**Mr Michael Cadier**

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**Consultant in Plastic, Reconstructive & Aesthetic Surgery**

**BREAST REDUCTION**

**Breast Reduction - General Information**

The ideal breast size is in proportion to the frame of the individual. In some people, the breasts become disproportionately large and this can cause many problems ranging from social embarrassment to functional problems including back and neck pain, bra strap indents and chafing under the breast. Breast reduction surgery aims to not only reduce the size, but also to uplift the breast. At the same time, the nipple is elevated to a more ideal position and when required the areolae are reduced in size. The aim is to produce an aesthetically pleasing breast, both in terms of shape and size, with scars that are inconspicuous in positions and designed to be hidden when wearing a bra or bikini.

**What types of breast reductions are available?**

There have been many types of breast reductions described over the years. Mr Cadier routinely undertakes the two most popular types of breast reduction – a short scar technique (Lejour breast reduction), which leaves a scar around the areola and one going down from the areola to the chest wall, and the inferior pedicle technique, which leaves an additional scar close to the crease under the breast. In some patients when the breasts are extremely large and the nipples very low then a free nipple graft technique may be preferable.

Mr Cadier will discuss which of these techniques is most suitable at the initial consultation.

 

Photographs pre and 5 months postoperatively – Wise pattern inferior dermal pedicle.

**Pre-operative advice**

In order to optimize the result and minimize the risks a number of factors should be considered. Smokers have a much higher risk of developing complications. It is therefore advised that they should refrain from smoking for ideally four weeks prior to, and four weeks following surgery. Aspirin and related anti-inflammatories (other than those prescribed during the admission) should be avoided for one week before and 48 hours after surgery as these can significantly increase the risk of bleeding. Many supplements (gingko, ginger, turmeric, garlic) have anti-coagulant effects and therefore can increase the risk of bleeding and bruising and should be discontinued for a similar time period. The use of arnica is debatable with no clear evidence to support either its use or its avoidance.

It is recommended that patients on the combined oral contraceptive, and hormone replacement therapy, should stop these for four weeks prior to, and four weeks after surgery, as they may be associated with an increased risk of deep vein thrombosis (DVT). For patients on the pill alternative forms of contraception should be used.

Patients who are overweight also have a higher risk of complications, and abdominoplasties should not be seen as a way of losing weight. If patients are dieting, they should aim to get to their desired weight pre-operatively. Mr Cadier and his team have the policy that such surgery will only be offered to patients with a Body Mass Index (BMI) of less than 36. The BMI is calculated from the weight and height, and there are many simple tools available on the internet to help perform this calculation. Patients with a BMI of 36 or over have much higher risks both from the surgery and the anaesthetic and the risks therefore potentially outweigh the benefits.

**What happens before the operation?**

At the initial consultation with Mr Cadier after discussing regarding the specific concerns a full medical and surgical history will be obtained. As part of the consultation a psychological assessment is made to ensure that it is appropriate to undertake the surgery, and on occasions the completion of a psychological questionnaire may be required. In all cases Mr Cadier will write to the GP to request a past medical history. Patients may refuse this but need to be aware they are exposing themselves to more risks should they omit or forget some relevant past medical history. Also, in the postoperative period should there be any problems it is important that the GP is aware what has been undertaken in order to be able to offer effective help and advice. At the consultation details regarding the operation, the aims, the limitations, the recovery and the risks will be discussed. Before the operation you will usually attend for a pre-operative nurse led assessment. You may require a blood test. Any significant health problems not previously identified may be discussed with Mr Cadier or the anaesthetist, and a further assessment may be required to determine suitability for the procedure.

On admission, you will again be assessed by the nurses and you will be measured for a pair of compression stockings. These are worn to reduce the risk of thrombosis formation and should be worn for a minimum two weeks postoperatively. You will be seen by the anaesthetist prior to surgery and be able to discuss issues pertaining to the anaesthetic and also pain relief in the immediate postoperative period. You will also see Mr Cadier who may make some pre-operative markings and will take photographs for the medical records.

**Operative procedure**

The breast reduction procedure takes between 2 – 2 ½ hours and is undertaken under general anaesthetic. Before starting the operation, when the patient is asleep, the breasts are infiltrated with a dilute solution of local anaesthetic and adrenalin, not only to provide postoperative pain relief, but also to reduce bleeding. During surgery, excess skin is removed as well as breast tissue. The nipple is elevated to a more ideal position. The locations of the incisions will have been discussed and marked preoperatively. In some patients, liposuction is also undertaken especially to the armpit region to reduce any bulging. The wounds are all sutured with self-dissolving stitches and dressings applied. Drains are inserted into each breast. The tissue that is removed is routinely sent for histological analysis.

**What to expect immediately after the operation**

On return to the ward, patients will have an intravenous drip to provide fluids for the 24 hours following surgery. Drains are placed into each breast to allow any oozing or bleeding to accumulate into either a small bottle or bag by the side of the bed. These are usually removed 48 hours prior to discharge. If any pain or discomfort is experienced following surgery, painkillers are given either by injection or as tablets. Pain is not a significant feature in breast reduction surgery. The patients will note dressings over all of the wounds with small windows over the nipples allowing these to be inspected on the night following surgery.

**What to expect after discharge.**

Your length of stay in hospital is variable and depends on many factors but is usually 2 days. Following the breast reduction procedure, dressings are applied in the operating theatre as follows: butterfly tapes are applied directly to the wound and then an absorbent dressing is placed over this. These dressings are usually left intact for 1 week following surgery, unless they become messy, in which case they are changed prior to discharge. Patients are invited to re-attend 7 and 14 days post discharge for a wound check by the nursing staff and a change of dressings. Dressings are required for a total of about 2 - 3 weeks following surgery. The tapes that are applied directly to the wound should be left longer if possible. From 2 - 4 weeks postoperatively (once the tapes have dropped off), the wound should be massaged once or twice a day with Vitamin E containing cream or lotion.

The wound should be kept dry whilst the dressings are in place and during this period of time patients are advised to wash around the area with a flannel. With the waterproof dressing patients can shower however, these should be brief and as best possible the dressing should be kept away from the water. After this period the patients can get the wound wet provided there are no significant wound problems. Prolonged soaking in a bath should be avoided for at least three weeks postoperatively.

The breasts will feel tight and firm for 2 - 3 weeks and then gradually soften. Some bruising may occur, especially if liposuction has been undertaken. Some lumpiness within the breast is common, but most will soften with time. However, the breasts will have a new pattern of lumpiness that should be learnt for breast self-examination purposes. Some numbness around the breast is inevitable and will gradually resolve over many months. Nipple sensation may be altered either down or up – this may be permanent. Hypersensitivity of the nipple may on occasions occur. If this does happen the nipple/areola complex should be massaged and desensitized by gentle tapping. At discharge, a letter will normally be sent from the ward to your General Practitioner informing them of your admission and of the procedure undertaken. Patients are encouraged to keep their GPs informed. However, should they wish the admission to remain confidential, please inform the ward staff and no communications will be sent.

**The breast appearance**

Initially the breasts will not look correct. The mound of the breast will be too high and rounded, and the lower half of the breast will seem flattened and will appear to be squeezing the breast. Some bulging into the armpit is also very common, and the breast may have a boxy appearance. With short scar techniques there may be some wrinkling of the skin under the breast. All of this is normal.

Over the first few weeks following surgery, the up-down scar under the breast will stretch and the breasts will start to assume a more natural shape. However, it will take up from 6 - 9 months to fully normalize.

**Bra/clothing**

A support or sports bra that gives firm all round support should be worn as much as possible day and night for 6 weeks following surgery. After this period, a normal bra, including underwired varieties, can be worn. It is probably prudent, however, to wait for a total of 3 months before assessing the new bra size and getting a new wardrobe. If undertaking vigorous sporting activities, a sports bra is advised.

**Scar maturation**

The scars will inevitably go red, become lumpy and may widen. After 2 – 4 weeks when healed, massaging 2 times a day with Vitamin E containing ointment is advised. This should be continued for at least 2 months following surgery, and longer if the scars are not settling. Full scar maturation may take 6 – 24 months. Ultimately the scars will usually become pale and flat. However, if this process is delayed other treatments including silicone therapy, steroid injections and laser treatment may be required. In rare cases, a scar revisional procedure may be beneficial, though this will set the clock back in terms of scar maturation.

**What restrictions are there following surgery?**

For the 1 – 2 weeks following surgery, patients should rest and convalesce. They should refrain from driving or from undertaking any light housework. After this period, light housework and gentle activities can be undertaken, gradually building up to normal over a 6 - 8 week period. Gentle gym activities and jogging can be resumed at 3 - 4 weeks. However, heavy lifting or any vigorous sporting activities (aerobics, tennis, and badminton) should be avoided for 2 - 3 months following surgery.

Most patients refrain from work for 1 - 2 weeks. However, those patients with physical jobs or where recovery is delayed, an additional 1 - 2 weeks may be required. Sexual activities can resume when patients feel comfortable, but usually no earlier than 2 weeks following surgery.

**You are advised to refrain from flying for 4 weeks before surgery and for at least 4 weeks postoperatively. Please discuss any travel plans you may have around the time of surgery with Mr Cadier before proceeding with the booking.**

**What about pain relief?**

Despite the extent of the surgery, breast reductions are not usually associated with much pain. However, regular pain relief is advised for the minimum of at least 1 week following surgery (usually a combination of anti-inflammatories and Paracetamol or Paracetamol / Codeine mixes). These should be prescribed prior to discharge from the hospital. Following the initial week, pain relief should be taken as required.

**Follow up**

After discharge, patients require a wound check at 7 and 14 days post discharge. This can either be by the nursing staff in the outpatients, where the surgery was undertaken, or by the General Practitioner (their agreement would need to be sought). Dressings are required for 2 - 3 weeks postoperatively. Appointments for the initial dressing change are made prior to discharge. You will also be reviewed by Mr Cadier at 1-2 months and 5 months postoperatively. These appointments will be sent in the post.

**Histological examination and breast cancer**

In all cases, the tissue that has been removed will be sent for routine histological examination. The results usually come back within a fortnight and patients receive a letter confirming the results. Very rarely, something untoward is detected and patients will be recalled back for urgent review. If a cancer is detected, it is highly likely that the treatment that will be required will involve a mastectomy as it is impossible to locate the exact site of the tumour within the breast. On the positive side, obviously the cancer will have been picked up at an early stage. Patients over the age of 45 who have not had a mammogram within a year of surgery should consider whether it would be appropriate to have one pre-operatively.

The scarring in the breast may be visible on routine mammography but will not affect the interpretation of the investigation. Breast cancers are not triggered by surgery to the breast and there is good evidence to show that rates of breast cancer are actually reduced following breast reduction almost certainly a result in the reduction of breast tissue.

**What are the risks?**

The risks are as follows:

* Poor scarring including hypertrophic and keloid scarring
* Infection
* Changes in nipple or breast sensation, which may be temporary or permanent
* Bleeding (hematoma)
* Poor wound healing
* Breast contour and shape irregularities
* Skin discoloration, permanent pigmentation changes, swelling and bruising
* Damage to deeper structures—such as nerves, blood vessels, muscles and lungs—can occur and may be temporary or permanent
* Breast asymmetry
* Fluid accumulation
* Excessive firmness of the breast
* Potential inability to breastfeed
* Potential loss of skin/tissue of breast where incisions meet each other
* Potential, partial or total loss of nipple and areola
* Deep vein thrombosis, cardiac and pulmonary complications
* Pain, which may persist
* Allergies to tape, suture materials and glues, blood products, topical preparations or injectable agents
* Fatty tissue deep in the skin could die (fat necrosis)
* Possibility of revisional surgery
* Deep vein thrombosis and life-threatening pulmonary embolism
* Anaesthetic complications – these will be discussed with you by the anaesthetist before surgery.
* Death

Following breast reduction surgery there will be scars. All attempts are made to keep these as fine as possible, by the use of layered closure techniques and delicate tissue handling. However, some patients are predisposed to make unfavorable scars. The scars can become very red and become raised and wide – so-called hypertrophic scars. In rare instances the scar tissue appears to spread beyond the normal scar width – this is known as keloid scarring. Scar treatments may be recommended to help improve this scarring.

In the first few hours on returning to the ward bleeding may occur and this can accumulate resulting in a haematoma. The breast swells massively, and patients need to return to the operating theatre for evacuation of the haematoma. This occurs in about 1:100 cases. There are usually no long-term sequelea.

Sensory disturbance to the breast skin and nipple are described above. Some pain and discomfort will occur but usually resolves after a week or two. Some patients do experience a mastitis-like pain for a longer period and occasionally a course of medication is required. Some patients develop painful lumps in the breast. These are usually due to small areas of fat necrosis, and they will usually settle down over 2-3 months.

The commonest complication is wound infection. Occasionally antibiotics are required, and dressing may be required for a longer period. In severe infections, wounds can breakdown, usually at the bottom of the up/down scar at the T-junction. This is a relatively unusual complication in non-smokers, and patients of normal body weight. Patients who do smoke should refrain for 4 weeks before and at least 4 weeks after surgery. Usually the wounds will heal with simple dressings alone, though occasionally secondary surgery may be required.

In very severe infections, the tissues can be damaged and skin loss can occur. Secondary surgery will almost certainly be required; very rarely this involves the use of skin grafts.

All attempts are made to make the breasts the same in terms of size, shape and nipple position, but small differences are inevitable. If these differences are marked, then revisional surgery may be required, though this is usually deferred for several months as some differences may reduce as all the swelling settles. The commonest problem is bulging at the end of the transverse scar under the armpit. When such bulges occur liposuction during the initial procedure may be undertaken, however sometimes they persist and a revisional procedure is required.

The most serious complication following breast reduction surgery is nipple loss. Fortunately, this is extremely rare. Should this occur, the nipple and areola die, and a scab is formed, which will eventually heal up leaving a scarred area. A new nipple can be reconstructed at a later date, but these are often poor imitations.

Following any surgery there is a risk in developing a deep vein thrombosis (DVT). This is a clot in the calf vein of the leg. In itself it may result in pain and swelling. The risk is that should the clot separate from the vein it can move to the lungs resulting in a pulmonary embolism. This is a potentially life-threatening situation. All attempts are made to reduce the risk using compression stockings during and for two weeks after surgery, using pneumatic compression devices on the legs at surgery and in the immediate postoperative period, by encouraging early mobilization, advising patients to stop the combined oral contraceptive pill or Hormone Replacement Therapy (HRT) four weeks prior to surgery, and where it is felt appropriate using injections of blood thinning agents.

All surgical and anaesthetic procedures have risks and some are life threatening, these include pulmonary embolism, anaphylaxis (severe allergic response to a medication) and adverse drug reactions. Death however remains an extremely rare complication.

When complications do occur, all attempts are made not only to remedy the problem in as speedy a manner as possible but also to optimise the final result. As with all cosmetic surgical procedures undertaken by Mr Cadier, there is a fixed fee policy, which means that no further charges are incurred for the treatment of complications that are identified within 6 months following the initial surgery. Revisional policies for aesthetic concerns have changed and, in most cases, additional fees will be incurred. Patients need to be aware regarding the limitations of surgery and have very realistic expectations about outcomes.

Most patients are delighted with the result of surgery and breast reductions are associated with very high rates of patient satisfaction. In many cases, the operation is not simply a cosmetic procedure. Patients frequently experience functional benefits as a consequence of the reduction in the heaviness of the breasts. These include improvement of neck, shoulder and backache, as well as a loss of the dragging sensation and chaffing in the crease under the breast.

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**About your Surgeon:**

Michael Cadier was educated at the French Lycée in London, studied at Oxford University and undertook Medicine at St Thomas’ Hospital, London. After training in London, Salisbury and Bristol he became an NHS Consultant in the Supra-regional Plastic Surgery Unit in Salisbury in 1996, becoming Head of this Service in 1999. In his NHS practice he developed a breast reconstruction service in Portsmouth, and in 2000 was appointed as cleft surgeon to the newly established Spires Cleft Centre, for which he also became the first Clinical Director in 2002. He undertook yearly cleft lip and palate Charity missions in rural Pakistan from 1996 to 2009. He has a busy aesthetic surgery private practice along the South Coast, undertaking the full range of aesthetic surgery procedures. He has performed over a thousand facelifts, and over 1500 breast augmentations, with similar numbers for all of the more common aesthetic procedures. In 2015 he became fully private, concentrating solely on aesthetic surgical practice.

He is widely published and lectures and teaches on aesthetic surgery both nationally and internationally. In 2006 he was invited to become an examiner for the FRCS (Plast). He is the Program Director for the South Coast Reconstructive Cosmetic Surgery Fellowship, was part of the first UK delegation in the CEN in cosmetic surgery (European regulation) and chaired the CSIC Royal College committee on Clinical Quality and Outcomes in Cosmetic Surgery.

The British Association of Aesthetic Surgeons (BAAPS) is the leading organization for aesthetic surgery in the UK. He was elected to BAAPS Council in 2006 and was President of BAAPS from 2014 to 2016. One of his key objectives is to ensure that UK plastic surgeons of the future will practice aesthetic surgery to the highest possible and with that aim he has helped establish a comprehensive national training program in aesthetic surgery.

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