

SILICONE BREAST IMPLANTS

Marisse Venter

Breast implants are medical devices that are implanted under the breast tissue, chest wall muscle or breast skin and muscle. They are used to increase the size of breasts (breast augmentation) or to rebuild breast tissue after mastectomy or other defects during breast reconstruction. Silicone breast implants may also be used in revision surgery to correct or improve the result of previous surgery.

There are two types of breast implants approved for use, saline filled and silicone gel filled breast implants. Both types have a silicone outer shell. Today we mostly used silicone implants as we feel it provides an improved cosmetic appearance, durability and no possibility of spontaneous deflation.



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More than 1.5 million American women currently have silicone breast implants. The majority of patients, (two thirds), had silicone implants to improve the appearance of their breasts via breast augmentation. The remaining one third of patient received implants for breast reconstruction either before (prophylactic) or after the development of breast cancer.

Today the safety of silicone breast implants are well accepted albeit a long controversial history. In January 1992 the United States Food and Drug Administration announced a voluntary moratorium on silicone gel-filled breast implants and banned the use of silicone implants in the United States for a period of 14 years. The concern was regarding the

possible cause of connective tissue disease, chronic inflammatory disease and cancer. Multiple clinical trials and investigations lead to the suspension of the moratorium and the FDA announcing the safety of silicone breast implants.

During this time South African surgeons continued to use silicone implants. Review of South African statistics of implants used during this time did not reflect an increase in disease processes associated with silicone implants.

In 2011, the FDA identified a possible association between breast implants and the development of anaplastic large cell lymphoma (ALCL), a rare type of non-Hodgkin's lymphoma. Since 2011, we have strengthened our understanding of this condition and concur with the World Health Organization designation of Breast Implant-Associated Anaplastic Large Cell Lymphoma (BIA-ALCL) as a rare T-cell lymphoma that can develop following breast implants.

The exact number of cases remains difficult to determine due to significant limitations in world-wide reporting and lack of global implant sales data. At this time, most data suggest that BIA-ALCL occurs more frequently following implantation of breast implants with textured surfaces rather than those with smooth surfaces.

Breast Implant Associated Anaplastic Large Cell Lymphoma (BIA-ALCL) develops in the fluid around the breast implant and is usually contained by the fibrous capsule around the implant, it does not develop in the breast tissue. The current risk is estimated to be 1 in 30 000 vs a risk of 1 in 8 of developing breast cancer. However documented cases of BIA-ALCL in smooth implants remains limited and some literature suggest it only occurs in textured implants. Because it is a rare disease it is difficult to be certain about the absolute risk of the disease.

THE MOST COMMON SYMPTOM IS A PERSISTENT SWELLING OF THE BREAST WITH OR WITHOUT AN ASSOCIATED BREAST LUMP. THESE SYMPTOMS DEVELOP BETWEEN 3 AND 14 YEARS POST INSERTION OF THE IMPLANT, MOST COMMONLY 8 YEARS POST-SURGERY.

The fluid is evaluated via ultrasound investigation and then sent for special tests. The majority of cases are cured with removal of the implant and associated capsule without the need of additional treatment. To date, there have been less than 400 cases worldwide with all of them having a 100% survival and cure rate.

All patients should be familiar with the potential complications associated with silicone prosthesis in order to make an informed decision.

SILICONE

Silicone is a naturally occurring element that has been manufactured so as to produce implants of various sizes and shapes. Silicone implants approved by the FDA are made of medical grade silicone. These implants undergo extensive testing to establish assurance of safety and effectiveness. The National Academies of Science, Engineering and Medicine concluded that "There is no evidence that silicone implants are responsible for any major diseases in the body." See www.nap.edu. There is no known association between silicone implants and breast cancer.

WHAT YOU SHOULD KNOW ABOUT BREAST IMPLANTS.....

BREAST IMPLANTS ARE NOT LIFETIME DEVICES

The longer a patient has implants the greater the chances of developing complications, some of which will require more surgery. The "life" of these devices varies according to the individual. Some may need replacement surgery in just a few years, others may last 10-20 years and some even a lifetime. There are several different reasons why patients may need implant replacement surgery. Sometimes it is a matter of choice like size or implant style changes and sometimes removal and replacement is necessary because of a complication such as deflation, capsular contracture (hardening), pain or shifting of the implant.

MONITORING IS CRUCIAL MAMMOGRAPHY AND BREAST IMPLANTS

Breast implants make standard mammography difficult due to the displacement and atrophy of the native breast tissue. Thus it is important to inform your radiologist that you have implants. Special displacement views and additional views will be taken to improve the accuracy of the mammogram. Even in cases of bilateral skin sparing mastectomies, mammography is still necessary to evaluate and follow up any breast changes as well as implant characteristics over time.

A yearly ultrasound by a good radiologist will provide information regarding the integrity of the implant. I would recommend this investigation to be the determining factor as to when the implant should be replaced

HOW LONG SHOULD I WAIT BEFORE I RESUME EXERCISE AND OTHER STRENUOUS ACTIVITIES?

During the first two weeks post surgery you should avoid soaking the wounds by avoiding bathing or showering. Overall avoid any strenuous exercise during the first four weeks and certainly while you

experience any pain or discomfort. The larger the implant you receive the heavier the breasts will be. You should wear good support bras while running to minimize pull on the skin and ptosis (drooping) of the breasts. I always recommend the use of two sports bras so as to minimize stretching of the breast skin.

TANNING SALON OR SUNBATHING

Tanning salons and sun bathing will not harm the implant but may worsen the scarring. You should avoid getting sun or tanning rays on the incisions for at least one year after the surgery as the UV rays may darken the incisions permanently.

THE EFFECT OF SMOKING ON THE HEALING PROCESS

Smoking causes the blood vessels to constrict, reducing the blood supply and the oxygen carried by the blood to the surgical area. The tissues need blood and oxygen carried by blood to heal. When the blood supply is reduced the tissues heal more slowly and are prone to bacterial infection. This may ultimately lead to skin necrosis or death of patches of the skin and poor scarring compromising the aesthetic result.

NIPPLE SENSATION, BREAST FEEDING AND UPPER BODY STRENGTH.

There will be changes in nipple and breast sensation after surgery. The feeling may increase or decrease and be different in different areas. The sensory changes may be temporary or permanent.

Thus there may be a loss of feeling around the inner aspect of the breast. If the implant was placed partially under the muscle there will be a permanent weakness in upper body strength which will affect patients performance.

Breast feeding will not be affected unless the breasts were lifted at the same time.

COMPLICATIONS

Below follows a list of some of the more frequent complications associated with breast implants

Local complications i.e. around the breast

- Haematoma formation, collection of blood
- Seroma formation, collection of body fluid
- Delayed wound healing
- Wound sepsis
- Peri-implant infection
- Sensory changes in the breast

Systemic complications.... your body

- Fluid and electrolyte abnormalities
- Deep vein thrombosis, clotting in the legs
- Postoperative lung complications

LONG TERM AND COSMETIC COMPLICATIONS... THE WAY IT LOOKS

- Rippling and contour deformities
- Malposition and displacement of the implant
- Asymmetries of the breast
- Capsular contracture (hardening of the implant, often painful caused by fibrous tissue around the implant)
- Visibility of the implant around its edges
- Implant rupture, which can cause the silicone gel to leak out into the neighbouring tissue or even parts of the body
- Pain, from many causes including muscles spasms and nerve injury
- Pain from a foreign body in your body

MY RECOMMENDATIONS ARE AS FOLLOWS: "IF WE WERE SUPPOSED TO HAVE SILICONE IN OUR BODIES WE WOULD HAVE BEEN BORN WITH IT. THUS YOU CANNOT EXPECT A FOREIGN BODY TO BEHAVE UNNOTICED IN YOUR BODY" IT WILL FEEL UNNATURAL BUT SOFT MOSTLY, IT MAY BECOME HARD, IT WILL REQUIRE REPLACEMENT AND YOUR BODY MAY NOT ACCEPT IT ALL.

Please visit your surgeon once a year for a clinical examination and perhaps also have a breast ultrasound once a year. Please be sure to keep the original identification of your implant as you may need it for insurance purposes later.

Thus your initial decision making as to why you choose to have silicone implants should be solid. Even if it is just want to fit into that sexy full bikini you need to understand the possible risks and benefits of silicone prosthesis.

Having said all of these, there are very few patients who regret choosing silicone prosthesis for reconstruction and even less so for augmentations.

Thank you for reading this article, we hope that we have answered some of the common questions associated with silicone implants.