

# Breast Augmentation – an introduction

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## What Is Breast Augmentation?

Women have been trying to improve on what nature provided them for as long as men have noticed. The early methods consisted of padding inside the clothing. This only worked as long as the clothes remained on.

In 1895 the first implant was performed. The substances used for these early implants left much to be desired. It wasn't until 1961 that silicone implants were developed. The saline implants followed in 1964. There have been other substances developed, but none as common today as saline and silicone.

According to the American Society of Plastic Surgeons, breast augmentations are the most common type of cosmetic surgery performed in America. 329,000 breast augmentations were done in 2006.

The breast augmentation surgery typically lasts one to two hours. The visits between patient and surgeon before the surgery are usually spent discussing the type of procedure which will be used. The differences are in the type of implant, the incision that's required and where it will be placed. Also discussed is where the placement of the actual implant will be made. These factors have an impact on the final appearance as well as possible complications.

Within a week of the surgery, normal work or school routines are able to be resumed by most implant patients. Of course this does somewhat depend on the level of activity these routines require. The incision scar from the surgery will probably last six weeks or longer. The scars should start fading within a few months.

## Who Wants Breast Augmentation?

Breast augmentation is a personal choice for many women. The primary reason is cosmetic. Increasing the size or shape of their breasts is the goal they hope to achieve with implant surgery. This is known as primary augmentation.

There is also revision-augmentation. This surgery is required to correct or improve the results of a prior breast augmentation surgery. Many women undergo the surgery numerous times, slowly achieving the end results they desire.

Replacement of breast tissue that was removed because of cancer, trauma or that failed to develop properly because of a severe breast abnormality, is considered primary reconstruction surgery. Corrections or revisions to this surgery are called revision-reconstruction surgery.

Breast augmentation patients are usually younger, healthier and from higher socio-economic status than the population norm. These women are also more often married with children.

Studies have shown a pattern in breast augmentation patients. This pattern is also shared by many other cosmetic surgery procedures. It suggests women who choose breast implantation are slightly more likely to have undergone psychotherapy, have lower self-esteem, and have higher tendencies toward depression, suicide attempts and mental illness than the general population.

Post-operative surveys on the issues of mental health and quality of life have reported improvement in a number of areas. These areas include health, appearance, self confidence, self esteem, social life and sexual function. Most women report long term satisfaction with their breast implants. Even in cases

which have required additional operations due to complications or aesthetic reasons.

## Breast Augmentation - Not A New Idea

Breast augmentation isn't new. It's not even a twentieth century idea. Women have been trying to improve on nature for centuries. It was only a matter of time before women turned to science and medicine for aid.

In 1889, paraffin injections were tried. The results of this were disastrous. 1895 is the earliest known use of implants. The first one was done by the German surgeon, Vincenz Czerny. He used the adipose tissue (the fatty tissue) from the woman's back. This benign growth or a lymphoma, seemed appropriate because they're comprised of fatty tissues, soft to the touch and moveable.

Between 1895 and the early to mid-1900s many other substances were tried. Glass balls, ox cartilage, ivory, Terylene wood, polyethylene chips, ground rubber, polyester, Silastic rubber and Teflon-silicone prostheses were some of the choices.

In 1945 and 1950 attempts were made to rotate the woman's chest wall tissue into the breast to add volume. Different synthetics were used during the 1950s and 1960s. An estimated 50,000 women received injections of silicone. In some of these women, hardening of the breasts and development of silicone granulomas (small nodules) were so severe, mastectomies were needed for treatment. 30 years after these treatments, women are still seeking medical services from complications resulting from these injections.

Today's implants are much safer and the instances of complications have been greatly reduced. Hopefully, medical science will be able to keep up with women's attempts to improve on their natural gifts.

## Saline or Silicone, What's The Difference

Saline implants are just empty shells. They're surgically placed then filled with a salt water solution. Since this implant is so small when its placed, the incision can also be quite small. This small incision leaves a much smaller scar. The silicone implant is a cover or envelope containing a silicone substance. This implant requires a larger incision for placement.

The United States places restrictions on silicone implants. Even though these restrictions have been considerably lessened in the past few years, the saline implant is still the most common implant used in America. Quality results can be expected from saline implants, but they can be more likely to suffer from cosmetic problems. Women with thin breast tissue may have the most problems.

Rippling and wrinkling of the implant may be seen. There's also the possibility of noticing the implant itself, either by sight or by touch. Women with more breast tissue don't generally have this issue. It's for this reason that most surgeons prefer the silicone implant for post-mastectomy reconstruction.

Silicone implants are more widely used outside the United States than saline. They're considered by most surgeons to be more realistic in appearance. Methods have been developed to hide the scar left by the large incision the silicone implant requires. The newest version has shown the potential for significant improvements over the older products. Even though the leaked silicone hasn't been shown to cause health problems, the possibility of leakage is still a concern.

## Implant Placement

Complications commonly arise from any surgical procedure. The possibility and severity of these complications vary depending on all the circumstances of each individual surgery. The same is true for breast augmentation. One factor in determining any potential complications you may encounter is how and where the breast implants are placed. The placement can also affect the final appearance..

There are four commonly used methods of placing breast implants. The placements vary from being underneath, below or against the pectoralis muscle. These methods achieve different results as well as encountering different complications.

The subpectoral technique is the most common method used in North America. It has the lowest rate of capsular contracture. The subglandular method has a higher capsular contracture rate, but is thought to produce results that are more natural in appearance. This method also might show ripples or wrinkles in the implant in women with thin tissue in the placement area.

The benefits of a third method, subfascial, are still being debated. Supporters claim the method helps in sustaining the implant position. The fourth technique is called the submuscular implant. This method is commonly chosen when doing full breast reconstruction.

Your surgeon may have a preferred method, or choose it based on each individual case. He should discuss the method choices available to you before surgery is scheduled. No particular method rules out the chance of complications just as no method assures them either. And the appearance achieved by one technique may differ from person to person.

## **Incisions and Scaring**

Surgery leaves scars. While most breast augmentation incisions do heal well, a rate of 6-7% of unfavourable scaring has been reported for primary augmentation patients in FDA clinical trials.

The extent of the scaring can be determined by many factors. These include the patient's ethnicity, smoking, tissue quality, suture material, wound tension, tissue trauma from surgery and the individual's tendency toward favourable wound healing.

The type of incision also affects the amount and visibility of scaring. The type of planned incision should be discussed with your surgeon prior to the procedure.

The most common incision for silicone gel implants is the inframammary incision. This affords maximum access for precise dissection and placement of an implant. The incision is placed below the breast in the infra-mammary fold. This incision can leave slightly more visible scars in smaller breasts which don't drape over the IMF.

Transaxillary incisions are placed in the armpit. This allows the implants to be placed without visible scars on the breasts. It's also more likely to consistently achieve symmetry of the inferior implant position.

Periareolar incisions are placed along the areolar border. The incision is usually placed around the inferior half of the areola's circumference. Because of the incision length required, silicone gel implants can be hard to place using this method. These scars are often less visible in women with lighter areolar pigment since they occur on the edge of the areola. There is a higher chance of capsular contracture with this incision.

## Breast Implant Ruptures

A saline implant rupture results in quick deflation and is easily removed. Recent FDA approved studies show rupture/deflation rates of 3-5% at 3 years and 7-10% at 5 years. Older studies depended on clinical exams to determine rupture rates.

Recent reports have determined these exams aren't adequate to evaluate rupture rates. One study reported ruptures in asymptomatic patients are correctly detected by experienced plastic surgeons 30% of the time. This is compared to a detection rate of 86% by MRIs.

The FDA currently recommends MRIs be used to screen for ruptures beginning three years after implantation and continuing every two years thereafter.

Other countries consider MRIs useful only in cases of suspected ruptures and to confirm ultrasound or mammographic studies suggesting a rupture.

Silicone implant ruptures rarely result in deflation. The silicone leaks into the space around the implant. This indicates the need for removal of the implant. The risk and treatment of extracapsular leakage is controversial. It is agreed the gel is difficult to remove, but there is disagreement about the health effects.

The majority of MRI data for silicone gel implants indicates after 11 years, most women had at least one ruptured implant with silicone leakage outside the capsule of 21% of the women. The available long term data deals with 3rd and 4th generation implants and shows a 15-30% risk of silent rupture. MRI evaluation of the 5th generation implants implies improved durability. A rupture rate of 1% or less at an average age of six years is reported.

## After Breast Augmentation Complications

Complications can occur after any surgery. Breast augmentation is no exception. Knowing what to expect before you undergo any surgical procedure can help relieve some stress and nervousness. It also helps prevent the shock and disappointment that may occur if post-surgical complications do arise.

Some complications that commonly arise immediately after breast implant surgery include post-operative bleeding (haematoma), fluid collection (seroma), and infection at the site of the surgical incision. Later complications may include chronic breast pain, alterations in breast and nipple sensitivity, and interference with breast feeding,

Feelings in the breast and nipple can change after the implant surgery has been completed. These changes may include increased sensitivity, chronic pain and lack of feeling in the breast or nipple for several months or even years following the implant surgery. Within the first few years, 2-8% of breast augmentation patients report experiencing chronic breast pain.

Another 1-2% report breast sensitivity changes, and 3-10% experience nipple complications like losing sensations within that area. These reports are generally the same for both silicone gel and saline implants.

But long term data does indicate that 17% of women experience after-surgery breast pain within five years of saline implants. This change in sensitivity is usually either temporary or permanent. It may also have an affect on sexual response and the ability to breast feed a baby.

Being aware of these and other possible complications will help you make an informed decision and may aid in long term satisfaction with your breast augmentation.



## Capsular Contracture

When a foreign object enters our body, our immune system tries to either destroy it or contain it. Some immune systems interpret a breast implant as a foreign object. Since the immune system can't destroy an implant, it tries to contain it. It attempts to build a wall around the intruder to keep it from spreading to the rest of the body. The wall around the implant is called a capsule.

When the capsule tightens around the implant it's called capsular contracture. The squeezing can be painful and can change the shape of the breast. The changed shape can affect the appearance of the breast as well.

The severity of the capsular contracture varies between cases. With the mildest case, the breast looks normal and still feels soft. This is classified as grade 1. Grade 2 still looks normal, but the breast is a little firm. At grade 3, the breast is firm and the appearance is considered abnormal. Grade 4 is the most severe and the most painful. The breast looks abnormal and is hard.

You may have to have another operation to fix capsular contracture. The capsule has to be removed, and sometimes the implant has to be replaced. But there are cases where successful treatments have been achieved without any additional surgery.

It is not known exactly what causes the body's immune system to behave abnormally towards an implant, but capsular contracture can happen after any implant or implant repair surgery. Not just breast implants.

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