

Blood simple

Blood doesn't come cheap. So you might expect a technique that reduces the demand for transfused blood to generate more interest among finance professionals. Bernard Crotty reports

Put simply blood saves lives. But when stock levels are based on donations, ensuring there is enough blood to meet demands can be challenging. And with collection, testing, storing and delivery, blood is an expensive commodity. So any opportunity to reduce the demand on blood supplies has to be worth investigating.

Cell salvage could offer exactly this opportunity. The process uses machines or drainage systems to collect blood lost during or post operation. The blood is then re-infused back into the patient, therefore reducing the need for transfused blood provided by the National Blood Service (NBS).

These practices are common in the USA and major European countries and accounted for over 5% of hospital blood usage in a 1997 Council of Europe study. Yet the comparative UK figure was less than 1%. So in May 2004, as part of a dissertation for a master's degree, a questionnaire was sent to the lead finance contact in all hospital trusts in England and North Wales that received donated blood from the NBS. The aim of the questionnaire was to evaluate the level of non-clinical interest in cell salvage.

Evidence from clinical trials shows that blood recycling is more cost-effective than a blood transfusion using donated blood. There have also been a number of studies that have researched the costs of cell salvage at a local level. But their findings, which suggested relatively low levels of savings, have not generated a wider debate around cost savings. Reasons for the low levels of savings demonstrated in the studies include:

- Most studies used out of date prices. The price of a unit of donated blood (approximately £120) has increased three fold in four years due to the costs of the rigorous testing requirements and the extraction of white cells as a precaution against the danger of transmission of Variant Creutzfeldt-Jakob disease (vCJD).
- Most studies worked on relatively low blood volumes, using a salvage machine that may be used only twice a week. This increased the unit costs of operating the machines and distorted the comparison with the charge from the NBS.
- All studies included a relatively high cost of training for operating department practitioners (ODPs), who operate the machines during surgery. In practice ODPs can receive training at a number of trusts for minimal cost. An e-learning package will also be available soon, which can be incorporated into the ODPs' continuing professional development programme.

There are other reasons why cell salvage is looking increasingly attractive. The price of the cell salvage equipment and the associated consumables is also gradually falling. And the equipment life is long with some equipment in use being over 10 years' old. After implementation, the marginal costs are also low. The only significant ongoing cost is for consumables (mainly the blood bag and filtering system). This will be approximately £60 per

operation. Against a requirement of, say, three units of blood costing £360, the savings can be significant over the longer term.

The most basic cell salvage machine costs approximately £4,000 so is below the capital threshold. This means that even with only a low level of usage the payback period is short. It should also be remembered that although transfused blood is subjected to the highest level of testing, there is still a theoretical risk of transmission of vCJD. A patient recycling his/her own blood will not be subject to this risk.

A general expansion of trusts using cell salvage techniques would allow the NBS to plan to collect lower volumes to meet the lower demand for transfused blood. This would reduce the NBS fixed costs thereby creating savings for the NHS.

Despite the significant financial advantages, the UK's take up of cell salvage is low. As part of the survey, finance managers were asked if they would ask for cell salvage to be investigated further in the trust if potential savings could be demonstrated. Out of 76 replies, 49 said no and only 27, admittedly the higher users of blood, said yes.

The big surprise was the lack of interest generally from the NHS finance community. In a climate where finances are tight and efficiency savings are rising ever higher up the agenda, finance staff might be expected to want to investigate further a potential savings opportunity.

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A longer report on the questionnaire can be found on www.blood.co.uk/hospitals/communications/Surveys/Surveys.htm.

The NBS will shortly be leading a national study involving clinicians in cell salvage. Trust finance staff are encouraged to contribute to the discussions and comments/views will be gratefully received via e-mail by bernard.crotty@nbs.nhs.uk.