10 Incorrect Blood Component Transfused (IBCT) n=323

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Definitions:

Wrong component transfused (WCT)

Where a patient was transfused with a blood component of an incorrect blood group, or which was intended for another patient and was incompatible with the recipient, which was intended for another recipient but happened to be compatible with the recipient, or which was other than that prescribed e.g. platelets instead of red cells.

Specific requirements not met (SRNM)

Where a patient was transfused with a blood component that did not meet their specific requirements, for example irradiated components, human leucocyte antigen (HLA)-matched platelets when indicated, antigen-negative red cell units for a patient with known antibodies, red cells of extended phenotype for a patient with a specific clinical condition (e.g. haemoglobinopathy), or a component with a neonatal specification where indicated. (This does not include cases where a clinical decision was taken to knowingly transfuse components not meeting the specification in view of clinical urgency).

Key SHOT messages

- The person carrying out the bedside checks must only deal with one transfusion at a time, they must not check two transfusions simultaneously
- If during the administration step the person is distracted the process must be started again from the beginning
- It is essential that staff members are adequately trained and competency-assessed before they are expected to perform any task without supervision
- A robust checking process at the administration step immediately prior to transfusion remains a critical step to support prevention of transfusion of ABO-incompatible blood components
- Paediatric specifications must be clearly documented in standard operating procedures and rules in laboratory information management systems (LIMS) applied
- Distractions are dangerous – where these are flagged in incident investigation, attempts should be made to rectify working conditions and reduce distractions
- For further laboratory key messages and recommendations please see Chapter 15, Laboratory Errors

Abbreviations used in this chapter

ABOi	ABO-incompatible
BMS	Biomedical scientist
BSH	British Society for Haematology
CCP	COVID-19 convalescent plasma
CMV	Cytomegalovirus
FFP	Fresh frozen plasma
Hb	Haemoglobin
HDU	High dependency unit
HLA	Human leucocyte antigen
HSCT	Haemopoietic stem cell transplant
HSE	Handling and storage errors
HT	High titre
IBCT	Incorrect blood component transfused
ID	Identification
IT	Information technology
ICU	Intensive care unit
LIMS	Laboratory information management system
MAU	Medical admissions unit
NHS	National Health Service
NM	Near miss
SRNM	Specific requirements not met
WCT	Wrong component transfused

Recommendations

- Laboratory information management system (LIMS) rules for compatibility should be reviewed (including for group changes in transplant) and where possible a stop function should be implemented for ABO-incompatible red cells

Action: Laboratory managers and transfusion information technology (IT) specialists

- It is essential that safety critical steps should be protected from distraction (e.g. by implementing a physical cue such as tabard or armband)
- Distractions are inevitable when staff are working alone, conditions for lone working should be examined to reduce distraction where possible

Action: Laboratory and ward managers

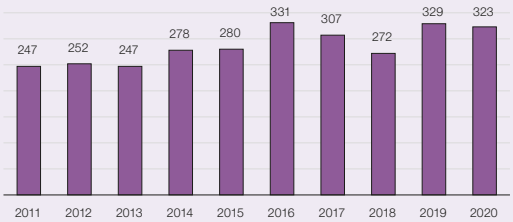
- Redeployment/surge nursing to areas where transfusion is required should be accompanied by training and competency-assessment

Action: Ward managers and education/training staff

Headline data 2020

Number of reports n=323
Deaths n=0
Major morbidity n=6

IBCT reports by year



Demographic data

Male n=162
Female n=148
Unknown n=13

Adults n=261
Paediatric n=44
Unknown n=18

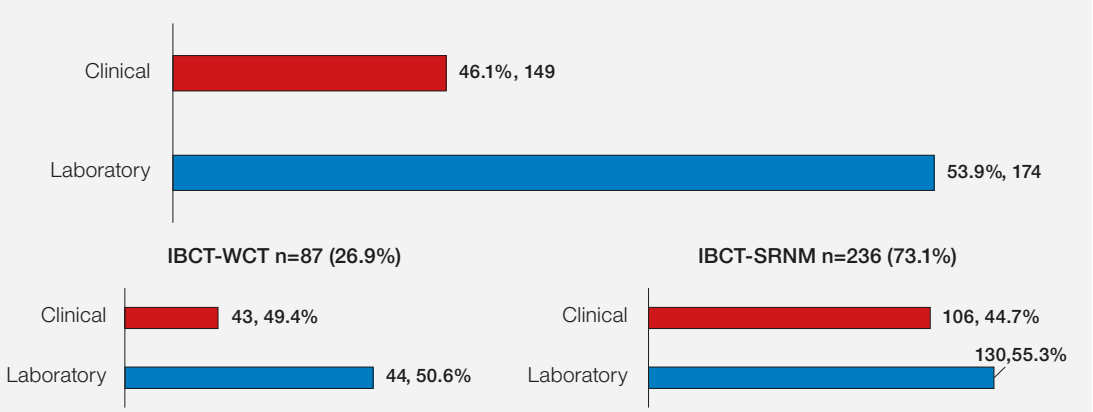
Blood component data

Red cells n=260
Platelets n=31
Plasma n=15
Multiple Components n=12
Granulocytes n=1
Unknown n=4

Introduction

IBCT events have the potential to cause major morbidity in patients and are often due to multiple errors in the transfusion process. Whilst the number of reports in most SHOT categories has decreased this year, IBCT events have not changed significantly. Figure 10.1 provides an overview of reports submitted to SHOT in 2020 where an incorrect blood component was transfused. This category includes instances where wrong components were transfused, and/or specific requirements were missed. The BSH guidelines for use of irradiated components were updated in 2020 (BSH Foukaneli et al. 2020).

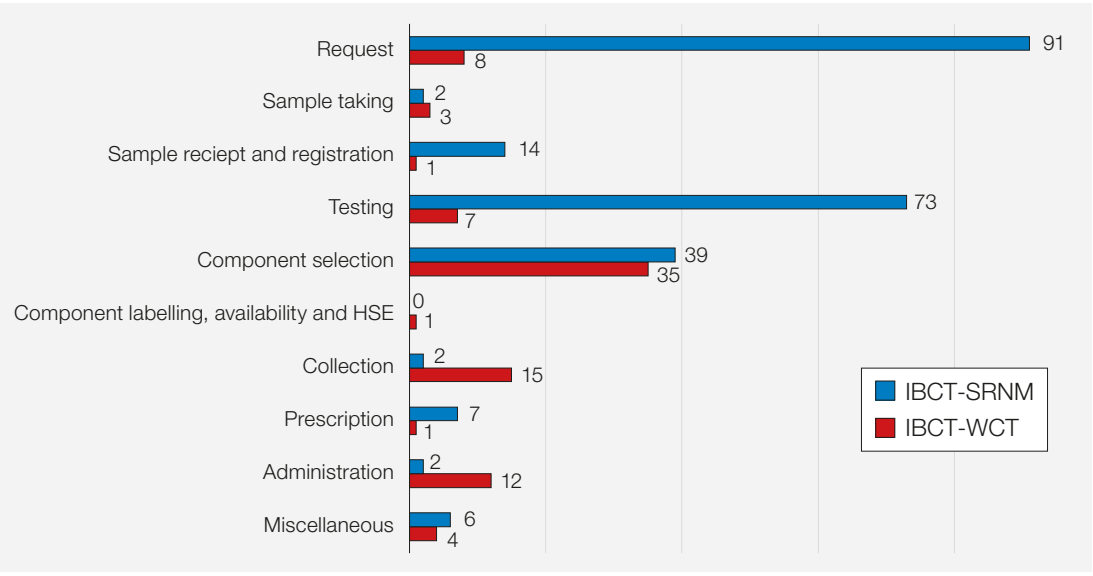
Figure 10.1: Overview of reports where an incorrect blood component was transfused in 2020 (n=323)



IBCT-WCT=incorrect blood component transfused-wrong component transfused; IBCT-SRNM=IBCT-specific requirements not met

IBCT (WCT and SRNM) errors commonly occurred at the request step, 99/323 (30.7%) and the testing step 80/323 (24.8%) as shown in Figure 10.2. Component selection 35/87 (40.2%), collection 15/87 (17.2%) and administration errors 12/87 (13.8%) continue to account for most IBCT-WCT reports.

Figure 10.2: Total incorrect blood component transfused errors categorised by the step where the error occurred (n=323)



IBCT-WCT=incorrect blood component transfused-wrong component transfused; IBCT-SRNM=IBCT-specific requirements not met; HSE=handling and storage errors

Deaths n=0

There were 11 deaths reported in the IBCT category (5 with clinical errors and 6 with laboratory errors), however none of the deaths were directly attributable to the transfusion (imputability 0 excluded or unlikely). Nine deaths occurred in the IBCT-WCT category (1 paediatric patient and 8 adults) and two in the IBCT-SRNM category (both adults). All deaths were attributed to the patients underlying conditions.

Major morbidity n=6

There were 5 cases of major morbidity which occurred in the laboratory and resulted in sensitisation to the K antigen in patients of childbearing potential (imputability not stated). These are discussed further in Chapter 15, Laboratory Errors. There was 1 clinical case which involved an ABOi transfusion (Case 5 in Table 10.1) and can be found in the supplementary information on the SHOT website (https://www.shotuk.org/shot-reports/report-summary-and-supplement-2020/).

ABO-incompatible (ABOi) transfusions n=9

This is an NHS Never Event (NHS England 2018), Wales (NHS Wales 2018) and Northern Ireland. In Scotland these cases would be reported as Red Incidents through the Scottish National Blood Transfusion Service. ABOi transfusions have the potential to cause severe clinical consequences including patient death.

In total there were 7 ABOi red cell transfusions (all clinical errors) and 2 ABOi plasma component transfusions, 1 of FFP and 1 of CCP (both laboratory errors). Table 10.1 provides an overview of each case.

All these cases are listed in Table 10.1 and are discussed in detail in the online supplementary material for this chapter (https://www.shotuk.org/shot-reports/report-summary-and-supplement-2020/). A couple of illustrative cases have been included below.

Case 10.1: Dealing with two units of blood for two different patients at the same time (Case 6 in Table 10.1)

A patient in his 30s with oesophageal varices was having an endoscopy as an out-patient. Some bleeding was identified, and he was found to have deranged clotting and a Hb of 91g/L. He was admitted to the ICU for monitoring and treatment. The unit was treating patients with COVID-19. There were two patients (one located within the 'hot' zone and the other within the 'cold' zone) and the porters had been asked to collect their blood units at the same time. Both units were collected and delivered to the 'hot' zone. The temporary agency nurse covering the shift set up the first unit and it was transfused to the patient quickly as he was actively bleeding. The second unit was then set up for the same patient and administered. Soon into the transfusion, the patient complained of intense back pain, melaena and shivering. It was then identified that the unit intended for another patient had been set up and was immediately stopped. Further information provided with the report alluded to poor lighting in the work environment as also being contributory.

A temporary agency nurse may be less likely to be fully aware of the organisation's transfusion policy. There was poor communication between the agency nurse and permanent staff. They did not realise that the blood was intended for another patient because they did not check the details at several points before giving it to the patient. The agency nurse assumed that another nurse had checked the unit so did not check it themselves.

In addition, certain work conditions were also identified as being contributory. The bedside light above the patient's bed was not working making it difficult to see clearly. Prior to the incident the department had been relocated to a new area to increase bed capacity due to the COVID-19 pandemic. The requirement for putting on and taking off personal protective equipment on a frequent basis was time-consuming and the additional time staff spent outside the clinical area collecting medication, other equipment or disposables when needed increased the pressure on the staff.

Case 10.2: Distraction during bedside checks (Case 7 in Table 10.1)

Patient 1 was a gentleman in his 80s who had recently had surgery for a fractured neck of femur but did not require a blood transfusion. The nurse was dealing with Patient 2 in the next bed who did require a transfusion. The appropriate checks were made on the blood prescription, the unit of blood and the patient ID using a bedside checklist. Before the transfusion could commence Patient 1, who was being cared for by an aspirant nurse, became acutely unwell and required the assistance of the nurse. When Patient 1 was stable the nurse preceded to connect the unit of red cells for Patient 2 to Patient 1, without restarting the checking process, and commenced the transfusion. The error was noted at a handover meeting approximately 15 minutes later, by this time Patient 1 had received approximately 15mL of the unit prescribed to Patient 2. This patient went on to have a delayed haemolytic transfusion reaction, and the patient subsequently recovered.*

The nurse was distracted by a sick patient during the administration part of the transfusion process and consequently failed to follow the organisation's administration policy by completing the final bedside identification checks without interruption.

The ward was busy and there were higher numbers of unqualified staff than usual requiring support. Safe staffing levels for the ward were usually six qualified nurses and four nursing assistants for a day shift. This shift was staffed with four Band 5 qualified nurses, three Band 2 nursing assistants, three unqualified aspirant nurses and one student nurse all requiring supervision and support.

**Aspirant nurses were introduced nationally as a rapid response to staffing concerns during the first wave of the COVID-19 pandemic. This role enabled student nurses in the final 6 months of their training programme to be employed as Band 4 nurses to use the skills and experience they had attained whilst they were supported to complete their training, through observational assessment of the use of their knowledge and skills in practice. Although these nurses could manage the care of a group of patients under the supervision of a registered nurse, they were not able to administer medication or blood components.*

Commentary

In the clinical ABOi reports there were 2 cases where the administering nurse was dealing with two different units of blood for two different patients simultaneously. This dramatically increases the risk of error. Four transfusions were carried out using a two-person independent check and three using a one-person check.

In 1 case the transfusion went ahead despite the patient not wearing an ID wristband. The BSH guideline (BSH Robinson et al. 2018) states that a patient identification band (or risk-assessed equivalent), including the core identifiers (first name, last name, date of birth and unique patient identification number), **must** be worn by all patients receiving a blood transfusion.

The remaining ABOi cases are described in full in the supplementary information on the SHOT website (https://www.shotuk.org/shot-reports/report-summary-and-supplement-2020/).

Investigating these incidents, including WBIT, using human factors principles will help identify the causal and contributory factors; and will inform the corrective and preventive actions to improve patient safety. This year one of the ABOi cases has been worked through using the new SHOT human factors investigation tool (HFIT) (incorporating the Yorkshire Contributory Factors Framework) and the Systems Engineering Initiative for Patient Safety (SEIPS) model to illustrate the benefits of applying human factors principles and systems thinking to incident investigations- both these re-worked investigation reports can be accessed online (https://www.shotuk.org/shot-reports/report-summary-and-supplement-2020/).

Figure 10.3: Clinical ABOi red cell cases (n=7)

ABOi=ABO-incompatible

Note: case numbers refer to the cases in Table 10.1

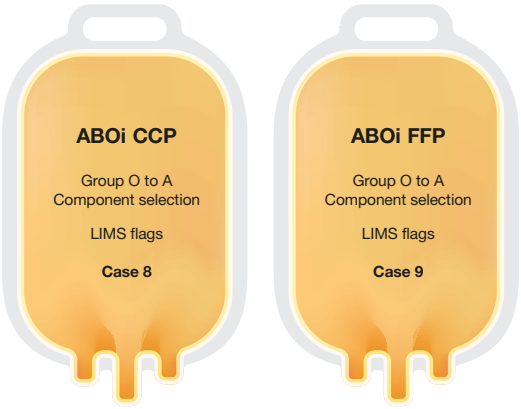


Figure 10.4: Laboratory ABOi cases (n=2)

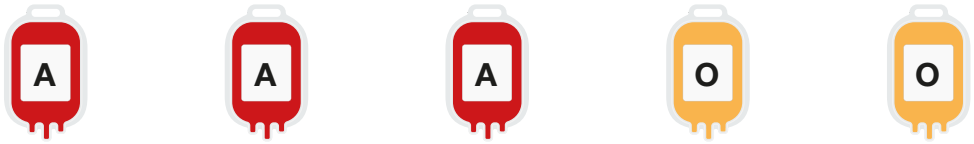
ABOi=ABO-incompatible; CCP=COVID-19 convalescent plasma; FFP=fresh frozen plasma; LIMS=laboratory information management system

Note: case numbers refer to the cases in Table 10.1

Both laboratory ABOi cases involved inappropriately overriding LIMS flags which should act as safety mechanisms. These cases are discussed further in Chapter 15, Laboratory Errors (Cases 15.4 and 15.5).

Table 10.1: ABO-incompatible transfusions key information (n=9)

Blood group of component issued				
Case number	**Case 1**	**Case 2**	**Case 3**	**Case 4**
Component transfused	Red cells group A	Red cells group AB	Red cells group A	Red cells group A
Patient Group	Group B	Group O	Group O	Group O
Volume transfused	<0.1mL	approx 50mL	<50mL	3mL
Primary error	Administration	Collection	Collection	Administration
When was error detected	Immediately after starting transfusion	Acute adverse reaction in patient	Patient informed staff	Patient informed staff
Patient impact	No clinical reaction	Minor or moderate morbidity	Minor or moderate morbidity	No clinical reaction
Urgency	Routine	Routine	Routine	Routine
In hours (8am–8pm) **Out-of-hours** (8pm–12 pm or 12pm–8am)	In hours	In hours	Out-of-hours	In hours
MHP	No	No	No	No
Department	Haematology day care unit	Urology ward	MAU	Haematology out-patients
Adult/paediatric	Adult	Adult	Adult	Adult
Administration checklist available	Yes (electronic)	Yes (electronic)	Not used at this hospital	Yes (electronic)
Patient ID	1-person check	2-person dependent check	1- person check	2-person dependent check
Root cause	Bedside checks not carried out	Failure to follow transfusion policy	Bedside checks not carried out	Bedside checks not carried out
Contributing factors	Nurse was dealing with 2 units for 2 different patients at the same time	The use of a single folder, holding every patient's sticky identification labels presents an unnecessary risk	2 patients with same surname Bedside check not carried out properly Several admissions at the same time	2 units for 2 different patients were checked against the electronic prescription Patient ID band missing Checks made away from the bedside
What controls are in place that should have prevented this	Bedside checklist Patient ID band	Transfusion policy	Positive patient ID	Positive patient ID



Case 5	Case 6	Case 7	Case 8	Case 9
Red cells group A	Red cells group A	Red cells group A	FFP group O	CCP group O
Group O	Group O	Group O	Group A	Group A
Unknown	1 unit	approx 15mL	2 units	1 unit
Administration	Administration	Administration	Component selection	Component selection
Acute adverse reaction in patient	Acute adverse reaction in patient	At handover meeting 15 minutes into transfusion	After the transfusion	After the transfusion (upon investigation of HSE NM with previous ABOi unit)
Major morbidity - admitted to HDU overnight	Minor or moderate morbidity	No clinical reaction	No clinical reaction	No clinical reaction
Routine	Urgent	Routine	Urgent	Routine
Out-of-hours	Out-of-hours	In hours	Out-of-hours	Out-of-hours
No	No	No	Code red trauma TX pre-hospital	No
Surgical ward	ICU	Trauma/orthopaedic ward	Laboratory	Laboratory
Adult	Adult	Adult	Adult	Adult
Yes (paper)	Yes	Yes (paper)	Yes	Yes
1-person check	2-person independent check	2-person independent check	1-person check (no info on manual v electronic)	2-person independent check
Failure to follow transfusion policy Lapse of concentration at the point of printing the blood request forms from the computer	Several breaches of transfusion policy Bedside checks not carried out properly	Bedside checks not carried out due to distraction of another unwell patient	Slip in attention by BMS due to distraction	Incorrect assumption by BMS that group O high titre negative was appropriate due to lack of group A in stock
2 patients requiring transfusion at the same time Checks made away from the bedside	Workload and staffing issues	Both nurses' competency training not up to date Higher number of unqualified staff requiring support due to COVID-19	Manual edit of group to O as unable to resolve, flag added for universal products Lone working	New clinical trial. Assumptions about rarity of component and availability Lone working Lack of training for clinical staff on CCP Confusion over standard operating procedure differences
Positive patient ID Bedside checklist Competency training	Positive patient ID Bedside checklist	Competency training	Warning flag in place to use universal products that was easily overridden Component labelling check Laboratory and clinical knowledge of ABO-compatibility	Warning flag not heeded BMS knowledge of ABO-compatibility

Clinical IBCT errors n=149

There were 149 cases reported in 2020 which is an increase from 131 in the 2019 Annual SHOT Report.

The COVID-19 pandemic was cited to have contributed to the errors in 4/149 (2.7%) of clinical events.

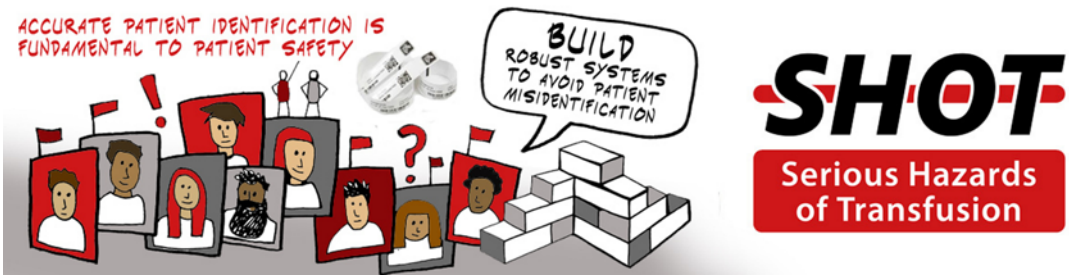
Clinical WCT events n=43

This is an increase in cases from 29 in the 2019 Annual SHOT Report.

The majority of WCT errors, 15/43 (34.9%), occurred at the point of collection of the component from the storage area, where the wrong unit was selected for the patient. Whilst the primary error occurred at collection for these incidents, there were additional missed opportunities to detect and rectify the error prior to administration had the pre-administration checklist been applied or used correctly. There were 12/43 (27.9%) cases where the bedside checks were not carried out correctly such as a failure to positively identify the patient or where the patient was not wearing an ID wristband. There was an error in the request in 8/43 (18.6%) of cases, 4/43 (9.3%) were miscellaneous errors including a case where the patient details were crossed out on the tracer tag and then handwritten and given to another patient. Blood sample errors accounted for 3/43 (7.0%) and 1/43 (2.3%) was a prescription error. Figures 10.5 a and b show the clinical WCT errors according to transfusion step and categories.

The trend for not using a bedside checklist continues despite repeated SHOT recommendations and the CAS alert: 'Safe Transfusion Practice: Use a bedside checklist' (Department of Health 2017). In 6/12 (50.0%) of these cases where a checklist was not used, the organisation had no plans to use or implement the use of such a checklist.

It is important to note that in 3/43 (7.0%) cases there were extra pressures on the staff involved due to re-deployment of staff, more staff requiring supervision and concerns over contamination of documentation in relation to COVID-19.



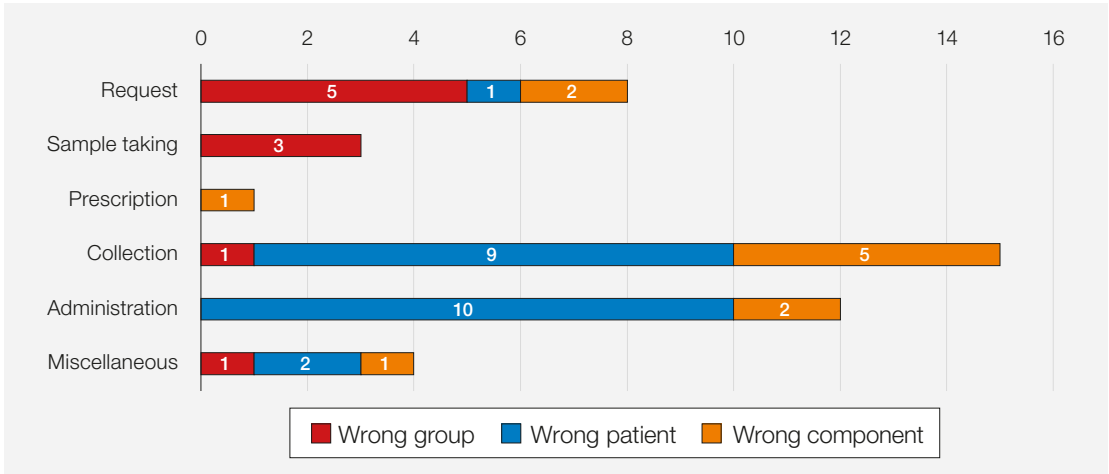


Figure 10.5a: Categorisation of clinical WCT errors by transfusion step where the primary error occurred (n=43)

Note: 'Miscellaneous' cases include: a WBIT where the patient was clerked with another patient's details, an adult unit administered to a neonate where this was a conscious decision made by the doctor due to volume requirements, a patient who was wearing another patient's ID band, and patient details on a compatibility label manually changed by clinical staff

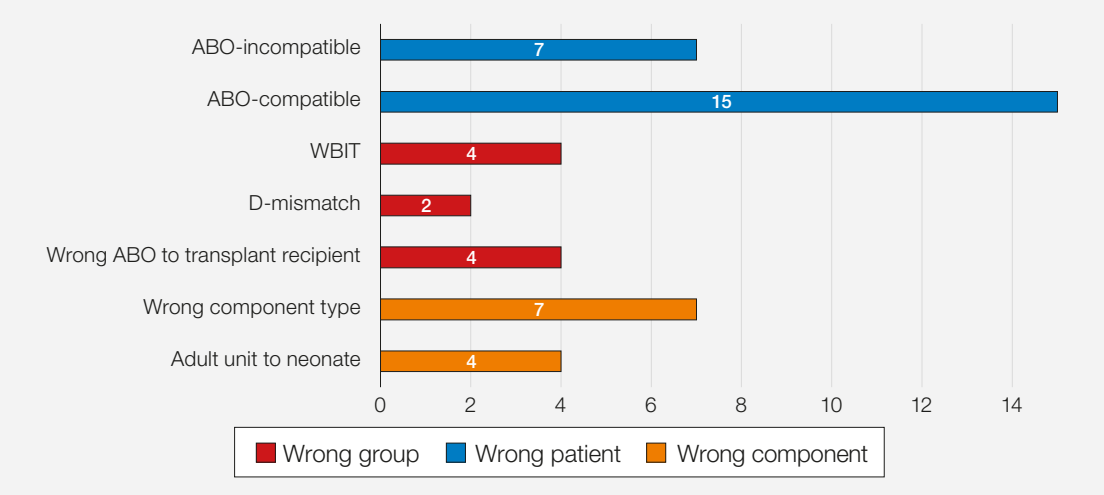


Figure 10.5b: Categorisation of clinical WCT errors by sub-category (n=43)

Note: Wrong blood in tube (WBIT) events which resulted in ABO/D compatible blood transfusions

Clinical IBCT-SRNM events n=106

This is a slight increase from the 102 events in the 2019 Annual SHOT Report.

There were 82/106 (77.4%) reports where there was a failure to adhere to the requirements for irradiated components, in each case this was not recorded on the request. Interestingly in 21/82 (25.6%) of these cases the patient had a previous diagnosis of Hodgkin's lymphoma which was either not on the patient's records or not communicated to the laboratory team. Reasons for these failures included lack of knowledge of the requirement, poor communication through shared care and clinical electronic systems not being updated.

There were 9/106 (8.5%) cases where the requirement for CMV-negative components was missed. An incorrect phenotype was transfused in 6/106 (5.7%) cases, 3 of these cases involved patients with sickle cell disease where the diagnosis was not conveyed to the laboratory. In 5/106 (4.7%) cases a blood warmer was not used when required. Other cases included 2 invalid samples, 1 incomplete testing and 1 not pathogen-inactivated.

The point in the ten-step transfusion process at which the error occurred was 91/106 (85.8%) at the request stage, at prescription in 7/106 (6.6%), and 2/106 (1.9%) each at administration, collection, sampling and miscellaneous.

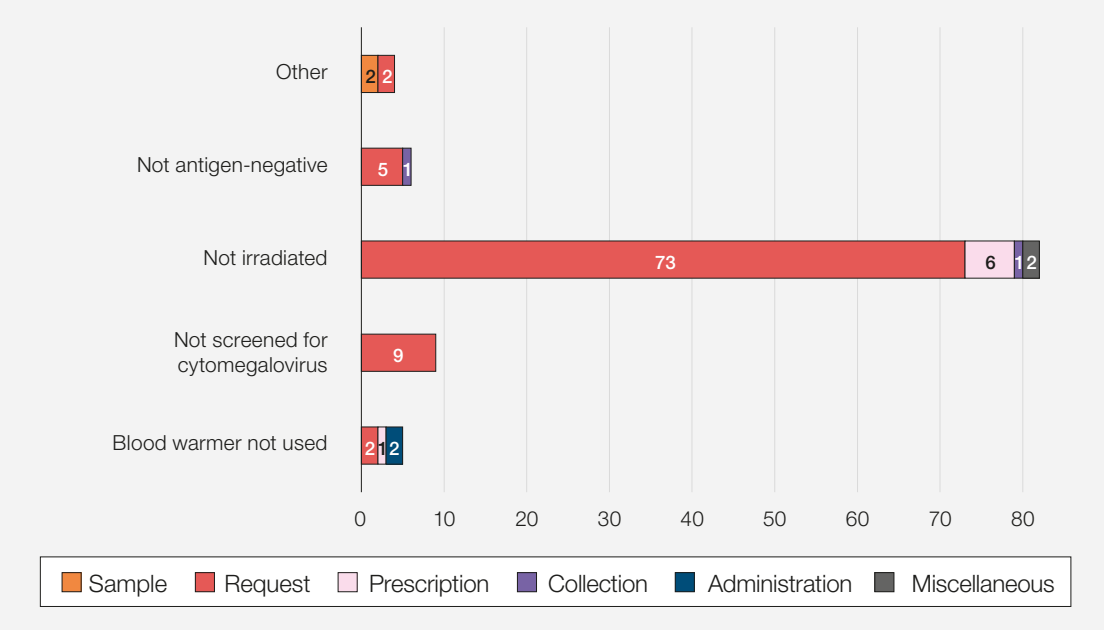


Figure 10.6: Clinical errors resulting in IBCT-SRNM categorised by patient impact and stage the error occurred (n=106)

Laboratory errors n=174

There has been a slight decrease in laboratory errors, however IBCT-WCT have remained relatively unchanged at 44, compared to 41 in 2019. IBCT-SRNM have decreased by 17.2% to 130 from 157 in 2019. When compared to the proportion of work conducted during core hours, a relatively high proportion of IBCT-WCT errors occurred when the member of staff was lone working, 15/44 (34.1%), however this was only 31/130 (23.8%) in IBCT-SRNM. The information regarding lone working was not available in 44/174 (25.3%) of IBCT errors.

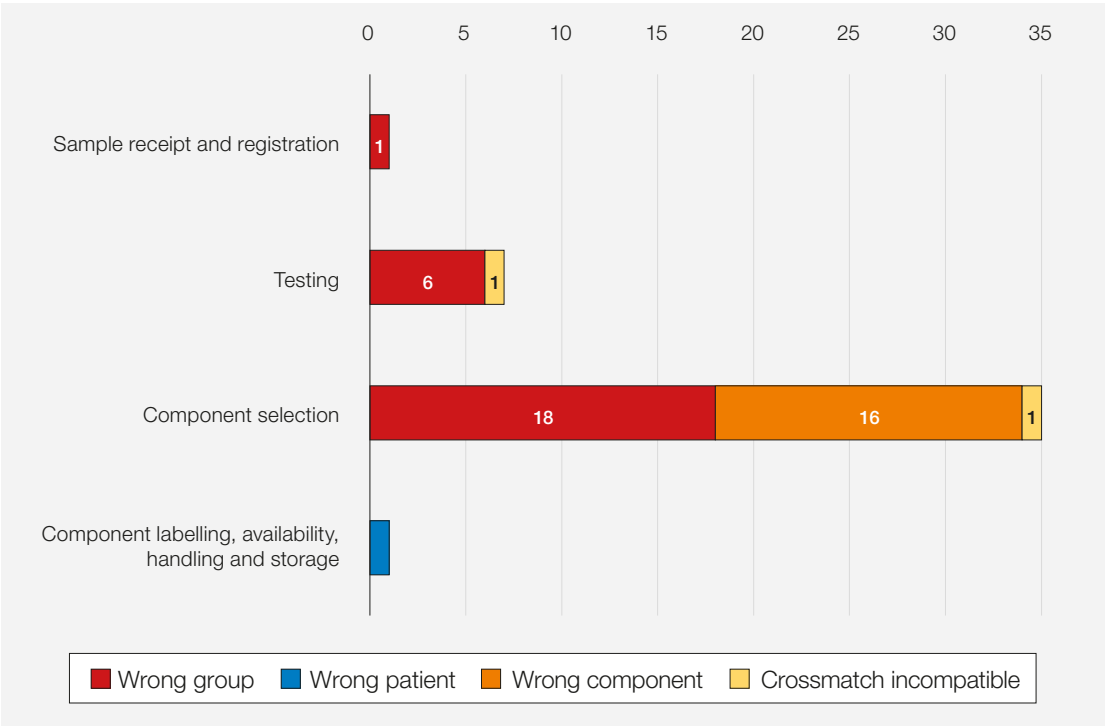
Laboratory IBCT-WCT events n=44

IBCT-WCT events are occurring consistently at the component selection step, 35/44 (79.5%). The highest number of IBCT-WCT events involved administration of the wrong component 16/44 (36.4%), which is an increase from 9/41 (22.0%) in 2019. These were mostly transfusion of adult units to neonates 9/16 (56.3%), and 1 case of neonatal red cell split packs being supplied to a child leading to undertransfusion. Nine of these cases were reported from a single site due to a lookback exercise, where the LIMS rules incorrectly mandated adult units for all patients >4 months old, misleading staff and resulting in infants under 1 year being supplied with adult units contradictory to BSH guidance (BSH New et al. 2016). However, in 2 cases adult units were supplied to infants <4 months old. This illustrates how a poorly configured LIMS system that does not reflect national guidance has the potential to cause patient harm. It also highlights that staff knowledge is a key aspect of transfusion safety. Staff should have the appropriate knowledge, or know where to find relevant information, to make informed decisions and identify when errors may have occurred. This is of particular importance during IT downtime events. These cases are also discussed in Chapter 23, Paediatric Cases. Figures 10.7a and b show the laboratory WCT errors according to transfusion step and sub-categories.

Learning points

- Transfusion management should ensure that policies and staff are kept up to date with national guidance, including the age specific requirements for all blood components
- Staff should use their professional knowledge and be empowered to challenge when they think the IT system, or an SOP is incorrect or requires amendments

Figure 10.7a: Laboratory WCT errors by transfusion step where the primary error occurred (n=44)



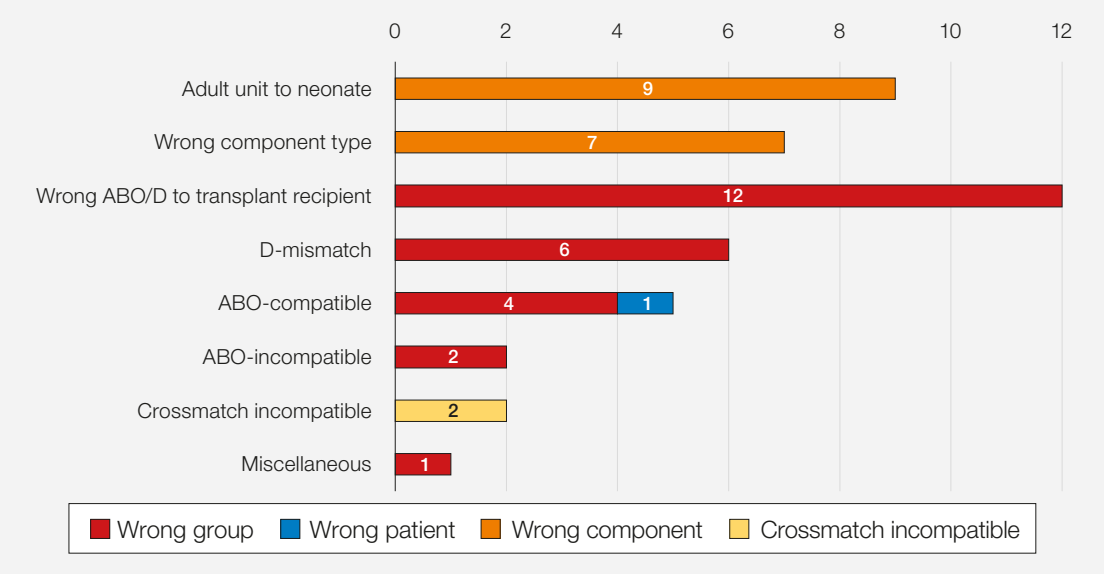


Figure 10.7b: Laboratory WCT errors by category (n=44)

Note: Case classified as 'Miscellaneous' involved communication errors between the issuing laboratory and the laboratory who routinely treated this patient.

Of the cases of D-mismatch, 4/6 (66.7%) were reported in individuals of childbearing potential – however no case of sensitisation to the D antigen were reported.

Cases of incorrect ABO/D group being given to solid organ and HSCT patients persist. These were mostly component selection errors 9/12 (75.0%) and in 5/9 (55.6%) the correct information was available in the LIMS or an alert/flag was overridden. The 2019 Annual SHOT Report (Chapter 14, Laboratory Errors) discusses the importance of designing systems to minimise alert fatigue (Narayan et al. 2020). These messages remain pertinent.

Laboratory IBCT-SRNM events n=130

Laboratory IBCT-SRNM are discussed in more detail in Chapter 15, Laboratory Errors. Most laboratory IBCT-SRNM events are the result of incomplete testing 40/130 (30.8%), followed by inappropriate use of electronic issue 23/130 (17.7%) (Figure 10.8).

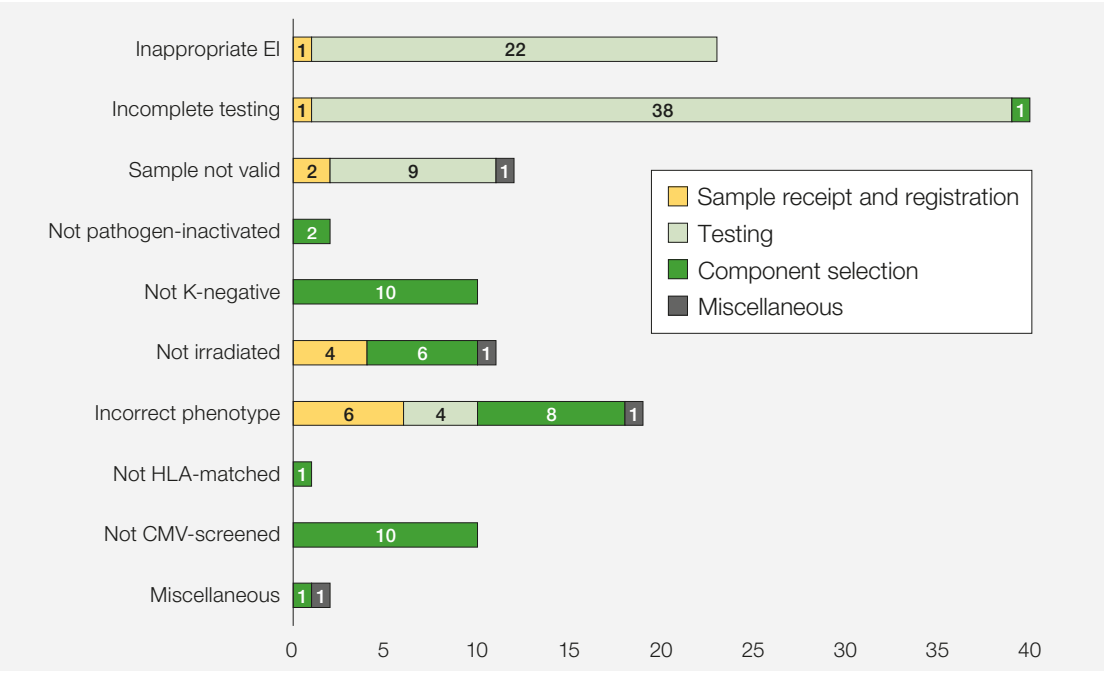
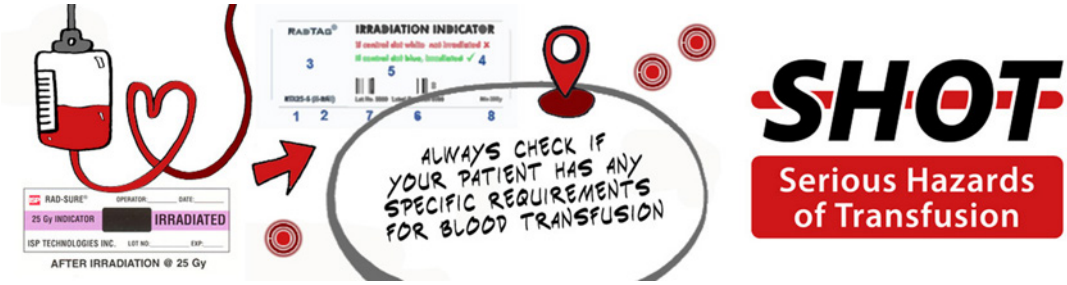


Figure 10.8: Laboratory errors resulting in IBCT-SRNM (n=130)

CMV=cytomegalovirus; HLA=human leucocyte antigen

Where the primary error occurred at the testing stage, the majority of incomplete testing cases were due to incomplete antibody identification 16/38 (42.1%). Most of these cases 9/16 (56.3%) occurred during routine hours, 5/16 (31.3%) occurred out-of-hours and this information was not available in 2/16 (12.5%). Procedures were not followed in 12/16 (75.0%), were followed but the antibody was masked in 1/16 (6.2%) and this information was not available in 3/16 (18.8%).

This is another example of how LIMS should be used to enhance safety of transfusions. They should not allow unchallenged issue of components when test results are outstanding, alerts should be raised which require rationale to be provided, and are accessible for future reference.



Case 10.3: Transfusion of antigen-positive blood due to misidentification of alloantibodies in non-ideal working conditions

A male patient in his 50s undergoing chemotherapy required a red cell transfusion. The antibody identification panel showed a historical anti-C, however a newly presenting anti-Fy^b was missed and an appropriate antigen-negative unit was not selected. The BMS performing the panel was rushing to avoid leaving unfinished work for the next shift. They failed to perform full antibody exclusions on the panel and relied on previous history to guide decision making. The unit was crossmatch-compatible by indirect antibody test and the mistake was detected 4 days later when panel results were second checked by a senior BMS.

It is vital that every antibody identification panel is fully interpreted, and no assumptions based on previous results are made. Staff should also not begin tasks if they cannot be completed safely before shift handover. The pressures of workload were recognised in the investigation, however it is concerning to see that the investigator had noted 'excuses of busyness and distraction cannot be used continually as defence for incidents in blood transfusion'. This suggests that underlying system issues, such as staffing and workload, are not being addressed appropriately to avoid future errors. This may itself contribute to staff members feeling pressure to cut corners and not mention any potential errors for fear of blame. Workload pressures also seem evident as it took 4 days for the panel to be second checked. Laboratories are busy workplaces. Whilst laboratory staff must be equipped to prioritise and be aware of their own working limits, if multiple errors are highlighting excessive workload and distraction these factors should be investigated and if necessary, procedures and capacity plans adjusted considering these risks.

Learning point

- All essential testing should be resolved prior to issue of blood components. If the antibody identification is yet to be completed then concessionary release should be considered to avoid transfusion delays

A total of 17/38 (44.7%) incomplete testing errors occurred during urgent (12) or emergency (5) situations. In these situations, it may not be possible to complete all required testing prior to release of blood components. These components will be less safe than if testing was completed, therefore it is essential that the decision to issue components with incomplete testing is a conscious decision which is made after approval for concessionary release by haematology doctors or within local procedures.

Learning point

- In complex situations advice should be sought from senior laboratory staff and haematology doctors, and rationale for concessionary release recorded according to local procedure

Near miss IBCT cases n=178 (107 clinical, 71 laboratory)

Definition

A 'near miss' event refers to any error which if undetected, could result in the determination of a wrong blood group or transfusion.

There was a total of 20 NM ABOi transfusions in 2020, 1 less than in the 2019 Annual SHOT Report. Of these, 16/20 (80.0%) originated in the clinical area and 4/20 (20.0%) in the laboratory.

Clinical NM IBCT-WCT n=88

As in 2019 the most common error in this category was at the collection stage of the process with 54/88 (61.4%) of reports, 33/54 (61.1%) of these errors being identified on administration at the beside with the use of a checklist;19/33 (57.5%) with an electronic bedside check and 14/33 (42.5%) with manual bedside check. A total of 25/88 (28.4%) errors occurred at the administration stage of the transfusion process where there had been an attempt to give the component to the wrong patient. In 21/25 (84.0%) of these cases the error was identified by an electronic system alert and 4/25 (16.0%) by nurses identifying the error during the final bedside check.

Clinical NM IBCT-SRNM n=19

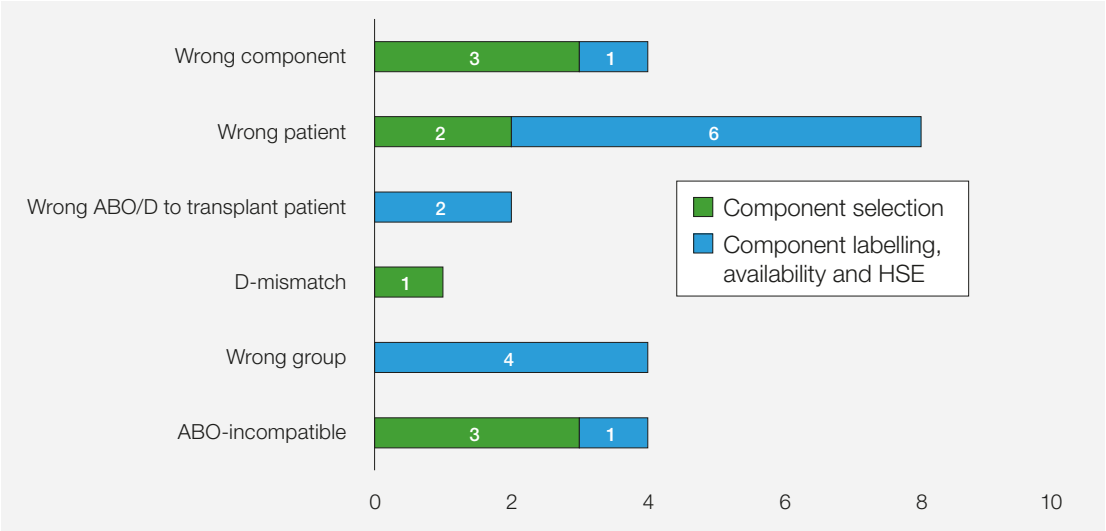
These potential errors were identified by vigilant nurses who noticed the specific requirements were not present prior to the transfusion taking place. There were 15/19 (78.9%) of NM events where the patient could have potentially received non-irradiated components. The majority 13/15 (86.7%) of errors had been made at the request stage. As with previous years the most common reason for these errors was poor communication where the clinical area had not informed the laboratory of specific requirements.

Laboratory NM IBCT-WCT n=23, IBCT-SRNM n=48

The highest proportion of laboratory NM-IBCT events occurred at the component selection step, 47/71 (66.2%). A number of NM IBCT-WCT errors 8/23 (34.8%) had the potential to result in blood being administered to the wrong patient and were mostly component labelling errors, 6/8 (75.0%). NM IBCT-WCT errors were mostly detected at the pre-administration bedside check 15/23 (65.2%).

Most NM IBCT-SRNM were detected at the pre-administration bedside check 26/48 (54.2%). In others the error was detected by chance. The highest proportion of laboratory NM IBCT-SRNM events involved patients requiring irradiated blood, 25/48 (52.1%).

Figure 10.9: Laboratory near miss IBCT-WCT events categorised by error and step in the transfusion process (n=23)



HSE = handling and storage errors

Conclusion

This year has seen an alarming rise in ABOi blood transfusions. The key themes highlighted in these cases have safety implications throughout the transfusion chain and healthcare in general. It is fortuitous that no patients died due to these errors. Three patients did suffer adverse reactions, 1 of which resulted in major morbidity and admission overnight to the HDU. The importance of accurate positive patient identification at the patient's side cannot be underestimated and a lack of compliance with this fundamental step can be taken as an indicator of a struggling healthcare system or poor safety culture. Distractions in healthcare can have disastrous consequences, these are even more of a danger in unfamiliar circumstances. Procedures should be clear to follow and contain all relevant information, and if staff do not feel they are able to safely follow these procedures these concerns should be escalated immediately. Training is essential in all healthcare settings; this should be tailored for the role and enough time allowed for this to be meaningful. Where bank, agency, locum, or redeployed staff are involved in transfusion they must receive the same level of training and competency assessment as substantive staff. If this is not possible or has not been completed staff should receive appropriate supervision and should not work alone. It is surprising that only 1 ABOi case mentioned the pressures of COVID-19 and it may be reasonable to assume that a stretched and exhausted workforce was also contributory in some of these cases.

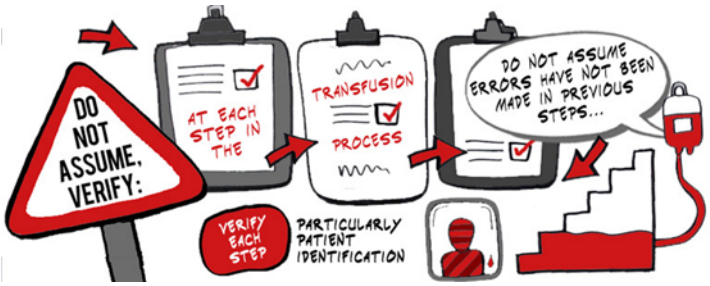
Recommended resources

The BSH guidance for the use of irradiated blood components was updated in 2020. All who prescribe blood components should be familiar with this guidance
https://onlinelibrary.wiley.com/doi/full/10.1111/bjh.17015

SHOT safe transfusion checklist
https://www.shotuk.org/resources/current-resources/

ABO-incompatible transfusion events 2010-2019 video
https://www.shotuk.org/resources/current-resources/videos/

SHOT Bite No. 17 Near Miss
https://www.shotuk.org/resources/current-resources/shot-bites/



SHOT
Serious Hazards of Transfusion

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