

## This guidance is based on the National Blood Transfusion Committee (NBTC)

### Indication Codes for Transfusion (January 2020)

The indications for transfusion provided below are taken from national guidelines for the use of blood components in adults (see references). Amalgamation into this summary document aims to act as a prompt for clinicians to facilitate appropriate use and to enable robust documentation of indications. Each indication has been assigned a number, to permit reproducible coding, when requesting blood or for documentation purposes. Specific details regarding the patient's diagnosis and any relevant procedures to be undertaken should also be provided at request either on a written request form, electronic blood order or by telephone when the request is urgent. These are current guidelines and may change depending on new evidence.

#### Red cell concentrates

Dose: in the absence of active bleeding, use the minimum number of units required to achieve a target Hb. Assume an increment of 10g/L per unit for an average adult.

##### R1. Acute bleeding

Acute blood loss with haemodynamic instability. After normovolaemia has been achieved/ maintained, frequent measurement of Hb (including by near patient testing) should be used to guide the use of red cell transfusion – see suggested thresholds below

##### R2. Hb ≤ 70g/L stable patient

Acute anaemia. Consider an Hb threshold of 70g/L and a target Hb of 70-90g/L to guide red cell transfusion. There are different recommendations (based on weak evidence) from other organisations e.g. Association of Anaesthetists

##### R3. Hb ≤ 80g/L stable patient and acute coronary syndrome

Use an Hb threshold of 80g/L and a target Hb of 80-100g/L

##### R4. Chronic transfusion dependent anaemia

Transfuse to maintain an Hb which prevents symptoms. Suggest an Hb threshold of 80g/L initially and adjust as required. Haemoglobinopathy patients require individualised Hb thresholds depending on age and diagnosis

##### R5. Radiotherapy maintain Hb ≥100g/L

There is some evidence for maintaining an Hb of 100g/L in patients receiving radiotherapy for cervical, and possibly other tumours

##### R6. Exchange transfusion

#### Fresh frozen plasma (FFP)

Dose: 15-20ml/kg body weight, often equivalent to 4 units in adults.

##### F1. Major haemorrhage

In the trauma setting transfuse empirically in a 1:1 ratio with red cells. Other settings give FFP in at least a 1 unit:2 unit ratio with red cells until results from coagulation monitoring are available. Once bleeding is controlled, further FFP should be guided by abnormalities in PT and APTT (keep PT/APTT ratio of <1.5x mean normal), or by the use of viscoelastic haemostatic assays in a near-patient setting

##### F2. PT Ratio/INR >1.5 with bleeding

Clinically significant bleeding without major haemorrhage. FFP required if coagulopathy. Aim for a PT and APTT ratio of < 1.5, or local protocol range for near-patient viscoelastic assays

##### F3. PT Ratio/INR >1.5 and pre-procedure

Prophylactic use when coagulation results are abnormal e.g. disseminated intravascular coagulation and invasive procedure is planned

##### F4. Liver disease with PT Ratio/INR >2 and pre-procedure

FFP not usually required before invasive procedure if PT ratio/INR is <2 and if there is no significant risk of bleeding

##### F5. TTP/plasma exchange

##### F6. Replacement of single coagulation factor



#### Prothrombin complex concentrate

Dose should be determined by the situation and INR. Local guidelines should be followed.

**PCC1. Emergency reversal of VKA for severe bleeding** or head injury with suspected intracerebral haemorrhage.

**PCC2. Emergency reversal of VKA pre emergency surgery**

#### Cryoprecipitate

Dose: 2 pooled units, equivalent to 10 individual units, will increase fibrinogen in an average-sized adult.

Cryoprecipitate should be used with FFP wherever there is a requirement for volume, except in the rare setting of isolated deficiency of fibrinogen.

**C1. Clinically significant bleeding and fibrinogen <1.5g/L (<2g/L in obstetric bleeding)**

**C2. Fibrinogen <1g/L and pre procedure, with a risk of bleeding**

**C3. Bleeding associated with thrombolytic therapy**

**C4. Inherited hypofibrinogenaemia, fibrinogen concentrate not available**



#### Platelet concentrates

Dose: for prophylaxis, do not routinely transfuse more than 1 adult therapeutic dose. Prior to invasive procedure or to treat bleeding, consider the size of the patient, previous increments, and the target count.

#### Prophylactic platelet transfusion

**P1. Plt <10 x 10<sup>9</sup>/L reversible bone marrow failure**

Not indicated in chronic bone marrow failure if not on intensive treatment, and not bleeding

**P2. Plt 10 – 20 x 10<sup>9</sup>/L sepsis/haemostatic abnormality or other additional risk factor for bleeding**

#### Prior to invasive procedure or surgery

**P3. To prevent bleeding associated with invasive procedures**

- P3a Plt ≤20 x 10<sup>9</sup>/L - central venous line
- P3b Plt ≤40 x 10<sup>9</sup>/L - pre lumbar puncture/spinal anaesthesia
- P3c Plt ≤50 x 10<sup>9</sup>/L - pre-percutaneous liver biopsy/major surgery
- P3d Plt ≤80 x 10<sup>9</sup>/L - epidural anaesthesia
- P3e Plt ≤100 x 10<sup>9</sup>/L - pre critical site surgery e.g. CNS/Eye

Transfusion prior to bone marrow biopsy is not required

#### Therapeutic use to treat bleeding (WHO bleeding grade 2 or above)

**P4a Plt <50 x 10<sup>9</sup>/L - Major haemorrhage**

**P4b Empirically in a Major Haemorrhage Pack / Protocol**

**P4c Plt <100 x 10<sup>9</sup>/L - Critical site bleeding e.g. CNS**

**P4d Plt <30 x 10<sup>9</sup>/L - Clinically significant bleeding**

#### Specific clinical conditions

**P5a DIC pre procedure or if bleeding**

**P5b Primary Immune thrombocytopenia (emergency treatment pre-procedure/severe bleeding)**

#### Platelet dysfunction

**P6a Consider if critical bleeding on anti-platelet medication**

**P6b Inherited platelet disorders directed by specialist in haemostasis**



#### References

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