Incorrect Blood Component Transfused (IBCT) n=356

10

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Definition:

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).

Abbreviations used in this chapter

ABOi	ABO-incompatible
AIHA	Autoimmune haemolytic anaemia
BMS	Biomedical scientist
CMV	Cytomegalovirus
FFP	Fresh frozen plasma
Hb	Haemoglobin
HSCT	Haematopoietic stem cell transplant
HSSIB	Health Service Safety Investigations Body
IBCT	Incorrect blood component transfused
ID	Identification
IT	Information technology
LIMS	Laboratory information management system
MHP	Major haemorrhage protocol
NM	Near miss
PID	Patient identification
PPID	Positive patient identification
SRNM	Specific requirements not met
UK	United Kingdom
UKTLC	UK Transfusion Laboratory Collaborative
WBIT	Wrong blood in tube
WCT	Wrong component transfused

Key SHOT messages

- Laboratory IBCT errors, both WCT and SRNM, have increased substantially (356 in 2023 compared to 296 in 2022)
- There were 10 ABOi transfusions in 2023, 7 red cell and 3 FFP
- There has been a dramatic rise in the number of component selection errors, particularly to HSCT patients, resulting in the wrong ABO group being transfused to patients
- Many errors involve patient identification, particularly at sample taking, blood collection and administration

Recommendations

- Accurate and complete PID is fundamental to transfusion safety. Training in correct PID procedures must be provided to all staff

Action: All staff in transfusion, ward managers

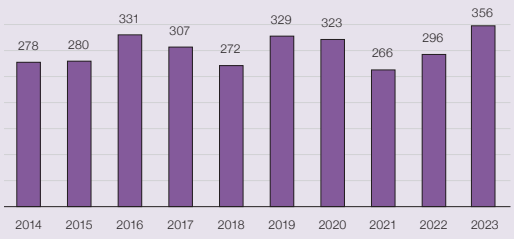
- Transfusion competency training and assessment should be audited for effectiveness, particularly following errors. Competency-assessment should not just be a tick-box exercise
- Access to specialist transfusion advice should be available to all transfusion staff at all times (SHOT, 2024)

Action: Transfusion laboratory managers, ward managers

Headline data 2023

Number of reports n=356
Deaths n=0
Major morbidity n=6

IBCT reports by year



Demographic data

Male n=160
Female n=177
Unknown n=19

Adults n=290
Paediatric n=45
Unknown n=21

Blood component data

Red cells n=304
Platelets n=35
Plasma n=12
Multiple components n=1
Granulocytes n=0
Cryoprecipitate n=1
Unknown n=3

Introduction

IBCT events have the potential to lead to patient harm including major morbidity and death, as seen in serial Annual SHOT Reports. These errors accounted for 356/3833 (9.3%) of reports in 2023, which is an increase on previous year's data. A reduction in clinical errors but a striking increase in laboratory errors was noted. The total number of IBCT-WCT reports has increased in 2023 to 121 from 87 in 2022, and an increase in the number of IBCT-SRNM reports to 235 from 209 in 2022. Figure 10.1 provides an overview of reports submitted to SHOT in 2023 where an incorrect blood component was transfused. This category includes instances where wrong components were transfused, and/or specific requirements were not met.

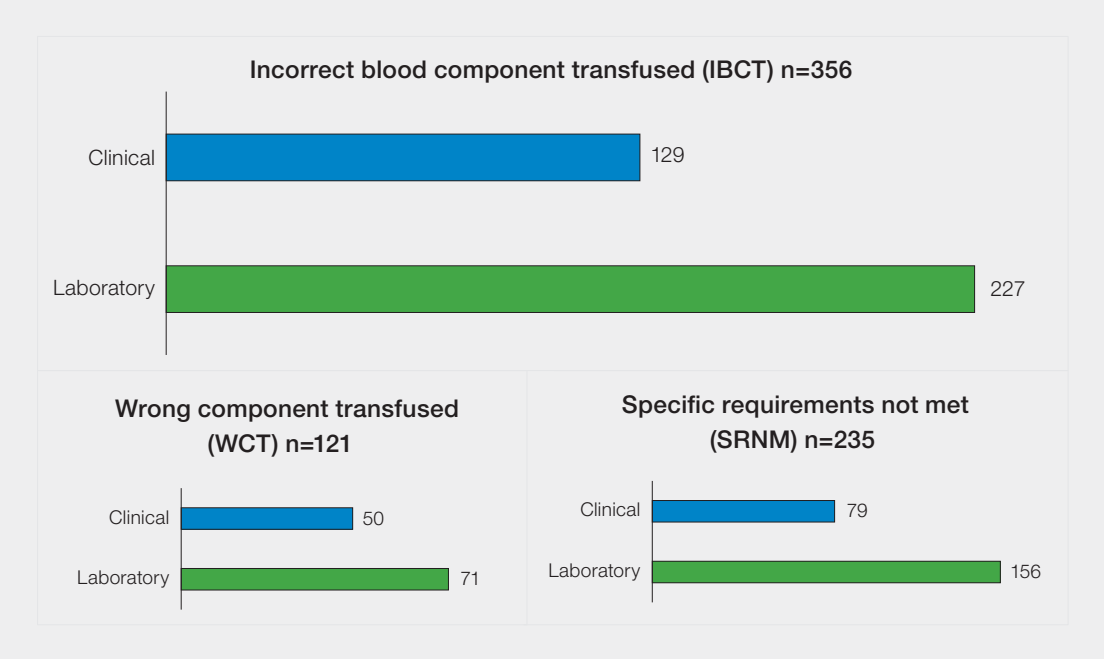


Figure 10.1: Overview of reports where an incorrect blood component was transfused in 2023 (n=356)

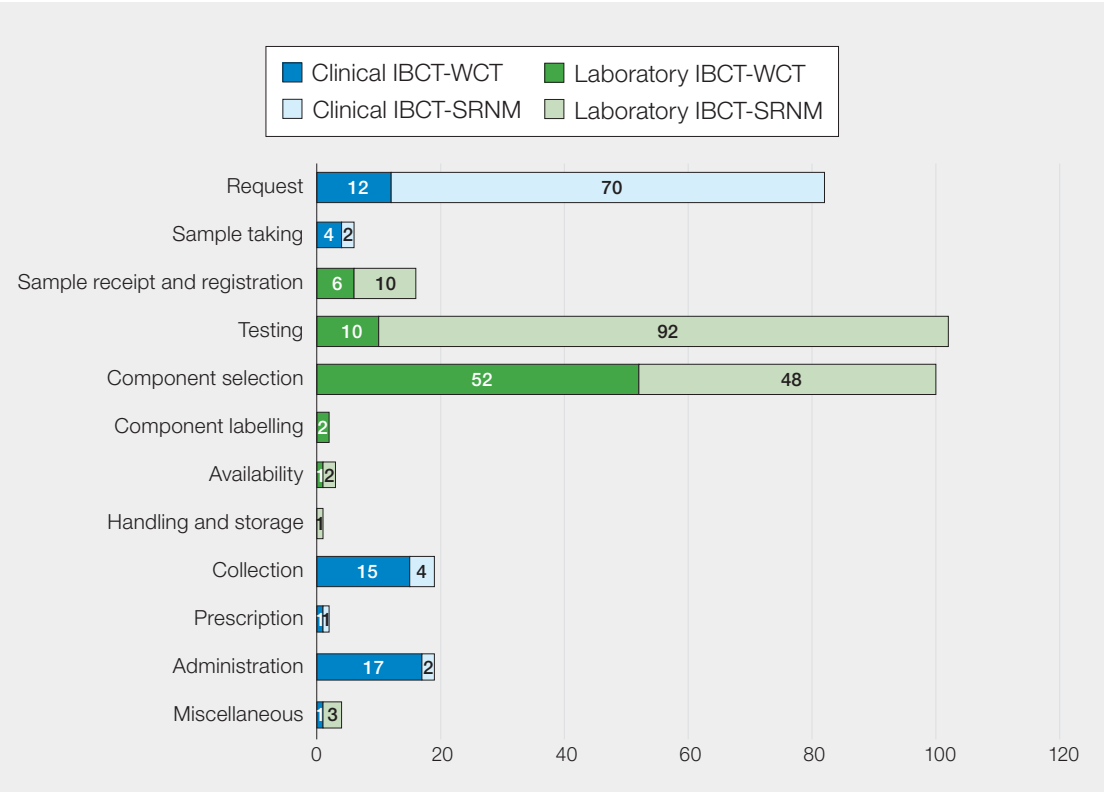


Figure 10.2: Total IBCT errors categorised by the step in the transfusion process where the error occurred (n=356)

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

Most clinical errors occurred at the request step of the transfusion process, 82/129 (63.6%), followed by collection, 19/129 (14.7%) and administration, 19/129 (14.7%) stages. In the laboratory, most errors occurred at testing, 102/227 (44.9%) and component selection, 100/227 (44.1%) stages.

Deaths related to transfusion n=0

There were no patient deaths in 2023 due to IBCT errors.

Major morbidity n=6

There were 6 cases of major morbidity related to IBCT errors: 4 laboratory and 2 clinical. The 2 clinical cases are detailed below in Table 10.1. In 1 case, the safety checks were not performed correctly at the collection stage and in the other, there was a failure to perform PPID at the administration stage.

The 4 laboratory cases of major morbidity resulted in sensitisation to the K antigen in patients of childbearing potential due to component selection errors. One patient developed an anti-K antibody with a titre of 1 in 256. In 3 cases there were LIMS alerts to prevent the error, but these were overridden by BMS staff. These cases are discussed further in Chapter 14, Laboratory Errors.

ABO-incompatible (ABOi) transfusions n=10

There were 7 red cell and 3 FFP ABOi transfusions included in 2023. All the red cell ABOi transfusions were because of clinical errors (collection and administration errors), with 2 resulting in major morbidity. Two component selection errors in the laboratory resulted in group O FFP being issued to non-group O patients. The third FFP case involved a historical WBIT sample which occurred in 2011 and was reported in 2023. Salient points of these are covered in Table 10.1, and detailed case descriptions can be found in the supplementary information on the SHOT website (https://www.shotuk.org/shot-reports/report-summary-and-supplement-2023/).

Table 10.1: ABOi transfusions reported in 2023 (n=10)

Case number	Case 1	Case 2	Case 3
Component transfused	Red cells group A 	Red cells group B 	Red cells group A 
Patient group	Group O	Group O	Group O
Volume transfused	>50mL	<50mL	>50mL
Primary error	**Administration** Ineffective patient ID checks	**Administration** Ineffective patient ID checks	**Collection** Wrong pickup slip used. Ineffective patient ID checks
Error detection	When patient became unwell after 100mL transfused	When 15 minute observations were being carried out	When patient became unwell after whole unit transfused
Patient impact	**Major morbidity**	**Minor morbidity**	**Death (unrelated)**
Imputability	3	2	0
Urgency	Routine	Routine	Emergency
MHP	No	No	No
Department	Ward	Ward	Ward
Adult/paediatric	Adult	Adult	Adult
Administration checklist used. Patient ID	Yes (paper) 2-person independent check	Yes (paper) 2-person independent check	No 2-person check
ID band in place	Yes	Yes	Yes

Case number	Case 4	Case 5	Case 6
Component transfused	Red cells group A 	Red cells group A 	Red cells group A 
Patient group	Group O	Group O	Group O
Volume transfused	>50mL	>50mL	1 unit
Primary error	**Collection** Wrong unit collected Ineffective patient ID checks	**Collection** Wrong unit collected Ineffective pre-transfusion checks	**Collection** Ineffective patient ID checks
Error detection	Within 3 minutes of start of transfusion	When patient became unwell after at least 50mL transfused	Six days later when patient had repeat group and save
Patient impact	**Death (unrelated)**	**Major morbidity**	**No clinical reaction**
Imputability	0	3	N/A
Urgency	Emergency	Routine	Routine
MHP	No	No	No
Department	Intensive care unit	Hamatology OPD	Ward
Adult/paediatric	Adult	Adult	Adult
Administration checklist used. Patient ID	No 2-person check	No 2-person dependent check	Yes (paper) 1-person check
ID band in place	Yes	Yes	Yes

Case number	Case 7	Case 8	Case 9	Case 10
Component transfused	Red cells group B 	FFP group O 	FFP group O 	FFP group O 
Patient group	Group O	Group B	Group B	Group B
Volume transfused	<50mL	2 units	<50mL	<50mL
Primary error	**Administration** Incomplete patient ID checks carried out	**Component selection** Group O red cells issued due to limited B stock, which prompted laboratory to issue group O FFP in error. LIMS did not prevent issue of group O to non-O patients	**Component selection** Issued group O FFP when only one previous sample. Infant transfused O red cells at other organisation, therefore grouping as group O	**Sample taking** Historical (2011) WBIT
Error detection	Identified by ward staff when there was an issue with IV line	When laboratory staff realised their error	Communication from transferring hospital	Lookback investigation following subsequent sample issue
Patient impact	**No clinical reaction**	**No clinical reaction**	**Death (unrelated)**	**No clinical reaction**
Imputability	N/A	N/A	0	N/A
Urgency	Routine	Emergency	Urgent	Emergency
MHP	No	Yes	No	Not known
Department	Ward	Theatre	NICU	ED
Adult/paediatric	Adult	Adult	Neonate	Adult

Case number	Case 7	Case 8	Case 9	Case 10
Administration checklist used. Patient ID	Yes (paper) 2-person independent check	Yes (paper) 2-person independent check. Exit checklist used by laboratory	Not known	Not known
ID band in place	Yes	Yes	Yes	Not known

It is concerning to note the upward trend in ABOi red cell transfusions (see Chapter 3, Headline Data, Figure 3.8). Sample taking, collection and administration stages of the transfusion pathway remain weak points for accurate patient identification leading to IBCT errors. Staffing shortages with steep increases in workload, resource constraints, administrative burdens, and complexity of healthcare delivery all contribute to these errors. The recently published HSSIB report, detailing issues relating to patient misidentification, outlines that these concerns impact on patient safety in all areas of healthcare including blood transfusion (HSSIB, 2024). Urgent actions are needed to address these issues and improve patient safety.

Clinical IBCT errors n=129

There were 129/356 (36.2%) cases reported in 2023 which is a decrease from the 144/296 (48.6%) in the 2022 Annual SHOT Report.

Clinical IBCT-WCT errors n=50

This was a slight increase in cases from 44 in the 2022 Annual SHOT Report.

There was a total of 15/50 (30.0%) transfusions of the wrong component type, 17/50 (34.0%) of the wrong group and 18/50 (36.0%) to the wrong patient.

More than a third of the IBCT-WCT errors, 17/50 (34.0%) occurred at the point of administration and resulted in 1 transfusion of the wrong component type, 3 wrong group transfusions and 13 cases where blood components were transfused to the wrong patient (Figure 10.3). This included 3 ABOi red cell transfusions.

There were 15/50 (30.0%) errors at collection of the component from the storage area which resulted in 9 wrong component types transfused, 3 wrong blood group transfused and 3 where components were administered to the wrong patient (Figure 10.3). This included 4 ABOi red cell transfusions.

Case 10.1: Red cells administered in error instead of platelets

A patient was due to undergo spinal surgery. As they had been taking clopidogrel, two adult therapeutic units of platelets were prescribed to be given pre surgery. The patient's Hb was 152g/L. A nurse asked the porter to collect 'one unit of blood' from a remote issue refrigerator. The red cells were issued to the patient for use during surgery if required but had not been prescribed. The nurse administering the transfusion reported that pre-transfusion safety checks were completed, but this failed to pick up that the wrong blood component was about to be administered. The unit of red cells was transfused uneventfully. When another nurse requested platelets to be collected, a second unit of red cells was brought to the ward. When the nurse realised the wrong component had been delivered, the previous transfusion was checked, and the earlier error was identified. The

patient suffered no ill effects from the red cell transfusion and surgery went ahead as planned with the prescribed platelets being administered during the surgery.

The transfusion laboratory was reported to have been very busy so the platelets had not been issued to the patient when the first collection was requested and would not have appeared on the IT system.

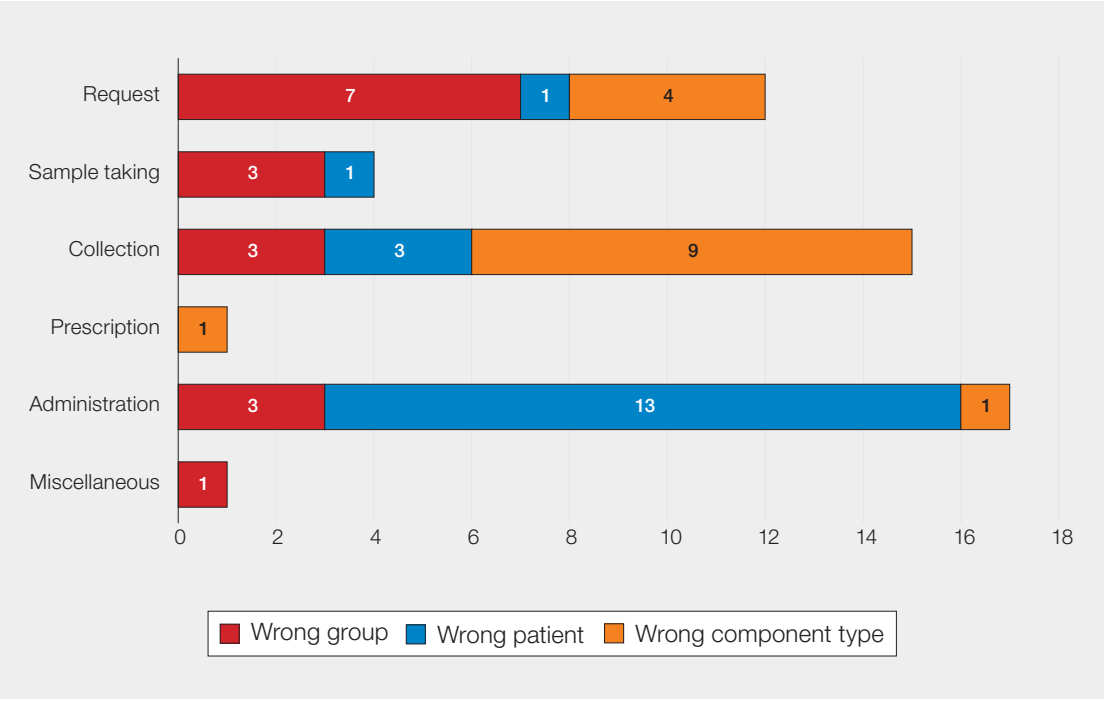


Figure 10.3: Categorisation of clinical IBCT-WCT errors by step where the primary error occurred (n=50)

Of the clinical IBCT-WCT errors, 20/50 (40.0%) were routine transfusions and 10/50 (20.0%) were emergency. Most transfusions 36/50 (72.0%) occurred between 08:00-20:00.

IT was involved in 20/50 (40.0%) which included lack of functionality of some systems, lack of interoperability and systems being available but not being used.

Learning points

- Collection and administration of blood components are critical steps in the transfusion process and effective procedures should be in place to ensure that necessary checks are performed
- It is vital to conduct positive patient identification and complete all the final checks next to the patient immediately prior to administration of the component
- When completing final administration checks it is important to ensure the correct component type is being given

Clinical IBCT-SRNM errors n=79

The number of clinical IBCT-SRNM 79/356 (22.2%) has decreased from 100/296 (33.8%) in the 2022 Annual SHOT Report.

There were 54/79 (68.4%) cases where the requirement for irradiated components was not met. In 18/54 (33.3%) of reports the patient had a diagnosis of Hodgkin lymphoma. A further 20/54 (37.0%) patients had received purine analogues. Reasons for these failures included poor communication through shared care, clinical electronic systems not being updated and lack of knowledge of the requirement.

Errors mostly occurred at the request stage 70/79 (88.6%), with further errors at the collection stage 4/79 (5.1%), 2/79 (2.5%) each at sample taking and administration and 1/79 (1.3%) at the prescription/ authorisation stage.

Case 10.2: Shared care communication failure leads to transfusion of a non-irradiated blood component

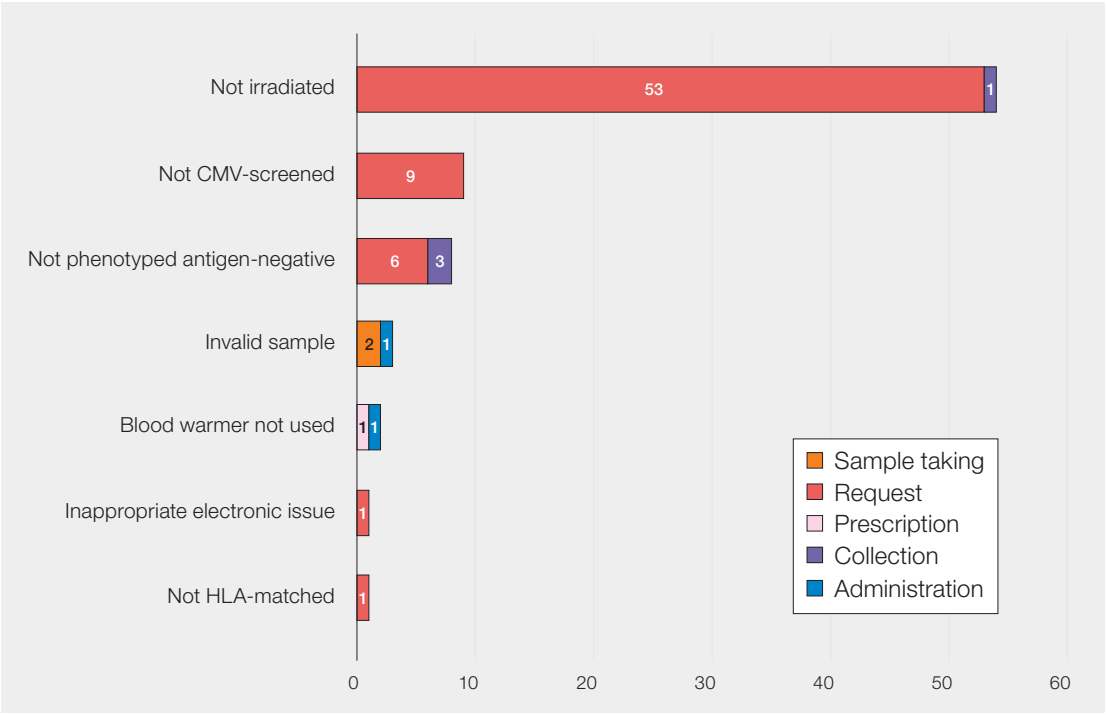
A patient with a history of Hodgkin lymphoma did not receive an irradiated red cell unit for an elective transfusion. The laboratory had not been informed of the patient's diagnosis by the clinician when the request was made therefore no alert was in place on the LIMS. Neither the request form nor the prescription/authorisation record stated the specific requirements, and no relevant clinical history was provided.

The patient was diagnosed several years previously, and their current care was shared by two hospitals, with no common electronic patient records or LIMS access. Lack of adequate patient information and access to appropriate records from the other hospital prevented any further questioning of the patients' specific requirements. At the time of writing, there was work being done to resolve this issue. The patient had no ill effects from this omission.

Adults and children with Hodgkin lymphoma are to receive irradiated blood components for life (Foukaneli, et al., 2020), yet data has shown that often the irradiation requirements for these patients is missed (Elliot, et al., 2021). In 2022 SHOT published a safety notice to highlight the importance of meeting transfusion specific requirements for all elective transfusions.

As with many reports in this category effective communication is key to preventing such errors. Highlighted in the ACE chapter is a case where staff made the specific requirements section of the request form mandatory (Chapter 6, Acknowledging Continuing Excellence in Transfusion (ACE), Case 11).

Figure 10.4: Clinical IBCT-SRNM errors and transfusion step where the error occurred (n=79)

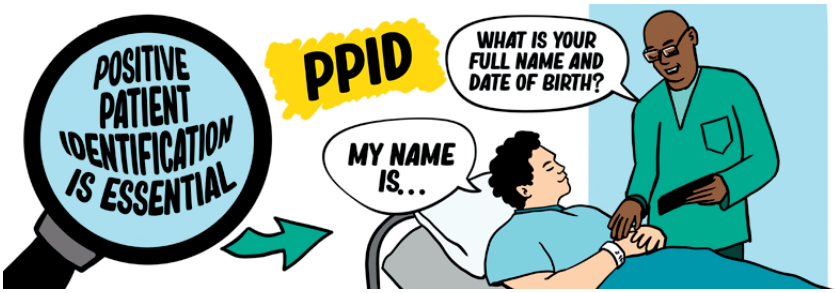


CMV=cytomegalovirus; HLA=human leucocyte antigen

Learning points

- It is vital that all healthcare professionals involved with transfusion have an awareness of specific transfusion requirements, and patient cohorts where these requirements are relevant
- Specific requirements for transfusions must be documented in patient records (manual and/or electronic) and be easily accessible
- Effective processes for communication of specific requirements between the clinical area and laboratory increase the likelihood of safe transfusions occurring

- There are opportunities to identify the correct specific requirements at several steps in the transfusion process. Staff in both clinical and laboratory areas should remain vigilant and raise any suspected omission with requesting clinicians
- Where failures to meet specific requirements occur, these incidents should be thoroughly investigated, and appropriate improvement actions taken
- Healthcare professionals should comply with duty of candour to ensure transparency and partnership with patients



Laboratory IBCT errors n=227

In 2023 there has been a striking increase in reports of incorrect blood components transfused due to laboratory errors from 152/296 (51.4%) in 2022 to 227/356 (63.8%) in 2023. There has been an increase of laboratory errors resulting in IBCT-WCT from last year from 43 to 71, and an increase in IBCT-SRNM errors from 109 to 156 in 2023.

Laboratory IBCT-WCT errors n=71

Error subcategory	Sample receipt and registration	Testing	Component selection	Component labelling	Component availability
					
Number of error reports	6	10	52	2	1

Table 10.2: Laboratory IBCT-WCT errors in 2023 (n=71)

There were 71 laboratory errors which led to the wrong component being transfused, most of which were due to component selection errors, 52/71 (73.2%) and testing errors, 10/71 (14.1%) (Figure 10.5).

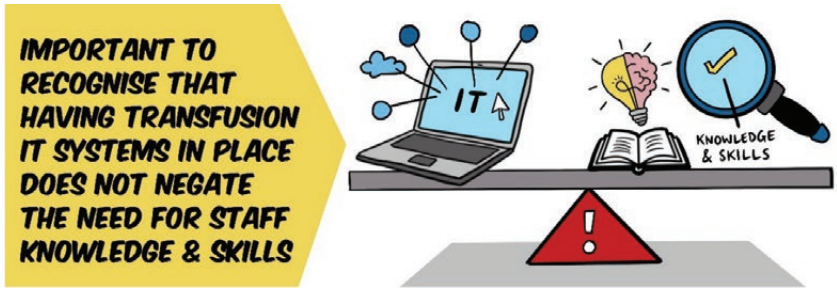
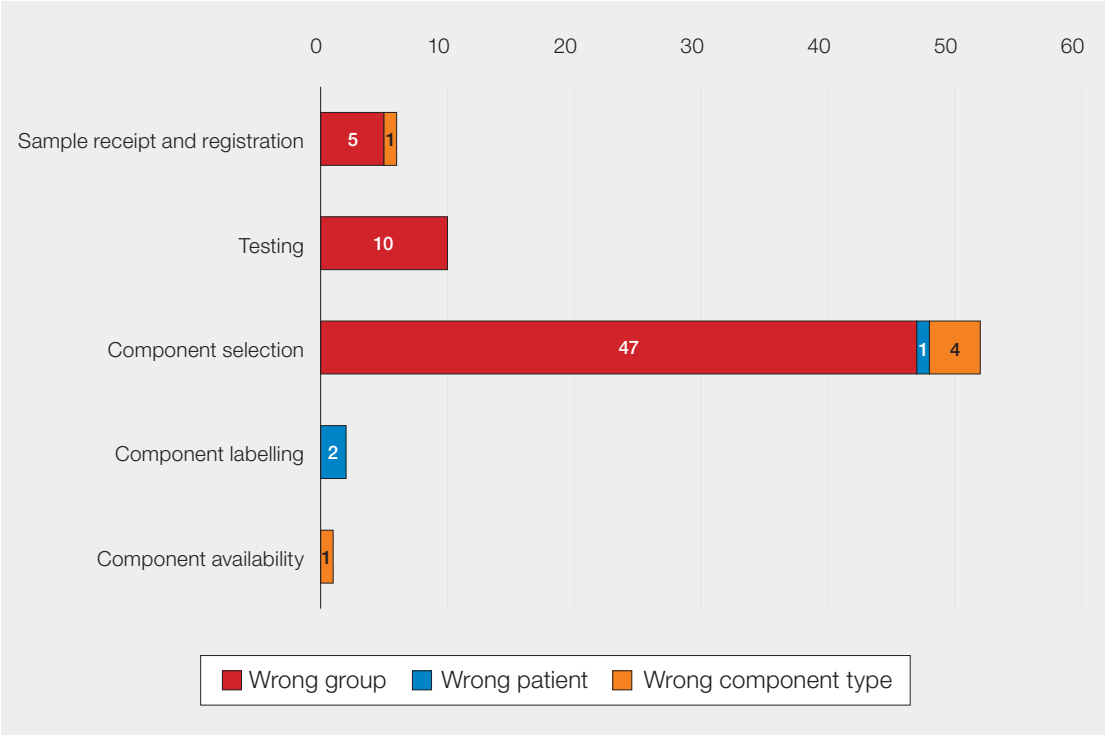


Figure 10.5: Laboratory IBCT-WCT errors by transfusion step (n=71)

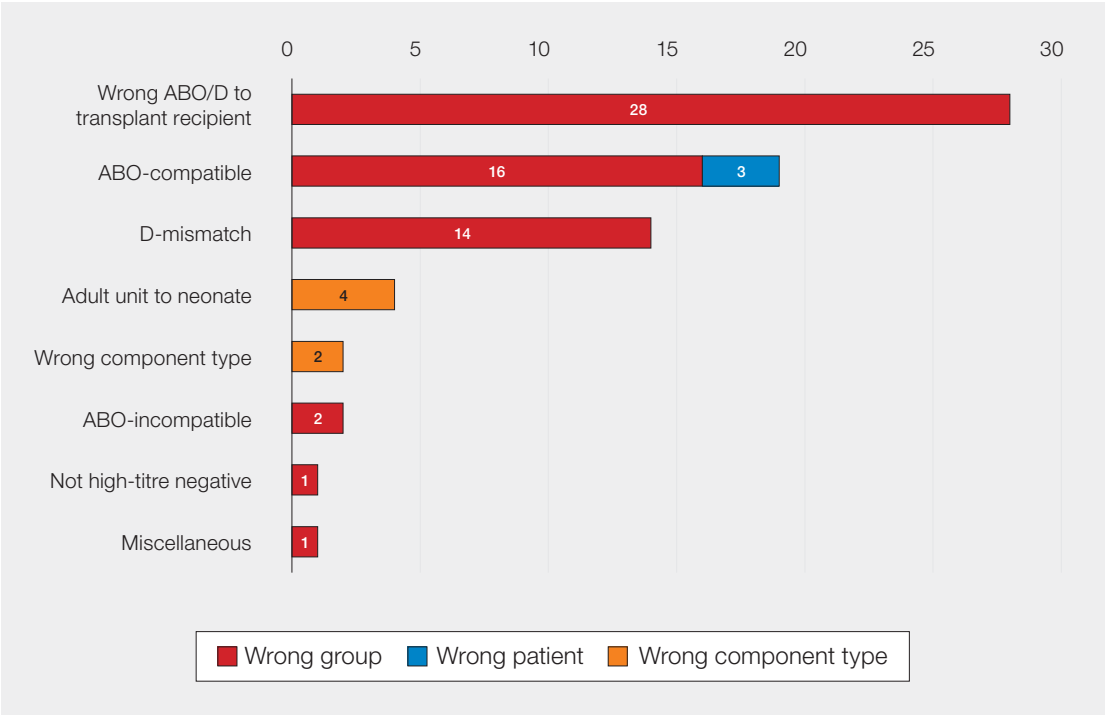


There were 28 laboratory errors which led to the wrong ABO/D group being transfused to transplant patients (Figure 10.6). Errors of incorrect group to transplant patients has more than doubled from last year's number of 13. IT was stated as an influencing factor in 27/28 cases and included lack of functionality in LIMS for transplant patients (16/28), LIMS flags not heeded (6/28), alerts not added or added incorrectly to LIMS (4/28) and failure to consult the historic record (1/28).

There were 14 laboratory errors which led to D-negative individuals receiving D-positive blood components, of which 4 were to children and 4 to females of childbearing potential.

Of the 19 laboratory IBCT-WCT errors which resulted in an ABO-compatible transfusion, 7 were due to group specific components being issued in the absence of a confirmatory group result.

Figure 10.6: Laboratory IBCT-WCT error by category (n=71)



Case 10.3: Incorrect ABO red cells transfused to a post-HSCT patient due to not heeding IT alerts

A group A D-positive patient received a group O D-positive HSCT. The patient grouped as O D-positive and seemed to be fully converted but further investigations were required to see if the patient had been transfused elsewhere to confirm this. A request for two units of red cells was received, and two A D-positive red cell units were issued, of which the patient received one unit. The patient's clinical notes clearly stated that O D-positive red cells should be given, and a 'specific group needed' flag previously added to the LIMS. The flag appeared when issuing the components but was misread and cleared using a comment designed for use on a 'phenotype required' flag. Secondary LIMS checks were also bypassed as the group and screen results were not validated before the blood was issued. Outstanding results were discovered and validated 12 hours later when checking the outstanding work. Unfortunately, the error was not noticed at this point and the second unit remained available for collection but was not required. The error was only detected during a subsequent request for red cell transfusion when BMS staff looked through recent transfusion history.

The BMS involved stated that they had been called in to cover the shift at short notice and were rushing to clear the workload. The laboratory has plans to install a new LIMS system which has rules for HSCT patient grouping requirements.

Please see 'Recommended resources' for guidance on safe transfusions in HSCT patients.

Learning points

- Where possible LIMS alerts and algorithms should be used to their full potential for transplant patients, both solid organ and HSCT
- Laboratory staff require sufficient knowledge of transplant ABO requirements to not rely on IT alerts alone
- Policies and processes must be in place to ensure specific transfusion requirements are met for all patients especially those with complex requirements

Laboratory IBCT-SRNM errors n=156

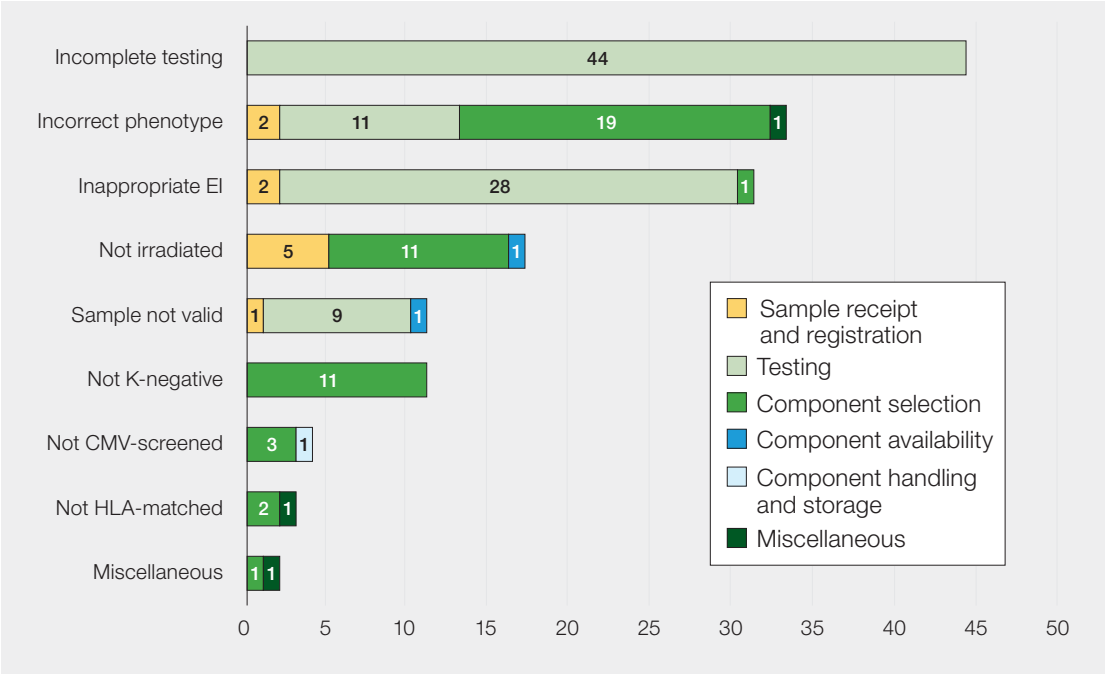
There were 156 laboratory errors which led to patients receiving blood components which did not meet their specific requirements, with the majority due to testing errors, 92/156 (59.0%) and component selection errors, 48/156 (30.8%), as illustrated in Table 10.3 and Figure 10.7.

Error subcategory	Sample receipt and registration	Testing	Component selection	Component handling and storage	Component availability
					
Number of error reports	**10**	**92**	**48**	**1**	**2**

Table 10.3: Laboratory IBCT-SRNM errors in 2023 (n=156)

Miscellaneous n=3

Figure 10.7: Laboratory IBCT-SRNM errors by transfusion step (n=156)



EI=electronic issue; HLA=human leucocyte antigen; CMV=cytomegalovirus

Testing errors n=92

Laboratory testing errors were due to issuing of components where testing was incomplete (44/92), inappropriate use of electronic issue (28/92), issue of red cells which were not phenotype/antigen-matched (11/92), and testing performed on invalid sample (exceeding validity timing) (9/92).

Where testing was incomplete, this was mainly due to:

- Failure to complete antibody identification (21/44) including incorrect antibody identification
- Failure to complete internal quality control prior to transfusion (6/44)
- Failure to validate test results prior to issue (5/44)

In 23/44 of the incomplete testing cases, there were issues related to LIMS, with alerts overridden, LIMS not used correctly, or LIMS not set up appropriately allowing issue of units prior to completion of tests.

Case 10.4: Red cells transfused to patient not meeting antigen requirements and without serological crossmatch

Red cell units were electronically issued to a patient with AIHA and detected autoantibodies for an urgent transfusion. This was based on a report from the reference laboratory using samples that had exceeded the 72-hour sample expiry rule. The current sample had not been tested in-house and no further samples had been sent to the reference laboratory for antibody investigations. Furthermore, the unit selection recommended by previous reference laboratory reports suggested issuing C-, K- ABO D-compatible units, but C+, K- units were selected instead. The reporter stated this error occurred out-of-hours and that the BMS involved was not fully competent in this task. They were asked to cover the shift at short notice due to illness, as no other sufficiently trained staff were available. The BMS did not seek transfusion advice for this complex patient.

Learning points

- LIMS rules and algorithms should be used to full advantage to ensure blood components are not issued prior to completion of laboratory tests and meet all specific requirements
- Electronic issue rules on LIMS should be robust, and consider all national requirements (Staves, et al., 2024; MHRA, 2010)
- LIMS have the potential to reduce laboratory errors, but lack of functionality impacts on detection of errors prior to issue of units. LIMS suppliers must review the capability of LIMS rules and algorithms to ensure they are meeting patient and laboratory requirements
- Laboratory staff should adhere to UKTLC recommendations (Dowling, et al., 2024) in relation to staff knowledge and skills, particularly where they have a requirement to provide training to other staff to minimise the potential for compounding knowledge gaps

Contributory factors for IBCT-WCT and IBCT-SRNM

Many similar contributory factors have been found within both clinical and laboratory IBCT reports, and impact upon patient safety (Figure 10.8).

Figure 10.8: Contributory factors for IBCT errors in 2023

Learning points

- A laboratory exit check, used correctly, should identify most laboratory errors prior to release of blood components. The implementation and effective use of the PAUSE checklist or equivalent is recommended for all transfusion laboratories (Narayan, et al., 2022)
- Errors continue to occur when staff are deemed competent. Competency documentation should be reviewed for effectiveness and potential gaps. Competency assessments should reflect changing demands and current standards
- Mismatches between staffing levels and workloads continue to impact on transfusion safety. During incident investigation, potential impact of staffing levels and skill mix, particularly out-of-hours, should be addressed and issues escalated

Near miss IBCT cases n=152 (87 clinical, 65 laboratory)

In 2023 there were 152 NM IBCT events due to 87 clinical and 65 laboratory errors. Most NM IBCT-WCT involved potential transfusion to the wrong patient, 75/107 (70.1%) and most NM IBCT-SRNM involved potential transfusion of non-irradiated components when these were required, 32/45 (71.1%). These themes match those observed in transfused errors for clinical incidents, but differ to the themes seen in laboratory transfused errors (the majority being wrong group to transplant patient and incomplete testing). NM IBCT cases are discussed further in the supplementary chapter which can be found in the supplementary information on the SHOT website (https://www.shotuk.org/shot-reports/report-summary-and-supplement-2023/).

Conclusion

Ineffective safety checks at various steps in the transfusion process continue to lead to IBCT errors. This includes patient misidentification, which remains a safety issue throughout all of healthcare, as outlined in the HSSIB patient safety report (HSSIB, 2024). For blood transfusion, misidentifying patients may result in patients receiving blood intended for another patient, or not receiving blood when required, both of which can result in serious patient harm. Patient identification can be challenging and often repetitive, and the critical importance of accurate PID can be overlooked. SHOT data indicates that PID weaknesses lie at sample taking, collection and administration stages of the transfusion pathway. As recommended, the use of a pre-administration transfusion checklist should now be embedded into healthcare settings (Davies & Cummings, 2017), but significant numbers of errors continue to be reported. Where these errors occur within organisations, checklists must be reviewed for their effectiveness and improved. This point is mirrored in the laboratory IBCT errors reported, where over 65% of reporters stated their organisation used a laboratory exit check for components.

Safety checks are not merely check boxes to be marked off. They are critical actions designed to ensure integrity of the process and patient safety. Safety checks require careful attention, thoroughness and understanding of the underlying principles to be effective. Treating them as mere formalities undermines their purpose and can lead to serious consequences.

Laboratory IBCT errors, both WCT and SRNM, have increased substantially. There has been a dramatic rise in the number of component selection errors, particularly to HSCT patients, resulting in the wrong ABO group being transfused to patients. Errors where blood components were issued before laboratory testing was completed and errors where blood was issued inappropriately using electronic issue have also increased significantly. LIMS rules should provide assistance and prompts in these circumstances, yet these errors continue to increase. LIMS rules and algorithms must identify these errors and alert staff prior to the release of blood components.

Suboptimal training is still evident as indicated by the large number of staff who are deemed competent for the task undertaken. Competency assessments are limited in developing the higher-level knowledge and skills in problem-solving, decision-making and critical thinking. Persistent recruitment and retention issues impact hugely on the ability to train new staff and maintain competency in existing staff. SHOT reports suggest gaps in staffing numbers have required some staff to join out-of-hours and lone working situations before they are trained.

IT continues to be a contributory factor in IBCT errors. Increasing numbers of organisations are implementing new hospital-wide electronic patient record systems, thus adding an additional burden to staff. New systems can resolve some existing problems but do introduce new issues. The Judiciary Preventable Future Deaths have detailed cases which include concerns relating to hospital IT systems, including poor interoperability between IT systems, and sufficient alerts and flags in line with UK guidance and recommendations (Courts and Tribunals Judiciary, 2024).

Recommended resources

Pre-transfusion administration checklist
Laboratory and clinical PAUSE checklists
https://www.shotuk.org/resources/current-resources/

SHOT Safety Notice 02: SRNM 2022
https://www.shotuk.org/resources/current-resources/safety-notices/

Safe transfusions in haemopoietic stem cell transplant recipients
https://www.shotuk.org/resources/current-resources/

Shared care - Blood transfusion shared care form
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