Optimising Cell Salvage and Swab Washing in a Tertiary Maternity Unit
Glasgow Royal Infirmary, Scotland

Dr Fiona Auld, Dr Jack Hollinghurst

Introduction

- Cell salvage is the technique where blood lost during surgery is collected, processed and reinfused.
- Its use is recommended when it is expected to reduce the likelihood of allogenic red cell transfusion and/or severe post operative anaemia.
- The Association of Anaesthetists (AoA) recommend that peri-operative cell salvage should be available for **immediate use** in any hospital undertaking surgery where blood loss is a recognised potential complication.[1]
- It also recommends considering the use of **swab washing** in order to improve cell salvage collection rates.[2]
- The aim of this quality improvement project was to **assess and optimise the use of cell salvage and swab washing** for patients undergoing caesarean delivery at a tertiary maternity unit in Scotland.

Methods

- Data was collected for all cases attending for caesarean birth and requiring the use of cell salvage from **August 2023 to September 2025.**
- The variables analysed included clinical indication for cell salvage, the use of swab washing, documented reinfused cell salvage blood and whether or not allogenic blood transfusion was also administered.
- This initial data was presented locally and a poster was designed to advertise the use of swab washing in cell salvage (Figure 1).
- Post intervention data was then collected from the **end of September 2025 to January 2026** to compare findings.

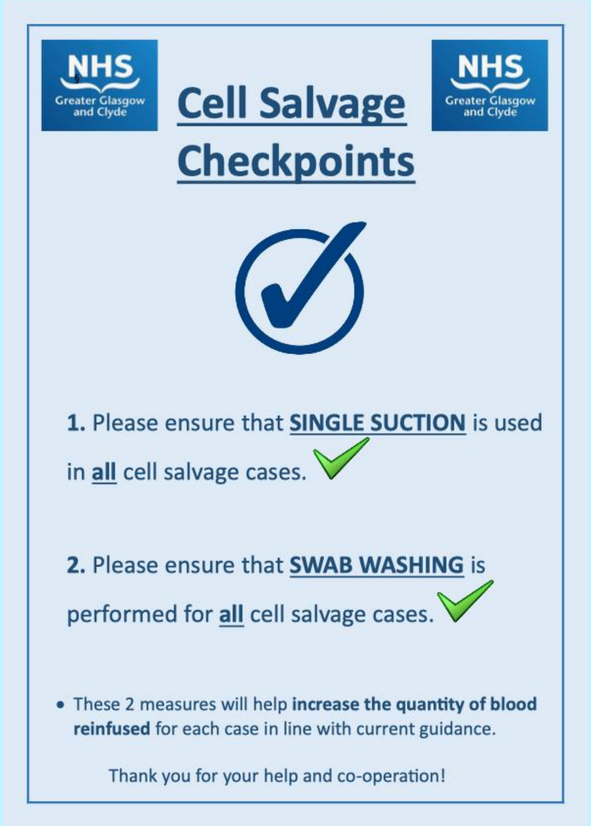

Figure 1: Cell Salvage Poster

Results

- Initial data showed that 39.5% of cases (70/177) had blood volume reinfused via cell salvage.
- 15.8% of cases (28/177) had swab washing use documented and 25.4% (45/177) received an allogenic blood transfusion.
- Following local presentation and poster distribution, results showed an **improvement in both rate of cell salvage blood reinfused** to 47.4% (9/19) **and rate of swab washing** to 47.4% (9/19).
- There was also an associated reduction in allogenic blood transfusion to 15.8% of cases (3/19) in comparison to pre-intervention findingss.

Discussion

- This project highlighted **an improvement in the use of cell salvage rates** in addition to **an increase in the use of swab washing** in line with the most recent AoA guidance.
- There was also a concurrent reduction in allogenic blood transfusion rates.
- Further ongoing work includes development of a local protocol to further optimise departmental use of cell salvage.
- Overall, this will enable us to provide optimum patient care for patients undergoing caesarean delivery during which cell salvage use is required.

References: 1)Klein AA, Bailey CR, Charlton AJ et al. Association of Anaesthetists guidelines: cell salvage for peri-operative blood conservation 2018. Anaesthesia. 2018 Sep;73(9):1141-1150. doi: 10.1111/anae.14331. Epub 2018 Jul 10. PMID: 29989144. 2) Haynes SL, Bennett JR, Torella F, McCollum CN. Does washing swabs increase the efficiency of red cell recovery by cell salvage in aortic surgery? Vox Sangunis 2005; 88: 244–8.