

# Special Requirements

Lab Matters. 21<sup>st</sup> June 2017

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# Special requirements


- Patients requiring Methylene Blue or Solvent Detergent treated Fresh Frozen Plasma
  - Patients requiring apheresis platelets
  - Patients requiring irradiated blood components
  - Patient requiring cytomegalovirus (CMV) negative blood components
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# Club '96' patients

- Refers to all patients born after 1 January 1996



# Club '96'

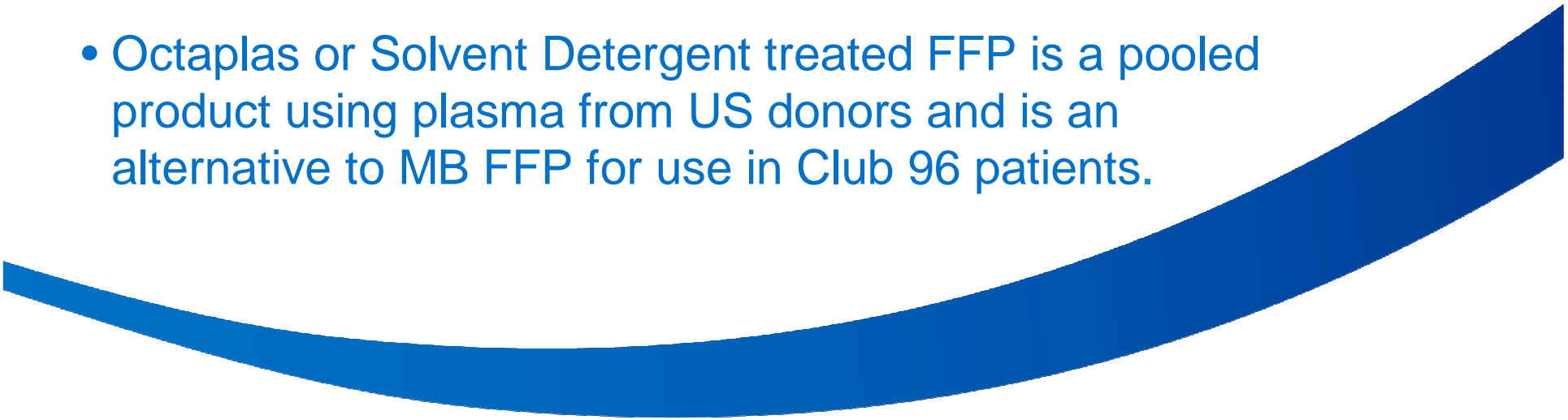
- “1<sup>st</sup> January 1996 – UK food chain deemed ‘safe’ from BSE derived clinical variant CJD
  - NHSBT wanted to try and limit exposure to v CJD through blood components in all people but particularly in children born after this date because:
    - Children born after this date are likely to have a low primary exposure to BSE through the food chain
    - Neonates receive a proportionately high number of blood components due to prematurity and surgery for congenital disorders
    - They have the longest prospective lifespan during which to develop clinical variant CJD
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# NHSBT – risk reduction

- 1998 All blood components in UK leucodepleted during processing
- 2004 Excluded “at risk” donors – including those to have had a transfusion or solid organ transplant since 1980



# Special requirements for 'Club 96'

- Since 2004, FFP for 'club 96' patients must be imported from countries with a low incidence of v CJD.
  - MB FFP is treated with methylene blue on arrival in the UK. Methylene Blue is a dye which leads to prevention of viral replication when exposed to light
  - Octaplas or Solvent Detergent treated FFP is a pooled product using plasma from US donors and is an alternative to MB FFP for use in Club 96 patients.
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# “Club ’96”

- “Special” group of patients
- Previously contained within paediatrics who were very used to requesting MB FFP, now we need to be far more alert as the post 96 generation are now 21, having babies themselves
- Potential “clean” donor pool



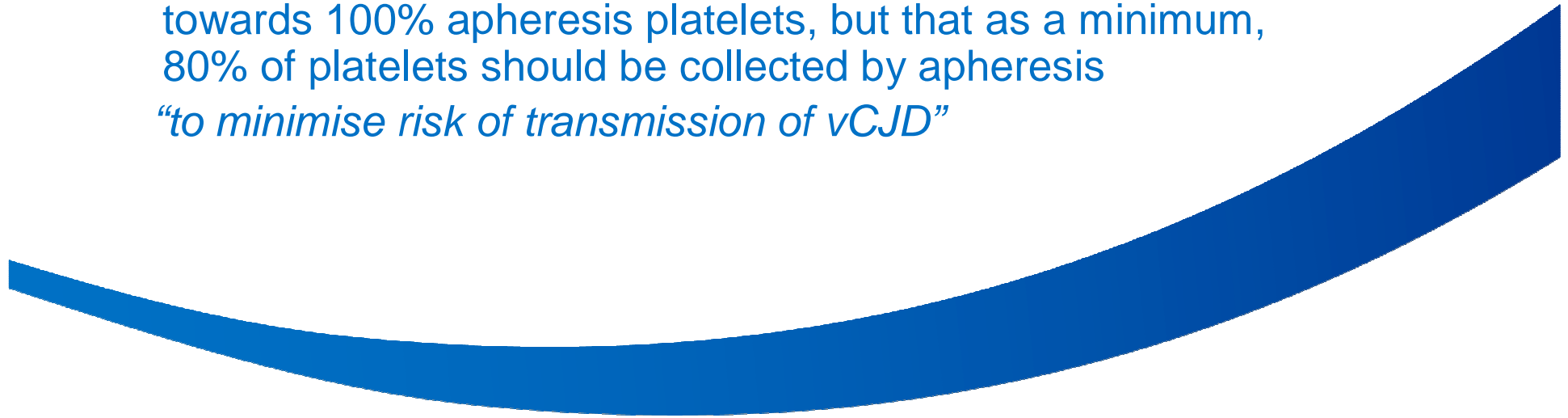
# Special Requirement: Apheresis Platelets

2007 Department of Health requests...

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

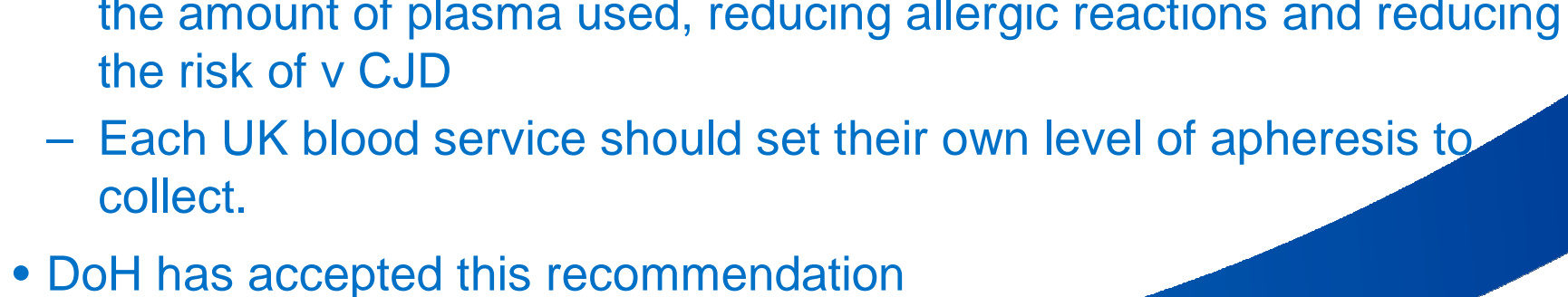
2008 Safety of Blood, Tissues and Organs ( SABTO)

- ‘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”*

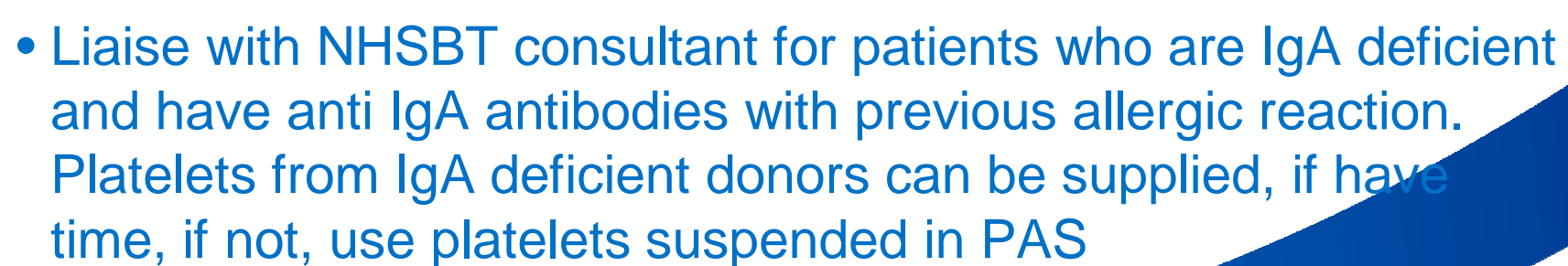




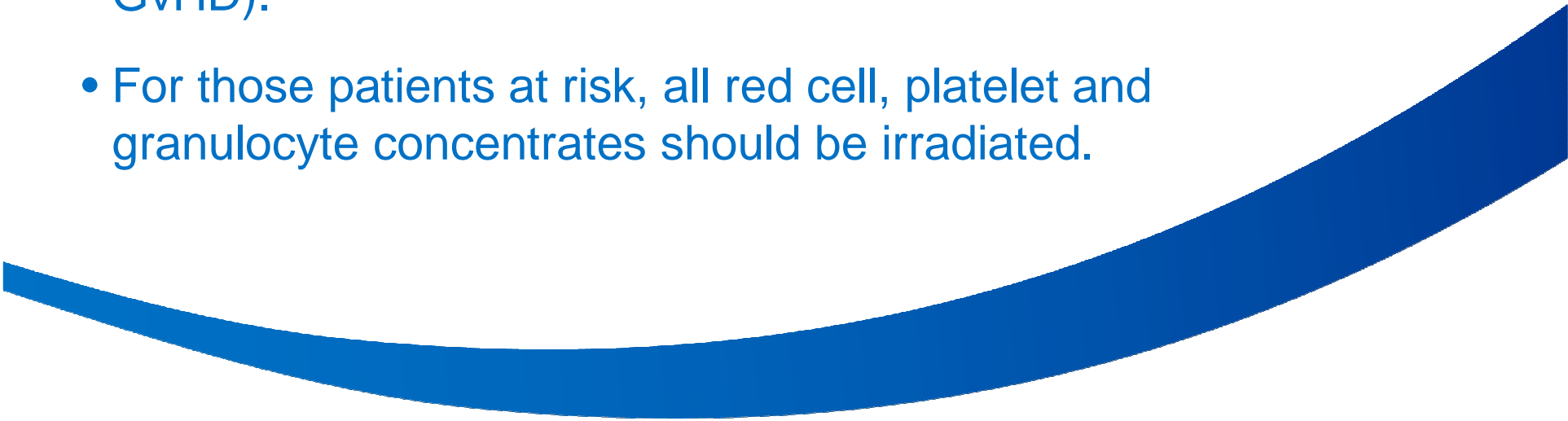
# Apheresis Platelets

- 2013 SABTO reconsidered recommendation following better understanding of risk of whole blood vCJD infectivity and the prevalence of vCJD
    - 80% minimum provision of apheresis platelets no longer necessary
    - Both pooled and apheresis platelets should be resuspended in Platelet Additive Solution (PAS) which is an electrolyte solution used to suspend platelets. It is used in a 70:30 ratio with plasma, reducing the amount of plasma used, reducing allergic reactions and reducing the risk of v CJD
    - Each UK blood service should set their own level of apheresis to collect.
  - DoH has accepted this recommendation
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# Indications for Apheresis

- Intrauterine and neonates
  - Club 96' Use is recommended, but treatment should not be delayed waiting for apheresis patients
  - Patients requiring HLA and HPA selected components due to presence of HLA / HPA antibodies
  - Liaise with NHSBT consultant for patients who are IgA deficient and have anti IgA antibodies with previous allergic reaction. Platelets from IgA deficient donors can be supplied, if have time, if not, use platelets suspended in PAS
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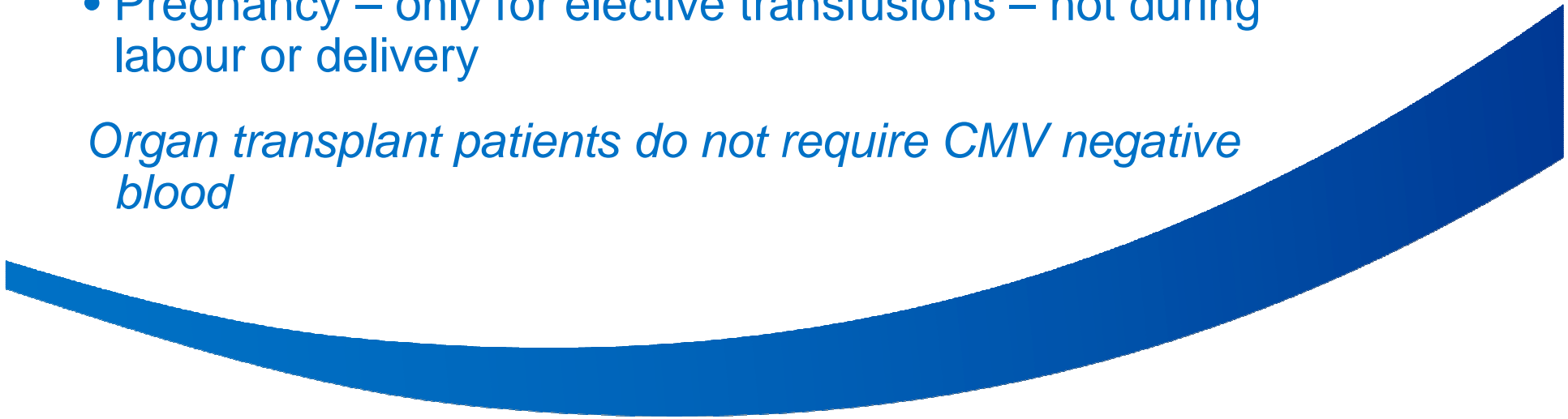
# Special Requirement: Irradiated blood components

- 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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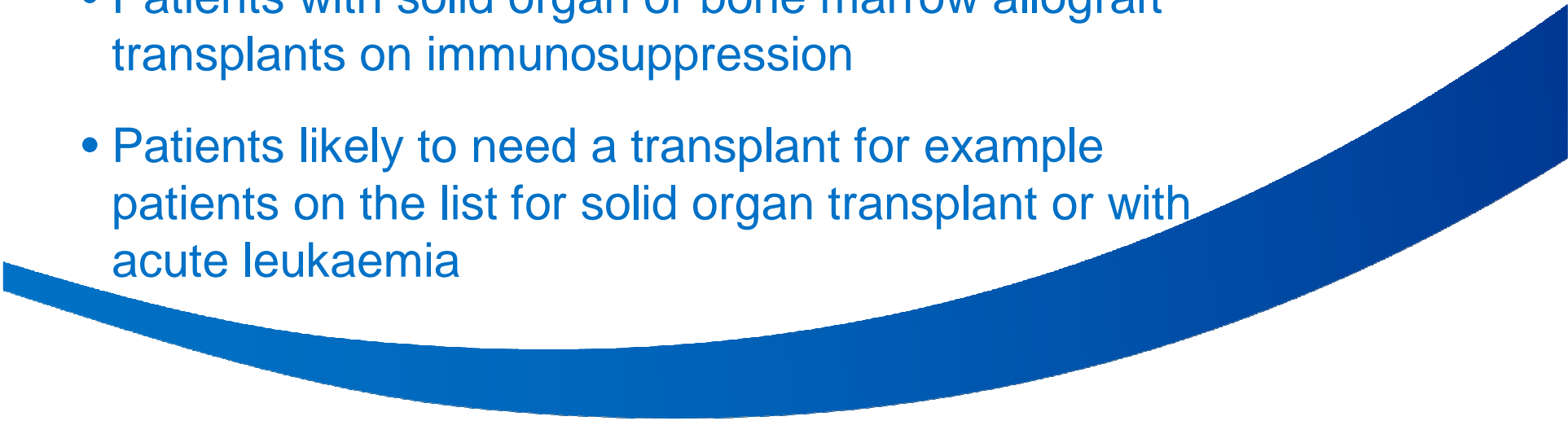
# Special Requirements: CMV negative blood

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

*Organ transplant patients do not require CMV negative blood*



# Special Requirement: Hepatitis E negative components

- Good news is that since May 2017 all components supplied by NHSBT are screened for Hepatitis E
  - But if you have some frozen products lurking in the freezer, these will not be screened
  - Patients with solid organ or bone marrow allograft transplants on immunosuppression
  - Patients likely to need a transplant for example patients on the list for solid organ transplant or with acute leukaemia
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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