

Summary of Thresholds for Blood Component Transfusion

Overview:

Tables below summarize conditions and recommended triggers for blood component transfusions based on laboratory values established as safe in clinical trials or from expert opinion (see respective section in Guidelines). Patient assessment and clinical judgement in conjunction with these triggers result in best transfusion practice. Clinical assessment may not support the need for transfusion in all patients.

RED BLOOD CELLS

Condition	Trigger for Transfusion: Hemoglobin
<i>Active bleeding</i> (acute blood loss $\geq 30\%$)	Maintain Hgb above 7-8 g/dL
<i>Hospitalized Patient</i>	
Critically ill (ICU, sepsis, major burns)	≤ 7 g/dL
Upper gastrointestinal bleeding (no shock)	≤ 7 g/dL
Post-op surgery (including cardiac and non-cardiac)	$\leq 7-8$ g/dL
Hemodynamically stable with pre-existing cardiac disease	$\leq 7-8$ g/dL
Acute MI, unstable, on-going angina (unstable patient)	< 8 g/dL
Undergoing hematopoietic stem cell transplant (HSCT)	≤ 7 g/dL
<i>Outpatient</i> hematology/oncology patient	< 8 g/dL

PLATELETS

Condition	Trigger for Transfusion: Platelet Count
<i>Therapeutic:</i> Active bleeding	$< 50,000/\mu\text{L}$
<i>Prophylaxis:</i>	
Hematology/oncology patients	$< 10,000/\mu\text{L}$ (stable); $< 20,000/\mu\text{L}$ (w/risk factors)
Surgery/Invasive procedure	$< 50,000/\mu\text{L}$
CNS, eye, or airway surgical procedure	$< 100,000/\mu\text{L}$
IR procedures – Low risk of bleeding ¹	$< 20,000/\mu\text{L}$
IR procedures – High risk of bleeding ¹	$< 50,000/\mu\text{L}$
Platelet function defect with bleeding or prior to procedure	Any platelet count

¹Refer to [Apheresis Platelet](#) section

PLASMA

Condition	Trigger for Transfusion: INR or PTT
<i>Active bleeding</i>	INR ≥ 1.8 or aPTT > 1.5 x upper limit of normal
<i>Prophylaxis</i> prior to surgery/invasive procedure ²	INR ≥ 1.8 or aPTT > 1.5 x upper limit of normal
Urgent reversal of warfarin (bleeding or prior to procedure) ²	INR ≥ 1.8
IR procedures – Low risk of bleeding ^{2,3}	INR ≥ 3.0
IR procedures – High risk of bleeding ^{2,3}	INR ≥ 1.8
Treatment of TTP	N/A
Replacement fluid for TPE when bleeding risks	N/A

² Correction of INR is typically 6 hr if Vitamin K given IV or 24 hrs if given PO. If life-threatening bleeding, consider PCC instead of plasma.

³ Refer to [Plasma](#) section

CRYOPRECIPITATE

Condition	Trigger for Transfusion: Fibrinogen
Hypofibrinogenemia with bleeding or undergoing invasive procedure	Fibrinogen < 150 mg/dL
Post-partum massive bleeding	Fibrinogen < 200 mg/dL
Dysfibrinogenemia with bleeding ⁴	Any fibrinogen level

⁴Consider fibrinogen concentrates for dysfibrinogenemia. See [Factor Concentrates](#) section.