

Annual SHOT Report 2014 – Supplementary Information

Chapter 10: Avoidable, Delayed or Undertransfusion (ADU)

DATA SUMMARY

Total number of cases: n=185

Implicated components		Mortality/morbidity	
Red cells	140	Deaths <i>definitely</i> due to transfusion	0
Fresh Frozen Plasma	14	Deaths <i>probably/likely</i> due to transfusion	0
Platelets	18	Deaths <i>possibly</i> due to transfusion	3
Cryoprecipitate	0	Major morbidity	4
Granulocytes	0	Potential for major morbidity (<i>Anti-D or K only</i>)	0
Anti-D Ig	0		
Multiple components	9		
Unknown	4		

Gender	Age	Emergency vs. routine and core hours vs. out of core hours	Where transfusion took place
Male 72	≥ 18 years 162	Emergency 42	Emergency Department 22
Female 111	16 years to <18 years 1	Urgent 61	Theatre 25
Not known 2	1 year to <16 years 7	Routine 68	ITU/NNU/HDU/Recovery 15
	>28 days to <1 year 3	Not known 14	Wards 85
	Birth to ≤28 days 7	In core hours 81	Delivery Ward 7
	Not known 5	Out of core hours 50	Postnatal 2
		Not known/Not applicable 54	Medical Assessment Unit 17
			Community 3
			Outpatient/day unit 2
			Hospice 0
			Antenatal Clinic 0
			Obstetrics 0
			Other/Unknown 7

(ITU=Intensive therapy unit; NNU=Neonatal unit; HDU=High dependency unit)

Avoidable, Delayed or Undertransfusion (ADU) - Previous Recommendations

Year first made	Action	Recommendation
2013	<p>Chair Foundation Programme Committee, Academy of Medical Royal Colleges and National Director UK Foundation Programme Office (UKFPO) in association with the General Medical Council</p>	<p>The curriculum for Foundation Year training needs to be amended to include specific teaching on the recognition and urgent management of haemorrhagic shock</p>
2013	<p>Chief Executive Officers and Medical Directors of Hospitals/Trusts/Health Boards and the Royal College of General Practitioners</p>	<p>Patients with iron or B12 deficiency should be carefully assessed and treated with haematinic replacement therapy and only with transfusions of red cells when there are clear indications</p>
2012	<p>Hospital Transfusion Committees; Hospital Transfusion Teams</p>	<p>Hospital transfusion committees should review their transfusion protocols and training to ensure that all relevant departments in their hospitals, including radiology and any others where invasive procedures are performed, have appropriate measures in place</p> <p>Transfusion laboratories should have protocols in place to ensure that fresh frozen plasma (FFP) is not used inappropriately for warfarin reversal. The correct treatment as recommended in British Committee for Standards in Haematology (BCSH) guidelines is to use PCC</p> <p>Biomedical scientific staff (BMS) and consultant haematologists need to educate users about the change in presentation of cryoprecipitate. BMS staff should be encouraged to challenge orders which seem inappropriate. Clinical staff should heed the advice of transfusion experts and check their request carefully</p>

2012	Trust/Hospital/Health Board Chief Executive Officers (CEOs) Hospital Pathology Managers; Hospital Transfusion Teams (HTT)	A zero tolerance policy should be introduced for labelling of all patient samples and not restricted to transfusion samples. Dangerous consequences can arise from wrong full blood count, wrong coagulation and wrong biochemistry results. Particular attention should be paid to the correct labelling of all samples at the patient's side, particularly in emergencies where additional delays resulting from a need for repeat samples may increase risks to the patient
2011	Hospital Transfusion Committees (HTCs)	Hospital Transfusion Committees (HTCs) should review the arrangements for the management of aortic surgery in line with the Vascular Society Quality Improvement Programme http://www.aaqip.com
2011	Transfusion Laboratory Managers, Pathology Directors	Hospital laboratories should review their arrangements for fire and other alarms regarding emergency telephone calls and the delivery of results and blood products
2011	Transfusion Laboratory Managers. Clinical Risk Managers. Medical Directors	Trusts should review the arrangements for management of massive blood transfusion and to ensure that practice drills take place. Hospitals/Trusts/Health boards should develop practice drills for activation of major haemorrhage protocols to ensure that all staff know what to do in an emergency
2011	General practitioners, Hospital doctors, Medical Schools, Hospital Transfusion Teams (HTT)	Blood transfusion is not an appropriate treatment for iron deficiency. Elderly patients are particularly at risk for transfusion-associated circulatory overload. Iron deficiency must be diagnosed and treated with iron supplements
2010	Leads/directors of pathology	Every Trust/hospital must ensure compliance with CPA standards when giving telephoned results, in obtaining confirmation of the correct transmission
2010	HTCs	Every Trust must review its major haemorrhage protocol to ensure that it meets the recommendations of the NPSA Rapid Response Report 'The transfusion of blood and blood components in an emergency' NPSA/2010/017
2010	HTCs, clinical governance committees	All nurses and midwives making the clinical decision and providing the written instruction for blood component transfusion must operate within a governance framework ratified by the Trust and be aware of their professional accountability.

2010	Clinical governance committees	Handover information must include the decisions that have been taken with respect to transfusion support and the laboratory tests that have been requested
2009	Risk management boards, HTC's, HTTs	Staff working with paediatric patients must be trained and familiar with paediatric prescribing regimens and dose calculation for children. A specially designed prescription chart for paediatrics may assist this.
2009	Royal Colleges	Junior doctors must not be expected to clinically evaluate potentially bleeding patients if they are insufficiently experienced. Senior colleagues need to be involved in the decision to transfuse and the evaluation of patients with unexpected results. Doctors need to differentiate chronic anaemia from acute blood loss. BMS requests for repeat samples must be heeded.
2009	POCT teams and manufacturers	Blood gas machines must not be used for Hb estimation unless they are designed and calibrated to produce accurate, reproducible results.
2009	HTCs	Haematology laboratories need protocols for dealing with out of range results, including trending and delta checks, films and asking the Haematologist. Potentially erroneous results should not be communicated to clinicians either verbally or as unverified results on the computer system. New samples should be requested, with an explanation, but the incorrect result should not be given.
2008	NBTC	Trainee doctors in all hospital specialities must receive sufficient transfusion medicine education to be comfortable and safe in the clinical and laboratory assessment of anaemic and bleeding patients, and to be able to use blood components optimally to manage them
2008	Trust CEOs	A culture shift in the clinical arena is required so that when a doctor feels unable to handle a clinical scenario, requesting and obtaining appropriate help is easy, and negative judgement is avoided.