

Key Messages and Recommendations

4

Authors: Paula Bolton-Maggs and Dafydd Thomas

Key SHOT messages

- **Errors** continue to be the source of most SHOT reports (87.0%). While component safety is very good, mistakes continue to put patients at risk. Many of these are caused by poor communication and others by distraction. A better understanding of human factors may help to reduce these
- **Training:** All staff participating in transfusion must have the knowledge and training to undertake the role. This is their personal responsibility. Information technology (IT) is not always reliable and does not replace the need for knowledge
- **Laboratory staffing** should ensure that there are adequate numbers of appropriately trained staff; there should be contingency planning for staffing levels below a minimum level and for times of high workload. Lone working is a concern and staff who are new to a laboratory should be trained and competency assessed
- **Adverse incidents should always be investigated**, and all organisations adopt sharing of incidents: to understand, learn lessons and for staff themselves to come up with resolutions to bring about ownership of the solutions put forward
- **Equipment and IT** must be fit for purpose. Software and equipment providers should market test and listen to transfusion staff and tailor development programmes accordingly. IT providers should standardise their products across the UK. People move between organisations so alerts, warnings and flags need to work in a similar way in different systems
- **Anti-D immunoglobulin administration** continues to be a source of numerous incidents. All healthcare providers involved in the care of pregnant women should review their policies and ensure regular refresher training for all staff, both clinical and laboratory

Transfusion practice requires improvement in safety. The components are very safe. There was a single transmission of infection (hepatitis E virus) reported in 2016 in nearly 2.5 million components issued, and no cases of transfusion-related lung injury, transfusion-associated graft versus host disease or post-transfusion purpura. Adverse reactions were reported in a total of 385 cases, 12.5% of all reports. Allergic, hypotensive and severe febrile reactions continue to be the most common cause of unpredictable reactions (253/385, 65.7%). Errors are responsible for the majority of SHOT reports (n=2688, 87.0% of all reports) and 98.1% of the 1027 serious adverse events reported to the Medicines and Healthcare Products Regulatory Agency (MHRA). This is an increase in SHOT error reports compared to 2015 (cessation of alloimmunisation reporting will have affected this).

There is clear evidence of the impact of laboratory staffing and workload issues on errors. The MHRA notes that these factors contribute to 10.0% of serious adverse event reports. The human factors questions added to SHOT error report categories have similarly provided evidence in 83 cases, including clinical areas, (Chapter 6, Human Factors) with staffing problems identified in 27/83 (32.5%) and workload in 18/83 (21.7%).

The bedside checklist – be like a pilot

The regular use of a bedside checklist would save lives. In 2014 a patient died after an ABO-incompatible transfusion where the wrong unit was collected and administered. The experienced nurse has since been convicted of manslaughter. In this current report for 2016 there is a mirror image case where the patient suffered major morbidity (Case 10.5). The wrong unit was collected then administered by a registered nurse who did not complete the bedside check. In both cases the patients had similar names to another patient on the ward. Let this be a warning. Long experience and seniority are no substitute for correct checking every time as every highly trained pilot (junior or senior) knows. We recommended a checklist last year and also in the Annual Report for 2011. There are different ways of doing this such as having it on the prescription, or on the reverse of the blood unit tag; it needs local champions and commitment from leaders (Anthes 2015). An audit of the London lanyard version noted that the checklist was effective but less likely to be used where staff were experienced in transfusion. There is no place for this complacency. A two-person dependent check by challenge and response (Winters et al. 2009) may be safer and should be piloted (see Chapter 10, Incorrect Blood Component Transfused).

Key recommendations (revised and updated from the Annual SHOT Report 2015)

- A checklist must be used at the patient's side as a final administration check prior to transfusion as standard of care. The checklist must include positive patient identification (forename, surname, date of birth and hospital number or other unique identifier). It should also confirm that the component is correct, ensure that it includes any specific requirements and that it has been prescribed for transfusion to this patient at this time. Errors are made with both one-person and two-person checks. Use of a verification process (two people working together, with challenge and response) may be more effective.

Whatever bedside system is in place (including electronic systems) it should be assessed and include a validation step where someone has to sign to say that all steps have been followed.

- Patients should be formally assessed for their risk of transfusion-associated circulatory overload (TACO) whenever possible since TACO is the most commonly reported cause of death and major morbidity. A revised checklist is shown in Chapter 18b (TACO) Figure 18b.1

Action: Trust/Health Board Chief Executive Officers and Medical Directors responsible for all clinical staff

Additional topic-related recommendations can be found in the following chapters: Chapter 10, Incorrect Blood Component Transfused n=1; Chapter 13, Information Technology Incidents n=1; Chapter 14, Adverse Events Related to Anti-D immunoglobulin n=3; Chapter 15, Immune Anti-D in Pregnancy n=1; Chapter 16, Acute Transfusion Reactions n=2; Chapter 21, Cell Salvage n=5; Chapter 22, Paediatric Summary n=1 and there is further explanation of Key Recommendation 2 in Chapter 18b, Transfusion-Associated Circulatory Overload.

References

Anthes E (2015) **The trouble with checklists.** Nature 523, 516-518

Winters BD, Gurses AP et al. (2009) **Clinical review: checklists – translating evidence into practice.** Crit Care 13, 210 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2811937/pdf/cc7792.pdf> [accessed 14 April 2017]