LICAP (Lateral Intercostal Artery Perforator) and chest wall perforator flap reconstruction

This type of operation is suitable for some patients who have their breast cancer in the outer part of the breast. The procedure aims to replace the lost breast tissue, fat and occasionally skin which is removed at the time of surgery. It is referred to as a partial breast reconstruction. As long as an adequate rim of healthy breast tissue is removed around the tumour, patients undergoing this type of breast conserving surgery do not need to lose their breast. Most women have spare tissue on their side chest wall. This tissue can be used to reconstruct the space left in the breast after the area of cancer (also referred to as a mass) has been removed. There is no muscle removed in this operation, therefore there is no effect to your arm or chest wall function. You will have quite a long scar on the side of your chest wall going towards your back. Usually all the surgery on your breast, including sentinel lymph node biopsy (SLNB) +/- axillary gland clearance (AGC) surgery if required, will be performed through a single scar or two scars away from your breast.

Therefore, unless discussed before surgery at the time of consent, there will not be a scar on the breast. The exception in some cases is when it may be necessary to remove the skin on the breast if the underlying cancer is close to or involving the skin. The aim of the flap is to replace the tissue lost from your breast due to the removal of your breast cancer and to restore its size and shape. However, if you have radiotherapy after this surgery it may result in some overall shrinkage of the breast. This shrinkage may make your breasts appear different to one another. The reconstructed breast may initially appear larger due to swelling, but this should resolve in the months following surgery.

What happens on the morning of your surgery?

Your surgeon will draw on your breast to show where the incisions (cuts) will be made and explain where you will have scars after the operation. The surgeon will use a piece of equipment called a hand-held Doppler to map out the underlying blood vessels which will supply blood to the flap/tissue being moved to fill the space in your breast. If you are a smoker it is recommended that you stop smoking (or vaping) completely 6 weeks before surgery to reduce the risks of surgical complications. If you continue to smoke or have been a heavy smoker this procedure will not be appropriate for you. We may require you to have a carbon dioxide test pre-operatively to provide reassurance to the surgeon that you are no longer smoking.
What to expect after surgery

The standard hospital stay is overnight and a recovery of 3-4 weeks. You will have a drain in place for a short time after surgery. In most cases the drain will be removed before you go home. If you go home with a drain you will be fully informed regarding the daily emptying of the drains by a breast care nurse. The removal of these drains will be carried out at the breast care unit by a breast care nurse.

You will be kept warm overnight with a warming blanket which is necessary to keep the skin and the flap in your breast warm to help the flap stay healthy. You will have a catheter in your bladder and be encouraged to drink well to keep yourself hydrated. It is important you eat well after surgery so your body can heal quickly.

The nurse will ask you about your pain and provide pain relief to meet your needs. It is advisable to have some paracetamol at home should you need it and if necessary you will be given some pain relieving medication and advice before you are discharged. The wound is closed by dissolvable stitches under the skin with surgical ‘glue’ over the scar. Your wound will be covered in surgical tape which should remain in place for a week until you are seen in the breast clinic. You should wear your post-operation support bra day and night for 6 weeks. The scar may feel tight to start with but it tends to relax fairly quickly within a few weeks. It is important to keep your shoulder joint supple and your breast care nurse will give you an exercise leaflet with daily exercises to do.

Risks associated with a LICAP / chest wall perforator flaps reconstruction

**Further surgery:** It is important that all of the cancer is removed. You may need further surgery (5-10% risk) if we find that this surgery has not removed all of the cancer from your breast. If required, this will be discussed with you at your post-operative results appointment with your surgeon following your surgery. Occasionally this may lead to a mastectomy where the whole breast is removed, and further reconstruction options may be discussed.

**Pain:** Breast surgery is not usually associated with severe pain but you will need some pain relief after the operation. Pain relief will be provided to take when you go home. As this operation involves moving the breast tissue around, the pain/discomfort you feel may not be directly under the scar. You may be discharged home with codeine or tramadol if they are appropriate for you and you require them. If codeine or tramadol are prescribed a laxative may also be given to prevent constipation. Ibuprofen and similar pain medications are not to be taken in the first 36 hours after surgery.

**Infection:** All surgery carries a risk of developing infection. This is rare but can be treated with antibiotics and/or dressings. The risk of infection is higher in smokers, diabetics and obese patients. If you feel unwell with a temperature, vomiting or notice significant redness of the skin on or around your breasts, you should contact your BCN to arrange a wound clinic appointment, if out of working hours your discharging surgical ward or the accident and emergency department.
**Bleeding/Bruising:** You are likely to be bruised after the surgery but this will settle down by itself after a few weeks. Very rarely further surgery may be needed if the bleeding persists or if there is a bigger collection of blood (haematoma).

**Seroma:** Sometimes after surgery, the wound continues to produce fluid under the scar and can cause swelling called seroma. It is not a common problem following this type of breast surgery and is not harmful in any way. A seroma can be drained if necessary by your breast care nurse specialist will review and advise you on this.

**Wound breakdown:** Some patients can have breakdown of the wound and the wound will open up. This leads to delay in wound healing but it will heal with the help of dressings. This is more common in smokers, people with large breasts or with thin skin.

**Loss of sensation:** Numbness of the skin surrounding the scar and where the tissue has been repositioned, sometimes extending to the nipple, is common. Sensation returns in many patients. Some patients experience increased sensation which can last for 2-3 months. The extent of these changes in sensation will depend on the site and size of the cancer. If you are concerned by on-going loss of sensation, talk to your breast care nurse or surgeon.

**Flap failure/loss:** There is a small risk (1-2%) of the flap not working due to damage to its blood supply. This would result in a need for further surgery.

**Inability to proceed with the reconstruction:** During the operation there is a possibility that your surgeon will be unable to proceed with the reconstruction. This would happen if, for example, no suitable blood vessel is identified during the operation. In this case the removal of your cancer will still go ahead. You may be offered alternative forms of reconstruction later to improve the appearance of your breast.

**Scarring:** This operation will result in a relatively long scar on the side of the chest wall going toward your back, most of which may be hidden by your bra. The scars will be most noticeable soon after the operation but should settle down with time. This may take up to a year or longer depending on how well you usually heal. You will be shown photographs of previous patient’s surgery so you can see what the scars look like when you come for your reconstruction talk before surgery.

**Shoulder stiffness:** You are likely to experience some tightness after the surgery due to the scar tissue. This may have an effect on your shoulder movements temporarily. This does not usually last longer than 4 weeks. You should perform the exercise given to you three times a day make sure your shoulder movement returns quickly.

**Fat necrosis:** These are firm lump(s) in your breast which are due to scarring. They are not cancerous and can be assessed by clinical examination, mammogram and/or ultrasound, but they may need to be biopsied to make sure they are not of any concern.
Deep vein thrombosis (DVT): This is a blood clot that can form in a deep vein, usually within the leg or lung. This can happen after any operation and general anaesthetic. The risk of getting a DVT is reduced by wearing special stockings and/or an anti-clotting injection which we would give to you. We advise you to move around soon after you are able to get out of bed following the operation and to stay active on your return home. If you experience pain and/or swelling in one of your legs of shortness of breath and or chest pains you must seek medical advice from your GP or A+E.

General advice: You will probably find it more comfortable to sleep on your back for the first few weeks. Driving is best avoided for the first 2-3 weeks and normal strenuous activities can be resumed after 6-8 weeks to allow wound healing, this would include exercise and manual handling if you have also had a AGC. The swelling and bruising subsides in a few weeks, but it can take 12-18 months for the scars and shape of your breast to settle.

Employment: If you work you will need to let your employer know how much time you need off work. Normally it is advised that you take 3-4 weeks off work, which includes the week of your operation. If your job is particularly strenuous you may need longer off work. Please discuss this with your breast care nurse who can provide you with a sick note. The breast care nurse is there to help and support you and can be contacted as follows:-

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