

# Advances in Facial Implants

by William J. Binder, MD

Beauty is distinguished by bold facial lines, prominent cheekbones, a strong chin and a sharp, well-defined jaw-line. These ideals have stimulated revolutionary changes in aesthetic surgery. One of the most interesting and significant developments in facial plastic surgery involves the use of custom made implants to improve facial definition. Facial contouring is quite literally changing the shape and architecture of the face.

The necessary factors to alter facial form are shape, size and positioning of the implant. Implants change facial contours in precise and controlled ways.

## Implants in the Making

Modern, custom designed implants begin with a CT scan taken of the anatomical area. The scan is converted into a computerized, three-dimensional image and then transformed into an exact model of the skeletal structure. The computer will then make an implant with exact measurements to fit the model. The implant is composed of solid silicone elastomer or rubber; it imitates the feel of natural body tissues without losing its shape or flexibility and can remain in the body indefinitely without damage.

This preliminary work expedites surgery, with no guesswork and very few modifications. The posterior surface of the implant mirror images to the surface of the bone so, a fixation technique is usually unnecessary. The implant locks into place. The actual procedure and operative time is minimized, therefore, the time under anesthesia is reduced. As opposed to orthognathic types of surgery, this type of custom-designed implant surgery can be performed on an outpatient basis with fewer complications and a substantial savings in cost.

The future of implants will expand as technology continues to improve, with a more automated process and less labor involvement.

## Assessing the Problem

The facial plastic surgeon must evaluate the complete face, not the separate features. In a congruous face, the major architectural promontories

— the nose, the malar-midface area and the mandible-jawline — are in balance. The surgeon should account for the individual's proportions and advise a plan to give the best results. Diminution or

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enlargement of any one area will affect the appearance of the other areas.

The surgeon may suggest a combination of procedures depending on the desired outcome. Reduction of the nasal projection causes the malar-midface and the mandibular-jawline prominence to seem much more significant. Intensifying the malar-midface area decreases the effect of the nose and chin. Enlargement of the mandibular or malar-midface volumes produces a nose that seems smaller and less imposing. Secondary promontories, i.e., the supraorbital ridge, the temporal mound and the premaxilla, are also taken into consideration as subtleties in the contour of the face.

midfacial tissues and is thus able to simulate soft tissue replacement.

There are six routes for entering the malar-midface area, including intraoral, subciliary (lower blepharoplasty), rhytidectomy, zygomatic or temporal, transcoronal and transconjunctival. The intraoral route is the most preferred and begins with a 1cm incision through the mucosa above the buccal-gingivi line and over the canine tooth. A Tessier-type elevator is directed through the zygomaticus muscle onto the bone. The elevator is used to sweep the soft tissues upward and then kept on the bony margin along the inferior border of the malar eminence and the zygomatic arch. An antibiotic solution irrigates the area. The submalar pocket is opened by elevating the superficial tissues inferiorly and apart from this deeper tendinous structure. It

is very important that the dissection be extended adequately. A pocket that is too small will make the implant move in the opposite direction. The implant is introduced into the pocket and may be positioned below

the zygoma and zygomatic arch, across the masseter tendon, rest more superiorly on the bone, or it may cover both bone and tendon. The size, shape and thickness of the implant will determine the degree of dramatic effect.

Post-operatively, the patient can expect some swelling, but rarely any bruising. Evaluation of the surgery should be done within the first 48 to 72 hours to check for obvious facial asymmetry, which might point to a hematoma or seroma. However, the majority of swelling is gone within two weeks with supportive tissue already forming around the implant. The final definition of new facial contours emerges after four to six weeks. The result is a more aesthetically-enhanced cheek bone structure for a

more youthful appearance with greater fullness of the cheeks.

## Implants Deliver Results

There are very few procedures that will render the rewards that facial contouring procedures offer. Implants can create a distinct profile, revitalize an aging face or reconstruct facial injuries. Proportion and balance are paramount in the art of facial contouring and the image of beauty. Newer and better implants have enabled the facial plastic surgeon to guarantee patients the results they want to define their facial features. Through the field of facial contouring, surgeons are now able to present cost-efficient options with less complications and more stable results. ■

## ABOUT the author

William J. Binder, MD, obtained his pre-medical education at Syracuse University with a B.A. degree in Biology and earned his M.D. degree at the University of Medicine and Dentistry of New Jersey. He then spent five years of post-graduate internship and residency training. Three years were devoted to head, neck and facial plastic and reconstructive surgery at the Mt. Sinai School of Medicine in New York City, where he became board certified and also secured a teaching position.

## FACIAL PLASTIC SURGERY

Dr. Binder is a member of the American Academy of Facial Plastic and Reconstructive Surgeons (AAFPRS). The AAFPRS is one of the world's largest associations of facial plastic and reconstructive surgeons with more than 2,750 members. AAFPRS members specialize in cosmetic and reconstructive surgery of the face, head and neck. All members are board certified surgeons with training and experience in facial plastic surgery.

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Cheek and midfacial/submalar implants provide a natural, high cheekbone effect. The soft tissues that normally provide a smooth, contoured cheek deteriorate and shift downward with age, making abnormalities in the underlying bone more conspicuous. The cheekbones may become too protuberant, and sunken areas appear beneath them. Some patients with inadequate supporting bone structure acquire deep vertical folds in the midface. In these patients, a facelift alone is not generally sufficient to solve these problems.

The submalar implant helps to reposition relaxed or sagging skin upward and outward. This fills the midfacial hollows and depressions and softens the folds and wrinkles. The implant provides a structure to hold up the collapsed