PAUL HARRIS
PLASTIC SURGEON

www.paulharrisplasticsurgeon.co.uk

TUG Flap Breast Reconstructive Surgery Information Sheet

This information sheet is a general guide for patients undergoing a Transverse Upper Gracilis (TUG) flap breast reconstruction under the care of Mr Paul Harris. It should help clarify some questions that you may have.

The TUG flap uses tissue and muscle from the inner upper thigh near the natural groin crease, to create the breast tissue. You will need to be in relatively good overall health to have a TUG flap procedure. If you are very overweight, it may increase your risk of complications such as wound breakdown and delayed healing in the groin.

There are many additional factors that influence your individual operation, your recovery and the long-term result. These include your overall health, your chest size and body shape, previous breast surgery, radiotherapy, any bleeding tendencies that you have and your healing capabilities, some of which will be affected by smoking, alcohol and medications. Such issues that are specific to you need to be discussed with Mr Harris and are not covered here. Please feel free to ask him any further questions before you sign the consent form for the operation.

What is TUG flap procedure?

A TUG is a piece of tissue (flap) composed of muscle, fat and skin, taken from your upper, inner thigh to create the feel and shape of a breast. The tissue and its blood vessels are carefully detached before being reconnected to a new blood supply in your chest. It is called TUG (transverse upper gracilis) because it utilises a part of the gracilis muscle along with the accompanying blood vessels, skin and fat. The gracilis muscle is the most superficial muscle of the inner thigh and its loss does not result in hernia formation or noticeable weakness.

It is a complex operation that takes about 5 - 7 hours to complete and results in warm, soft, pliable reconstructed breasts that resemble natural breast tissue. After the skin and tissues (the flap) have been carefully dissected, the flap is connected to your chest using microsurgery. Mr Harris then shapes the flap to create the new breast. As some thigh muscle is transferred to the breast area you will probably experience mild thigh pain post-operatively.

The surgery involved is quite complex, thus few breast centres offer TUG flap breast reconstruction. Mr Harris specialises in this procedure both in the NHS (at the Royal Marsden Hospital) and privately. He has pioneered changes to this type of breast reconstruction to improve the outcome, which have been published in numerous prestigious surgery journals.

All breast reconstructions are a process of care that usually require two or more operations. When using the TUG flap, whilst as much of the reconstruction is done at the time of the main flap transfer operation, there is often a need for a second very small operation to refine and adjust the reconstruction, as well as undertake a nipple reconstruction, if required. Despite the need for more than one operation, the result should be life-long and the reconstruction should age with you naturally. It should also change with your body weight in a similar way to your breast. This is one of the major differences between flaps and implants, as implant-based reconstructions frequently need revision surgery as the years go by.

Is a TUG flap suitable for everyone?

Mr Harris will discuss the suitability of this procedure with you. In general it is a good choice if you do not want an implant and need to have either one or both breasts reconstructed. It is a good choice if patients do not have adequate skin and tissue on the abdomen, or have had previous abdominal surgeries that may have interfered with blood vessels that the DIEP flap requires. The ideal patient for the TUG flap is someone with small breasts who does not require a significant amount of volume for the reconstruction.

What are the benefits of the TUG flap?

When the breast is reconstructed entirely with your own tissue, the results are more natural and there are no concerns about a silicone implant. The gracilis is a thigh “adductor” muscle and helps to close the legs inward. It is not a critical strength muscle and can be considered expendable since patients generally do not complain of weakness after surgery.

The biggest advantage is that the incision is fairly well hidden in the natural groin crease, and easily covered by standard clothing. The disadvantage of the TUG is that it provides only a modest amount of tissue for breast reconstruction so is not suitable if you have large breasts. Mr Harris will determine if you are a good candidate.

What will happen before the operation?

If you smoke you should stop at least three weeks before surgery to reduce the likelihood of post-operative complications. If you are unwell before the operation, please call Mr Harris’ secretary (tel: 0207 927 6520) as the date of surgery may need to be postponed. No medication containing aspirin should be taken for ten days before surgery. Please bring with you a nightdress, dressing gown, slippers and toiletries. Do not bring cosmetics or jewellery. It is useful if you could also bring a non-wired comfortable and support bra, like a sports-bra, that you do not mind being cut. After the operation, a hole is often made in the bra so that the TUG flap can be examined without having to remove the bra frequently.

A short time before your date of admission or when you arrive in hospital, you will be seen by a nurse and a member of the medical team who will discuss your general health and examine you to make sure that you are fit for surgery. They may also arrange for you to have some blood tests, a heart trace (ECG) and a chest X-ray. An anaesthetist will discuss the anaesthetic with you. Mr Harris will see you soon after admission, when he will often measure your chest and draw some markings to guide the surgery.

You will then be asked to sign a consent form. Make sure that you are fully informed of and fully understand all the consequences of the surgery prior to signing this. Signing this form does not take any of your normal rights away, it merely states that Mr Harris has explained the operation to you and that you have discussed the anaesthesia with an anaesthetist.

What does the operation involve?

A TUG reconstruction is a major operation, taking 5 - 7 hours, performed under a general anaesthetic. A urinary catheter is used to drain urine while you are confined to bed during the first hours after the operation. Some drains are positioned in the thigh and the breast. These are removed in the first few days following surgery. You will be given some intravenous antibiotics to help reduce the chances of post-operative infection but these will not usually be continued beyond the first 48 hours. You will also be given a blood-thinning injection of heparin to reduce the chances of deep vein thrombosis.

How will I feel when I wake up after the operation?

You will wake up in the recovery area before being transferred to the high dependency ward. It is usual to feel drowsy and a little disorientated for some time post-operatively. If you have pain or feel sick, the nursing staff will give you the appropriate medication. The breast(s) will feel a little sore after surgery particularly when the arms are moved, but this rapidly improves over the first few days. You will be given a device to control your own pain-killing medication (PCA or Patient Controlled Analgesia). The nurse will teach you how to use this, but essentially you press the button on the control if you feel pain. There is a lock-out on the device so that it is impossible for you to overdose on the medication. A warming blanket is also usually in place for the first night to stop you getting cold.

What will I look like post op?

Mr Harris will do everything possible to make your breasts look and feel natural. There will be scars at the tissue donor site (your upper thigh) and on the reconstructed breast, but these can be well hidden by standard clothing. You may require a final surgical procedure after the TUG flap to make the breasts appear as symmetric and natural as possible. Please discuss with Mr Harris all of your concerns and expectations for post-surgery appearance and recovery.

What post-operative care do I need and when can I go back to work or exercise?

TUG flap surgery requires a hospital stay of three or four days. It is normal to spend 1 night after the operation in a high dependency unit for close monitoring. It is very important that the new blood supply to your breast reconstruction is well maintained and it will be carefully monitored by frequent checking of its colour and temperature. After the first night, you are then usually transferred to the ward for standard nursing care. On the first day following surgery, you will begin eating and a physiotherapist will help you sit out in a chair for a short time. You can usually get out of bed by yourself two days after the operation.

After 2 or 3 days the PCA is stopped and painkillers are given regularly in the form of tablets. You can normally take a shower on day 3 or 4. The usually hospital stay is 4 - 6 days.

On the day of discharge, you will be able to walk with minimal assistance. You will be given an information sheet and be asked to attend a dressing clinic appointment approximately 10 - 14 days after the operation. At that appointment, the dressings will be removed by a nurse and the wound checked. Mr Harris is usually also present for this dressing change but it is not essential that he sees you at this stage. You should continue to shower daily but it is inadvisable to soak in the bath with the wounds submerged for at least 3 weeks.

After 2 - 3 weeks you may go back to non-physical employment and resume driving a car, but check this with Mr Harris and your insurance company as some do vary. Four weeks after your operation you may resume gentle exercise. The recovery time for flap reconstruction is 4 to 6 weeks to resume most normal activities. You will be sore for about a week or two and then begin to improve every day.

What are the potential complications that can arise from my surgery?

Any invasive surgical procedure has risks such as infection, haematoma (blood clot), dysaesthesia (changes in sensation), post-operative pain, scar formation and delayed wound healing. Most complications following a TUG are relatively minor and can be easily treated. The most common complications are outlined below:

- Haematoma – A haematoma is a collection of blood inside the body after surgery. If one does occur, a further short operation would be required to drain the haematoma and stop the bleeding. If post-operatively you feel the breast reconstruction or thigh area getting larger, especially if it is associated with pain, then you should tell a member of the nursing or medical team as soon as possible.

- Flap loss or failure - This rarely happens but it is a serious complication. The nursing staff and Mr Harris will keep a very close check on the new tissue in the reconstructed breast in the first few days after the operation. He will want to be sure that its blood supply is working well. If there are any signs of a problem, you may need to go back to the operating theatre to have it checked. About 1 in 100 women who have a TUG flap may need one of these 'second checks' in the week after their surgery. Very rarely (less than 1 in 200 cases or 0.5%) the new tissue in the breast fails and an alternative method of reconstruction is needed.

- Infection – Infection is rare. Antibiotics are given at the time of the surgery to reduce the chances of infection occurring. However the groin incision following the TUG removal for transfer to the breast, can be problematic as this is often a damp area and prone to infection. It is important to keep this wound as clean and dry as possible to reduce the chances of infection. Most infections resulting from surgery appear within a few days of the operation and require a further course of antibiotics.

- Seroma formation and lymphoedema – Many lymphatic channels are positioned along the inside thigh and their interruption by the removal of the flap often leads to fluid release inside the groin wound. This fluid is removed initially by the drains. However after drain removal it can accumulate to create a pocket of fluid (a seroma) that is noticeable. Mr Harris can drain this very simply in the out patients when he sees you. As the channels are disrupted, this can also lead to temporary swelling of the leg due to fluid (lymphoedema). Compression stockings can help with this and as time passes, new channels open up to replace those removed by the flap. The leg then usually recovers fully.

- Lack of sensation in new breast and thigh – The breast reconstruction flap will have little or no light-touch sensation. Over 12 to 18 months, the periphery of the reconstruction does regain some sensation and most patients can feel movement of the breast on the chest wall. Sometimes nerves to the back of the thigh can also be damaged by the flap removal and this may create a patch of numbness. This will normally recover fully but you may be left with a small patch of permanent change.

- Asymmetry – Most women's breasts are asymmetrical (not perfectly equal in either size or shape) and Mr Harris should mention this to you pre-operatively. With advancing age, the breast also tends to ptose or droop. Although every effort is made to create a new breast to match the opposite healthy one, it is rarely possible to achieve perfect symmetry. After discussion with Mr Harris and depending on your wishes it may be deemed appropriate to perform a mastopexy (hitching up) or reduction operation on the other breast in order to more evenly match the breasts.

- Scar formation - All incisions produce scars, most of which settle down over several months. However some scars can be troublesome. Hypertrophic scars are red, raised and itchy for several months following the operation. These can be treated but may result in a wide stretched scar. Keloid scars are larger and more difficult to treat but these are extremely rare following breast reconstruction.

- Psychological problems - A diagnosis of breast cancer and its subsequent treatment can be a very traumatic experience. Members of the breast care team are available to discuss any problems you may have. There are a number of independent organisations that also offer help (please see below).

Where can I find additional information about TUG flap reconstruction?

Consumer Interest Groups:

- Breast Cancer Care, Kiln House, 210 New Kings Road, London SW6 4NZ
  Telephone: 0207 384 2984
  www.breastcancercare.org.uk
- Cancer BACUP, 3 Bath Place, Rivington St. London EC2A 3DR
  Telephone: 020 7920 7231
  www.cancerbacup.org.uk or www.macmillan.org.uk

Professional Interest Groups:

- British Association of Plastic, Reconstructive and Aesthetic Surgeons (BAPRAS)
  www.bapras.org
- Association of Breast Surgeons
  www.associationofbreastsurgery.org.uk
- Royal College of Surgeons of England, 36 – 43 Lincoln's Inn Fields, London WC2A 3PN
  www.rcseng.ac.uk

The Practice

Mr Harris practices from 5 Devonshire Place in Central London, where he also performs minor outpatient procedures. Assisted by his regular anaesthetist, he operates at The London Clinic (http://www.thelondonclinic.com) and at The Royal Marsden Hospital, Fulham (http://www.royalmarsden.nhs.uk). He also consults and operates at Parkside Hospital, Wimbledon (http://www.parkside-hospital.co.uk). All provide a full range of medical support services.

Main correspondence, appointments and administration

Many patients are referred by their General Practitioner or their Breast Cancer Surgeon. You may, however, arrange your own appointment with Mr Harris, without referral.

Please refer all correspondence to:
5 Devonshire Place
London
W1G 6HL

For appointments please contact:
appointments@paulharrisplasticsurgeon.co.uk, tel: 020 7927 6520

For information and payments:
admin@paulharrisplasticsurgeon.co.uk, tel: 020 7927 6521

For nursing support please contact:
nurse@paulharrisplasticsurgeon.co.uk, tel: 074 9622 8878