease of harvest, and minimal donor site morbidity; there is also no significant postoperative monitoring required. The trapezius muscle serves as a source for multiple myocutaneous flaps of which most are considered to be salvage flaps among head and neck reconstructive surgeons.

**Pectoralis Major Myocutaneous Flap** 421
Ketan Patel, Diana Jee-Hyun Lyu, and Deepak Kademani

There has been a gradual shift of the utilization of pectoralis major myocutaneous (PMMC) pedicled flaps with the current advancements in the successful development of vascularized free flaps. Currently, PMMC flaps are considered a salvage mechanism after failure of a free vascularized flap or used as the reconstructive option for patients who are considered poor candidates for free flaps. This review discusses the PMMC flap for reconstruction of the oral and maxillofacial region, from preoperative considerations and anatomy to surgical technique and possible complications. Advantages and disadvantages for such flaps are also discussed.

**The Pedicled Latissimus Dorsi Myocutaneous Flap in Head and Neck Reconstruction** 427
Hui Shan Ong, Tong Ji, and Chen Ping Zhang

The pedicled latissimus dorsi myocutaneous flap (PLDMF) is not the first-line reconstructive option for most clinicians; however, when treating salvage patients or those with depleted neck vessels, the PLDMF provides a valuable armamentarium. Unlike the pectoralis major myocutaneous flap or the lower island trapezius flap, the PLDMF has greater versatility in soft tissue design and a longer arc of rotation. These advantages are of great importance in managing advanced reconstructive cases.