

Reducing Blood Loss during Surgery

Factsheet

During operations, most patients will lose some blood. During bigger operations, or unexpectedly in any surgery, a lot of blood can be lost. The surgeon and anaesthetist aim to minimise the blood lost in order to reduce the problems you may face during and after the operation. In this leaflet we hope to explain some of the techniques we can and may use to minimise the blood lost during surgery.

Cell Salvage

What is Cell Salvage?

This means making the best use of your own blood. Any lost during and after can be returned to you in a drip.

How Is It Done?

When cell salvage is used, blood that is lost during the operation is collected into a machine that filters and washes the blood.

The blood can then be given back to you during the operation or afterwards. It is a technique that is well established in various types of operations.

The cell salvage machine separates the different parts of your blood and collects the red cells. These are the cells that carry oxygen to different parts of your body and are given back to you during or just after your operations.

Your red cells will only ever be given to you and will never be given to anyone else. Similarly, you will never be given anyone else's red cells.

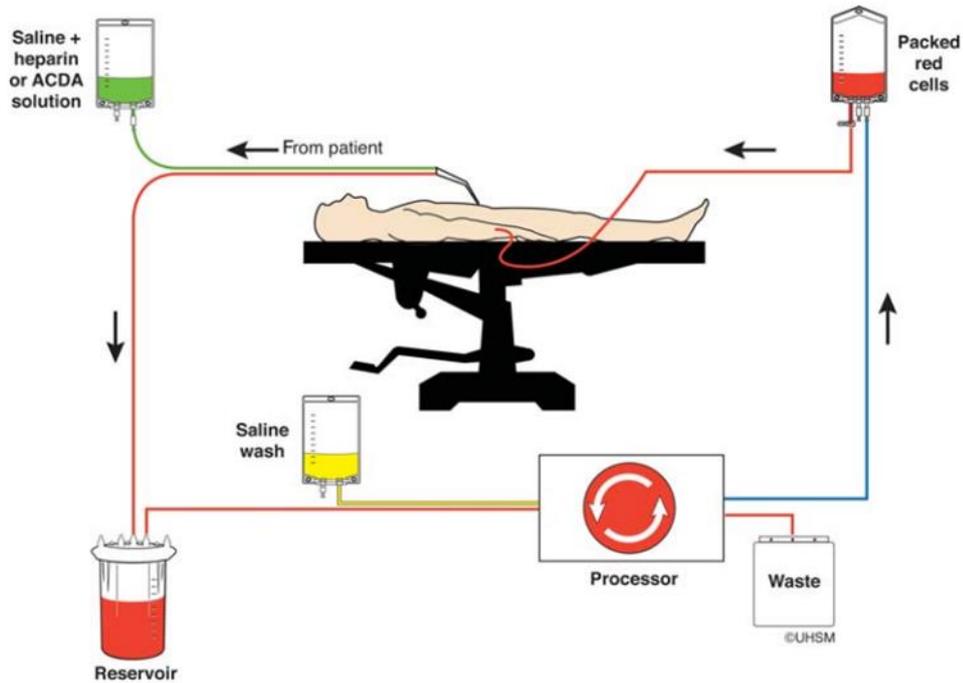


Image Source: <https://www.transfusionguidelines.org/>

What Are the Benefits of Cell Salvage?

If you lose blood during your operation, cell salvage can help by reducing the need for a blood transfusion donated by a blood donor.

The advantages of this are that you are given a transfusion of your own blood. This reduces the risk of reactions to the wrong blood type occurring or of transmission of infection.

Which Patients Can Benefit from Cell Salvage?

Patients who are undergoing an operation which has a high risk of losing blood can benefit from the use of cell salvage. Also, patients who do not wish to receive blood from a blood donor.

Is It Suitable for all Operations?

No. Not all the operations result in enough blood loss to enable cell salvage to be used. It is not recommended in some operations and your doctor will discuss this with you. Your doctor will be able to advise you if cell salvage is suitable for the operation you are having.

Is It Acceptable for Jehovah's Witnesses?

This will depend on the views of the individual. Cell salvage is deemed acceptable by many Jehovah's Witnesses.

Absorbable Cellulose Matrix

In some circumstances, the surgeon may decide to leave an absorbable material within the body to minimise any future bleeding. The material (a cellulose matrix (6-8cm ribbon or 4-5cm square)) is reabsorbed by the body over time, but before this acts as a focus for blood to clot and hence reduces the risk of bleeding after the operation.

The matrix (Surgicel, Surgiknit, or Equitamp are several of the products used) is placed over the site thought to be at risk of bleeding and left in place. It can take up to 28 days for it to be completely reabsorbed. If placed above the closed end of the vagina after a hysterectomy, it is possible for the matrix to work its way out through the sutures closing the vagina and be expelled through the vagina. Though this can be both unexpected and alarming, it is not dangerous or a worry for your ongoing recovery.

Is It Suitable for all Operations?

Yes. There is no specific operation where this is not suitable, though it may be more useful in some circumstances, such as where the organs inside were stuck together (perhaps from previous surgery) leaving a raw area.

Topical Thrombin Products

In normal circumstances when you bleed, the body clots by using several chemicals including thrombin to encourage the blood cells to stick together to form a clot. During surgery, we can use those same chemicals to encourage the body to form clots more quickly and so stop bleeding and reduce the chance of future bleeding. Various products (e.g. Floseal) combine a gelatine matrix with Thrombin, which is then sprayed or injected over the bleeding area. The matrix is completely absorbed.

Is It Suitable for all the Operations?

Yes. As with the absorbable matrix, it can be more suitable in certain circumstances, such as where the bleeding point is difficult to access with sutures.

Tranexamic Acid

Tranexamic acid is a medicine (injection or tablet) which promotes clotting of the blood. In cases where there is significant blood loss, tranexamic acid can reduce the amount of blood loss as an injection given by the anaesthetist during the operation. It has been used very successfully in surgery for patients with severe trauma (e.g. Car accidents), and there are trials currently underway in Caesarean section and radical hysterectomy to work out just how much benefit it provides.

Is It Suitable for all the Operations?

Not necessarily. The aim of the medicine is to make the blood more likely to clot, so in people who are at high risk of blood clots it may not be appropriate.

Why Have I Been Offered These Treatments?

These treatments may be discussed with you before your operation if you are thought to be at risk of bleeding or if you are anaemic. It may be considered during the operation (whilst you are asleep) if thought the most appropriate treatment during the operation by your surgeon or anaesthetist. If you do not wish any of these treatments to be used, do please tell your surgeon or anaesthetist before the operation.

Can I Get Further Information?

The nursing staff in the pre-operative clinic, your surgeon or your anaesthetist will be happy to answer any further questions.

For further information about these treatments please visit:

www.nice.org.uk

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Liverpool Women's NHS Foundation Trust
Crown Street
Liverpool
L8 7SS

Tel: 0151 708 9988

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