

INTRAOPERATIVE CELL SALVAGE FOR LAPAROSCOPIC SURGERY

AREA of APPLICATION

Intraoperative cell salvage (ICS) is safe to use in laparoscopic surgery. Current evidence shows its effectiveness in laparoscopic surgery for ectopic pregnancy, splenic and abdominal trauma.

Clinical teams and ICS operators should assess any risks associated with the options below on a case by case basis.

STAFF

All staff involved in the cell salvage process and the theatre practitioner for the procedure.

PROCEDURE:

As with all ICS procedures it is essential that anticoagulant is used and flushed through the line, and the reservoir primed before commencing cell salvage. Additionally, all fluid used for irrigation must be suitable for intravenous use.

There is no specific laparoscopic set that is designed for ICS. There are many different configurations of laparoscopic sets but most will have 2 tubes, one for irrigation (often marked in a colour) and one for suction (which is clear).

There are 2 options to set up for ICS in laparoscopic surgery.

1. The laparoscopic set suction tubing is connected directly to the ICS reservoir; this should be primed with anticoagulant. The advantage of this set up is that it is easy to perform, but the disadvantage is that anticoagulant is only mixed with the blood in the reservoir, not the tubing.
2. The laparoscopic set suction tubing is replaced by the double lumen aspiration and anticoagulation suction tubing that attaches to the ICS reservoir. The laparoscopic set suction tubing must be removed close to the hand piece and replaced with the ICS double lumen tubing. This has the advantage of mixing the blood with the anticoagulant much earlier and so reduces the chance of clotting.

The following image shows set up 2



NOTES

With both options for set up, blood has to travel through the narrow bore laparoscopic instrument before entering the suction tubing, it may be necessary to increase the suction to allow for the aspiration of blood through this narrow instrument.

Continuous suction may prevent the abdomen being insufflated to a sufficient pressure for the surgery, so having aspirated the initial blood loss it may be that the surgeon asks for the suction to be turned off.

REFERENCES

Intraoperative Autologous Blood Transfusion for Hemoperitoneum Resulting From Ectopic Pregnancy or Ovarian Bleeding During Laparoscopic Surgery

[Takashi Yamada](#), MD, [Yukiko Okamoto](#), MD, [Hajime Kasamatsu](#), MD, and [Hiroshi Mori](#), MD

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In Vitro Analysis of Cell Salvage Blood Collection with a Laparoscopic Suction Device

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