



## INDICATION FOR TRANSFUSION OF BLOOD COMPONENTS

The following guidelines for transfusion are supported by NZBS and have been adapted from those developed by the Australia and NZ Society for Blood Transfusion in conjunction with the Australian NHMRC. Wide consultation with Royal Colleges and Professional Societies took place before these were finalised. They provide guidance on the use of blood components based on currently available clinical and scientific evidence. Further information can be obtained from the NHMRC Website (<http://www.nhmrc.gov.au>)

### RED CELLS

**Haemoglobin <70g/L:** Transfusion is usually justified but lower thresholds may be acceptable in patients without symptoms and, or where a deficiency state is being treated with specific haematinic therapy.

**Haemoglobin 70-100g/L:** Transfusion may be appropriate during surgery that is associated with major blood loss. Monitoring for signs or symptoms of impaired oxygen delivery is appropriate, particularly where cardiovascular disease is, or may be present.

**Haemoglobin >100g/L:** Not likely to be appropriate unless specific indications exist.

**Haemoglobin >80g/L in patients with chronic anaemia:** May be appropriate to control symptomatic anaemia as part of a chronic transfusion programme or during chemotherapy (marrow suppressive therapy).

**Pre-operative surgical request:** Pre-transfusion testing (determining ABO/D blood group and performing a blood group antibody screen) is appropriate where a large or unpredictable blood loss may occur during surgery. Where a high likelihood for transfusion exists and the Blood Bank does not undertake electronic crossmatch please request the specific number of units required.

### FRESH FROZEN PLASMA

**Single factor/protein deficiencies:** Note specific protein concentrates should be used if available.

**Warfarin Effect:** FFP may have a place in treating serious bleeding due to Warfarin. Consideration should be given to using Prothrombinex-VF plus Vitamin K; dose should be adjusted to the clinical requirement. Advice from a Haematologist may be appropriate.

**Thrombotic Thrombocytopenic Purpura (TTP):** An accepted treatment to replace the enzyme ADAMTS13.

**Following massive transfusion or cardiac bypass:** FFP may be appropriate in the presence of a demonstrated coagulopathy due to multiple coagulation factor deficiencies, demonstrated by an INR >1.5 and a rising APTT.

**Liver disease:** FFP may be appropriate in the presence of bleeding or risk of serious bleeding and abnormal coagulation where investigative procedures are planned.

**Plasma exchange procedure:** Not normally required unless specific plasma protein replacement is required.

### PLATELETS (note: different thresholds may apply in neonatal/paediatric settings)

**Bone Marrow failure:** A platelet count of <10 x10<sup>9</sup>/L in the absence of risk factors and <20x10<sup>9</sup>/L in the presence of risk factors (eg. fever, infection, evidence of systemic haemostatic failure).

**Platelet function disorders:** May be appropriate for treating bleeding in inherited or acquired disorders, depending on clinical features and setting. For these conditions the platelet count is not a reliable indicator of the need for platelet transfusion.

**Bleeding:** May be appropriate in any patient in whom thrombocytopenia is considered a significant contributory factor.

**Massive haemorrhage/transfusion:** Use should be confined to patients with thrombocytopenia and, or functional abnormalities, who have significant bleeding from this cause. May be appropriate when the platelet count is <50x10<sup>9</sup>/L (<100x10<sup>9</sup>/L in the presence of microvascular bleeding).

**Surgery/invasive procedure:** To maintain the platelet count >50 x10<sup>9</sup>/L. For surgical procedures with high risk from bleeding (eg. ophthalmic or neurosurgery) it may be appropriate to maintain a higher threshold – up to 100x10<sup>9</sup>/L.

### CRYOPRECIPITATE

**Disseminated intravascular coagulation (DIC):** Fibrinogen deficiency is commonly encountered in DIC. At fibrinogen levels below 1.0 g/L where clinical bleeding is present, use of cryoprecipitate to keep fibrinogen levels above 1.0 g/L may be indicated.

**Fibrinogen deficiency:** May be appropriate where there is clinical bleeding, an invasive procedure, trauma or DIC.

**Coagulation factor deficiencies:** von Willebrand disease, Haemophilia A and Factor XIII – specific factor concentrates are available and should be used.

## BLOOD COMPONENTS AND PRODUCTS AVAILABLE FROM NZBS

#### COMPONENTS

*All blood components are Leucocyte Depleted*

*Other specialised blood components exist – please enquire*

Red Cells Resuspended

Red Cells Resuspended Neonatal

Whole Blood Plasma Reduced

Red Cells Washed \*

Red Cells for IUT \*

Whole Blood \*

Whole Blood Autologous \*

Platelet Pool

Platelets Apheresis

Platelets Apheresis Neonatal

Platelets Apheresis Washed \*

Platelets Apheresis Neonatal Reduced Volume \*

Cryoprecipitate

Fresh Frozen Plasma

Fresh Frozen Plasma Neonatal

*\* Special request criteria exist*

#### PRODUCTS

*Other commercial products are available at some Centres*

Rh D Immunoglobulin VF (Anti-D) 250IU, 625IU

WinRho SDF (Anti-D) 600IU

Hepatitis B Immunoglobulin VF 400IU

HyperHEP B (Hepatitis B Immune Globulin) 100IU

Tetanus Immunoglobulin VF 250IU

Zoster Immunoglobulin VF 200IU

Normal Immunoglobulin VF (IM) 2mL, 5mL

Intragam P (IV immunoglobulin) 50mL, 200mL

Albumex 4 50mL, 500mL

Albumex 20 10mL, 100mL

Biostat (Factor VIII and von Willebrand Factor) 250IU, 500IU

Monofix VF (Factor IX) 500IU, 1000IU

Prothrombinex VF (Factors II, IX & X) 500IU

Thrombotrol VF (Antithrombin) 1000IU

#### Section 29 Medicines

Imogam Rabies HT (Rabies Immune Globulin) 300IU (2mL)

Fibrogammin P (Factor XIII) 250IU

Haemocompletan P (Fibrinogen) 1g, 2g

Ceprotin (Protein C) 1000IU

Beriner P (C1 Esterase Inhibitor) 500IU

*New product sizes and new formulations of products may be added.*

*Substitutes may be provided.*

**Please contact a NZBS Transfusion Medicine Specialist or a Haematologist for all special requests for blood components or products, including Immunoglobulin products.**

**All orders and supplies of New Zealand Blood Service products and services are made and delivered in accordance with the New Zealand Blood Service's standard terms and conditions, which can be viewed and downloaded at [www.nzblood.co.nz](http://www.nzblood.co.nz)**