Breast Augmentation Primer

Breast augmentation is typically a very rewarding procedure. In order to achieve the highest level of patient satisfaction, many decisions must be carefully made. We have put together this primer to aid you in your decision making process, and it covers everything from incisions to breast implants. Dr. Kaufman devotes a great deal of time to educating patients at their consultations. However, it can be overwhelming without some background information. This information reflects our opinions and is supported by medical literature and personal experience.

Important Considerations
When considering breast augmentation we will guide you in making the following decisions:

1. Implant type, volume, projection, shape, and texture
2. Incision location
3. Implant location
4. Whether or not a lift is required

The following information provides background about how these decisions are made. Please understand that multiple options may be correct, and that this surgery is far from "one size fits all."

1. Implants
Breast implants come in a variety of shapes, sizes, textures, profiles, and fills. It can be confusing how to choose the best one – even for the most experienced augmentation surgeon. The following is a comparison of the different choices.

**Saline vs Silicone**
In the simplest sense, implants are filled with either saline or silicone. The outer shell of the implant is the same. Saline is essentially salt water – of which 70% of the human body is composed. Silicone is a viscous gel – it is inert and non-reactive. Silicone gel recently got re-released for breast augmentation by the FDA after a careful review of its safety and efficacy.

- Saline implants are inserted into the desired pocket and filled with fluid. Implants may be filled to variable amounts (within a certain range) and then the fill tube is
removed and the port closed. This provides the opportunity to carefully make up for small differences in breast volume to achieve better symmetry side to side. Silicone implants come pre-filled. This does not allow for side to side adjustments.

- Saline and silicone implants come in similar shapes, sizes, and textures.
- If saline implants leak or rupture, your body absorbs the fluid and you notice a difference side to side. Leaks can be fast or slow. If you notice that your implants are leaking, it is a good idea to get your implants changed within a month or so to limit the likelihood of the pocket size changing. Leaks or ruptures with silicone gel implants are much harder to detect. Because the gel is viscous, it is unlikely that the gel will leak out of the shell if the shell is slightly damaged. If the gel does leak out, it can stay within the pocket (intracapsular leak) or may go outside the pocket (extracapsular). Current recommendations by the FDA are for periodic MRI's after 10 years. We do not believe that this stipulation is realistic because of the MRI cost (who will pay for these MRI studies). Also, we believe that even if there is a non-clinically detectible leak (i.e. you can't see or feel a difference), it is not an indication to change the implants. We believe that gel implants should be changed if there is a clinically noticeable difference. Multiple studies have shown that there is no danger from silicone gel; specifically it has not been shown to cause fibromyalgia, rheumatoid arthritis, scleroderma, etc.

- Saline and silicone gel implants do not need to be changed at arbitrary time points.
- Patients with breast implants still need mammograms. Patients with implants should inform their mammographers that they have implants. Special views are required for women with implants. If you have implants, mammograms are less sensitive in picking up abnormalities. Silicone impairs mammograms more than saline does. However, if you look at all women who develop breast cancer with implants, and compare them to women without implants, they present at the same stage of disease (which says there is no delay in detection of disease) and they do the same in terms of survival (which says you will do just the same in terms of responding to treatment with or without implants.)
- Feel. How implants feel in the body is a very important consideration. Saline and silicone breast augmentations look the same. Silicone implants are softer and more natural feeling. If you have smaller breasts and have less tissue to hide the implants or desire to go larger, silicone may be a better choice for you.

**Round vs. Anatomic**

Implants come in two primary shapes, round and teardrop (or anatomic). The decision on which implant to use is primarily based on what patients desire. Anatomic saline implants tend to have a slightly higher leak rate and one study showed it was hard to tell the difference between round and teardrop implants when they were in the body. We choose primarily round implants for patients because of the lower leak rate and preserving volume at the top of the breast, where most patients are deficient. Anatomic implants are chosen when patients have no breast (after breast cancer treatment) or very little breast tissue – and in those cases, the implants are usually silicone and assume the entire shape of the breast.
Profiles: Moderate, Moderate Plus, High
Round implants come in three shapes. In comparing these implants for a diameter of 13 centimeters (which is very common breast base diameter), implants can have volumes of 275 cubic centimeters (cc) in the moderate profile, 400 cc in the moderate plus, and 500cc in the high profile category. Ultimately breast implants need to have adequate width to create cleavage but not wrap around the chest. This so-called "base width" is our starting point for selecting implants. As in the case illustrated, more projection (anterior posterior) is obtained from moderate, to moderate plus, to high profile (2.9cm, 4.0cm, 5.3cm).
Smooth vs. Textured Implants
Implants can be covered with smooth or textured outer layers. There is great debate amongst surgeons which is better. Some studies have shown fewer complications – specifically capsular contraction – with textured implants, but others have shown the opposite. Smooth implants move around in their pockets, textured implants do not. We choose smooth implants for women who do not have a lot of redundant skin and do not need the implant to "anchor" the breast. Textured implants are chosen when teardrop implants are used or when patients have redundant skin or a lot of droop – such as a significant weight loss patient.

2. Incision Location
There are four ways in which to place implants, periareolar (junction of breast and areolar skin), inframammary fold (where the bottom of the breast meets the chest), transaxillary (through the armpit), and transumbilical (via the bellybutton – we do not perform this approach). There is no difference in risk, outcome, or sensitivity change with any of these techniques. It is largely a personal decision where you desire to hide your incision. In all locations, the incision usually heals up very well and is inconspicuous. Depending on your anatomy and breast shape, you may not be a good candidate for the transaxillary approach.
3. Implant Location
There is no definite "better" place to put implants. Below the muscle is a more common location, especially for saline implants. It provides better implant camouflage and softens the superior pole of the implants. Saline implants look and feel more natural below the muscle in most women. Mammograms have better visualization with submuscular implants. Many people feel that the chance of capsular contraction is less with below muscle positioning (though this is debatable). However, with activation of the muscle, implant deformation is common, but returns to normal after relaxation. This can be an issue for thin patients and those that body build. Placement under the muscle is a bit more painful, but not markedly so.

Above the muscle placement places the implants right behind the breast tissue. It is good for patients with a fair amount of their own breast tissue or those using silicone implants. Implants are more palpable (able to be felt) above the muscle. Activities are in no way affected by placement above the muscle.

4. Do You Need a Lift?
Breast augmentation adds volume to the breasts. In so doing, it creates the appearance of a slight amount of lift. If you have breasts that droop, whether from weight loss, nursing, or just bad luck, then you may need a lift. Normal sternal notch to nipple distance varies between 19-21 centimeters. If you can rest a pencil underneath your breast, and it doesn't fall, you typically will require a lift. If you require a lift and opt to not have one with the augmentation, you will likely just end up with larger droopy breasts. The incision pattern that is required for a lift is normally a lollipop pattern, but in some cases where a large lift is needed, an anchor pattern may be preferred.
General Information about the Procedure
Breast augmentation usually takes about 90 minutes to perform. We most commonly perform the procedure in our AAAASF on-site operating suite. Board certified anesthesiologists from Mercy Folsom Hospital provide anesthetic care, which is most commonly general anesthesia. Recovery varies, but most patients are off narcotic pain medicines by post-op day 4 and resuming light activities. Most women return to normal, unrestricted activities by 4 weeks. Right after the surgery, implants usually look high and feel hard. By 4 weeks after surgery, the swelling has decreased and the breasts look really good. By 4 months, some final swelling has resolved and the tissue stretch has reached its final position. Post-operative visits are usually conducted on post-op day 1, 7, 14, 1 month, 4 months, and 1 year.

A Word about Cup Size!
Cup size is a bit of an arbitrary thing. Cup sizes are different based on your chest width... and often vary between manufacturers. While it's nice to know in general your desired outcome in cup size, during your consultation, we'll have you put gel sizers in a non-padded bra so we can see in "cc's" what your desired results are. Remember that 250 ccs in a 5'1, 100 pound woman may take her from an A to a C+, that same implant may be completely lost on a larger framed woman.

Risks of Breast Implant Surgery
Every surgical procedure has some risk. Risks associated with all surgery include anesthetic complications, bleeding, fluid collections, medication reactions and others. With properly selected patients, breast augmentation surgery is very low risk. There are risks associated with anesthesia, medication reactions, and other risks associated with surgery in general. The items listed below are those specifically related to breast implants:

• **Implant leak or rupture** - Breast implants, similar to other medical devices, can fail. Implants can break or leak. When a saline-filled implant deflates, its salt water filling will be absorbed by the body. It is unclear what happens to silicone gel inside silicone implants when they rupture. Usually the gel stays inside the shell, but extrusion is possible. Rupture can occur as a result of an injury, from no apparent cause, or during mammography. It is possible to damage an implant at the time of surgery. Damaged or broken implants cannot be repaired. Ruptured or deflated implants require replacement or removal. Breast implants can wear out and cannot be expected to last forever.

• **Capsular contracture** - Scar tissue, which forms internally around the breast implant, can tighten and make the breast round, firm, and possibly painful. Excessive firmness of the breasts can occur soon after surgery or years later. The occurrence of symptomatic capsular contracture is not predictable. The incidence of symptomatic capsular contracture can be expected to increase over time. It is thought to be more common with implant placement in front of the chest muscle layer. Treatment for capsular contracture may require surgery, implant replacement, or implant removal. Capsular contracture may reoccur after surgical procedures to treat this condition.

• **Skin wrinkling and rippling** - Visible and palpable wrinkling of implants can occur. Some wrinkling is normal and expected. This may be more pronounced in patients who have saline-filled implants with textured surfaces or thin breast tissue. It may be possible to feel the implant fill valve. Some patients may find palpable valve and
wrinkles cosmetically undesirable.

- **Change in nipple and skin sensation** - Some change in nipple sensation is not unusual right after surgery. After several months, a vast majority have normal sensation. However, partial or permanent loss of nipple and skin sensation may occur.

- **Implant displacement** - Displacement of a breast implant may occur from its initial placement and can be accompanied by discomfort and/or distortion in breast shape. Additional surgery may be necessary to correct this problem.

- **Infection** - Infection is unusual after this type of surgery. It may appear in the immediate post-operative period or at any time following the insertion of a breast implant. Subacute or chronic infections may be difficult to diagnose. Should an infection occur, treatment including antibiotics, possible removal of the implant, or additional surgery may be necessary. Infections with the presence of a breast implant are harder to treat than infections in normal body tissues. If an infection does not respond to antibiotics, the breast implant may have to be removed. After the infection is treated, a new breast implant can usually be reinserted. It is extremely rare that an infection would occur around an implant from a bacterial infection elsewhere in the body, however, prophylactic antibiotics may be considered for subsequent dental or other surgical procedures.

- **Pain** - Pain of varying intensity and duration may occur and persist after breast implant surgery. The cause of this pain is unclear, but is usually responsive to medications.

### Additional Breast Implant Advisory Information

#### Breast Cancer

Current medical information does not demonstrate an increased risk of breast cancer in women who have breast implant surgery for either cosmetic or reconstructive purposes. It is recommended that all women perform periodic self-examination of their breasts, have mammography according to American Cancer Society guidelines, and seek professional care should they notice a breast lump. Care must be exercised during breast biopsy procedures to avoid damaging the breast implant.

#### Mammography

Breast implants may make mammography more difficult and may obscure the detection of breast cancer. Ultrasound, specialized mammography and MRI studies may be of benefit to evaluate breast lumps and the condition of the implant(s). Patients may wish to undergo a preoperative mammogram and another one after implantation to establish a baseline view of their breast tissue.

#### Long term results

Subsequent alterations in breast shape may occur as the result of aging, weight loss or gain, pregnancy, or other circumstances not related to augmentation mammoplasty. Breast sagginess may normally occur.
How Do We Choose Breast Implants?

During our consultation, we ask you about your medical history and what you desire from breast augmentation. During the physical examination, we measure your breast base width and nipple to sternal notch distance and evaluate your breasts for size, shape, symmetry, droop, and irregularities. We then discuss with you your options for incision, implant size, type, shape, and location. Because cup size is imprecise, we'll have you try on different volume gel sizers in a non-padded bra. Once you select a volume that you are comfortable with, we'll add about 10% more to that volume (because it looks bigger sitting in a bra on the outside of your chest) and match that to your base width and select an appropriate profile to achieve your desired result. We've found this to be a very accurate way to make people happy.