SHOT Bite No. 34: Switching to group-specific red cells in major haemorrhage (MH) situations

SHOT Serious Hazards of Transfusion

January 2026

What is this document about?

This document is intended to serve as a structured tool to facilitate a timely switch to group-specific red cell components in major haemorrhage (MH) situations. This will help optimise safety at various steps in the transfusion pathway and avoid unnecessary use of emergency blood components.

Why has this been drafted?

Serial Annual SHOT Reports have highlighted avoidable delays in provision of appropriate transfusion support in cases of major haemorrhage (MH) as well as avoidable use of Group O red cell components. These are valuable in emergencies but with limited supply, prompt switch to group specific red cells is recommended in MH protocol activations. Regular review of local policies and practices to ensure alignment with national guidelines is recommended. Adequate staff training and regular competency assessment is vital to ensure effective and safe transfusion practice.

Actions recommended

Core steps	Questions to consider
Clinical: Major haemorrhage protocol activation and laboratory notification	• Is there a dedicated major haemorrhage (MH) phone line for fast access to laboratory staff? If by bleep or via switchboard only, is it clear how verbal contact by phone is initiated (e.g., laboratory staff expected to phone clinical area or vice versa)? • How visible is the information for MH process in the clinical area (e.g., flow chart with clear instruction in electronic patient records (EPR), displayed on walls, intranet)? Are staff clear about terms to be used to activate MH protocols? • How is the request sent to the laboratory (e.g., if via EPR is the process streamlined and not including non-value adding steps; if by paper request form is the urgency clearly stated, if via phone, is there a set list of details to be communicated)? • How is the request documented in the laboratory (e.g., if a paper telephone request form does this contain adequate information for group-specific release)?
Clinical: Obtaining group and screen samples *(two samples if new patient or registered under trauma identification according to local policy)*	• Is there clear indication to the clinical team whether two samples are required? • Does the admission process ensure that the patient is given an identification (ID) band prior to sample taking? • Is it clear to clinical staff that blood samples should be taken before transfusion support?

Note: The questions have been drafted to cover the issue of appropriate group specific red cells only and do not cover all aspects of the management of major haemorrhage. Please see the full BSH guideline

Core steps	Questions to consider
Clinical: Sample delivery to the laboratory	• How are urgent MH samples identified and fast-tracked? • If a pod/pneumatic tube system in place is this used for MH or are samples walked to the laboratory and handed directly to transfusion staff?
Laboratory: Sample processing	• Does the laboratory have a clear process/standard operating procedure (SOP) for using group-specific blood components (e.g., agreement with clinical team, clarity of timeframes for issue)? • Is there a rapid sample centrifugation process in place? Is there a process to test a rapid ABO/D group alone? Is there a process for confirmation of the ABO/D group using automated platform or manual full group if required? Is there a process/SOP in place in how to deal with mixed field reactions (where patient's been transfused pre-hospital/pre-sampling)
Laboratory: Issue group-specific red cells	• Is there a process to issue blood components without an antibody screen? Does the laboratory information management system support this process without adding unnecessary overrides or labour-intensive workarounds? • Do the laboratory staff perform an immediate spin crossmatch? Is the sample from pilot tube for red cell units issued retained in the laboratory should the antibody screen be positive? • Is there a clear policy of when to move to group specific red cells and what to do if this is not possible? Does the policy include who can receive D-pos units? • Is the laboratory reliant on full electronic issue or serological crossmatch? Does the process support issue of red cells within 15 minutes of receipt of the sample? • Does the compatibility label on the blood component state that the red cells are not fully crossmatched due to clinical urgency/decision to transfuse made at the discretion of the clinical team? • Is there a concessionary release process if a patient is known to have antibodies/specific requirements but these cannot be met for the MH?
Laboratory: Communicate to clinical area	• Who is the point of contact in the clinical area? How are they contacted? • Is there a process for informing the clinical area that blood components are ready for collection?
Clinical: Collect group specific red cells	• How are staff collecting blood components made aware that they are ready for collection? • Are they collected from the laboratory or satellite refrigerator? • Are staff trained to access blood fridges using standard and emergency modes?
Laboratory: Recall	• Is there a process to alert the clinical team if the antibody screen is found to be positive? Is a process in place to retrospectively serologically crossmatch if needed? • Is the clinician supported with adequate information to make the decision to continue to transfuse if benefit outweighs risk?
Clinical: Stand-down	• Is there a process to inform the laboratory the MH activation is over? Are staff familiar with how to return unused units of blood?