Breast Enhancement Surgery

...Understanding the Options

KELLY R. KUNKEL, M.D.

Contents

General information

A woman may want to enhance or alter the appearance of her breasts for a number of reasons. Her breasts may not be as large or shapely as she desires. Her breasts may have developed asymmetrically, with one breast being substantially larger or with a completely different shape than the other. She may have had children and her breasts changed as a result, losing upper breast volume and developing a "droopy" appearance. Since the late 1960's implants have been used to help enhance and reconstruct women's breasts. A number of new breast implant styles and shapes have been introduced over the last 10 years, allowing for tailoring of implant procedures to a woman's individual needs and desires. This booklet has been designed to provide information to help women make knowledgeable choices about breast enhancement surgery.

Frequently women come into the office and say something like, "You did surgery on a friend of mine and she showed me her results. I want to look like that." It is important to remember that each woman develops differently than every other woman. Age, pregnancy, breast feeding, weight gain or weight loss, skin tone, and overall health affect breasts tremendously. A 45 year old woman who has breast-fed three children and is moderately overweight has breasts that are very different than a 22 year old who has never been pregnant and is near her ideal body weight. Surgery can enhance each of these women's breasts and often achieve beautiful results, yet the final appearance of the breasts of these two women may be quite different.

It is normal for there to be asymmetries between a woman's breasts. Having one breast that is larger than the other is common. Sometimes one nipple is a little higher than the other. In some women the crease along the bottom of the breast, where the breast and chest meet, is higher on one side than the other. One areola (the colored area around the nipple) may be larger than the other. Depending on what a woman wants, any number of these differences may be addressed at the time of surgery. While perfect symmetry between the breasts can never be guaranteed, it is important to identify asymmetries that exist before surgery so that discussions can take place about how they might be treated.

Before undergoing breast implant surgery, most women want to know what size bra they are likely to wear after surgery. Breast implants do not come in 'B' cup, 'C' cup, or 'D' cup sizes. Instead, they are measured in cc's. A cubic centimeter, or cc, is a unit of volume. An easy-to-understand example of cc's: a can of soda. A 12 ounce can of Diet Coke typically contains 355 cc's of fluid. Common volumes for implants used in breast enhancement surgery range from 270 cc's to 450 cc's. Occasionally larger or smaller sizes may be used. A woman who is tall, thin, young, never been pregnant, and has A cup breasts will end up with a different result after undergoing breast augmentation with 300 cc implants than a woman who is shorter, a bit overweight, older, has three children, and B or C cup breasts. To help arrive at the ideal size breast, it is important to discuss your desires with us here in the office and to weigh those desires against the benefits and risks of the different sizes and styles of implants available.

Finally, it should also be noted that breast implants are not used in every situation. Some women with moderately large but somewhat droopy breasts may like their overall fullness and how they look in a bra but want a more youthful, lifted appearance when they are not wearing a bra. In cases like those a breast lift (mastopexy) alone may provide the look they want. There are different types of lifts available, depending on the specific physical attributes and goals, and these are described and illustrated on pages 12 through 15.

Rather than being a complete guide, this booklet is intended to help you understand some of the more important issues involved in breast enhancement surgery. The booklet provides information about options and demonstrates these options by showing 'before and after' photographs of women who have undergone those procedures by me. These photographs should not be understood to be the exact results you will have but rather are provided to help in the overall educational process.

The photograph on the cover is a picture of a model and was supplied by Natrelle, one of the companies that manufactures breast implants. She did not undergo surgery by me, but I did perform surgery on the rest of the women pictured in this booklet.

Definitions

One of the first steps in understanding breast enlargement and breast lift surgery is to understand the words and phrases. The following terms are commonly used when discussing breast enhancement surgery.

Areola-the colored skin around the nipple.

Augmentation-in this context refers to the addition of some type of breast implant. This enlarges, or augments, the breast.

Axilla-the region of the armpit. It contains lymph nodes, blood vessels, and nerves.

Bilateral-both sides. A bilateral breast augmentation refers to implants being placed behind both breasts.

Duct-a canal that milk travels through to reach the nipple.

Implant-a device that is placed behind the breast to enlarge, reconstruct, or re-shape the breast. In breast surgery, implants may be filled with saline or with silicone gel. The material surrounding the saline or the silicone gel is a medical grade silicone polymer.

Mastopexy-a breast "lift". The nipple and areola are repositioned and redundant or excess skin is excised to help "tighten" the breast. Depending on the woman's desires, this may be done with or without an implant.

Inverted-T pattern mastopexy– may also be referred to as a "traditional" mastopexy, or simply a mastopexy. The resulting scar is shaped somewhat like an anchor, with a circular scar around the areola, a vertical scar extending from the areola to the lower part of the breast, and a transverse scar along the lower breast where the breast and the chest meet. The breast usually overhangs this lower Scar, making it fairly inconspicuous. See pages 12 and 15.

Vertical mastopexy-a technique in which the central tissues in the lower part of the breast are tightened. The resulting scar goes around the areola, then down the center of the breast to the lower part of the breast; there is no scar along the lower breast where the breast and chest meet. See pages 12 and 14.

Periareolar mastopexy-also sometimes referred to as a "doughnut", or concentric mastopexy. A ring of skin is removed from around the areola. One benefit of this procedure is that the resulting scar goes only along the periphery of the areola. See pages 12 and 13.

Pectoralis– a muscle on the front of the chest. The pectoralis major muscle is located immediately behind the breast tissue. Breast implants are commonly placed partially behind this muscle.

Ptosis- 'droopy' appearance of some breasts. Breasts with ptosis may often be improved with a breast lift, or mastopexy.

Saline implant-an implant that is filled with saline (salt water).

Silicone implant-an implant filled with silicone gel.

"Gummy bear" implant– also referred to as a "form stable" implant or "highly cohesive gel" implant. These are shaped silicone implants that have more fullness in the bottom of the implant and the shape tapers toward the top. They contain a thicker silicone material than the silicone present in the typical round silicone implant. These implants maintain their shape whether a woman is lying down or standing up. Round implants, for comparison, lose some fullness toward the top of the implant when the woman is standing or sitting.

Unilateral-one side. On occasion it may be desirable to perform a breast augmentation or lift on only one side.

Breast implant issues

There has been a great deal of discussion about the safety of breast implants, particularly since the early 1990's. In 1992 the Food and Drug Administration (FDA) placed restrictions on the use of silicone gel implants, citing concerns about long-term safety. At that time no studies existed to show whether silicone gel implants were safe. Since 1992 numerous studies evaluating the safety of both saline and silicone implants have been reported in a variety of medical journals. Some of these studies were conducted by plastic surgeons, but many more were conducted by doctors of other specialties, including rheumatology, immunology, neurology, and internal medicine. The FDA has reviewed these studies and has conducted extensive hearings in which people in favor of, as well as people vehemently opposed to, breast implants have presented their best, most compelling information. After reviewing all of the information available and talking with doctors, patients, and large numbers of people on all sides of the issue, the FDA lifted restrictions on the use of round silicone gel breast implants (manufactured by either Mentor or Allergan corporations) in November 2006. Women who have reached at least the age of 22 have a choice of using either saline or round silicone gel breast implants for breast augmentation and breast reconstruction. At this time, women between the ages of 18 and 22 may only use saline breast implants.

While breast augmentation may provide beautiful results and help improve a woman's self-confidence, there are a few issues that should be considered by anyone thinking about receiving breast implants. One of these issues is scar tissue formation. Whenever a long-term implant is placed in a body, the body recognizes that this is a foreign substance and reacts by forming a scar around it. A woman with breast implants could form firm, fibrous scars around an implant, and this is called a "capsule". On occasion the capsule may become thick and cause constriction of the breast implant. This is called capsular contracture. Capsular contracture may be slightly more common with silicone implants than saline implants. Studies indicate that capsular contracture may occur in 0.9-10% of women undergoing breast augmentation (Hammond 2012, Cunningham 2009), and in severe cases surgery may be necessary to help improve this condition.

The material inside an implant (saline or silicone gel) is surrounded by a silicone polymer "shell". It is this outer layer that is in contact with the body tissues. The outer surface may be smooth or "textured". Textured surfaces may help minimize the frequency of capsular contracture after implant surgery.

While implants may last a long time, the exact length of time an implant will remain intact is not known. Almost any device implanted into a patient (pacemakers and artificial joints, for example) will eventually wear out, and breast implants are the same in this regard. **Breast implants should not be considered "lifetime" devices**. Both saline and silicone implants will eventually leak or rupture. While this may take place 10, 20, or even more years after the time of implantation, implants may also leak after a short time. When a saline implant leaks, the body absorbs the saline and the implant deflates. This produces a very noticeable decrease in size of the breast. When this occurs most women elect to have the implant replaced. Leakage or rupture of a silicone implant may be harder to detect. Rupture of a silicone implant can be "silent" in that the woman may not notice any changes in the breast but a routine mammogram or ultrasound of the breast may demonstrate a leak. In other situations a woman may notice that a breast that used to be soft becomes firmer or painful, and studies done to evaluate the change show a rupture. When a silicone implant has ruptured, it is probably advisable to have it removed; it can certainly be replaced at the same time. Because of this potential for a "silent rupture", the FDA recommends that women receiving silicone gel breast implants undergo a special type of radiographic evaluation called an MRI (magnetic resonance imaging) after 3 years, then every two years after that. Insurance companies typically will not pay for that study.

A common concern with breast implants is that they may interfere with mammograms. Silicone gel-filled implants are opaque to x-rays, meaning that the implants may mask surrounding breast tissues on ordinary mammograms. Saline implants are less opaque to x-rays but may also make interpretation of mammograms difficult. Women with breast implants should have mammograms done at centers that specialize in breast imaging. Special views, using what is called the Eklund technique, are necessary to help optimize the viewing of breast tissue in women who have breast implants.

Another concern that has been expressed is that implants may cause or exacerbate autoimmune responses or connective tissue disorders. However, over the last several years numerous studies (Harvard, Mayo Clinic, Johns Hopkins, Emory University, University of Michigan, University of Maryland, others) have failed to reveal a significant association between silicone gel-filled implants and connective tissue disease.

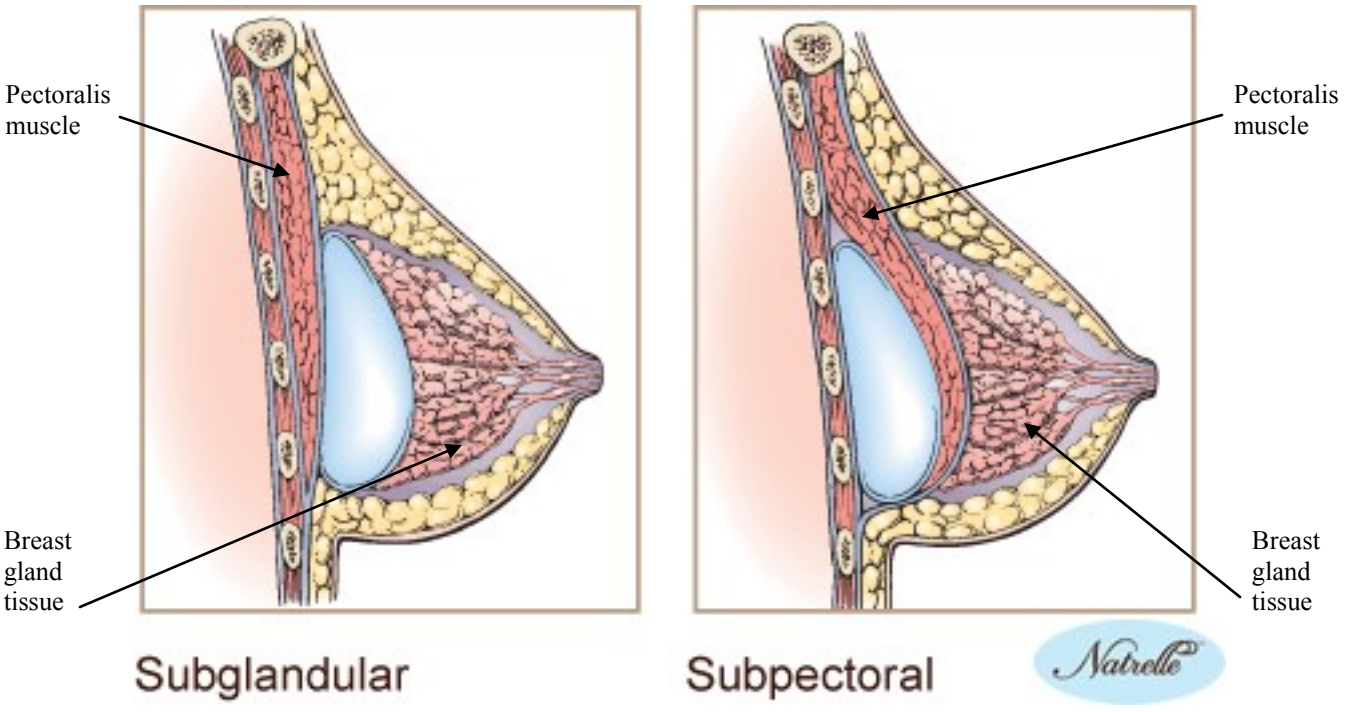
While the FDA has approved the use of silicone gel and saline breast implants, and studies have consistently demonstrated the safety of these implants, a few insurance companies have adopted a policy of excluding from coverage women who have breast implants.

Placement of the implants:
Issues related to pocket site and incision

Before an implant may be inserted, a "pocket" must be made for it. The location of this pocket is typically referred to as "above the muscle" (also referred to as "on top of" or "anterior to" the muscle) or "beneath the muscle" (also referred to as "behind" or "posterior to" the muscle). This describes the location of the implant in relation to the pectoralis major muscle. The pectoralis major muscle is located immediately behind the breast tissue. It is very common today to place implants partially "beneath" the pectoralis major muscle. That is, the upper part of the implant is placed behind the pectoralis major muscle. When an implant is placed behind the muscle, the pectoralis muscle does not cover the entire implant, but rather the upper and inner parts of the implant. On occasion an implant may be placed "above" the pectoralis major muscle. In this instance the implant lies immediately behind the breast tissue, on top of the pectoralis major muscle.

One of the potential problems with any breast implant is the development of ripples that can be seen or felt. When an implant that has not been put in a woman is placed on a table, it is hard to see ripples in the implant. However, if that implant is held in an upright position, the position it will be in when a woman stands or sits, ripples may often be seen along the top, sides, and bottom. Obviously no woman wants to be able to see ripples in her breast from her breast implants, particularly along the upper and inner parts of her breasts (the cleavage area). Placing the upper part of a breast implant behind the pectoralis major muscle adds an additional layer of covering (the muscle) in the upper part of the breast. Having this extra layer of tissue helps to minimize the risk of visible ripples in the upper and inner parts of the breasts.

The diagrams below show breasts, viewed from the side. In the diagram on the right the grayish breast implant is located behind the pectoralis major muscle. In the diagram on the left the grayish breast implant is directly behind the glandular breast tissue, in front of the pectoralis muscle.



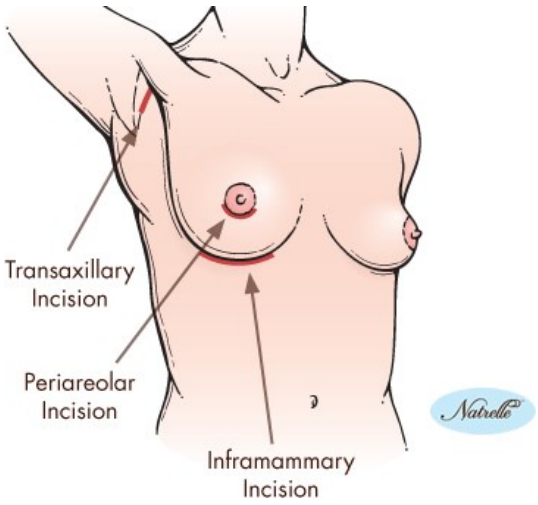
(implant on top of the muscle)

(implant behind the muscle)

Issues related to implant placement (continued)

One of the potential problems with putting an implant behind the pectoralis muscle is distortion in the appearance of the breast when the pectoralis muscle is contracted. This is of much greater significance to women who compete in body-building contests than to most other women. Activities that cause the pectoralis muscle to contract, such as a woman pressing her hands together in front of her, may potentially cause an irregular appearance in the overlying breast. It is rare for women who have undergone breast augmentation to complain about this or even bring it up in discussions after surgery. However, women who compete in body-building contests may want to consider having implants placed on top of the muscle.

Another issue to consider is that of the best location for the surgical incision. Commonly used locations are shown in the image on the right. These include: the armpit, the bottom of the breast near where the breast meets the chest, and the lower border of the areola. Using an incision in the armpit (axilla) is often referred to as the "transaxillary" approach. Similarly, using the incision just beneath the breast may be referred to as the "inframammary" approach, while placing the incision along the lower border of the areola is often called a "periareolar" approach. Another site used by some surgeons is the area immediately above the belly button (umbilicus). This is referred to as a "transumbilical" breast augmentation, or 'TUBA'. I do not use the transumbilical approach because there is a small risk of fluid building up in the tunnel created between the incision site and the breast. It is my preference not to add that type of risk to breast augmentation surgery.



What is the best incision site? That really depends on what a woman wants and how she perceives the relative advantages and disadvantages of each site. For a woman wearing a bathing suit or a strapless top, the armpit scar is going to be more visible than a scar below the breast or along the lower border of the areola. In an intimate setting, on the other hand, a scar along the inferior border of the areola or a scar below the breast may be more noticeable than a scar in the armpit.

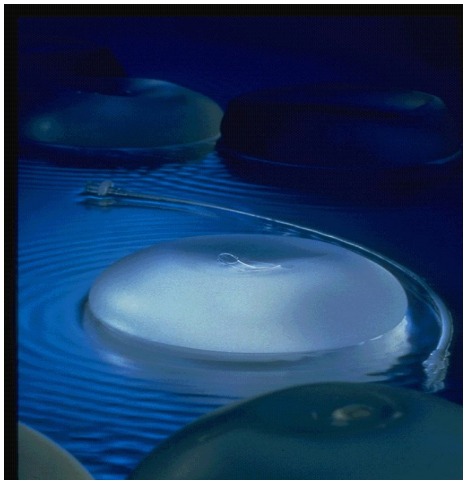
Another thing to consider: what happens if there's a problem with a breast implant? Suppose there's a problem like hardening around an implant (capsular contracture), infection, or an implant ruptures. Problems like these may be more difficult to repair from the umbilical and axillary approaches than the inframammary or peri-areolar sites. If an umbilical or axillary incision was used initially, it may become necessary to change to an inframammary incision to correct a problem related to the original surgery.

A study published in 2013 (Namnoun, et al, Atlanta) looked at rates of capsular contracture and malposition (implants that ended up too low, too high, or too far apart) as related to the original incision used for women undergoing breast augmentation for the first time. The TUBA approach was not evaluated. The study concluded that women whose implants had been placed through the inframammary (crease) incision had lower rates of capsular contracture and malposition than women whose implants were placed through an axillary or periareolar approach. The need for women to undergo additional corrective surgery for these problems was much higher for those who had implants placed through an axillary or peri-areolar incision than an incision below the breast. The same conclusions were also reached in a separate study (Spear, et al) published in 2012.

To summarize, a woman has choices when it comes to which incision is used. The different surgical approaches leave scars, typically 2 - 3 inches long, that may be more or less visible in different social settings. Revisions may be easier through an inframammary crease incision than an axillary or periareolar incision. There are published studies indicating a higher rate of complications when surgery is performed through the axillary or periareolar approaches than the inframammary approach. Each woman undergoing breast augmentation surgery should consider all of this when deciding which approach may work best for her.

Breast implant design options

Several types of breast implants have been designed, allowing for a wide variety of choices. Some of the more common types of implants are discussed below. While other types of implants exist, those shown here demonstrate characteristics of some of the more commonly used breast implants.



The surface:
Smooth versus textured

The outer shell of a breast implant is made from a silicone rubber polymer. The shell surface may be very smooth, as shown on the left, or it may be coated with a soft granular material, as shown on the right. An implant with the soft granular surface is called a textured implant. Texturing stimulates the surrounding tissues to become attached to the surface of the implant. This process, the attaching of the tissues to the implant, may help minimize the risk of hardening of scar tissue around the implant ("capsular contracture"). With early silicone breast implants in the 1970's, capsular contracture was common. Adding texture to the surface helped significantly decrease the risk of this problem in those early implants. The outer shells of breast implants have changed substantially since the 1970's. Changes in the shell design have improved breast implants in many ways, perhaps one of the more significant improvements being that capsular contracture is much less common today. Texturing may still help minimize the risk of capsular contracture to some degree, but the effect may be somewhat minimal.

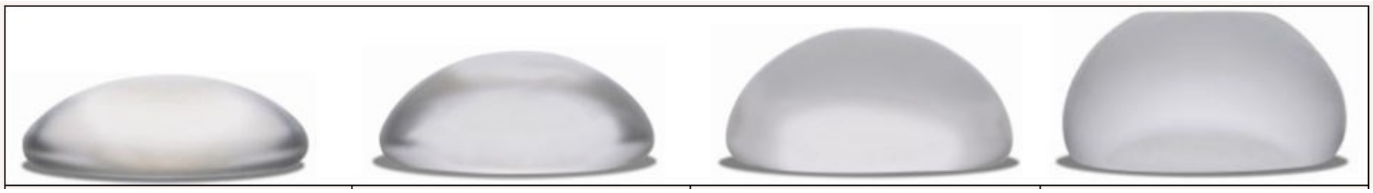
So why aren't textured surface implants used all the time? Many surgeons believe that smooth surface implants result in softer breasts. Textured implants may result in slightly firmer breasts. Additionally textured implants may have more problems with ripples that may be seen and felt than smooth breast implants. There is still some debate about these issues. Smooth surface implants are more common in the U.S., while textured surface implants are more commonly used in Europe.

The shape:
Round versus shaped

The top picture on the left shows a round implant, with the lower picture showing a shaped breast implant. Round implants are the most commonly used implants in the United States. Saline and silicone implants are both available in both of these styles. The final shape of a woman who undergoes breast augmentation is determined by a combination of the shape of the implants used, the size (volume, width, profile) of the implants, and the size and shape of her breasts before surgery. A thin woman with minimal breast tissue who chooses large round implants will likely end up with round-appearing breasts. A woman who has a bit more breast tissue to start with may end up with shapely breasts even though she chooses the same type of round implants used by the thinner woman. Shaped silicone implants may create subtle differences compared to round implants, sometimes resulting in a little more upper breast fullness and less lower breast fullness. Shaped implants all have textured surfaces, however, so there may be more problems with rippling compared to round implants and they may also be a bit firmer.

Breast implant profiles

The 'profile' of a breast implant refers to the relationship between width, height, and projection for a certain volume. Look at the Natrelle breast implant chart below. Notice that the diameter (width) of all four implants is almost the same, about 12 cm, while the projection (the front-to-back dimension) of the implants differs. A 'Moderate Profile' implant has less projection and less volume than a 'High Profile' implant of the same width. For most women undergoing breast augmentation, implants that are about as wide as the breasts are chosen. Once the width is determined, the combination of the woman's thoughts about what size she wants and how noticeable she wants the result to be will ultimately determine which profile implant will work best.



Style 10, Moderate Profile

Diameter	Projection	Volume
12.2 cm	3.3 cm	270 cc

Style 15, Midrange Profile

Diameter	Projection	Volume
11.9 cm	4.0 cm	304 cc

Style 20, High Profile

Diameter	Projection	Volume
12.0 cm	5.2 cm	425 cc

Style 45, Extra-High Profile

Diameter	Projection	Volume
11.9 cm	5.7 cm	500 cc

Saline and silicone implants: Comparison of advantages and disadvantages

Saline-filled implants: Advantages compared to silicone

- Saline. If you have ever required an i.v., saline is probably the fluid that they used in the i.v.. There is no controversy regarding the safety of saline.
- Possibly a lower incidence of capsular contracture in saline-filled implants .
- Mammograms may be easier to interpret than with silicone gel-filled implants.

Saline-filled implants: **Disadvantages** compared to silicone

- Leak leads to deflation, causing **loss of volume** of the breast; this is **noticeable** and socially inconvenient.
- Ripples are probably more noticeable than with silicone implants. Ripples along the side and bottom of the implant and breast feel more "crinkly" than with silicone implants.
- Do not feel as "soft" or "natural" as silicone gel implants.

Silicone gel-filled implants: Advantages compared to saline

- Feel may be "softer" than saline-filled implants.
- Visible or palpable ripples possibly less likely than with saline-filled implants.
- Leak or rupture may not cause any apparent change in the implant or breast.

Silicone gel-filled implants: **Disadvantages** compared to saline

- Capsular contracture slightly more common than with saline-filled implants.
- Leak or rupture may not cause any apparent change in the implant or breast; may be harder to detect.
- Mammograms may be more difficult to interpret than with saline-filled implants.
- Controversy remains about silicone causing or contributing to autoimmune disorders and connective tissue diseases.

Implant leak/rupture

Any medical device implanted in a person's body will eventually wear out. While the exact length of time that a silicone or saline breast implant will last is not known, the average length of time is probably between 12 and 15 years.

Signs of a leaking or ruptured breast implant: saline. It is usually pretty easy to know when a saline breast implant has leaked or ruptured. The body absorbs the saline, and the breast becomes smaller. Once a leak occurs the saline is absorbed over time. A woman may notice that a once full breast has become significantly softer, and an edge of the implant may be felt somewhere along the lower part of the breast.

Signs of a leaking or ruptured breast implant: silicone. A ruptured silicone implant may be hard to detect. For many women, a ruptured silicone implant is found on a routine mammogram. They may not have noticed anything different about their breasts. Some women notice a **bulge** or a lump. When this is evaluated by mammogram or ultrasound or M.R.I., the rupture is detected. Other women may notice **firmness** in a breast that had been soft before. Some women develop **pain** in the breast.

What to do if an implant rupture is suspected: When an implant rupture is suspected, a woman will often contact the surgeon who placed the implant or she may contact her primary care physician or gynecologist. An evaluation by one of these physicians will help lead to the confirmation of implant rupture, and a few tests may need to be performed. Usually a **mammogram** and possibly a **sonogram** will be ordered initially. It is probably best that these tests be performed at a center that specializes in breast imaging, rather than at a general radiology center or hospital. After these tests, if questions remain, an **MRI** may be requested. An MRI is the most sensitive diagnostic test for implant rupture. If an MRI is highly suspicious for implant rupture, chances are high that the implant is indeed ruptured. An MRI that does not show rupture of an implant does not necessarily mean that the implant is not ruptured, but the likelihood of rupture in this case is diminished.

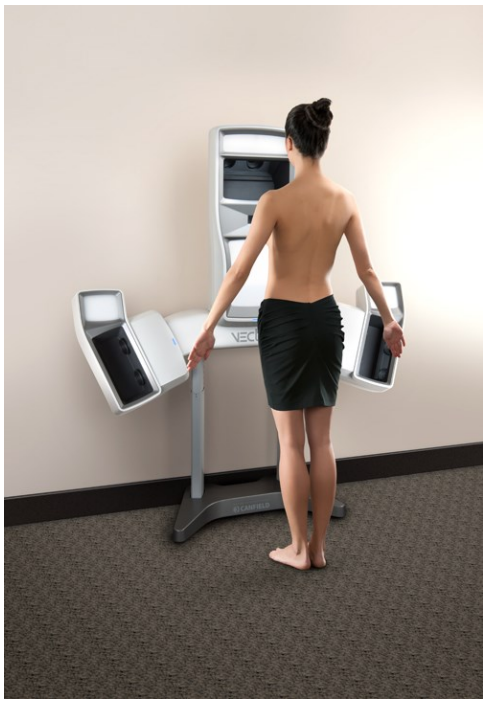
A woman with a ruptured implant usually will go to see a plastic surgeon. If this is the same surgeon who placed the implant, he or she may still have records about the implant. However, if the woman has moved to a different city, the new surgeon will obviously not have those records. Some specific information about the implant will be helpful. Knowing the date (or at least the year and the approximate time of year), the surgical facility's name, and the name of the surgeon who placed the implant will aid in a search for the appropriate records. If the original surgeon does not have records, the surgical facility may have them. **The information that is necessary includes the date of the surgery, which company made the implant, the volume of saline or silicone within the implant, whether the implant is placed "above" or "below" the pectoralis muscle, and whether the implant is round or "shaped". All implants have serial numbers and these are helpful as well.**

The reason this information is necessary is because **the implant companies have excellent warranties**. Each company has a slightly different warranty, but a few items are common. Each company typically will give the woman at least one free implant, regardless how long it has been since the implant was placed. The companies also typically will, for a specific number of years after an implant was placed, provide a cash allowance to help offset some of the associated costs for the surgery that is required to replace or remove the implant. This cash allowance varies between the companies. So, once a rupture is diagnosed, the plastic surgeon will contact the appropriate implant company. If there is no record available about which company made the implant, it may not be possible to activate the appropriate warranty. No company will provide one or two implants plus a significant amount of money without any evidence that the ruptured implant was actually made by that company.

At this time, insurance companies often (but not always) will pay to have a ruptured silicone implant removed. They usually will not pay to have a saline implant removed. **Insurance companies almost never pay the costs associated with putting in a new breast implant or a breast lift**, unless the original reason for the implants was reconstruction after a mastectomy for breast cancer. If a woman wants to have her insurance company cover part of the procedure, she may require a referral from her primary care physician to the plastic surgeon.

Breast enhancement: How to make a decision

So now you find yourself in the surgeon's office. A lot of information has been presented. How do you choose what to do? For instance, your friend had an augmentation with 425 cc implants and you like the way she looks but your surgeon has recommended 350 cc implants for you. It can be confusing.

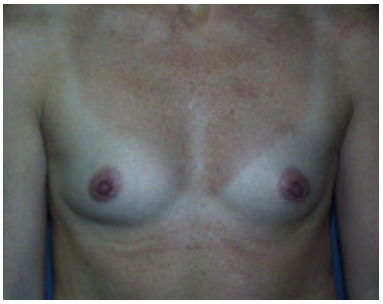


We use the Vectra XT system in our office to help during the educational process. This device has six cameras attached to three arms (see the picture to the left). Each camera takes a photograph, then a computer software program ('Breast Sculptor') uses the information from those cameras to create a three-dimensional image of a woman's chest. The software contains information about every breast implant available in the United States today. With a few button clicks, the specific breast implant that I may work well for you can be entered into the computer. Within seconds the computer generates a three-dimensional image of what your result may be with the specific implants chosen. If you want to see different implants, a few more clicks and a new image is generated. The program works best on women who do not have ptosis (droopiness). The primary benefit of the Vectra system is in helping make sure that both you and I are "on the same page" when it comes both to your expectations as well as what is realistically possible. The system is not intended to show you exactly how you will look, but rather to give you more information about how various sizes, shapes, and profiles of implants may affect your result. Your result will be different than the augmented image generated by the computer software. The power of the software is in its ability to help show you, on your own three-dimensional image, *possibilities*, while at the same time helping you understand your specific anatomy and how different implants may affect the final result.

A different way of trying to understand how breast implants may affect your result is to try different implant on in a bra. That's a common approach in doctors' offices, but not especially realistic. How an implant stretches a bra is different than how an implant stretches muscle, skin, and breast tissue. Some doctors have their patients put rice in a bag, then place the bag in their bras. Apparently some women and some doctors find that to be helpful. We have found the Vectra XT system to be particularly effective and use this on all of our cosmetic breast surgery patients.

The photograph above on the left was taken using the Vectra XT device during this woman's initial consultation. Using the Breast Sculptor software, she had an opportunity to see how different implants might affect her final look. She liked how a high profile 325 cc silicone gel breast implant looked on her, shown in the image on the right. While the images shown above are in 2 dimensions so that they may be published in this booklet, the images on the computer during the consultation are in 3-d. Those images may be rotated, viewed from the top, viewed from the bottom, and changed. I believe this provides more information for a woman than just looking at photographs of other women who have undergone augmentation, or putting implants in a bra to try to see how that looks.

Breast augmentation: Patient photographs



This 40 year-old woman underwent a breast augmentation with 330 cc round saline implants.

This 30 year-old mother of two underwent an augmentation with 397 cc silicone gel breast implants. She is 5 feet 7 inches tall and weighs 125 pounds. She wore a 34A bra before surgery and a 34D bra after her aug-

Preoperative and postoperative views of a 34 year-old woman who underwent breast augmentation with 375 cc saline-filled implants. She is 5 feet 6 inches tall, weighs 115 pounds, and has one child. She wore a 34A bra before surgery and 36C after.

A 39 year-old mother of two, 5'3" tall and weighing 115 pounds, underwent breast augmentation with 275 cc silicone gel implants. She wore a 34A bra before surgery and 34C after her augmentation.

Breast lift: mastopexy

Over the course of years, gravity pulls on breast tissue, often resulting in a "droopy" appearance of the breasts. The breasts enlarge during pregnancy and while breast-feeding, but they lose much of that volume later. This cycle of gaining and losing volume creates stretched skin that loses its tone and adds to the "droopy" appearance. This drooping appearance may also occur in younger women who have never been pregnant, as well as in women who have lost a significant amount of weight. The medical term that applies to "droop" of the breasts is *ptosis*; a "droopy" appearing breast is also referred to as *ptotic*. Some women seeking enhancement in the appearance of their breasts want to alter this ptotic look. They may want to elevate the nipple, and often they want increased volume in the upper part of the breasts. A breast implant alone will not elevate the nipple on the chest. To elevate the nipple, a breast lift, or mastopexy, is required.

The drawings on this page are representative of a "traditional", or inverted-T pattern, mastopexy. Other types of mastopexies are also available. Photographs of these other types of breast lift are shown on pages 13 and 14.

In some women the nipples point down toward the ground. Putting implants behind the breast tissue without elevating the nipples in these cases will result in breasts that appear to hang off of an implant, with the nipples pointing down.

In other cases, the nipples may not point down but are low on the chest. An important "landmark" looked at by plastic surgeons is the location on the lower part of the breast where the breast meets the chest. This area is referred to as the inframammary fold. In situations where the nipples, when viewed from the front, fall below the inframammary fold, some type of lift is often recommended to provide an optimal result.

For women who want enlargement of the breasts or who want to recreate fullness in the upper part of the breasts, implants may also be recommended.

In a mastopexy the nipples remain attached to the underlying breast tissue. This preserves as much circulation and sensation as possible. Some skin is removed and the nipples are then elevated to a predetermined position.

The drawing to the left illustrates the incisions used for a "traditional", or inverted-T pattern mastopexy (also called an "anchor" left because the scar looks a bit like an anchor). Other types of mastopexies exist, including vertical pattern ("lollipop") and periareolar pattern. The specific type of lift that may be recommended will depend on the particular physical attributes of a woman and her specific desires. The more severe the ptosis, the more skin should be removed to achieve the best result. However, this also requires more incisions and, as a result, longer scars. A mastopexy, with its resulting improvement in breast shape and appearance, cannot be accomplished without some visible scars. The scars fade significantly over several months.

After removing some of the skin and elevating the nipple, the remaining skin is then sutured closed. In an inverted-T pattern mastopexy this results in pink scars around the nipple/areola, going down the central lower part of the breasts, then along the bottom of the breasts.

With other types of mastopexies, it may be possible to lift the nipple but not end up with the scar along the lower central part of the breasts or along the bottom of the breasts. These other types of lifts may not be appropriate for women with severe ptosis and larger breasts. However, with less severe degrees of ptosis it may be possible to perform a mastopexy with the result being a scar only around the areola, or possibly around the areola and down the lower central part of the breast, but not along the bottom of the breast. Examples of these types of mastopexies are shown on pages 13 and 14.

The drawing to the left demonstrates the scars after an inverted-T pattern mastopexy. The nipples have been elevated and excess skin removed.

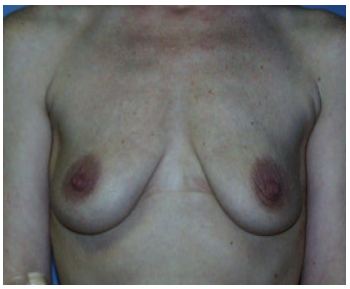
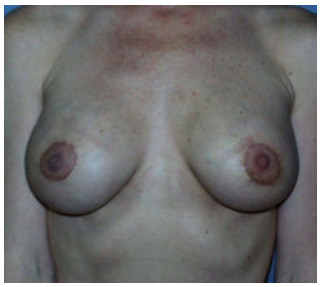
A mastopexy alone will not result in fullness in the upper part of the breast. A mastopexy will lift the position of the nipple and it will tighten the breast, but it will not create fullness in the upper breast area. To achieve fullness in that area, it may be necessary to place an implant.

Placement of implants at the time of a mastopexy is somewhat controversial. While it often may be performed safely, it does increase the risks of the operation. Specifically, it does increase risks of having problems with the way the wounds heal. Refer to page 17.

Periareolar mastopexy and augmentation: cases


Before surgery the nipples of this 43 year-old woman were located near the bottom of her breasts. She underwent an augmentation with 339 cc silicone gel implants and had a peri-areolar mastopexy at the same time. She wore a 34A bra before surgery and a 34C bra after surgery. Her results are shown 6 months postoperatively.


This 44 year-old mother of 3 underwent a peri-areolar mastopexy and augmentation with 360 cc saline implants. She wore a 34B bra before surgery and a 34D bra after surgery. The results are shown after 1 year.

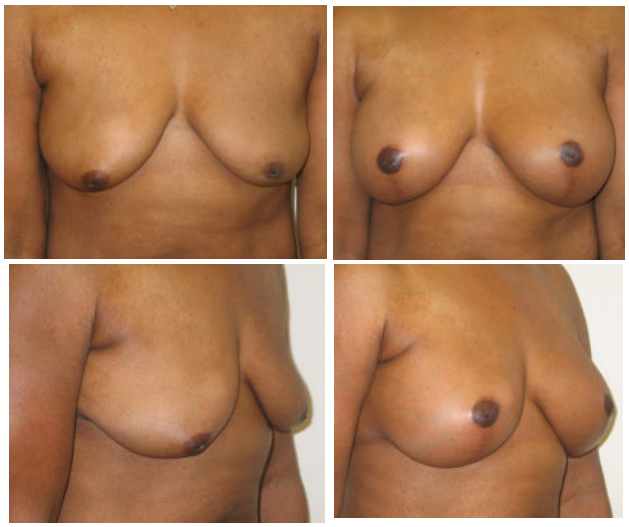



This 44 year-old woman has more loose breast tissue with bottom-heavy appearing breasts. She underwent an augmentation with 360 cc round saline implants beneath the muscle and a periareolar mastopexy.

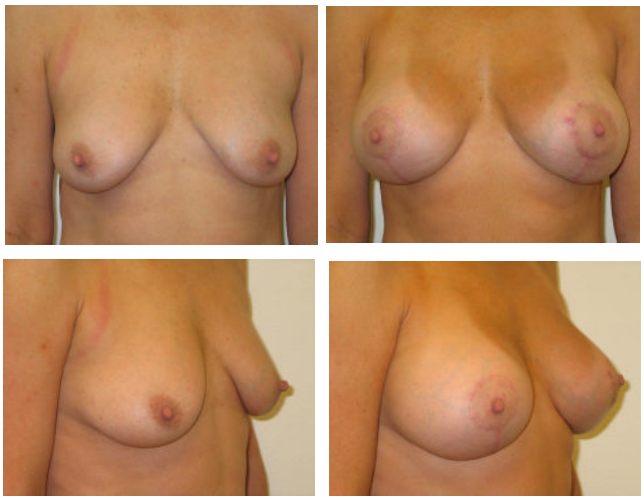
With a peri-areolar mastopexy, the postoperative scars are found around the areola. There are no scars along the lower central part of the breast. This approach works best when the nipples are just a little low and there is a small amount of bottom-heaviness to the breasts.

Vertical-pattern mastopexy: cases

This 32 year-old woman is 5'2" tall and weighs 120 pounds. She underwent a vertical pattern mastopexy and augmentation with 360 cc saline breast implants. She wore a 34C bra before surgery, and a 34D after.



This 50 year-old woman, 5'3", weighing 138 pounds, underwent an augmentation with 371 cc silicone gel implants and a vertical pattern mastopexy. Before surgery she wore a 36B bra. After surgery she wore a 36D.



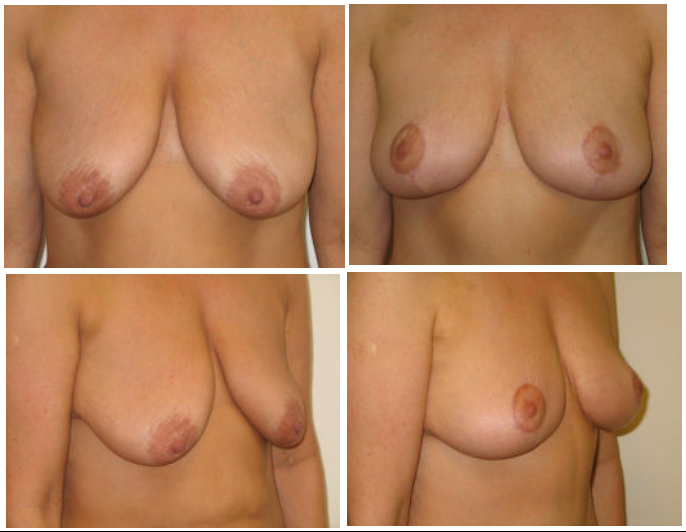
This 37 year-old woman underwent a vertical pattern mastopexy and augmentation with 390 cc round saline implants. She wore a B cup bra before surgery and a D cup bra after surgery.

In a vertical pattern mastopexy, the resulting scar is found around the areola and down the central lower part of the breast. There is no scar along the bottom of the breast. This approach works best when the nipples are a bit low and there is moderate bottom-heaviness of the breasts.

Inverted-T pattern mastopexy: cases

This 54 year-old woman lost 130 pounds after a gastric bypass. She underwent an augmentation with 415 cc round silicone implants and an inverted-T mastopexy.

This 43 year-old woman underwent an inverted-T pattern mastopexy and augmentation with 360 cc shaped silicone implants. She wore a C cup bra before surgery and a DD cup bra after.



This 57 year-old woman liked her size and the way she looked in a bra. She wanted a lifted appearance but did not want more fullness. She underwent an inverted-T pattern mastopexy *<u>without</u>* having implants placed. She wore a 34DD bra before and after surgery.

The inverted-T pattern mastopexy results in scars that go around the areolas, extend downward from there to the bottom of the breasts, then along the crease near the bottom of the breasts. This is probably the most common approach in my practice. It works best when the nipples are located below the inframammary crease, when there is a lot of loose skin, in weight-loss patients, and when the breasts just look too low.

Breast enhancement surgery with implants: What are the risks?

Most women who undergo breast augmentation are very happy with their results. It is not unusual for a woman who has had an augmentation to show her results to friends and family members; some will even show their results to people they have just met. However, some women may experience problems. Some of these problems, like rupture and capsule contracture, are discussed on pages 4 and 8. Additional potential problems are discussed below.

Ripples-All breast implants develop folds along the edges. Saline-filled implants tend to develop folds that are more "crinkly" to the touch than silicone-filled implants, and it appears that textured implants tend to develop more folds than smooth implants. Compared to women who have a significant amount of breast tissue, women with thin skin and relatively small breasts have little tissue to cover breast implants and are more likely to develop ripples in their implants that may be felt or seen. Thin women are fairly likely to have ripples that they may feel along the bottom and possibly along the side of the breasts when using saline-filled implants. Visible ripples in the upper part of the breast are possible, but less common. The larger the breast implant that a woman chooses and the thinner her skin, the more likely it will be that ripples will be noticeable.

Loss of sensation-It is possible to lose the feeling in the nipple of one or both breasts. Studies have shown this occurs in about 15% of women who undergo breast implant surgery. Additionally, the skin of the breast may be numb after surgery, particularly along the lower part of the breast.

Unhappiness with the size - Most women undergoing breast augmentation want enlargement with a sense of balance, a sense of proportion. After discussing the woman's particular desires and evaluating her physical findings, we discuss with her the size of implants that we think may help provide the optimal result. This discussion is where we find the Vectra XT system (see page 10) to be particularly helpful. Once healing from the surgery is completed, however, the woman may ultimately find that the implants are larger or smaller than she desired. While by far the majority of women are quite happy with their new size, it is possible that a woman's breasts may not be the size that she had wanted.

Asymmetry - Asymmetry in the appearance of the breasts exists in many women before surgery is ever performed. Asymmetries that exist before surgery may be more noticeable after breast enlargement surgery. Additionally, breasts that appeared fairly symmetrical before surgery could by asymmetrical after surgery, depending on how the tissues heal.

Displacement - Over time an implant may move a small amount. An implant may move down on the chest a little, or it may move over toward the side of the chest. Some women with breast implants, when they lie on their backs, find that one or both implants move a little more toward the side than they want.

Infection - While uncommon, infections may occur. If a breast implant becomes infected, it is likely that it will need to be removed. There is some thought that late infections may also occur, unrelated to the surgery but caused by bacteria transiently passing through the blood (possibly from a sore throat, for instance, or a urinary tract infection). Because of this, some doctors recommend that women with breast implants use antibiotics when they have dental or other surgical procedures performed.

Bleeding - Also uncommon, bleeding may occur around the time that a breast enlargement operation is performed. If this occurs, the blood may need to be removed surgically.

Pain - Some pain around the time of surgery is not unusual. However, infrequently a woman may notice pain in the breast for a long time. The pain may be noticed when doing certain activities or motions, but it is possible to have pain even without doing any specific activities.

(Continued on page 17)

Risks of breast implant surgery

(Continued from page 16)

"Double bubble" - The area along the bottom of the breast where the breast attaches to the chest is called the inframammary fold. Infrequently this fold may be pushed forward by a breast implant, resulting in a line that may be visible in and out of clothing along the lower part of the breast . This may occur when the bottom of the implant sits lower than the previous location of the inframammary fold.

Noise– This may occur with saline filled implants. Saline implants have nothing in them before surgery. The implants are placed in the body, then filled with saline. Infrequently, air bubbles may remain in a saline implant after it is filled. This may cause a "sloshing" sound after surgery. While this is an uncommon occurrence, when it happens the sloshing sound typically goes away after a few weeks.

No guarantees - No guarantees may be made with this type of surgery. A woman who desires a specific cup size or breast shape may not end up with that cup size or breast shape. It is important for you and I to communicate thoroughly before surgery so that we can design a procedure that is most likely to provide your best result.

Mastopexy: the risks

Associated implant risks - When implants are used at the same time that a mastopexy is performed, any of the issues listed above and on page 16 may occur.

Wound healing problems - While it is rare to have problems with the way incision sites heal, this problem does occur on occasion with mastopexy surgery. This happens when a lot of skin has been removed or a big implant has been placed, creating tension at the suture line. This tension decreases circulation at that site, causing loss of skin. If this occurs, more surgery may become necessary. **People who smoke have a significantly increased risk of wound healing problems.** A woman who smokes should not undergo mastopexy surgery; she should stop all nicotine use for at least 6 weeks before surgery and 3 weeks after surgery.

Sutures that may be felt - With the periareolar mastopexy a permanent suture is placed to maintain the shape and size of the areola over time. This suture does not dissolve. A woman who undergoes a periareolar mastopexy may feel this suture deeply beneath/around the areola after surgery.

Not as "tight" as a woman may want to be - A mastopexy is an operation of "balance", balancing the idea of creating tighter, shapely breasts with the possibility of removing too much tissue and resulting in wound healing problems. Most women are very pleased with their results, but an occasional woman may believe that her breasts are not as "tight" as she would like them.

Breasts not as large as a woman may want to be - As discussed above, wound healing problems are possible with mastopexy operations. Placing large breast implants while removing a lot of skin at the same time is likely to lead to problems. Placing moderate size or smallish type implants typically will create a pleasing amount of fullness while minimizing tension on the suture line. However, a woman may ultimately find that her breasts are not as full as she might optimally want after this operation. In this case, she may want to replace the implants with larger implants at a later time.

Loss of the nipple/areola - This extremely rare event may take place if the circulation to the nipple and areola is disrupted. Aggressive removal of skin and placement of large implants may also cause circulation problems to the nipple and areola. If this occurs, more surgery may be necessary.

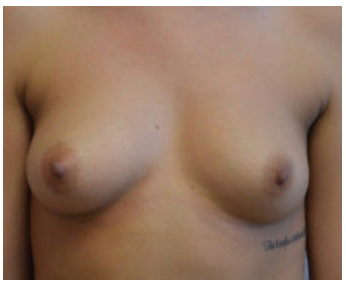
Asymmetries - Measurements are made and markings placed prior to surgery to help achieve optimal results after surgery. After healing is complete, a woman could find some asymmetries between her breasts, including nipple position, implant position, and breast shape.

Scars - Over time scars typically fade away and are not very noticeable. Scars on the skin may be more noticeable than a woman desires, and she may ultimately want or need surgery to help improve her scars.

Breast augmentation: more examples

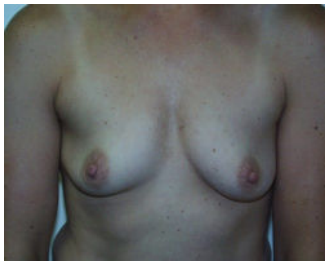
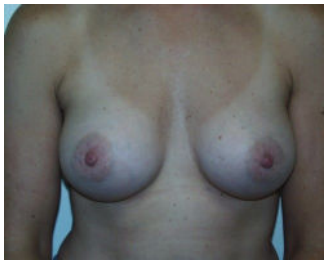

A 29 year-old 5'7", 130 pound woman who underwent an augmentation with 360 cc round saline breast implants. She wore a 34B bra before surgery and a 34D after.


This 35 year-old woman, mother of two children, underwent breast augmentation with a 375 cc silicone implant on her right side and a 350 cc silicone implant on her left side.




This 22 year-old woman, 5 feet 7 inches tall and weighing 155 pounds, underwent an augmentation with saline implants, 390 cc on the right side and 420 cc on the left. She went from a 36B bra to a 34D. Note the tattoo below her left breast.


This 35 year old woman is 5 feet 4 inches tall and weighs 110 pounds. She underwent an augmentation with round saline implants. She wore a 34B bra before surgery and a 34D after. The 'after' photograph was taken 4 years after her surgery.

The 41 year-old woman in these pictures has two children. She is 5 feet 8 inches tall and weighs 150 pounds. She underwent an augmentation with 340 cc smooth round implants.

NOTES

10 days before surgery: Stop taking all medications that may cause extra bleeding. The most important medication to stop is aspirin. Aspirin may also be found in medications such as BC Powder, Anacin, and Excedrin. Women should also stop taking vitamin E and ibuprofen. While it would be uncommon to perform breast enhancement surgery on women taking Coumadin or warfarin, these blood-thinning medications should also be stopped. A woman should check with her primary care physician before stopping Coumadin or warfarin, as these are typically used to treat more serious conditions.

Smoking-causes problems after surgery, so it should be stopped long before surgery. It is primarily the nicotine that causes the problems, so all forms of nicotine should be stopped. This includes cigarettes and cigars as well as nicotine patches, gum, and e-cigarettes. Smoking causes breathing problems, and smokers tend to cough a lot after surgery. Coughing causes some pain in the chest, which makes the experience less pleasant. Additionally, smoking causes problems with the way wounds heal. **Women who are undergoing breast augmentation should stop smoking at least one, and preferably three, weeks before surgery**. **Women who plan to undergo a *mastopexy* should stop smoking for *two to three months* before surgery**. It is also advisable to stay away from people who smoke ("second-hand smoke") for 3 weeks after surgery.

Birth control pills-Conflicting data exists related to the use of birth control pills and the development of blood clots in the veins of the legs around the time of surgery. Clearly some women using birth control pills develop deep vein thrombosis (DVT) after undergoing surgical procedures. **We recommend that you not take birth control pills for at least two weeks before and one week after surgery**. Obviously stopping birth control pills has major implications regarding pregnancy, so women and their partners need to put a lot of thought into this.

Three days before surgery: There are several things that need to be done at this time. First, take care of all of the things that will be needed after surgery. Arrangements should be made for transportation of children for after surgery. Ideally it would be best to arrange for alternative transportation for children for about a week. Also, arranging for someone to help with small children is recommended. Lifting small children is probably best left to someone else for about a week after the operation. Check in with the surgical facility where the procedure is scheduled. Some facilities require blood work or other tests before surgery. Knowing the exact location and the time required to get to the facility will ease anxiety on the day of surgery. Pick up prescriptions; this saves some "running around" after the operation. While picking up the prescriptions, also buy some Gatorade, Sprite, apple juice, or some other form of clear liquid to drink in the afternoon and evening after arriving home from the surgery. Clear liquids (jello also qualifies) are not usually upsetting to the stomach. They cause less nausea than eating a lot of food.

The day before surgery-Although it may be more easily said than done, try to remain calm. Having done your homework, you should feel good about the decisions you have made. You have had thoughtful, meaningful discussions with us here in the office. You have communicated what you hope to achieve, and together with us you have come up with a plan that is likely to lead to a fabulous result! Eat well but make sure not to eat or drink anything after midnight on the night before surgery. Do not drink coffee, juice, water, or anything else on the morning of surgery.

The day of surgery-Take a loose-fitting shirt that buttons up the front to the surgical facility. It will be easier to put that on after surgery than a pullover shirt. **Do not eat or drink anything!** Believe it or not this includes chewing any gum! Arrive at the facility bout 1½ - 2 hours before the scheduled start of surgery time.

The Day of Surgery: Things to Know

THE FACILITY– Breast enhancement surgery may take place in a hospital, an outpatient surgery center, or in an office-based surgical facility. Different surgeons who perform this procedure have different preferences as to where the procedure is performed. I perform this type of surgery most often in an outpatient surgery center near the office. At times, either because of a woman's preference or because of scheduling issues, the surgery may be done in a local hospital. I prefer to use an outpatient surgery center because it is usually more convenient for the women undergoing the procedure than a large hospital.

ANESTHESIA– To help accomplish the surgery successfully, some type of anesthesia is used. For the purposes of this booklet, anesthesia refers to the methods used to make a woman not feel pain while the surgery is taking place. I prefer to do these procedures using *general* anesthesia. With this method, a woman undergoing breast enhancement surgery is put to sleep for the entire procedure. A breathing tube is inserted to help safely maintain and monitor the woman's airway, making sure that she is receiving complete anesthesia while providing optimal oxygen concentrations during the surgery. The woman is completely asleep, unaware of the surroundings and not feeling any pain. Upon completion of the surgery the breathing tube is removed and the woman wakes up in the recovery area of the surgical facility.

In some surgical practices a form of "*twilight*" anesthesia is used. With this technique medications are administered through a vein, causing a woman to become much less aware of her surroundings and of painful events. Some form of local anesthesia is usually used as well to help minimize pain during the surgery.

LENGTH OF SURGERY– You should expect to spend about half of a day at the surgical facility. The length of the surgical procedure varies, typically lasting between one and three hours. For a woman undergoing a breast augmentation procedure alone, the operation usually lasts about an hour. A mastopexy (breast lift) without implants may last between 1½ and 2½ hours. A mastopexy with an augmentation often lasts 2½ to 3½ hours.

The times just listed are the usual times required for the surgery itself. However, the surgical facilities typically want you to arrive about 1½ -2 hours before the time that the surgery is scheduled to take place. That is, for an operation scheduled for 9 a.m., the facility usually requests that you arrive at 7:30. That allows time for you to check in at the registration desk, change clothing, have any blood work done, and have an i.v. started. I will also see you during this time, going over the surgery and placing markings.

After surgery a variable amount of time is spent in the recovery room. Usually this recovery period takes between 45-90 minutes. However, it may take a little longer for those women who take a little longer to fully wake up after surgery or if someone is nauseated.

In summary, the amount of time that should be anticipated for a breast augmentation would be: arrive 2 hours before surgery + 1 hour for the surgery + 1 hour in recovery = 4 hours. The actual time may vary from this, but this is a general estimate. Add about an hour for a mastopexy alone, and between 1½ to 2 hours for a mastopexy with augmentation.

LEAVING THE SURGICAL FACILITY– Because of the level of anesthesia involved, you will not be able to drive for the rest of the day on which the surgery takes place. Someone will need to drive you home, or to a friend's home, or to a local hotel (for women who come from out of town). In addition, an adult should stay with you that night just to make sure that there are no problems. While major problems almost never occur, it is important to be cautious.

After surgery: what to know

The day of surgery: immediately after surgery-Most women have a relatively quick, uneventful recovery from anesthesia. Usually about an hour is spent in the recovery room. The nurses make sure the woman is doing well, and she is not sent home until she is awake and able to drink liquids. Written instructions are provided to the person who will be taking you home after surgery.

The day of surgery: that afternoon and evening-Some women are fairly sleepy and it is okay for them to rest in bed. However, women who do best after surgery get up and walk around, moving from room to room as often as they are able. It is all right to go out that evening, as long as someone else does the driving. Most women are fairly hungry, having gone all day without food. However, it is best to only drink liquids (preferably clear liquids like Sprite, Gatorade, or ginger ale) rather than eat heavy foods. Taking a few saltine crackers is usually okay too. If a woman is doing well after several hours of clear liquids and crackers, other light foods may be taken as well. However, milk products and citrus products frequently make nausea worse, so it is best to avoid those for about 24 hours after surgery. If possible, the antibiotic that was prescribed should be taken starting this evening. The dressing that was placed at the time of surgery should be left alone. Sponge bathing is okay on the night of surgery, using soap and water on a washcloth but staying away from the surgical incision sites.

The first few days after surgery-Getting into a fairly normal daily routine as quickly as possible after surgery is helpful in the overall recovery process. Reaching to get dishes out of a cupboard promotes good arm motion, preventing "freezing" of the shoulders. Women who have the hardest time after surgery are women who do the least during this time.

A follow-up appointment should be scheduled for one, two, or three days after surgery. Ideally the dressing that was placed at the time of surgery should be left alone and will be removed during the first follow-up visit. Specific instructions regarding how to take care of the breasts are provided during the first follow-up visit. Most women will begin wearing a sports bra within a few days of the surgery. A soft-form bra may be worn within two weeks, but underwire bras should be avoided for about six weeks.

Medications - Usually two or three medications are prescribed. All women receive prescriptions for narcotic pain medication and muscle relaxers. Women undergoing mastopexy surgery also receive a prescription for an antibiotic (usually cephalexin or azithromycin). If an antibiotic was prescribed it should be taken a few hours after arriving home after surgery. The narcotic pain medication (usually hydrocodone or tramadol) may be taken every 4 to 6 hours as needed. However, narcotics may cause or increase nausea, so it is best to minimize the use of these. If possible, use ibuprofen (Advil, Motrin) instead of the narcotic. Many women find ibuprofen to be surprisingly effective and don't take much narcotic at all. A muscle relaxing medication (usually carisoprodol) is also prescribed to help prevent muscle spasm. It helps to take this about an hour before bedtime. Some women take this one or two times during the day as well.

Aspirin should be avoided for about a week after surgery. We also recommend not resuming birth control pills for one week after surgery, as discussed on page 19. Women may resume their other routine medications beginning the day after surgery, unless otherwise noted on the "Medications to Avoid" list that was provided prior to surgery.

Driving - Most women start driving within two or three days after the surgery. Women who are requiring narcotic pain medications should not drive.

Children - As noted on page 19, arrangements should be made to have help with small children for at least a week after surgery. You should not lift a child out of a crib for a week, and try to avoid lifting small children into high chairs and car seats during this time as well. The longer you can avoid these activities, the less chance there is of displacing the implants or disrupting the suture line.

Problems - If you are concerned about anything after surgery, do not hesitate to call the office at any time of the day or night, weekday, weekend, or holiday. Fevers, persistent nausea, severe pain, and unusual swelling are examples of potential problems that may arise. If a you develop these types of problems or have other questions,, call? The office number: 817-335-5200.

Weight loss patients

A woman who loses a lot of weight, whether through diet and exercise or through bariatric surgery (often referred to as "gastric bypass" surgery), often finds that her breasts appear saggy, droopy, and "deflated". This type of situation presents unique challenges. In weight-loss patients the skin loses almost all of its elastic properties. Very commonly a woman in this situation will benefit from a mastopexy, lifting the nipple to its former position, and tightening the breasts. Placing implants also may help restore some of the fullness the patient had prior to losing weight. However, weight loss patients are different from women who have not lost a lot of weight in that their skin elasticity is dramatically reduced. At the time that a mastopexy is performed, the skin is surgically tightened as much as is safely possible to help create a pleasing shape. After several months, however, the skin loosens somewhat, creating breasts that are not quite as tight as had been present immediately after surgery. The amount that the skin will loosen is not predictable. If it loosens more than a woman wants, she may desire another surgical tightening procedure. Also, a woman who had implants placed at the time of the mastopexy may find that, after several months, she does not have the overall fullness that she was hoping to achieve. She may want to have larger implants placed to help her achieve more fullness, particularly along the upper part of the breasts.

While most women in this group of patients tend to be very happy with their results, some may desire to have additional tightening procedures and larger implants placed. This occurs not because there was a problem with the original surgery but rather because of the unpredictable nature of the degree of loosening of the tissues that occurs related to the loss of skin elasticity. During mastopexy procedure, the skin is tightened as much as it appears that the tissues will allow. If implants are placed during the mastopexy procedure, the size chosen is one that will potentially achieve a nice shape and size while at the same time minimizing the risks of wound complications that may be associated with larger implants. In cases like this, where a woman who has lost a lot of weight undergoes a surgical enhancement procedure of the breasts and the tissues stretch over time after surgery and she desires more surgery to improve her results, she will be responsible for the additional costs of that surgery.

Helpful websites:

While this booklet provides a lot of helpful information, there is certainly more information "out there". The list below includes a number of websites that you might consider visiting. These sites may provide a different perspective, or add different thoughts regarding breast enhancement surgery.

Allergan Natrelle silicone gel implants:
http://www.allergan.com/assets/pdf/ca_natrelle_gel_aug_info_en.pdf

Mentor breast implants:
http://www.mentorwwllc.com/one.htm

US Food and Drug Administration (FDA) breast implant information:
http://www.fda.gov/MedicalDevices/ProductsandMedicalProcedures/ImplantsandProsthetics/BreastImplants/default.htm

American Society of Plastic Surgeons:
http://www.plasticsurgery.org/cosmetic-procedures/breast-augmentation.html

American Society for Aesthetic Plastic Surgery:
http://www.surgery.org/consumers/procedures/breast/breast-augmentation

Revision surgery

While the vast majority of women who undergo the types of surgical enhancement procedures discussed in this booklet are tremendously happy with their results, some may desire additional procedures for a number of reasons. The major risks of breast augmentation and mastopexy surgery are discussed on pages 16 and 17. If I perform your surgery and you need or desire revision of your result, and I believe it may actually be possible to make the changes you desire, my office policy is that I will provide my surgical services without charge for 12 months following the initial operation. However, you will be responsible for additional charges from the surgical facility, the anesthesia, the costs of different implants (if different implants are used), additional medications, and additional supplies.

Final comments

Most women who decide to undergo surgical enhancement of their breasts have thought about it for a long time. More information about breast enhancement is available today than ever before. Magazine articles, the internet, and personal acquaintances are all valuable resources in helping a woman make this decision. However, none of these resources provides the **specific** information the individual woman really needs. That information can only be obtained in a consultation with a qualified surgeon. That surgeon should spend time **listening** to the woman. Rather than telling her what is best for her, the surgeon should help the woman come up with **a plan specific for her wants and needs**.

In this booklet I have attempted to provide important information for the woman who is thinking about breast enhancement surgery. After reading this booklet you know by now that many decisions have to be made. Each decision (saline or silicone? smooth or textured? incision in the armpit or along the lower part of the breast? size of the implant?) has particular benefits and drawbacks. Making decisions includes understanding the trade-offs associated with those decisions. Larger implants may look great during a woman's younger years but may cause back and neck pain when she is older, for instance. One of the goals of this booklet is to reinforce information that should be provided during a consultation with a plastic surgeon.

Breast enhancement procedures do not always work out perfectly for each patient. In general, the women who are happiest with their results tend to be women who have realistic expectations and who have participated in making decisions about their surgery.

The pictures shown in this booklet illustrate the procedures described and are not intended to imply or guarantee a specific result.

KRK

Kelly R. Kunkel, MD, PA

Kelly R. Kunkel, M.D., P.A.
1830 8th Avenue
Fort Worth, TX 76110
Telephone: 817-335-5200
e-mail: info@kunkelplasticsurgery.com
www.kunkelplasticsurgery.com