Three-dimensional (3D) surface imaging has found its place in aesthetic surgery globally. The first attempt to use 3D surface imaging technique in clinic was in 1944 by Thalmaan, who used stereo photogrammetry to examine an adult with facial asymmetry and a baby with Pierre Robin syndrome. Three-dimensional photog-raphy is becoming more common allowing for a more dynamic facial evaluation, although it is associated with increased cost.

By performing a preservation rhinoplasty, the surgeon can achieve natural and sta-ble results by intraoperative replacement of resection with preservation and excision with manipulation of ligaments, cartilages, soft tissues, and the osseocartilaginous dorsum. In this article, the authors explain step by step the dorsal preservation rhinoplasty with low septal strip and a combination of nasal bones osteoplasty and os-teotomies, the tip preservation rhinoplasty based on nose tip polygons, and the authors’ technique for modify the nasal tip projection and rotation with a posterior strut or anterior septal strip.

Piezoelectric tools are the novel ultrasonic methods for effective and safe osteo-plasty or osteotomy in comparison with traditional soft and hard tissue approaches using rotating instruments due to lack of microvibrations, ease of control and use, and safer cutting, mainly in complex anatomic areas. Piezoelectric indicates favor-able and valuable outcomes based on the immediate postoperative morbidities, even though long-term results have not been investigated. It could be indicated that the piezosurgery in rhinoplasty can be considered as a reliable and safe method and should be taken into account as a part of the surgeon’s repertoire for rhinoplasty.

Dorsal hump modification is a commonly performed procedure in most rhino-plasties. Specifically, hump reductions play a significant role in aesthetic rhinoplasty when the surgeon and patient wish to have a “smaller” and less projected nasal complex. There are several techniques available in order to perform a hump reduc-tion. The purpose of this article is to review some of the surgical options available for dorsal hump reduction and management of the dorsum following this procedure.
New Concepts in Dorsal Nasal Augmentation
Shahrokh C. Bagheri, Behnam Bohluli, Pouyan Sadr-Eshkevari, and Nima Moharamnejad

Dorsal augmentation is commonly indicated in many primary and secondary aesthetic nose surgeries. Throughout the history, various synthetic and autogenous materials have been used for dorsal augmentation. In this article, we give an overview of basic concepts of cartilage grafting, review new concepts of dorsal augmentation, and discuss some emerging engineering modalities.

Preservation Dorsal Hump Surgery: A Changing Paradigm
Seied Omid Keyhan, Behnam Bohluli, Shahriar Nazari, and Shohreh Ghasemi

Preservative dorsal hump surgery is an old approach that has revitalized recently. Preservation rhinoplasty aims to shape the existing structures instead of resection/reconstruction approaches. A thorough understanding of the applied anatomy of the nose is the backbone of preservative hump surgery. In preservative hump surgery keystone works as a joint, and by lowering this joint the hump is eliminated.

Grafting in Modern Rhinoplasty
Steven Halepas, Kevin C. Lee, Charles Castiglione, and Elie M. Ferneini

Rhinoplasty is considered one of the most technically difficult surgical procedures because of the limited access and requirement for three-dimensional visual perception and manipulation. Grafting is an essential part of primary and secondary rhinoplasties and forms the foundation for a successful functional and aesthetic outcome. Septal cartilage is the most commonly used grafting material, although many reliable alternatives exist. No randomized clinical trials have been conducted comparing graft materials and techniques for specific indications. In this review, the authors discuss the most common grafting materials and configurations used in the modern rhinoplasty.

New Concepts in Nasal Tip Rhinoplasty
James D. Frame

Cosmetic rhinoplasty involves surgical manipulation of the nasal cartilages, nasal bones, lining mucosa and extracartilaginous soft. The nasal tip is a complex composite arrangement of tissues. These structures are responsible for creating individuality and asymmetries and for controlling nasal air entry and valving. Medical aesthetics involves filling relevant areas of the tip with hyaluronic acid to disguise grooves or soft defect contour defects. Standard tip surgery involves an open or closed approach. Manipulation of the flexible alar cartilage using intracartilaginous and interartilaginous sutures is preferable to resection, and alar base reduction is becoming more prevalent.

Rhinoplasty with Fillers and Fat Grafting
Mohammad Bayat, Naghmeh Bahrami, and Hassan Mesgar

Nonsurgical rhinoplasty is one choice for cases in which open surgery may be harmful, the deformity is not indicated to correct with open surgery, or in patients who have phobia of general anesthesia or any type of surgery. Autologous fat injection or fillers are most common materials currently used for this purpose. In this article,
we explain the indications, contraindications, methods, and complications of this treatment.

Nasal Tip Deformities After Primary Rhinoplasty 111
Paul Bermudez and Faisal A. Quereshy

Nasal tip deformities after primary rhinoplasty may occur, including the formation of bossae, a pinched nasal tip, and nasal tip ischemia. Because of the central location in the midface, even minimal nasal tip deformities (small bossa) may be noticed and upsetting to the patient. This is in addition to more severe nasal tip deformities, including nasal tip ischemia, that are easily visible to any viewer. Prevention, early recognition, and, depending on the case, intervention are critical in minimizing these complications. If complications do occur, regular communication with the patient and follow-up are crucial.

Correction of Septal Perforation/Nasal Airway Repair 119
Keith A. Sonneveld and Pradeep K. Sinha

Rhinoplasty is a double-edged sword regarding the functional nasal airway; it can enhance and improve the nasal airway if done properly, and can severely compromise the nasal airway if not done properly. The composition of the nasal airway includes the internal and external nasal valves, nasal septum, and inferior turbinates. Each of these areas can be addressed by several techniques, described in the body of the text. Nasal septal perforation is another potential complication that may result from septal surgery, which has nonsurgical and surgical methods to treat, and is also described in the body of the text.

Correction of the Overly Shortened Nose 125
Grace Lee Peng and Babak Azizzadeh

The overly shortened nose can often be the result of previous rhinoplasty. The causes can include weakening or missing cartilage for nasal tip support as well as contraction and scarring of the skin. The purpose of this article is to provide the authors’ approach to this deformity.

Management of the Cephalic Positioning of the Lower Lateral Cartilage in Modern Rhinoplasty: An Algorithmic Approach 131
Behnam Bohluli, Shahrokh C. Bagheri, Gholamhosein Adham, and Omid Tofighi

Cephalic positioning of lateral cruras literally means that the cartilage does not support the nasal rim. Cephalic positioning is a relatively common anatomic variant of lower lateral cartilages that shows an extremely vulnerable rhinoplasty patient. In these patients, any reductive technique, such as cephalic trimming without compensation, worsens the situation and may lead to esthetic failures and airway compromise. True cephalic malpositioning needs to be diagnosed from pseudomalpositions preoperatively. The presence of the pseudomalposition does not mean that it can be ignored. Either malposition or pseudomalposition is best diagnosed and considered in the treatment plan.
Cleft lip and palate patients represent one of the most challenging groups of patients for septrhinoplasty, presenting as a complex surgical obstacle for even the most seasoned surgeons. These individuals have undergone several surgeries throughout their lives, resulting in a considerable amount of scar tissue, significant asymmetries and structural deficits. Key factors in successfully treating cleft lip and palate patients are the reconstruction of the absent/asymmetric cartilages and the replacement of bony structures. The use of autogenous rib cartilage allows the surgeon to create various grafts as well as fortify the soft tissue to resist persistent soft tissue deformities.