



# PIPS *Steps*

A PUBLICATION OF THE PITTSBURGH INSTITUTE OF PLASTIC SURGERY

## THE "OTHER" IMPLANTS

Mention the word "implant" in the context of plastic surgery and most of us think immediately of breast implants and the controversy which continues to surround breast implants. I should inject that, at this time, any connection between breast implants, particularly the original silicone gel-filled breast implants, and any human disease/disorder has yet to be proven and, in fact, has been disproven, although probably not conclusively. But, to a plastic surgeon the word "implant" brings to mind not only breast implants but a host of other implants which are employed to augment, enhance and even replace areas of human anatomy shortchanged by Mother Nature or Life's trials and tribulations.

Plastic surgeons like me whose practices concentrate primarily upon cosmetic surgery are more than conversant with a variety of facial implants designed to augment/enhance the cheeks, nose, chin, jaw, etc. Over the last several decades, a variety of materials have been employed in the construction of facial implants but the implant material of choice continues to be silicone. Silicone is a rubber which seems to be remarkably well tolerated by the human body and, like any rubber, can be manufactured in various densities, that is from very soft, and therefore compressible, to very hard, and therefore rigid. Consequently, in its rigid or semi-rigid state it is particularly well suited to augment cheeks and chins, since it is able to simulate bone, and in a less rigid and "springy" state also is suitable for use within the nose, primarily to convert a nose which is flat and squat to one which is more pronounced by virtue of increased projection. On more than one occasion I've employed a custom made silicone implant to replace missing facial bone (particularly forehead bone) lost as a result of trauma or perhaps surgical removal of a tumor which either originated in bone or originated elsewhere but extended into bone. In fact, by creating a three dimensional model of the defect from a Computerized Axial Tomographic (CAT) scan, such implants can be constructed to fit the defect in need of the implant perfectly, much like a puzzle piece.

Because these implants do not become permanently attached to those areas of human anatomy in which they are employed, cheek augmentation, chin augmentation and similar procedures are therefore reversible. For example, as an individual's facial anatomy changes with age, that

individual can undergo re-augmentation of his cheeks or chin or whatever with larger or smaller implants, as necessary.

What keeps a facial implant in place, you ask? Any foreign body which is implanted either intentionally or accidentally (shrapnel is a good example of the latter) stimulates the human body to manufacture an envelope of scar-like tissue around it. This envelope (which is sometimes known as a "capsule", particularly as it applies to breast implants) assumes a shape which is identical to the implant which it surrounds and consequently anchors the implant, preventing it from movement or migration. Consequently, once the operative area corresponding to the implant is healed, displacement of that implant is extremely unlikely, even if the implant is subjected to a significant injury.

The face is not the only area of the body where silicone implants of various densities are employed. Pectoral (chest) implants often are employed to replace a missing pectoral muscle (which is a common feature of a disorder known as Poland's Syndrome) and those same or similar pectoral implants can be employed (along with calf implants and the like) to enhance muscularity, particularly of body builders.

Thusfar, I've spoken about silicone implants which are "static" in their behavior in the sense that they may contribute to body contours but do not contribute to body functions. Those plastic surgeons who, again like me, also become involved on a regular basis with hand injuries know that silicone has proven a very effective tendon substitute, particularly in those individuals whose hand injuries preclude grafts of tendon from other parts of their bodies.

While breast implants may get all the press (and unfortunately much of it bad), a host of other implants contribute significantly to the plastic surgeon's ability to alter human form and, in select situations, even human function. Silicone, particularly in its solid state, has proven itself over many decades to be a remarkably useful implant material by virtue of its biocompatibility and its biodiversity. From now on, when you think implants, don't think just breast implants.

*For more information about this and other cosmetic and non-cosmetic procedures, please call The Pittsburgh Institute of Plastic Surgery at 1-800-321-7477 or The Plastic Surgery Information Service at 1-800-635-0635.*

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