A breast implant – for me?
A breast implant – for me?

You have questions concerning breast implants for the reconstruction or augmentation of the breast?

In the following, we will inform you about breast implants and try to answer the questions, which might be of concern.

Breast implants have been used since the early sixties. In the meantime more than 2 million women have decided to have silicone gel-filled implants.

The implants have constantly been improved. Cooperation between patients, physicians and manufacturers enable constant adaptation to the latest medical and technical knowledge.

Breast reconstruction and augmentation has become one of the most performed operations in the field of plastic and reconstructive surgery.
What is silicone?

In the medical field silicone is used for a variety of products: probes, catheters, coating of puncture needles and cardiac pacemakers, gloves and wound coating. In the field of soft tissue surgery, implants are used for body contour correction.

The first production process for silicone polymers was patented in 1958.

Silicone or, as chemists call it, dimethylpolysiloxan, is produced as silicone elastomer, silicone gel and silicone oil. In silicones oxygen and silicon are bound together in the same way as in stones and glass. Additionally, methyl groups are bound to the silicon atoms. Except of amorphous silica as a filling and stabilising material, silicone does not contain any other additives, especially no softening agents.

Are there different types of implants?

Yes. A broad variety of silicone implants are available. The form of the implants varies.

Round implants with moderate or high profile as
well as teardrop shaped implants allow for an individual choice.

Anatomical formed implants, either long or short in height increase the possibilities for the augmentation and reconstruction of the breast.

All present breast implants have an outer silicone shell.

**Which filling materials are available?**

For years now silicone gel and saline are proven filling materials for implants.

Implants filled with highly cross-linked silicone gel present the state of the art for soft tissue replacement. Such a silicone gel has a “memory effect”, which means that the gel always returns to its original shape. When cut in two, the material shows it’s soft form, however it’s given stability. It imitates the natural breast in a close manner in terms of feel and movement.
Why do different surfaces exist?

Due to a natural reaction of the body, a capsule is formed around all foreign bodies including implants. This capsule can close tightly around the implant and contract. Due to the contraction the implant can be deformed and with this there is a change in the shape of the breast. A capsule can become very hard and cause pain. This complication is termed capsular contracture.

In the past capsular contracture was alleviated by a manual treatment. This technique is no longer used, as the implant can be damaged during this process.

The rate of the occurrence of the capsular contracture is related, among other points, to the implant surface. The first implants were manufactured in the sixties with a smooth surface.
From the middle of the seventies onwards Micro-Polyurethane-foam-Surfaced implants have been used. Textured implants were introduced at the end of the eighties.

Presently these three surfaces are available.

Independent of the modern better operating techniques, the use of MicroPolyurethane-foam-Surfaced implants has shown an impressively low capsular contracture rate of 0-3%.\textsuperscript{1-15} Textured implants also show a clearly lower capsular contracture rate compared to the smooth walled implants.\textsuperscript{4, 16-18}

**Are tests carried out to insure the safety of the implants?**

Yes. For over 30 years the safety and reliability of the implants has been continually proven with studies and experience.

All over Europe, the Medical Device Directive and international standards stipulate clear requirements for such products. Materials, development, manufacturing, sterilisation and packaging are subject to strict rules.

**Can an implant change my physical appearance?**

Yes. A breast implant can give a very natural look and feel to the reconstructed breast – obviously the oncological aspects play a role here.\textsuperscript{19-21} The augmentation of the breast can improve your looks according to your specific wishes.

**Are there different surgical procedures?**

Yes. Please ask your physician about the surgical procedure for breast reconstruction and augmentation. Only your physician can individually inform
you about the different techniques and the possible risks involved with the operation.

**Which incisions are used for the augmentation?**

Beside the incision in the armpit or around or across the mamilla, the incision in the mammary fold is the most common used possibility.

![Incision Diagram]

**Where is the implant positioned?**

During the augmentation the implant can either be positioned directly behind the glandular tissue (sub glandular) or under the muscle (sub pectoral/sub muscular). During the reconstruction of the breast the positioning of the implant depends very much on the oncological aspects. Yours physician will advise you which positioning of the implant is best for you. Implants with a natural soft, highly cross-linked silicone gel fit both sub glandularly and sub muscualrly to your body contours in a natural way.
Cancer screening after implantation?

Mammography makes it possible to locate tumors. Using a special technique, the Eklund-technique, mammography is also possible with women with breast implants. Modern techniques like sonography, MRI or CT help to find tumors early.²²-²⁴

What influence do breast implants have on cancer treatment?

In large studies it was evaluated that women with breast implants do not suffer from breast cancer more often than comparable women without breast implants.²⁵-²⁹

A breast implant does not have any influence on the occurrence of breast cancer. The occurrence of breast cancer due to smooth, silicone textured or Micro-Polyurethane-foam-Surfaced implants has not been observed in either human beings nor in animal studies. In science, however, theoretical risks are discussed.³⁰,³¹
Do Micro-Polyurethane-foam-Surfaced implants bear a greater infection risk than other implants?

No!^{32}

Is the risk of an autoimmune disease higher for women with breast implants?

No!

No plausible link between silicone gel filled implants and autoimmune diseases has been proven.^{33-39}

Can silicone gel permeate through the implant shell?

In contrast to previous generations of implants only negligible traces of gel can be found in the connective tissue capsule, due to the significantly improved quality of the implant shells and the gel consistency.^{40-42} These gel traces remain within the connective tissue capsule.

How long does an implant last?

Each host organism shows an individual reaction to a foreign body. Studies in the past have shown an average life span of 10 years for breast implants in general.^{43-44} Due to the modern implant technology a longer life expectancy of current implants is expected for the future.

How often after the operation should a check up take place?

The implant should be controlled by your physician every half year to a year.

Implant passport and documentation

After implantation your physician will give you an implant passport. Please carry it always with you,
so the information concerning the type and size of the implant is available at any time. For your own safety, please inform any physician in charge about your implants.

How to prepare the counselling with your physician

Ask your physician everything you want to know. Prepare this conversation by making a list of your questions regarding breast reconstruction or augmentation. Discuss these questions with your physician. It is very important that you make your own clear, personal decision before you undergo surgery!
References


