Indications for the use of Blood Components in Adults

This guidance is based on the NBTC Indication Codes for Transfusion (June 2016).

Red cell concentrates
Dose – if no bleeding and anaemia reversible, use the minimum number of units to achieve a target Hb. Assume an increment of 10g/L per unit for a 70kg adult.

• **R1 Acute Bleeding** Once normovolaemia achieved, frequent measurement of Hb (including by near patient testing) should be used – see suggested thresholds below.

• **R2 Hb ≤70g/L** if stable acute anaemia. Use a target Hb of 70-90g/L. Follow local protocols for post cardiac surgery, traumatic brain injury, acute cerebral ischaemia.

• **R3 Hb ≤80g/L if cardiovascular disease** Use a target Hb of 80-100g/L.

• **R4 Chronic transfusion dependent anaemia** Maintain an Hb which prevents symptoms. Suggest an initial threshold of 80g/L then adjust as required. Haemoglobinopathy patients require individualised Hb thresholds.

• **R5 Radiotherapy** Limited data for maintaining Hb of 110g/L.

• **R6 Exchange transfusion.**

Fresh frozen plasma
Dose – 15ml/kg body weight, often equivalent to 4 units.

• **F1 Major haemorrhage** Early use in trauma – 1 unit FFP: 1 unit red cells. Other settings at least 1 unit FFP: 2 units red cells. Once bleeding controlled use thresholds below.

• **F2 PT Ratio/INR >1.5 with bleeding** without major haemorrhage. Keep PT/APTT ratio of <1.5.

• **F3 PT Ratio/INR >1.5 and pre-procedure** e.g. disseminated intravascular coagulation (DIC) with risk of significant bleeding.

• **F4 Liver disease with PT Ratio/INR >2 and pre-procedure** Not usually required if no bleeding or before invasive procedure if PT ratio/INR is <2.

• **F5 TTP/plasma exchange.**

• **F6 Replacement of single coagulation factor.**

Prothrombin complex concentrate
Dose determined by situation and INR. Follow local guidelines.

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

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

Reference:
National Blood Transfusion Committee Indication Codes
http://www.transfusionguidelines.org.uk/uk-transfusion-committees/national-blood-transfusion-committee/responses-and-recommendations
**Cryoprecipitate**

Dose – 2 pooled units will increase fibrinogen by approximately 1g/L. Cryoprecipitate is usually used with FFP unless there is an isolated fibrinogen deficiency.

- **C1** Clinically significant bleeding and fibrinogen <1.5g/L (<2g/L in obstetric bleeding).
- **C2** Fibrinogen <1g/L and pre procedure.
- **C3** Bleeding associated with thrombolytic therapy.
- **C4** Inherited hypofibrinogenaemia, fibrinogen concentrate not available.

**Platelet concentrates**

Dose – for prophylaxis, 1 adult therapeutic dose. Prior to invasive procedure/to treat bleeding, consider patient size, previous increments and target count.

**Prophylactic platelet transfusion**

- **P1** Plt <10 x 10⁹/L reversible bone marrow failure. Not indicated in chronic bone marrow failure.
- **P2** Plt 10 – 20 x 10⁹/L sepsis/haemostatic abnormality.

**Prior to invasive procedure or surgery if:**

- **P3a** Plt <20 x 10⁹/L central venous line.
- **P3b** Plt <40x10⁹/L pre lumbar puncture/spinal anaesthesia.
- **P3c** Plt <50x10⁹/L pre liver biopsy/major surgery.
- **P3d** Plt <80x10⁹/L epidural anaesthesia.
- **P3e** Plt <100x10⁹/L pre critical site surgery e.g. CNS.
- **Transfusion prior to bone marrow biopsy not required.**

**Therapeutic use to treat bleeding (WHO bleeding grade ≥2)**

- **P4a** Major haemorrhage Plt <50 x 10⁹/L.
- **P4b** Critical site bleeding e.g. CNS Plt <100 x 10⁹/L.
- **P4c** Clinically significant bleeding Plt <30 x 10⁹/L.

**Specific clinical conditions**

- **P5a** DIC pre procedure or if bleeding.
- **P5b** Primary immune thrombocytopenia (emergency pre-procedure/severe bleeding).

**Platelet dysfunction**

- **P6a** Consider if critical bleeding on anti-platelet agent.
- **P6b** Inherited platelet disorders directed by haemostasis specialist.

Further information will be available on hospital intranet sites or from the blood transfusion laboratory.

Further supplies of this bookmark can be ordered by accessing [https://hospital.nhsbtleaflets.co.uk](https://hospital.nhsbtleaflets.co.uk)