

ICS Query

Question:

If a full cell salvage kit for Intraoperative Cell Salvage (ICS) is established for collecting and infusing and it has been running for more than six hours should the disposables be changed?

Answer from UKCSAG March 2012:

There is no national guidance or evidence with which to definitively answer this question so our advice is based on expert opinion. The UKCSAG recommend that intraoperatively salvaged blood is reinfused within four hours of the completion of processing (ref 1) and recommend that it is best practice to begin processing blood as soon as the minimum volume necessary to enable processing has been collected (This volume will vary depending on the machine type in use and bowl size where the system uses a bowl for processing).

This does not however, imply that the collection and processing disposables need to be changed after four hours. Cardiopulmonary bypass circuits do not get changed during a long case unless there is a fault or problem. Similarly, blood administration sets can be used for up to twelve hours even though each unit of blood must be given in under four hours (ref 2).

As with all questions of this nature there needs to be a balance of risks and benefits. There are obvious risks associated with changing the disposables during the procedure, including the potential for contamination. The risk of bacterial proliferation in the collected blood may increase after several hours but there is little evidence that this is clinically significant in ICS, especially as most patients will be given perioperative antibiotic prophylaxis. Also, with washed systems, there is an opportunity to reduce the level of bacterial contamination (ref -3). If it is thought the ICS set may have been contaminated (with contraindicated substances aspirated from the surgical field or in any other way), then it may well be appropriate to begin again with a fresh set.

Ultimate responsibility for the procedure rests with the clinician who is administering the blood and cases need to be assessed on an individual basis.

References:

- 1 – American Association of Blood Banks (AABB) (2005) Standards for Perioperative Autologous Blood Collection and Administration (2nd Edition)
- 2 – RCN Standards for Infusion Therapy 2010
http://www.rcn.org.uk/_data/assets/pdf_file/0005/78593/002179.pdf
- 3 – Boudreaux JP, Bornside GH, Cohn I Jr. Emergency autotransfusion: partial cleansing of bacteria-laden blood by cell washing. J Trauma 1983; 23: 31-5

The information contained in this statement has been sourced from members of the UK Cell Salvage Action Group (UKCSAG) and is generally agreed to be good practice. However UKCSAG do not accept any legal responsibility for errors or omissions.