PAUL HARRIS
PLASTIC SURGEON

www.paulharrisplasticsurgeon.co.uk

DIEP Flap Breast Reconstructive Surgery Information Sheet

This information sheet is a general guide for patients considering a DIEP flap breast reconstruction under the care of Mr Paul Harris. It should help answer some of the questions you have.

There are many factors that can affect your individual operation, your recovery and the long-term result. These include your overall health, your chest and body shape, previous breast surgery, radiotherapy, any bleeding tendencies that you have and your ability to heal. Some of these will be affected by smoking, alcohol and medications. Issues 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.

What is a DIEP flap?

A DIEP is a piece of tissue (flap) composed of fat and skin, taken from your lower tummy (abdomen), to create the feel and shape of a breast. The tissue and its blood vessels are carefully detached from your abdomen before being reconnected to a new blood supply in your chest. It is called DIEP because the blood vessels taken from the abdomen are called the deep inferior epigastric perforator blood vessels. It is a complex operation that takes about 5 - 7 hours. DIEP flaps give warm, soft and pliable reconstructed breasts that resemble natural breast tissue, and are therefore considered the gold standard for breast reconstructive procedures. In addition, the removal of tissue from your abdomen results in a flatter tummy, as if you have had a tummy tuck (abdominoplasty).

After the skin, tissues and perforators (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 no abdominal muscle is removed or transferred to the breast area you should experience less pain post-operatively and a faster recovery compared to other flap procedures. Abdominal strength is also maintained long-term after the DIEP flap procedure.

The surgery involved is very complex, and few breast centres offer DIEP flap breast reconstruction. Mr Harris specialises in this procedure both in the NHS (at the Royal Marsden Hospital) and privately, performing almost 100 DIEP breast reconstructions every year.

Nearly all breast reconstructions require two or more operations. When using the DIEP 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. 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 needed revision surgery as the years go by.

Is a DIEP flap suitable for everyone?

Mr Harris will discuss the suitability of this procedure with you. In general it is a good choice if you want a natural feel and look, do not want an implant and need to have either one or both breasts reconstructed, and have an adequate amount of tissue on your tummy. You can still have a DIEP reconstruction if you've had some abdominal surgery (hysterectomy, caesarian section, appendicectomy, bowel surgery) unless the scarring on your abdomen is extensive. If you are very

slim, very overweight, smoke or have health problems like diabetes then the procedure may not be suitable for you.

What will happen before the operation?

If Mr Harris considers the DIEP flap to be an appropriate operation for you, then he will often arrange for you to have a scan of the blood vessels of the abdomen (CT angiogram). This will help him plan the details of the surgery and he should be able to tell you if some of the muscle of the tummy will be damaged by the surgery or if the pattern of the blood vessels is such that the muscle will be unaffected. This scan also helps speed up 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 aspirin or 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 supportive bra, like a sports-bra, that you don't mind being cut. After the operation, a hole is often made in the bra so that the DIEP 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 talk to you about 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 visit you to discuss the anaesthetic. Mr Harris will see you soon after admission, when he will measure your chest and draw some markings to guide the surgery. It is important that you do not wash these lines off.

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 had an opportunity to discuss the anaesthesia with an anaesthetist.

What does the operation involve?

A DIEP reconstruction is a major operation performed under a general anaesthetic and usually requires a hospital stay of 4-6 days. A urinary catheter is used to drain urine while you are confined to bed during the first few hours after the operation. Some drains are positioned in the abdomen and the breast. These are usually removed in the three days following surgery. You will be given some intravenous antibiotics for 48 hours to help reduce the chances of early post-operative infection. You will also be given a blood-thinning injection of heparin to reduce the risk 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, you should tell the nursing staff so that they can 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. It is likely that your hips and knees will be bent, perhaps on cushions or with the bed bent in the middle, to take the strain off the abdominal wound.

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, and some intermittent compression devices on the calves to keep the blood circulating in the legs and again reduce the chances of deep vein thrombosis.

Where will the incisions be?

You will have an incision on your breast and one on your abdomen. The breast incision will contain a patch of visible skin from the tummy so that Mr Harris can check that the flap is working well. The abdominal incision will be a horizontal line just below the bikini line. There will also be an incision around the belly button (umbilicus). All the sutures are dissolvable except for a small number within the umbilicus.

All incisions produce scars, which usually 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.

Will there be drains and when do they come out?

Drains will be used in both breast and the abdomen to drain away excess fluid following the operation. They usually exit the wound through a separate tiny incision, and are usually removed in the days following surgery, depending on the amount of fluid that is drained. Occasionally the abdominal wound produces a large amount of fluid and patients prefer to go home with their drain still in place. If this happens, you would need to return to the hospital a few days after discharge for removal of the drain.

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

It is normal to spend one 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, a physiotherapist will help you sit out in a chair for a short time. You can usually get out of bed by yourself 2 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.

On the day of discharge, 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 both Mr Harris and your insurance company as some do vary in their recommendations. Four weeks after your operation you may resume gentle exercise, but violent movements, upward stretching of the arms and physical employment are inadvisable for 6-8 weeks. You can sleep on your back or side but not on your stomach for at least 8 weeks.

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, and delayed wound healing. However, the overall

complication rate for DIEP is less than 10% and most of these are minor problems. The most common complications are outlined below.

A haematoma is a collection of blood inside the body. These are normally reduced by the use of drains. However if one does occur, a further short operation may be necessary to drain the haematoma and stop the bleeding. If post-operatively you feel the breast reconstruction or the abdomen getting larger, especially if it is associated with pain or you feel light-headed, then you should tell a member of the nursing or medical team as soon as possible.

Flap loss or failure rarely happens but is a serious complication. 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 DIEP flap may need one of these 'second checks' in the week after their surgery. Very rarely (less than 1 in 250 cases or 0.4%) the new tissue in the breast fails and an alternative method of reconstruction is needed.

The development of a serious infection is rare. Antibiotics are given at the time of the surgery to reduce the chances of this happening. Most infections resulting from surgery appear within a few days of the operation and require a further course of antibiotics.

Build-up of fluid under the wound site (seroma) happens in 10% women after the abdominal or breast drains have been removed, and usually gets better within a few weeks. The fluid can be drained at an outpatient appointment with Mr Harris, using a needle connected to another drain bottle. If the seroma recurs, which it does very rarely, an injection of steroid needs to be applied to the abdominal wound to reduce the production of fluid. The seroma or its treatment does not usually have any long term consequences.

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.
Most women's breasts are asymmetrical (not perfectly equal in either size or shape) and Mr Harris should mention this 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/needs it may be deemed appropriate to perform a mastopexy (hitching up) or reduction operation on the other breast in order to match the breasts.

Weakness of the abdominal wall after a DIEP flap procedure may result in a bulge but this is rare. Post-operative abdominal exercises can sometimes improve this over time. Very rarely, damage to the muscle may produce a hernia that will require additional surgery for correction. This is an extremely rare complication because the abdominal muscle is left intact, which is the great advantage of the DIEP technique compared to the previously used TRAM flap breast reconstructions.

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 (see below).

Where can I find additional information about DIEP 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