

Implant-based breast reconstruction

This information is for women who are having a mastectomy and who are suitable for breast reconstruction using implants.....

Implant-based breast techniques

This is by far the most common type of breast reconstruction performed.

It is offered to women who are having a mastectomy and in whom radiotherapy is not planned. We aim to predict the need for radiotherapy before reconstruction is undertaken.

If radiotherapy is planned or you have previously had radiotherapy to your chest, then implant-only techniques are not recommended due to increased risks and poor cosmetic outcomes. There is some debate about this, and some units will offer it, but in our experience and from the evidence available risks are higher and cosmetic outcomes worse. If radiotherapy is required there are other strategies we can use to try and preserve the skin and/or nipple if appropriate. Implant-based techniques are the quickest type of breast reconstruction, taking about three hours, and requiring a 1-2 night stay in hospital. They have the shortest recovery time, of between 4 and 6 weeks, depending on the technique you have.

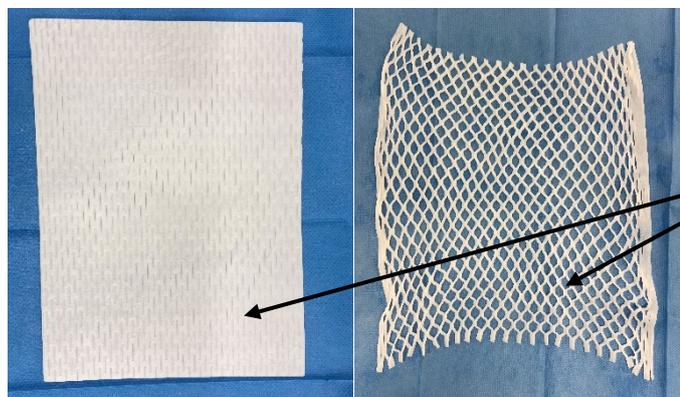
You can have a skin-sparing mastectomy where the nipple is removed as part of the operation, or a nipple-sparing mastectomy where the nipple is preserved. Not all patients are suitable for the nipple-sparing technique and this will be discussed with you in the clinic.

The aim is to preserve the skin envelope and natural contours of the breast but remove as much breast tissue as possible from underneath.

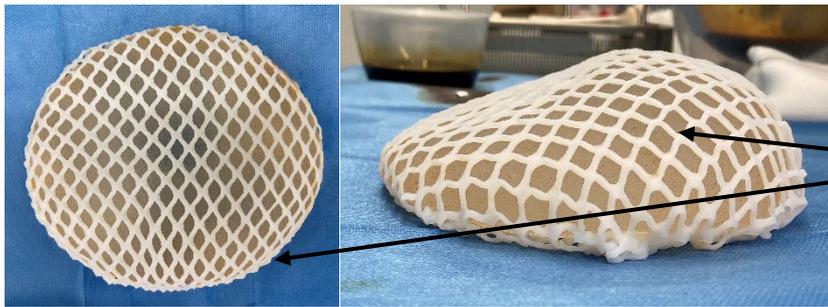
Pre-pectoral implant and Acellular Dermal Matrix (ADM)

This technique has evolved from the sub-pectoral and ADM technique.

A special mesh ADM is used to wrap around the whole of the implant and this is then placed on top of the chest wall muscle and secured to it with a few stitches, but is largely kept in place by your skin envelope. Your wound will then be stitched closed with dissolvable stitches under the skin surface and a waterproof dressing placed on top.



The mesh Acellular Dermal Matrix (ADM).



The mesh ADM on top of the implant. This is then stitched on top of the pectoral muscle.

A small plastic drain is placed under the skin to drain off any blood and fluid to minimise any pressure on the wound and facilitate your tissues growing into the ADM. The drain needs to stay in until there is less than 30ml per 24 hours on two consecutive days, so you will go home with the drain and it will be removed in the outpatient clinic.

You need to wear a soft (non-wired, back fastening) supportive bra with bra extenders immediately after the operation, and we will ask you to bring one down to the operating theatre with you. We encourage you to wear this day and night for 6 weeks after your surgery.

You must not lift anything heavy or partake in any vigorous exercise for a period time, and we recommend up to 4 weeks off work.

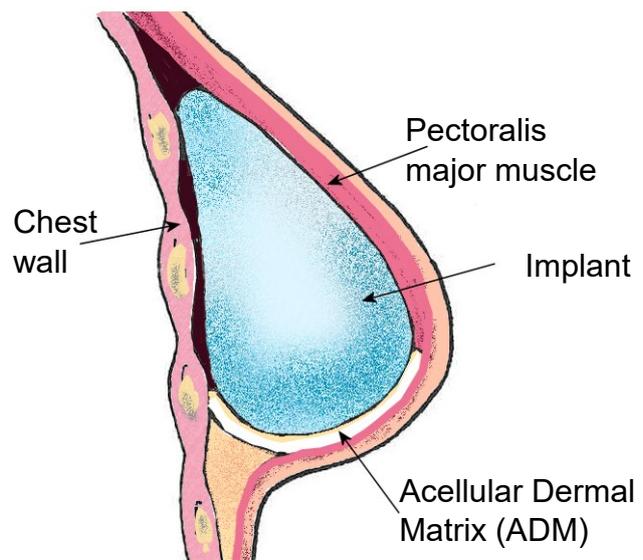
The advantages of this technique are that the muscle is not interfered with and so it is less painful with a quicker recovery, and it can also create a more natural droop. In addition it will not cause any skin movement on muscle contracture (commonly known as animation of the reconstruction). However, it is not as suitable for slim women in whom the top part of the implant edge will be more visible than in the more traditional sub-pectoral technique, and as it is a newer technique with currently maximum four years follow-up, we do not know the more long-term results.

Sub-pectoral implant and Acellular Dermal Matrix (ADM)

This technique is offered to women with small to moderate sized breast who have minimal ptosis (droop) to their breast.

In this technique, the chest wall muscle, pectoralis major, is detached along its outer and lower border to make a pocket underneath in which to put an implant in. The muscle will cover the upper part of the implant and then the ADM, which is essentially a sheet of collagen derived from animal skin (pig or cow), is stitched to the muscle and the chest wall to provide a hammock to cover the lower part of the implant.

Your wound will then be stitched closed with dissolvable stitches under the skin surface and a waterproof dressing placed on top.



The aim is that your tissues will grow into the ADM so that it becomes a part of you. To help this, 1 or 2 small plastic tube drains will be placed around the ADM to drain off any blood or fluid, and these will stay in place for up to 4 weeks until <30ml per 24 hours drains on two consecutive days. You will go home after 1 or 2 nights with the drain(s) in.

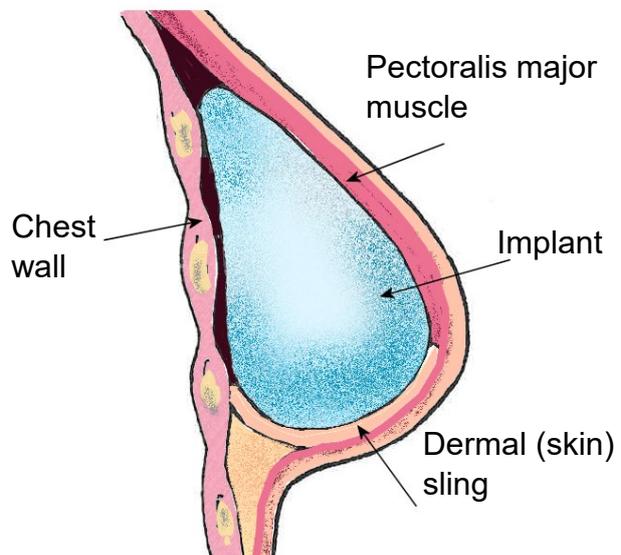
You need to wear a soft (non-wired, back fastening) supportive bra with bra extenders immediately after the operation, and we will ask you to bring one down to the operating theatre with you. We encourage you to wear this day and night for 6 weeks after your surgery.

You must not lift anything heavy or take part in any vigorous exercise for a minimum of 6 weeks. We recommend a minimum of 6 weeks off work.

Sub-pectoral implant and Dermal Sling

This technique is suitable for women with moderate sized breasts who have ptosis (droop) to the breasts.

In this technique, rather than using an ADM to cover the lower part of the implant that again sits under your chest wall pectoral muscle, we take advantage of the natural droop to your breast and use this excess skin to provide the cover. The very top layer of the "sling" of excess skin is removed, a process called de-epithelialisation, and this sling is then sutured to the lower part of the chest wall muscle to cover the lower part of the implant. Your wound will then be stitched closed with dissolvable stitches under the skin surface and a waterproof dressing placed on top. A small plastic drain is placed around the implant to drain off any blood and fluid, and is kept in place for as long as it is needed (until there is less than 30ml per 24 hours on two consecutive days).



This technique commonly involves removing the nipple, as preserving it can be very risky due to the reduced blood supply it will have. It is also commonly done in two stages, first placing an expander into the pocket under the muscle and dermal sling, which is then subsequently inflated in the outpatient clinic, and then this is exchanged for a fixed volume implant at a second operation at least three months later.

You need to wear a soft (non-wired, back fastening) supportive bra with bra extenders after the operation, and we will ask you to bring one down to the operating theatre with you. We encourage you to wear this day and night for 6 weeks after your surgery.

As per the previous techniques you must not do any heavy lifting or vigorous exercise for a minimum of 6 weeks, and we recommend a minimum of 6 weeks off work.

What are the risks?

- **Skin necrosis** – the skin has less blood supply coming to it following the skin-sparing technique, and if there is not enough blood supply then some patches of the skin may die off, and this may require further surgery (up to 2%). There is a big increased risk in smokers (25%).
- **Nipple necrosis** – in the nipple-sparing technique, the nipple also has less blood supply coming to it, and again if there is not enough blood supply then part or all of the nipple and areola may die off, and may require further surgery. This is seen in up to 5% with a big increased risk in smokers (25%).
- **Numbness** – the reconstruction will feel numb, with no or reduced sensation in the skin and no sensation in the nipple if it has been preserved.
- **Bleeding** – this risk is common to all operations, and occasionally patients will need to return to theatre for a significant bleed as it will compromise the skin and the implant. This is seen in 1-2%.
- **Infection** – this is the biggest concern with all implant-based techniques, with the resultant need to remove the implant in severe cases (around 3%). The risk is highest in the implant and ADM techniques, and is greatly increased in smokers, diabetics, and overweight patients.
- **Change with time** – all reconstructions change with time and an implant will last on average approximately 10 years, some longer, some shorter. If there is a significant change that causes you problems then revisional surgery may be necessary. If you do not have problems with the implant by 10 years it does not need changing.
- **Asymmetry** – a unilateral (one breast only) reconstruction will lead to a difference between the two sides, and this can be more noticeable with implant reconstructions. Even for bilateral reconstructions there will be a degree of asymmetry as the breast naturally have a degree of asymmetry. Unfortunately no form of reconstruction can recreate what you had before with your natural breast.
- **Wrinkling/rippling of the implant** – you may notice some wrinkles or ripples to the implant under the skin, particularly if you are slim. These are often smoothed out in a bra.
- **Rotation of the implant** – we tend to use shaped (anatomical) implants for a more natural look, which have more fullness at the lower part of the implant. If these then move in the pocket they have been placed in, the fullness will be in the wrong place and you may wish to have revisional surgery.
- **Visibility or palpability of the implant** – in slim patients you may be able to see the outline of the implant, and feel the edges of it.
- **Capsular contraction** – your body recognises the implant as not part of you, and forms a scar tissue bag called a capsule around the implant. This happens in everyone, and starts as a thin layer. Over time this can thicken and harden, and in doing so squeeze on the implant and change how it looks as well as make it feel tight and uncomfortable. Some people develop this more than others, and we can't predict it. It is usually a slow process over many years if it occurs.
- **Implant rupture** – this is not common, and some implant manufacturers give a lifetime guarantee against rupture now; however, we do see it, commonly associated with significant

capsular contraction (see last point). The implant can rupture into the capsule (intracapsular) so that silicone is contained and you might not notice it at all. Alternatively, it can rupture through the capsule (extracapsular), which is more of an issue as the silicone can get into the breast tissue causing lumpiness. Ruptured implants need exchanging.

- **Anaplastic large cell lymphoma** – this is a very rare condition with estimates between 1 in 5000 and 1 in 60,000 women who have breast implants depending on the literature you read. The average time this is seen, in the few cases described, is 7 years after surgery. Most patients (90%) who have developed this condition have been cured by removal of the implant and capsule. The commonest symptoms in order are:
 - Sudden breast swelling due to fluid accumulation.
 - Rapid capsular contracture (hardening)
 - Breast lump
- **Seroma (fluid build-up)** – this is an inevitable consequence of having a mastectomy and usually resolves with time. Occasionally, patients with implant reconstructions can develop a chronic seroma (1%).

What are my options if I need radiotherapy following my mastectomy?

We are able to accurately predict the need for radiotherapy in these circumstances with 96% accuracy. We frequently see rapid capsular contracture and poor cosmetic outcome when implant reconstructions undergo radiotherapy.

Therefore in these circumstances the options are:

- **Simple mastectomy (removal of most of the breast skin, nipple and breast tissue):**
This results in a horizontal scar across the chest. Patients then either use an external prosthesis in the bra or consider a reconstruction once all cancer treatment has finished. In this scenario, a flap (tissue from elsewhere) reconstruction would be required as an implant only reconstruction is not possible. This is the simplest procedure with the least number of possible complications
- **Skin or nipple sparing mastectomy and temporary subcutaneous implant / skin preserver (removal of most of the breast tissue but preservation of breast skin +/- nipple):**
This results in a scar at the side or underneath the breast skin. The implant is used simply to preserve the skin and will change after radiotherapy. It is not a reconstruction but may give reasonable temporary shape and volume. The advantage is that if it is successful, it may also allow an implant only reconstruction (in addition to the flap options) once the radiotherapy reaction has settled. In addition it may provide some psychological benefits from avoiding a flat scar. Finally the subsequent reconstruction may look more realistic with less scarring due to skin and nipple preservation.
The disadvantage of this technique is the increased risk of complications as detailed above and the prolonged use of a drain (up to 4 weeks).

Contact us

If you have any problems regarding your care or treatment at this hospital, please talk to us. Your feedback will help us to improve and develop our service. Please speak to a member of staff in the clinic or on the ward, or if you would rather talk to a senior member of staff, ask to speak to the ward/departmental manager or matron.

Our Patient Advice and Liaison Team (PALS) can offer you 'on the spot' support and advice as well as practical information at a time when you are feeling confused and anxious. PALS can be contacted on 0118 322 8338, email PALS@royalberkshire.nhs.uk, or ask a member of staff, the receptionists or the switchboard to contact them.

Consultant surgeons

Mr B Smith Consultant Oncoplastic and Reconstructive Breast Surgeon
Miss N Dunne Consultant Oncoplastic and Reconstructive Breast Surgeon
Mr G Cuffolo Consultant Oncoplastic and Reconstructive Breast Surgeon

Trust grade breast surgeons

Mrs S Connolly
Dr E Hyett

Advanced surgical nurse practitioners

Carol Lister
Vanessa Burridge
Nicky Woodrow

The breast care nurses can be contacted on telephone number 0118 322 7420, and please leave a message if you get the answerphone. Or you can email on breastcarenurses@royalberkshire.nhs.uk.

Our clinical teams can be contacted via Clinical Administration Team 3 (CAT 3) on 0118 322 1883, then press the option for 'breast'.

More information

If you have any questions about the procedure or this information, please speak to your surgeon or breast care nurse.

To find out more about our Trust visit www.royalberkshire.nhs.uk

Please ask if you need this information in another language or format.

Breast Unit, June 2021

Next review due: June 2023

Compassionate

Aspirational

Resourceful

Excellent