NHS
Blood and Transplant

Special Requirements

Lab Matters. 20th June 2018

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Special requirements

- HEV negative – update
- CMV negative
- Irradiated
- Frozen components and platelets

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Hepatitis E negative components

Patients who require HEV negative components

- SaBTO (Safety of Blood, Tissues and Organs) recommended that certain groups of patients receive HepE negative components.
- **Patients who have Solid organ or allogeneic stem cell transplants on immunosuppression**
  - Or those who might need a transplant e.g. acute leukaemia
- **BUT** since May 2017 ALL components supplied by NHSBT are screened for Hepatitis E

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CMV negative blood

Indicated for:

Babies:

- Intrauterine transfusions
- Neonates up to 28 days post ***expected date of delivery.***
- Pregnancy – only for elective transfusions – not during labour or delivery

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Irradiated blood

- Has been treated with either gamma or X-rays. This prevents the donor white cells replicating and mounting an immune response against a vulnerable patient causing transfusion-associated graft-versus-host disease (TA-GvHD).

- For those patients at risk, all red cell, platelet and granulocyte concentrates should be irradiated.

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Frozen components and platelets

- 1st January 1996 – UK food chain deemed ‘safe’ from BSE (derived from vCJD).
  - Low exposure to vCJD through the food chain
  - Neonates have a disproportionately high number of blood component transfusions

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NHSBT – risk reduction

- Exclude “at risk” donors – including those to have had a transfusion or solid organ transplant since 1980
- Leucodepletion
- Importing plasma from US MB treated plasma
  - MBFFP – MB treatment provided when units arrive in UK. MB added – visible light then inactivates pathogens and residual MB removed.

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Solvent Detergent treated plasma

- SDFFP is an alternative to MBFFP
- Not produced by NHSBT
- Inactivates lipid envelopes
- Pros and Cons for both
  - Availability
  - Price
  - Supply

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Platelets

2007 DoH requests...

- at least 80% platelets come from single donors to minimise the risk of vCJD

2008 SABTO recommendations

- 'the UK blood service should move as far as possible towards 100% apheresis platelets, but that as a minimum, 80% of platelets should be collected by apheresis

  "to minimise risk of transmission of vCJD"

- Reduced donor exposure

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Platelets

- 2013 SABTO
  - reconsidered recommendation following better understanding of risk of whole blood vCJD infectivity and the prevalence of vCJD
  - Both pooled and apheresis platelets should be resuspended in Platelet Additive Solution (PAS). Used to resuspend platelets in 70:30 with plasma. Reduces plasma and associated risks (pathogens/allergic)
  - 80% minimum provision of apheresis platelets no longer necessary
  - Each UK blood service should set their own level of apheresis to collect.
- DoH has accepted this recommendation

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Platelets

- NHSBT
  - 2017 – plan to move back down to 50% apheresis platelets
  - This is because PAS has reduced the amount of plasma exposure and pools reduce individual exposure

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Indications for Apheresis

- Neonates
- Paediatrics (where available) N*ever been recommended but recognised as best practice.*
- Patients requiring HLA and HPA selected components due to presence of HLA / HPA antibodies or in cases of NAIT
- Patients requiring IgA deficient components due to being IgA deficient and having had a previous reaction.

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Summary of 'special requirements'

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	CMV neg	Irradiated	HEV neg
BMT/SCT	N	Y	Allografts only
7 Days before stem cell harvest	N	Y	N
Hodgkin's disease	N	Y	N
Acute Leukaemia	N	N	Y (unless not for transplant)
Purine analogues and related drugs	N	Y	N
Alemtuzumab	N	Y	N
Congenital T cell immunodeficiency	N	Y	N
HIV	N	N	N
HLA matched products	N	Y	N
Solid organ transplants			Y
Neonates <28 d	Y	(if previous IUT)	N
Intra uterine transfusion	Y	Y	(provided as routine)
Pregnancy (elective transfusion only)	Y	N	N