

11 FRESH BLOOD COMPONENTS

Date Issued: January 2005
Date Revised: July 2011
Review Date: July 2013
Authorised by: KEMH Transfusion Committee
Review Team: KEMH Transfusion Committee

11.6 Special Requirements
Section 11
Transfusion Medicine Protocols
Women's & Newborn Health Services
Perth Western Australia

11.6 SPECIAL REQUIREMENTS

CMV NEGATIVE

CMV negative cellular blood components are available for CMV seronegative patients who are at risk of severe CMV disease. These include:

- *Recipients of allogeneic, stem cell, bone marrow or solid organ transplants. They are not indicated for autologous stem cell transplants.*
- *Recipients of highly immunosuppressive chemotherapy e.g. Leukaemia, lymphoma.*
- *Recipients of IUT and neonatal exchange transfusion.*
- *Premature or immunocompromised neonates.*
- *CMV-negative pregnant women.*
- *Other severely immunocompromised patients.*

FFP, Cryo and other plasma-derived blood components do not require CMV testing.

If the use of CMV negative blood is clinically indicated but is not available, leucodepleted blood will be issued and the Blood Bank will notify the requesting Clinician.

If CMV negative components are not available, leucocyte-depleted components are considered to offer a high level of safety in preventing CMV transmission, but are not universally believed to be equivalent. All red cells and platelets are routinely leucocyte-depleted.

IRRADIATION

Transfusions of blood products that contain viable lymphocytes (RBC, platelets and granulocytes) to immunosuppressed patients should be irradiated to prevent the proliferation of T lymphocytes, which is the immediate primary cause of Transfusion-Associated Graft versus Host Disease (TA-GvHD).

The minimum dose is 25 Gy, with no part receiving greater than 50 Gy. Patients at risk of TA-GvHD include:

- *Recipients of IUT and neonatal exchange transfusion.*
- *Neonates who have received an IUT.*
- *Patients with congenital immune deficiencies, Hodgkin's lymphoma or receiving purine analogue drugs.*
- *Recipients of stem cell or bone marrow transplants.*
- *Patients with aplastic anaemia receiving immunosuppressive therapy.*
- *Recipients of directed donations from family members.*
- *Recipients of HLA-matched platelets and granulocyte transfusions.*
- *Blood for intra-uterine and neonatal transfusion should be used within 24 hours of irradiation.*

WASHED RED CELLS

Washing red cells in 0.9% saline removes unwanted plasma proteins, including antibodies. May be indicated for patients with:

- *Reactions to transfused plasma proteins e.g. Anti-IgA.*
- *Severe allergic reactions of unknown cause.*
- *Paroxysmal Nocturnal Haemoglobinuria who reacts to group-specific filtered fresh red cells.*

IGA DEFICIENT COMPONENTS

Rare IgA deficient fresh blood components are available from ARCBS for patients with IgA deficiency. Frozen FFP units are in stock and RBC and platelets can be collected from rare donors upon demand. In an emergency, if IgA deficient red cells are unavailable, washed red cells can be provided.