2023 Annual SHOT Report – Supplementary information

Chapter 6: Acknowledging Continuing Excellence in Transfusion (ACE)

Acknowledge continuing excellence in practice: Illustrative cases

The cases highlighted with an asterisk from Table 6.1 in the 2023 Annual SHOT Report have been described in detail below.

Case 6.1: Excellent care of a patient during a major haemorrhage

The major haemorrhage protocol (MHP) was activated in a timely manner for a patient with a gastrointestinal (GI) bleed, taking warfarin and in peri arrest. The transfusion practitioner (TP) attended the emergency department (ED) to advise on management. Blood samples had already been sent to the hospital transfusion laboratory (HTL), and an emergency transfusion of O D-negative red cells was in progress. Prothrombin complex concentrates (PCC) were rapidly requested from the HTL to reverse warfarin. Vitamin K and tranexamic acid was already prescribed and administered. The guidance the TP planned to give was already in progress or completed. The MHP was also stepped down appropriately. This hospital has very few MHP activations and rarely for patients being treated with anticoagulants. During MHP activations clinical staff often wait for guidance on appropriate blood components. Staff managed this patient appropriately and ensured timely lifesaving transfusions without any delays.

The doctor who led the management of this patient was given a 'Top-Notch' transfusion award due to the excellent management of the MHP. The practice was shared on the hospital social media page, with the hospital transfusion team (HTT) and hospital transfusion committee (HTC). The ED lead consultant also shared with the ED team.

Case 6.6: Two consecutive major haemorrhage activations dealt with safely and effectively

During two very difficult and upsetting major trauma cases, the anaesthetists, surgeons, laboratory staff, nurses and porters showed grit, determination, teamwork, excellent communication and great collaboration. The staff across all disciplines did everything they could to give both patients the best chance of survival. The HTL received excellent communication from the clinical team, which enabled them to pre-empt which components would be required prior to requests coming in. The HTL was able to support the clinical team with a huge number of blood components. The porters were required to run back and forth from main theatres in one building, descend four floors, cross a busy road, into another building several metres away, scale two more floors to the HTL and then rush all the way back again to main theatres. This allowed the clinical teams to transfuse blood components in a timely manner. This task was undertaken by the portering team multiple times. The HTL requested a 'blue light' delivery for more components from the Blood Service. They also had to reclaim multiple blood components from satellite refrigerators to support the ongoing code red. Once the team had been stood down from the first code red, another code red was

activated, and the team were once again in management mode and providing support in blood provision for another very difficult case.

The clinical team emailed the TP to request the names of HTL staff involved so they could be thanked personally for their help and support. The TP shared this with the biomedical scientist (BMS) and laboratory manager. A debrief was organised by the clinical team which staff were able to attend virtually or face-to-face. This gave them the opportunity to discuss the incident and to thank everyone involved. Unfortunately, the HTL staff could not attend as they were participating in yet another major haemorrhage. The laboratory manager, TP and consultant were present, and the laboratory manager was able to explain the role of the HTL staff in the incident and shared the positive feedback with their team. The porters were also given the opportunity to give their account and their hard work was acknowledged by everyone. Without their hard work, the patients would not have had the support they needed from the blood transfusion laboratory. There was excellent communication and collaboration across all teams to ensure the best care was provided even though the outcome for the patients was not what the staff had strived for. The chief executive had personally thanked all the teams involved for the hard work, dedication, and professionalism during these extremely challenging cases.

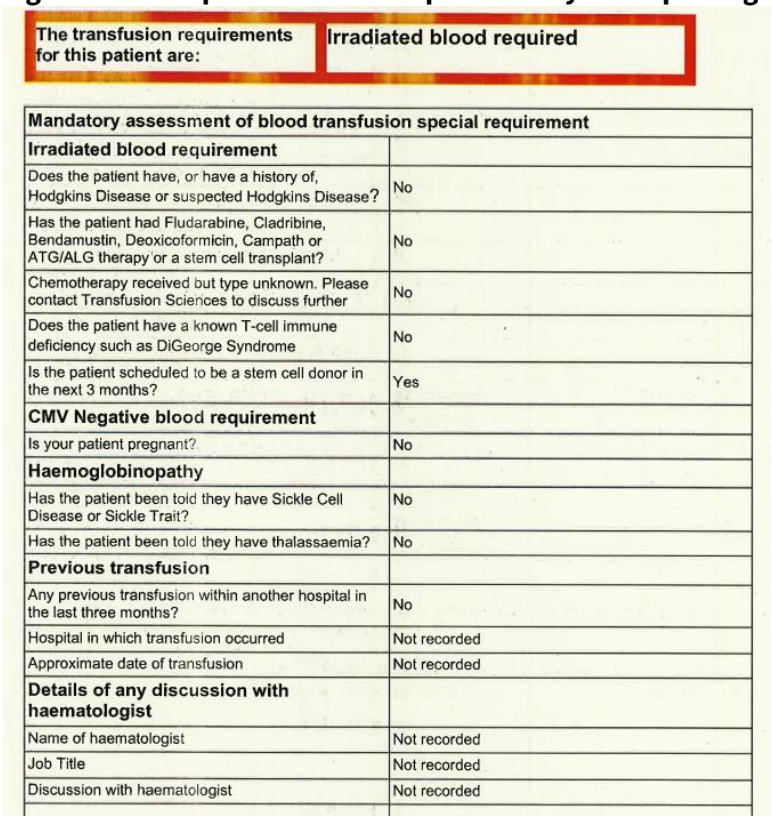
Case 6.10: Specific requirements on transfusion request form made mandatory

An incident of incorrect blood component transfused-specific requirements not met (IBCT-SRNM) occurred in the hospital and this instigated an update to the transfusion request form to make an answer in the specific requirement (SR) section mandatory. Prior to this SR were not being effectively assessed and the transfusion laboratory staff would accept transfusion requests with the SR section left blank. This enhanced system puts the patient at the heart of what they do in relation to assessing and communicating their specific requirements for transfusion.

An electronic special requirements assessment form was developed which must be completed for all patients who may need a transfusion as part of their care. This form has been exceptionally well embedded into clinical practice and patient care. When completed on the electronic patient record (EPR) a clear message appears stating any special requirements required. If there are none this is also stated. This form is completed at the time of completing the transfusion request form and prescription/authorisation record for transfusion. It is also printed off and brought to the blood collection point and crosschecked as part of the collection checks. The form is also used as part of the pre-administration bedside checks.

A monthly check of LIMS is carried out, containing the patient identifiers of all new irradiated flag patients. The consultant haematologist, advanced transfusion practitioner and senior BMS then review the patient's clinical records and general practitioner (GP) records to determine the history and indication for irradiated blood. The patient's GP is then written to, along with the patient being sent the National Health Service Blood and Transplant (NHSBT) information leaflet and alert card for the irradiated blood requirement.

Figure 6.5: Template of the form provided by the reporting team



The transfusion requirements for this patient are:	Irradiated blood required

Mandatory assessment of blood transfusion special requirement	
Irradiated blood requirement	
Does the patient have, or have a history of, Hodgkins Disease or suspected Hodgkins Disease?	No
Has the patient had Fludarabine, Cladribine, Bendamustin, Deoxicoformicin, Campath or ATG/ALG therapy or a stem cell transplant?	No
Chemotherapy received but type unknown. Please contact Transfusion Sciences to discuss further	No
Does the patient have a known T-cell immune deficiency such as DiGeorge Syndrome	No
Is the patient scheduled to be a stem cell donor in the next 3 months?	Yes
CMV Negative blood requirement	
Is your patient pregnant?	No
Haemoglobinopathy	
Has the patient been told they have Sickle Cell Disease or Sickle Trait?	No
Has the patient been told they have thalassaemia?	No
Previous transfusion	
Any previous transfusion within another hospital in the last three months?	No
Hospital in which transfusion occurred	Not recorded
Approximate date of transfusion	Not recorded
Details of any discussion with haematologist	
Name of haematologist	Not recorded
Job Title	Not recorded
Discussion with haematologist	Not recorded

Case 6.15: Improvements in timely administration of PCC

An ED team wanted to improve the rates of patients where intracranial haemorrhage has been confirmed on computed tomography (CT) or life-threatening GI bleed has been identified receiving PCC. Guidelines state that PCC should be administered within an hour of the decision being made to reverse Warfarin.

Previous practice required discussion with a consultant haematologist to authorise PCC, the request form would be completed and sent to the HTL. The BMS would issue the PCC and make it available for collection. The clinical area would request a porter to collect the PCC which was often where a delay occurred due to time constraints and other factors in the clinical area.

A specific protocol was developed where authorisation of PCC is by a registrar (ST3 or above) and 1000IU of PCC can be administered immediately on diagnosis, allowing time to discuss further PCC requirement with a consultant haematologist. Audit results identified that 67% of patients now receive PCC within 1 hour of the decision being made compared with 36% pre implementation of the project. Patient survival rate has increased to 86% from 53% pre implementation. In 43% of cases, the initial dose of 1000IU of PCC was sufficient to reverse the international normalised ratio (INR) without need for further PCC.

The ED educational development nurse shared the training resources with all ED nurses via WhatsApp to supplement the face-to-face training. The ED consultants undertook training with doctors and registrars, the transfusion laboratory managers undertook training with the BMS, and the TP trained the porters in the new process along with supplementary training for nurses and other staff who required it.

Comments:

This is an excellent example of collaborative team working where a patient safety issue was identified, a solution developed and the establishment of a strict protocol to reduce the time taken from authorisation of PCC to administration which improved patient safety and increased patient survival rates. The specific health needs and desired health outcomes for relevant patients was the driving force behind the development of this new protocol. Training was designed specifically for this protocol and appropriate staff received guidance. More patients received the correct treatment and improved outcomes.

Safety indicators in healthcare: leading/lagging indicators

Figure 6.6: A theoretical example of using good leading indicator

<table>
<tr><td colspan="2">Example leading indicator: Patients must receive PCC within 60 minutes of decision to administer

Goal: 100% of patients must receive PCC within 60 minutes when appropriate</td></tr>
<tr><td colspan="2">SPECIFIC: Does your leading indicator provide specifics for the action that you will take to minimise risk from a hazard?</td></tr>
<tr><td>Not specific

Patients should receive PCC as soon as possible.

Not specific as it does not describe how soon.</td><td>Specific

All patients must receive PCC within 60 minutes when appropriate.

Specific as this clearly identifies what needs to be achieved.</td></tr>
<tr><td colspan="2">MEASURABLE: Is your leading indicator presented as a number, rate, or percentage that allows you to track and evaluate clear trends over time?</td></tr>
<tr><td>Not measurable

Patients should receive PCC as soon as possible.

Does not track a number, rate or percentage with respect to the goal.</td><td>Measurable

Patients must receive PCC within 60 minutes when appropriate.

Measurable as the time limit is identified and numbers can be monitored.</td></tr>
<tr><td colspan="2">ACCOUNTABLE: Does your leading indicator track an item that is relevant to your goal?</td></tr>
<tr><td>Not accountable

Patients to receive PCC as soon as possible.

Not relevant to your goal as does not specify time limit.</td><td>Accountable

Patients must receive PCC within 60 minutes when appropriate.</td></tr>
</table>

	This is relevant to the goal as a staff are expected to meet this requirement.
REASONABLE: Can you reasonably achieve the goal that you set for your leading indicator?	
Not reasonable The goal is 100% of patients receive PCC within 60 minutes. *Possibly not achievable due to unforeseen circumstances.*	**Reasonable** The goal is 90% of patients to receive timely treatment. *Achievable as this considers unforeseen delays and errors in administration of PCC.*
TIMELY: Are you tracking your leading indicator regularly enough to spot meaningful trends from your data within your desired timeframe?	
Not timely You decide to review the figures annually. *Will be unable to identify any meaningful trends until the end of the year.*	**Timely** You decide to review the figures each month. *This is timely; because you track your figures monthly you can identify meaningful trends before the end of the year, which is when you want to analyse your data.*

Safety culture

Building a strong safety culture is essential in reducing transfusion errors, improving patient outcomes, and promoting a positive work environment for healthcare professionals. Regular measurement of safety culture in healthcare is essential for fostering a culture of continuous improvement, enhancing patient safety, and maintaining organisational effectiveness.

In 2023 SHOT, the Medicines and Healthcare products Regulatory Agency (MHRA) and the UK Transfusion Laboratory Collaborative (UKTLC) collaboratively developed a culture survey and the survey was distributed to all transfusion laboratory professionals. This followed on from a similar survey in 2019 which examined the learning culture within pathology following anecdotal reports of blame culture within transfusion laboratories. The 2019 survey, sent to laboratory managers, found instances where staff were taken through to disciplinary action following single quality incidents as well as instances where staff were pressured by managers to present a false impression of safety within the laboratories amongst other findings.

The repeat survey in 2023 was undertaken to understand the current status of safety culture within transfusion laboratories in the UK, identify key themes and address issues identified. One of the questions asked respondents if they had seen improvements in the safety culture in their organisation.

The responses were varied but key themes were identified. It is encouraging that there were improvements in incident reporting and investigation, with respondents noting less emphasis on blame and more consideration of human factors and ergonomics. However, analysis of the laboratory survey data noted that this was still practice in some organisations and needs to be addressed. Many respondents noted improvements to processes, standard operating procedures (SOP) and training and access to support for raising concerns, including freedom to speak up guardians (FTSUG) or equivalent.

Table 6.2: Improvements in safety culture from the 2023 survey

Key theme	Number of respondents
Improved incident reporting/investigation/tools	25
Process/SOP improvements	22
Consideration of human factors/ergonomics	15
FTSUG/support network	14
Improved training	12
PSIRF approach	11
Management change	10
Communication	8
Implementation of IT to support safe practice	8
Changes to workforce structure/numbers	7
Governance clarity	7
Organisational recognition of blood transfusion	3
Listening culture from managers	1
External investigation	1
Trust focus on health and wellbeing	1