This is a method that is used to ‘grow’ more skin. It is most commonly used in breast surgery for reconstruction following mastectomy, or for example when breast development has not occurred or there is a difference in breast sizes. It is also used in reconstructive surgery for burns patients where it can be used to expand hair bearing scalp to cover areas where the hair has been burnt away. It can also be used for breasts and scalps, that have been affected by cancer, injury, or abnormalities that are present from birth. There may be other reconstructive methods that can be used so it is important that you talk to your surgeon to decide if this is the best method for you.

A tissue expander is a balloon made from silicone that is attached to a small inflation port. It is placed under the skin. It comes in various shapes and sizes. The balloon is gradually filled by injecting fluid through the inflation port to allow the body to ‘grow’ more skin. This method is likely to produce a good match for the colour and texture of your existing skin.

You will need a general anaesthetic for this operation. The surgeon is careful to place the injection port in an easily accessible site, away from the expander itself. Sometimes the port is actually part of the expander and located with a magnet (see second image above)

During the operation, saline (salt water) will be injected into the expander. Once you have been discharged you will need to go to the outpatient department, so that more fluid can be injected into the expander. This is a time consuming process and it needs to be repeated several times so that the skin can gradually stretch to allow the insertion of a prosthesis (implant), or enough extra skin has been grown to cover the adjacent area. The amount of fluid that is injected at any one time depends on how your skin looks whilst the fluid is being injected and how much discomfort you have.
The fluid cannot escape from the expander as there is a valve between the expander and the tube.

This method of reconstruction takes place over many weeks. Once the period of adding fluid is finished, the expander is kept in place for several weeks to allow the skin to adjust before it is removed.

**Are there any risks?**

Tissue expansion works very well in breast reconstruction and on the scalp. When used in other parts of the body it may not achieve the desired results. This is because a hard surface under the skin, such as the scalp, is needed so that the skin can be stretched.

There are very few risks associated with tissue expansion. It is a common operation and it is generally safe. However, all surgery comes with some element of risk.

The most common side effects are swelling and bruising often associated with pain or discomfort.

**Scars** This operation cannot be performed without causing a scar. The position of the scar depends on why and where the tissue expander is placed. Stitches are normally dissolvable (they do not need to be removed). Sometimes scars can become very 'raised' and look unsightly. They can also be red and itchy. They tend to improve over time.

**Haematoma** Despite the use of drains, blood does sometimes collect around the expander. This is called a haematoma. Sometimes a second small operation will be necessary to remove this.

**Wound breakdown and infection** Sometimes wounds heal more slowly than expected and might occasionally weep or ooze. Antibiotics may be required to treat this. If the scar breaks down or a deep abscess forms that exposes the tissue expander it may have to be removed. Treatment with a high dose of antibiotics will also be given. This complication rarely happens and you would have to discuss future attempts at tissue expansion with your surgeon.

**Rupture of the tissue expander** Rarely, the tissue expander can rupture or tear. If this happens and the expander cannot be inflated, it will have to be removed. The fluid inside the balloon is sterile saline and will not cause any problems. Again, your options about further surgery will have to be discussed with your surgeon.

**Deep vein thrombosis (venous thromboembolism - VTE)** This is caused by a blood clot forming in the leg veins. To help prevent this you will be encouraged to be up and about as soon as possible after the operation. Blood clots are a serious complication and if a clot breaks away from the vein in the leg it can travel to the lungs and cause a pulmonary embolism which can be fatal. To help prevent this happening you may be given a small injection of a blood thinning medicine every day. This makes your blood take slightly longer than normal to clot which reduces the risk of a blood clot forming.

**Tissue expanders in the breast**

**Altered nipple sensation.** There may be a difference in the skin and nipple sensation following the insertion of a tissue expander. A breast that has an underlying ‘implant’ will not necessarily feel like a normal breast.
Shape. With this method of reconstruction it is easier to match the size to an existing breast, however shape of the breast is somewhat unpredictable and will change with time. It is very important that you understand the limitations of this method.

Every time you visit the Plastic Outpatients department a very careful check will be made to make sure that the expander continues to be well covered by the overlying skin. Occasionally the expander can have an edge or a ‘knobble’ which can thin the skin a lot and this can limit further tissue expansion.

**Exchange of the tissue expander**

Patients who have breast surgery can have their tissue expander replaced with a silicone gel implant, or if they prefer the port can be removed. These options need to be discussed with your surgeon.

**The day of admission**

Please bring a good supporting bra with you. We recommend a Marielle bra or equivalent. You will need to wear this day and night for the first 6 weeks after your operation.

**Medication.** It is important that you bring your medication into hospital with you. A green bag should be sent with your admission details, this is for you to put all your tablets in. They will be kept in this during your hospital stay and returned to you when you go home.

**Cash/jewellery.** Please only bring the minimum amount of cash and jewellery into hospital with you as its safety cannot be guaranteed.

When you report to the Surgical Admissions Lounge (SAL) a nurse will show you to a waiting area. If you have not attended the Pre-admission Clinic (PAC) you will need a blood test and also photographs of your breasts, taken by the medical photographer. These photos are confidential and will be kept in your medical record.

The doctor or nurse will ask you questions about your general health and obtain your written consent to the procedures. This will only happen on the day of admission if you have not been seen in the PAC. The staff will check your blood pressure, temperature, breathing rate and pulse. They may also measure your height and weight.

**After your operation**

To ensure that you are as comfortable as possible you will be offered regular painkillers. You will be asked to score your pain on a scale of 0-10. You can also have medication if you are feeling sick.

You may have a drip in your arm. This is to help to keep you hydrated until you are able to drink normally. Usually your drip is taken down on the first day after your operation, once you are eating and drinking normally.

During your operation soft plastic tubes will be put into your wound. These are attached to plastic bags and are called drains. They are there to take away the excess fluid from the operation site. These will remain until there is minimal drainage (usually 2-3 days).

There will be small dressings over the wounds.
The day after your operation you will probably be able to sit out in a chair. The nurses will help you with your personal hygiene if required. From then on you can gradually do more for yourself.

**Discharge home**

When the doctors are pleased with your progress and your drains have been removed you will be discharged home.

**Appointments.**  You will be given an outpatient appointment that is for approximately one week after your discharge from hospital.

Even if you live a long distance from Salisbury, your first appointment will need to be in Salisbury District Hospital. Any further appointments can be closer to home. The exception to this are patients from the Isle of Wight, they will go to the Consultant Clinic or the Outpatients Department at St Mary’s.

**Dressings.**  The small dressings will be changed before you go home. These stay on until the outpatients’ appointment one week after the operation.  You can bath as normal but please try to keep the dressing dry.

**Doctors letter.**  The doctors will write a summary of your operation for your GP, you will be given a copy of this.  The nurse who is discharging you home will tell you about any medicines that you may need to take home with you.

**Lifting.**  Do not lift heavy objects or do any stretching for about two weeks, as this could stretch the scars.

**Fitness to Work (previously known as a Medical Certificate).**  Ask the nursing staff, before you go home, if you need one.

**Driving.**  We strongly recommend that you wait until you feel well enough before you start to drive again and that you can perform an emergency stop safely. This could take up to 4 weeks depending on where your wound is and what type of surgery you had. Contact your insurance company if you have any doubts about your insurance cover.

If you have any worries or questions, please contact the Plastic and Burns Unit or the Plastics Outpatients Department (PLOP). There is always someone available to offer advice.

Monday to Friday during the day please contact Plastic Outpatients 01722 336262 ext 3254.

We hope you make a speedy recovery and thank you for taking the time to read this leaflet.

**General Information**

Hospital transport is not routinely provided for admission and discharge. Unless there is a medical need or exceptional circumstances, it is your responsibility to arrange your transport.

Parking charges are applied at this hospital and you should note that there is a limited amount of parking. There is an excellent bus service from Salisbury to the hospital.

Hospedia is installed by every bed providing a television and telephone. There is a cost for this service. Mobile phones can be used in communal areas such as hospital corridors and restaurant areas. Due to nuisance factors, privacy and confidentiality issues, they should not be used in patient areas.

Plastics and Burns Unit
01722 336262 ext 3507