

ANTICOAGULATION

AREA of APPLICATION

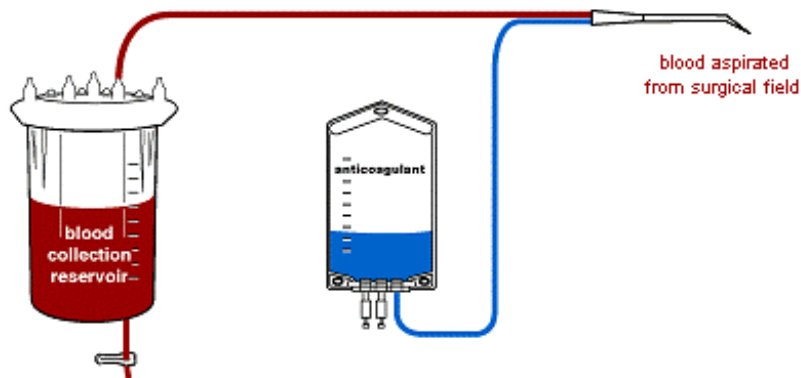
Blood lost at the operation site **must** be appropriately anticoagulated prior to aspiration into the blood collection reservoir. Insufficiently anticoagulated blood will clot which can transfer into the blood processing set. These blood clots will then be present in the processed blood and can cause clogging of the system.

STAFF

All staff who operate or set up the cell salvage machine.

ANTICOAGULATION

Each organisation should document within their local intraoperative cell salvage policy which anticoagulant will be used for each machine type used in intraoperative cell salvage.



Heparin

Heparinised saline solution may be used for anticoagulation during blood collection. A solution of 25,000 - 30,000 IU of heparin per 1 litre of intravenous (IV) normal saline (0.9% NaCl) solution is recommended with a dosage of 20ml of solution per 100ml of collected blood. This type of solution is not available commercially and will need to be made up locally. It is imperative that the **heparinised** saline is labelled correctly to make it obviously distinguishable from saline wash solutions.

Acid citrate-dextrose Anticoagulant (ACD-A)

ACD-A can also be used for anticoagulation during blood collection. A volume of 15-20ml ACD-A per 100ml of collected blood is recommended. Pre-prepared ACD-A solutions are available commercially for this purpose.

For either Heparin or ACD-A the quantity of anticoagulant introduced into the blood collection system must be adapted to the volume of blood loss. A rate of 60 to 80 drops of anticoagulant per minute is typical in moderate blood loss but **should be monitored closely and adjusted accordingly** to avoid clotting in the reservoir.

N.B Anticoagulation when using ICS in Neurosurgical procedures.

Some Manufacturers recommend 60,000 units of heparin in 1 litre of intravenous (IV) normal saline (0.9% NaCl) solution or if using ACD-A doubling of the concentration from normal drip rate to x2 the drip rate, when using ICS in Neurosurgery. Please check with your Manufacturer if using ICS in Neurosurgical procedures.

Points to note:

Heparin

1. Heparin is a prescription only medicine and consideration should be given to this when developing the organisations cell salvage policy. Use of a Patient Group Directive (PGD) for use of heparin as an anticoagulant in ICS may be considered appropriate.
2. The UK Cell Salvage Action group recommend:
 - a. To help reduce the risk of administration error written documentation of the heparin requirement should not be entered on the general prescription chart but on the cell salvage chart/form.
 - b. The batch number and dosage of heparin used should be documented.

ACD-A

1. ACD-A is not a prescription medicine as it is not included in the British National Formulary
2. If ACD-A is quoted in the product specification (CE marking) for the cell salvage machine in use there is no requirement for ACD-A to be prescribed.
3. If it is not part of the product specification then the ACD-A used for cell salvage procedures should be documented and the following should apply:
 - a. To reduce the risk of administration errors, documentation for the use of ACD-A should not be entered on the general prescription chart but on the cell salvage chart/form to help ensure that the anticoagulant is used correctly.
 - b. The batch number and dosage of ACD-A used should be documented.