The *Breast* Choice

DR MARSHALL MURDOCH writes on the choices to ponder before undergoing breast augmentation

Breast augmentation is a popular aesthetic procedure, with a 93% satisfaction rate. While some choices may not be available in every case (and some options are not offered by every surgeon), there are still many decisions to be made. The choices are mutually exclusive and many are binary options. Each option has some advantages and disadvantages - and these will be highlighted during your consideration.

1 Shape – ANATOMICAL (teardrop) or ROUND? All implants will assume a teardrop shape when subjected to gravity in the vertical position. The real difference is that anatomical implants have the gel shaped in that position, and therefore cannot be altered. This makes these implants stiffer, and surgical access incisions are usually larger. They are predominantly used for breast reconstruction, or to preferentially expand the lower breast, lending a natural upper slope. In most patients, round is the ideal choice - less than 10% of implants used are anatomical.

2 Fill material – SALINE or SILICONE? Silicone is used in the vast majority of cases - only 1% of implants are saline filled. New silicone implants are incredibly safe and strong and can even withstand the weight of a car without rupture. Silicone implants are also slightly lighter than saline implants: for instance, the density of silicone is 0.968 g/mL, while the saline is 1.0046 g/mL. This means that silicone implants float in water!

3 Profile – LOW or MODERATE or HIGH or ULTRA-HIGH? The profile refers to the projection the implant has for a given base diameter. Higher profiles result in greater upper pole fullness. The downside of increasing the profile, is a moderate increase in the firmness. So the higher the profile, the firmer the implant. Moderate and high profiles are the most popular (over 80% of implants), because they offer the best compromise between natural look and feel, versus upper breast fullness.

4 Surgical Access – INFRA-MAMMARY or PERI-AREOLAR? The infra-mammary approach, with a scar located in the fold between the breast and the abdomen, is the most common. The scar is usually fine and well hidden (4 - 6.5cm in length), and there is minimal disturbance of the breast tissue. The downsides are a potentially visible scar in bathing or underwear, issues related to positioning of the scar and difficulty in modification of the lower pole. There is also a higher incidence of implant exposure, as the weight of the implant rests directly on the surgical closure.

The peri-areolar approach is my personal preference. The scar is placed at the junction of the breast and areolar skin, from the 3 - 9 o'clock positions. The diameter of the areolar dictates the scar length. The ability to modify the lower pole, as well as the position of the fold are significant advantages. The final scar is almost always exceptional, and risks of implant exposure are minimal.

The downsides to this approach are potentially increased risk of altered nipple sensation and decreased breastfeeding ability.

5 Surface Texture – TEXTURED or SMOOTH? This is one of the most controversial. In South Africa particularly, there was a clear preference for smooth implants before 2009, but textured implants are now more popular. Once implanted in the body, the "pores" of a textured implant undergo blood vessel ingrowth – essentially bonding the implant to the tissues. This makes textured implants significantly less mobile, and less movement artifact makes them more applicable to sporting patients. This is also responsible for their less natural feel – natural breasts are highly mobile, and textured implants feel less natural than smooth. There is some evidence that capsular contracture may be less with a textured implant. Interestingly, there is presently no cost implication in this choice.

6 Plane – SUB-GLANDULAR or SUB-MUSCULAR or DUAL PLANE? Implants can be placed under various amounts of tissue – the tissue coverage affects both healing time and long term shape.

In the sub-glandular plane (the "overs"), the implant is placed under the breast tissue, but above the muscle. The upper pole shows the distinctive semi-circular "line" of the implant edge (the "Posh Spice" look). The chance of visible ripples is higher, but movement artifact is very small and the implant placement can be very close to the midline, narrowing the cleavage "gap". There is also much less pain and quicker recovery. It is recommended that only textured implants be used in this plane.

In the sub-muscular plane (the "unders"), the implant is placed under the breast and under the pectoralis muscle. It is impossible to achieve total muscular coverage, but increased muscle cover is associated with a smoother upper breast "take off", and almost no ripples. There is evidence that this plane is associated with lower rates of capsular contracture. The implants can only be placed as close to the midline as the anatomical attachment of the muscle allows – this may mean a wider cleavage gap. In cases of sagging, this plane offers the least improvement - and therefore a breast lift may be required. There is also significantly more pain and longer recovery associated with this dissection.

The final plane is the dual plane. This involves creation of a pocket where the implant is covered by muscle on its upper and medial portions, but by breast and subcutaneous fat elsewhere. This was designed to include the advantages of the above 2 planes, but will suffer from some of their drawbacks too. For patients with tight lower poles or those with a modest amount of sagging (especially if they are thin and still want the natural look) this is a good option.

As you can see, even with only a few options in each choice, the number of possible combinations are quite impressive... and this is without even considering size! This means that there is the possibility of tailoring the operation to the patient – however, this can induce some anxiety in the patient as well. Absolute "right" or "wrong" choices don't exist, but some options may be more suited to a particular case. A2

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