

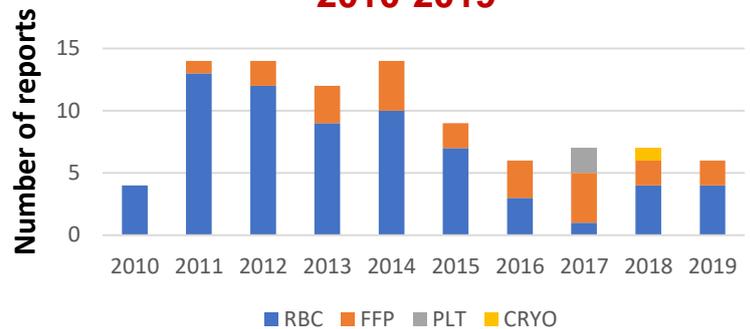
This SHOT Bite is for guidance only and should not replace the local transfusion policy.

## Preventing ABO-incompatible (ABOi) transfusions

SHOT continues to receive reports of errors where the differences between the component issued and that requested have not been recognised. ABOi transfusions are serious incidents with the potential for significant morbidity and mortality, that are wholly preventable, due to an avoidable breakdown in procedures. Many of these errors are detectable during a full and accurate bedside check. The figure shows the ABOi events for all components from 2010-2019.

Both laboratory and clinical staff should have the knowledge to check that the correct component has been selected AND that it is compatible with the patient during the component selection, collection and administration stages.

### ABOi-incompatible transfusions 2010-2019



From 2010-2019 there were **2 deaths** and **16 cases of major morbidity** due to ABOi transfusions

Positive patient identification using a pre-prepared transfusion request form, checked verbally with the patient and against the patient's identification band, would identify discrepancies in patient demographics prior to venepuncture

## Key Messages and Recommendations



Collection of blood components remains a critical step in the transfusion process and robust procedures should be in place to ensure that necessary checks are made



When selecting O D-positive red cells for transfusion to O D-negative individuals it is important to check the patient for contraindications in addition to age and childbearing potential e.g. a history of anti-D or if the patient is transfusion-dependent



A check of serology and blood components issued by lone workers at the next available opportunity may identify errors before the patient is put at risk



It is essential that staff members are adequately trained and competency-assessed before they are expected to perform any task



Laboratory staff should discuss requests with clinicians if they have any concerns over the appropriateness of the request



Laboratory information management systems (LIMS) should prevent ABO-incompatible blood components being issued, especially in an emergency when the patient's blood group is unknown

A robust checking process at the administration step immediately prior to transfusion remains a critical step to support prevention of transfusion of ABOi blood components



The SHOT and Patient Blood Management video regarding pre-administration bedside checking can be found at <https://www.youtube.com/watch?v=vhhgltwyk5M#action=share>

## Blood Group Compatibility Chart

Recipient blood group	Compatible donor group			
	Red Blood Cells	Platelets	Fresh Frozen Plasma	Cryoprecipitate
A	A, O	1 <sup>st</sup> Choice A 2 <sup>nd</sup> Choice AB** 3 <sup>rd</sup> Choice B** or O	1 <sup>st</sup> Choice A 2 <sup>nd</sup> Choice AB** 3 <sup>rd</sup> Choice B*	1 <sup>st</sup> Choice A 2 <sup>nd</sup> Choice B*
B	B, O	1 <sup>st</sup> Choice B** 2 <sup>nd</sup> Choice AB** 3 <sup>rd</sup> Choice A or O	1 <sup>st</sup> Choice B 2 <sup>nd</sup> Choice AB** 3 <sup>rd</sup> Choice A*	1 <sup>st</sup> Choice B 2 <sup>nd</sup> Choice A*
AB	AB, A, B, O	1 <sup>st</sup> Choice AB** 2 <sup>nd</sup> Choice A or B**/* 3 <sup>rd</sup> Choice O	1 <sup>st</sup> Choice AB** 2 <sup>nd</sup> Choice A* 3 <sup>rd</sup> Choice B*	1 <sup>st</sup> Choice AB** 2 <sup>nd</sup> Choice A* 3 <sup>rd</sup> Choice B*
O	O	1 <sup>st</sup> Choice O 2 <sup>nd</sup> Choice A or B** 3 <sup>rd</sup> Choice AB**	1 <sup>st</sup> Choice O 2 <sup>nd</sup> Choice A 3 <sup>rd</sup> Choice B 4 <sup>th</sup> Choice AB**	1 <sup>st</sup> Choice O 2 <sup>nd</sup> Choice A 3 <sup>rd</sup> Choice B

\*Tested and negative for high titre anti-A and anti-B. \*\*Not routinely available

## Overview of different blood components

Component	Red blood cells	Fresh frozen plasma	Platelets	Cryoprecipitate
What it looks like				
Storage conditions	4 ± 2°C	<-25°C (4 ± 2°C once thawed)	22 ± 2°C with agitation Do not refrigerate	<-25°C (store at ambient temperature once thawed)
Shelf life	Up to 35 days from donation	36 months (24 hours after thawing)  5 days post thawing (unexpected major haemorrhage use only)	7 days (if bacteriologically screened)	36 months (use immediately and within 4 hours of thawing)  Do not refrigerate
Average volume (mL)	Adult: 200-340mL Neonatal: Prescribe up to 20mL/kg for top up	Adult: 274mL Neonatal: Prescribe up to 12-15mL/kg	300mL (pooled buffy coats) 199mL (apheresis donation)	43mL (packs) 189mL (pools) from 5 donors (1 adult therapeutic dose)

Full UK specifications available at: <https://www.transfusionguidelines.org/transfusion-handbook/3-providing-safe-blood/3-3-blood-products>

