

## COSMETIC BREAST SURGERY PAST AND PRESENT

*"We ourselves possess beauty when we are true to our own being."*

—Plotinus, 3rd Century Roman Philosopher

**I**N AMERICA TODAY, MILLIONS of women, and to a lesser degree men, are unhappy with their breast size and contour. They are self-conscious because their breasts are too small, too big, too saggy, distorted, or uneven. This can have a serious effect on one's self-esteem.

The breast, from a medical point of view, is a modified sweat gland specifically designed to produce milk and feed a newborn; however, this unique anatomic structure has become a universal symbol of femininity, love, sexuality, and nourishment throughout the ages as documented in cave drawings, fertility goddesses, and pre-Columbian artwork. Breasts represent a significant factor in acceptability as an attractive female. Conversely, breast cancer, and the possible loss of a breast, can be a major source of concern to women with feelings of loss of femininity and rejection by loved ones.

Concepts of beauty regarding breasts are interpreted differently by diverse cultures and change over time. For example, African tribes consider intentionally created keloid scars attractive on female breasts. In 19th Century Europe, women underwent elective rib resections to accentuate the chest and minimize the waist. During the "Roaring Twenties," chests were bound to minimize breast size.

Contemporary concepts of female beauty necessitate that the breast be aesthetically acceptable in all situations of dress and undress especially now that more people are choosing to live in

more preferable on the beaches of Rio de Janeiro while larger breasts are more acceptable on the beaches of southern California.

Frequently men, and even some women, are not familiar with the conscious and unconscious feelings that women attach to their breasts. There are those who say we live in a highly "mammarized" society and question whether this is due to mass marketing and/or men's attraction to larger breasts. A woman desiring a breast-altering procedure can frequently feel emotionally traumatized by her breast size and contour. Breasts that are not aesthetically pleasing to a patient can often lead to feelings of insecurity, depression, and inhibition.

In view of these emotional overtones, the plastic surgeon involved in breast surgery, both cosmetic and reconstructive, must clearly understand the psychological implications of treating the breast and the far-reaching effects on a woman's self-image.

For breast surgery to be successful, it is certainly important that the plastic surgeon first be sensitive to the emotional needs of the patient. Moreover, the surgeon must elicit and evaluate the expectations of the patient and significant other people in the patient's life. The surgeon must



warmer climates and spending more time in leisure activities. To expose what is beautiful has become more acceptable by society at large. Here again, cultural diversity plays a role; that is to say, smaller breasts may be

take into consideration such aspects as lifestyle, professional pursuits, recreational interests, personal preferences, et cetera.

Aesthetics of the breast is an elusive concept. Our society, as well as many others, has defined certain ideals and standards of attractiveness for breast appearance. Ultimately, however, the "ideal breast" for each prospective patient exists in her own mind. Many women feel their bodies are not "right" unless their breasts are balanced and symmetrical.

A woman's breasts are subjected to continuous modification in shape, volume, and structure throughout her life. Important factors causing these changes include genetics, age, body weight changes, pregnancy, and breast-feeding. Each of these factors can play a role in determining breast size, flaccidity, and ptosis (sag).

Although a single breast ideal cannot be applied universally for all breast patients, certain proportions and basic anatomical relationships must be considered by the breast surgeon to achieve optimal and "natural-appearing" results. Ideal breast volume or size varies according to each patient's size and the overall dimensions of her body frame. In general, the circumference of the chest should be similar to that of the hip area. Physical factors limiting changes in breast volume include the patient's chest wall and size, skin envelope, elasticity, and the amount of native breast tissue.

Breast augmentation has become one of the most commonly requested cosmetic surgical procedures with an estimated 212,500 cases performed in the US alone last year. Interest in breast enhancement has grown tremendously throughout the 20th Century. The search for the perfect implant to enlarge breasts safely and with uniformly good results continues, but much progress has been made.

Czerny, in 1895, was the first surgeon to use a lipoma (fatty tumor) as a fat graft to

enlarge a stage performer's breasts. Subsequent attempts at enlargement included the use of liquid paraffin and silicone injections throughout the first half of the 20th Century, which led to multiple complications. Even as late as the 1980s, liposuctioned fat was used to enlarge women's breasts, but all of these methods were abandoned when it became apparent that cancer screening and detection was made much more difficult.

Sponge breast prostheses (implants) were first used in 1955, but this practice led to a high incidence of infection and was discontinued. By 1963, Doctors Cronin and Gerow working in Texas reported the first use of a silicone gel breast implant. Interestingly, the first true silicone breast prosthesis was saline-filled and was placed in 1962. During subsequent years, there has been much research and resulting improvement in implant quality as well as improved surgical techniques. Concomitantly, the incidence of complications associated with breast implants has decreased dramatically.

Nonetheless, in 1992, the FDA concerned about the potential harmful effects of silicone gel implants called for a halt to the general use of gel implants except in clinical trials and for reconstructive purposes. This decision left the plastic surgeon with the option of using saline implants for routine breast augmentations. Subsequently, many scientific studies completed in the United States and other countries have demonstrated that medical-grade silicone does not increase the risk of breast cancer or adversely affect the human immune or neurologic systems. As a result, many developed nations in Europe and Latin America continue to allow the use of silicone gel implants, but not so here in the United States where the FDA continues to collect data and determine the safety of these implants. However, the FDA has given full approval for the use of saline-filled breast implants

for cosmetic and reconstructive purposes as of 2000. Saline implants are available in various sizes, smooth or textured surfaces, and round or anatomic (tear-drop) shapes. These implants may be placed above or below the chest wall muscle lying under the breast gland tissue. The most popular incisions for placement of breast implants are around the nipple areola area or under the breast near the chest wall or inframammary fold area. More recent surgical approaches include the armpit and belly button areas.

According to a recent in-depth study of breast implants by the Institute of Medicine in conjunction with the National Academy of Sciences, it appears women with gel-filled implants over the years have a greater incidence of complications than women selecting saline implants. The quality of current saline implants has improved dramatically with a deflation rate of approximately 1 to 2 percent per year. The exact lifetime of implants is not known, but the breast implant patient should not consider that their implants will last forever and that a revision surgery may be necessary in subsequent years. Compared with the relatively high incidence of capsular contracture (surgical scar tissue around implants) rate with silicone gel implants in excess of 50 percent or higher, the incidence of capsular contracture is 10 percent or less with saline implants especially when placed below the chest wall muscle.

As of 2000, breast augmentation procedures performed by members of the American Society of Plastic Surgeons utilized saline implants in over 90 percent of the cases. A recent University of Minnesota study revealed 93 percent of augmentation patients selecting saline implants were happy with their results. Many of the 450 patients in this study expressed increased satisfaction with the appearance of their breasts and greater self-confidence. Another study by

the American Society of Plastic Surgeons showed 84 percent of women who had breast implants placed, but underwent revision for size considerations or complications, electively chose to proceed with placement of new implants.

The prospective cosmetic breast patient must be apprised of the fact that the breast is the most common site of cancer in women and, in fact, approximately 12.5 percent of all women will eventually develop breast cancer. For cancer screening purposes, radiologists report it is easier to screen a female breast for cancer with mammography when the breast implant is placed under the chest muscle rather than above next to the breast gland tissue. Ultrasound and magnetic resonance imaging are useful radiologic studies to screen for possible implant defect or rupture.

For those women who truly desire larger breasts, but remain concerned about the risk of surgery and harmful effects of silicone might want to consider the non-surgical breast enhancement system called BRAVA® that became available earlier this year. This device stimulates natural tissue growth of the breast without surgery or hormonal stimulation. The BRAVA® system utilizes the well-known and proven medical principle of sustained tension leading to new breast tissue growth. The new system accomplishes this by applying custom-fitted domes to the breasts. These domes are worn in a bra and attached to a microprocessor and suction device which continuously applies gentle pressure to the breast tissue. This system is best suited for women who do not want breast surgery, have relatively small, A or B cup breasts, are desirous of a small to moderate enlargement of one-half to one bra cup size only, and have only a mild to moderate degree of ptosis (sag). The resulting breast enlargement from this technique appears to persist over time

and there has been no apparent increased risk of breast cancer to date.

Breast patients frequently seek advice on cosmetic plastic surgery solutions for large symptomatic and/or sagging breasts resulting from pregnancy and/or the normal aging process. The cosmetic surgical results of breast reduction and/or lift surgery have improved dramatically from the days of antiquity when Hippocrates described amputation of large breasts by cauterization. Limiting the length of scars has become the focus of plastic surgeons in recent years regarding this type of surgery.

To achieve the goals of shorter and less obvious scars on the breasts, many plastic surgeons have in recent years applied liposculpture techniques to reduce enlarged, sagging breasts. Experience with this technique continues; and it appears most useful for breasts which are mild to moderately enlarged and with only mild to moderate ptosis (sagging). Extremely large and pendulous breasts still require breast reduction surgery with resulting longer scars. However, these have been further shortened and better positioned for camouflage with new surgical techniques.

Liposculpture of the breasts has been facilitated by power-assisted liposuction (PAL) equipment developed in recent years. The handpiece of this equipment is powered by either compressed gas or electricity providing the surgeon with a more efficient and precise removal of fatty tissue from the body, but especially the breast, which is known to be more fibrous and a difficult area for liposuction technique in the past.

In any discussion of breast reduction surgery, it is important to also consider gynecomastia, which is unilateral or bilateral development of female-like enlarged breasts in men. The incidence of gynecomastia in adult males has been estimated to be approximately 35 percent. The American Society of Plastic

Surgeons estimates approximately 20,000 male breast reduction procedures were performed in the US in 2000.

Early in the 20th Century, most surgical solutions for men were not cosmetically appealing with resulting loss of nipple areola tissue and/or severe contour deformities. By the early 1980s, surgeons began applying liposuction techniques to this condition of male breast enlargement, alone, or in conjunction with direct surgical excision of the gland tissue, leading to overall improved cosmetic results. In the 1990s, ultrasonic-assisted liposuction (UAL) showed promise, but subsequent follow-up revealed an unacceptable incidence of burns, numbness, and fluid collection in the postoperative period. Currently, the technique of power-assisted liposculpture as described above has proven to be a useful adjunct in contouring male breast tissue with improved overall results and lowered complication rates.

With this ongoing development of more refined surgical techniques as well as new and improved surgical devices, plastic surgeons are now better equipped to help each breast patient achieve his or her aesthetic goals and ultimately lead to improved self-image and self-confidence.

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