

## BLOOD COLLECTION

### **AREA of APPLICATION**

ICS is used routinely in some areas of surgical practice. The technique involves aspirating blood lost within the surgical field into a collection reservoir. Blood is mixed with an anticoagulant solution containing either heparin or citrate to prevent clotting. Collection can be undertaken with or without further processing and reinfusion.

### **STAFF**

All staff involved in the cell salvage process.

### **PROCEDURE**

#### **Aspiration of blood and vacuum pressure**

To reduce haemolysis the vacuum pressure should always be set as low as practicable. Typical values are between -100 and -150 mmHg (avoid excess pressures).

To optimize the yield and quality of salvaged blood a large bore, single lumen, suction tip (minimum 4mm; e.g. Yankauer sucker) should be used and surface skimming minimised (aspirating blood mixed with large quantities of air from the surgical field).

In the event of massive blood loss, the vacuum level can be temporarily raised to clear the field and then reduced to a lower level for lower flows.

#### **Setting up the cell salvage equipment**

Before setting up, check the mechanical integrity of the device by powering up to allow the "self-test" to be completed and any problems highlighted. When handling disposables, clean technique should be used at all times and disposables contaminated with blood should be handled in accordance with local policy. Personal Protective Equipment should be used at all times.

#### **A. Collect only**

In many situations it may be advisable to collect the shed blood and wait to see if sufficient volume has been collected before progressing to the processing phase. Most cell salvage devices will allow this approach, using only the reservoir and aspiration line in the first instance. Once sufficient blood has been collected the processing set can then be loaded.

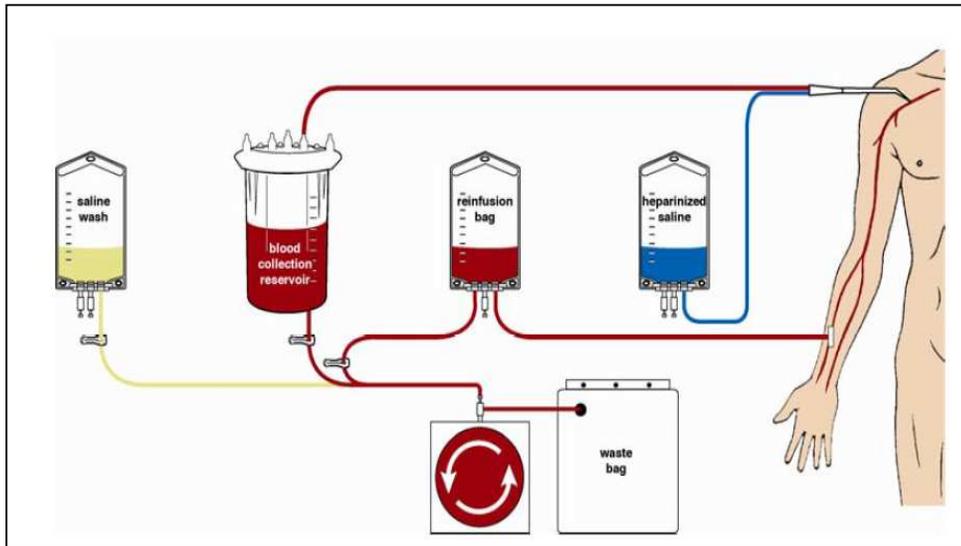
#### **B. Collect and process**

When it is likely that sufficient blood loss will be experienced to justify processing, the machine can be set up with the full disposable set at the beginning of the surgical procedure.

### C. Standby

In some circumstances it may be favourable to set up the equipment for cell salvage in advance, ensuring that it is available quickly when needed without unnecessary delay.

- The disposables are loaded “unprimed” on the device. Do not spike solution bags until actually needed (this will extend the useable time limit on the prepared machine).
- The dual lumen suction line can only be connected once the patient is *in situ* as it is passed from the sterile surgical field by the scrub nurse.
- To ensure a closed system, the caps protecting any unused port must remain in place.
- The time of set up and an expiry date and time should be recorded and the disposable set labelled accordingly. There is no definitive guidance for how long the equipment can be left. When reviewing practice in relation to apheresis machines it would appear that an unprimed system could be used for up to 24 hours but once primed (in this case the saline bags spiked) these should be used within 8 hours or disposed of.
- If the device and disposables are not used within the allotted time-frame, the device is cleared down and all the consumables discarded.



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