

# PLATELET THRESHOLD TABLE

## PROPHYLACTIC PLATELET TRANSFUSION FOR PREVENTION OF BLEEDING

(see over for therapeutic platelet transfusion)

PLATELET COUNT (x10 <sup>9</sup> /L)	10	20	30	50	100
<b>Neurosurgery</b>	● Transfuse 1 adult dose. Calculate paediatric dose.				● Transfusion is usually inappropriate.
<b>Invasive procedures</b>	● Transfuse 1 adult dose. Calculate paediatric dose.			● Transfusion is usually inappropriate.	
<b>Childbirth</b>	● Transfuse 1 adult dose.			● Transfusion usually unnecessary – consider comorbidities. <sup>4</sup>	● Transfusion is usually inappropriate.
<b>Central venous catheter (CVC)</b>	● Transfuse 1 adult dose. Calculate paediatric dose.	● Transfusion usually unnecessary – consider comorbidities. <sup>4</sup>	● Transfusion is usually inappropriate.		
<b>Critically ill patients</b>	● Transfuse 1 adult dose. Calculate paediatric dose.	● Transfusion usually unnecessary – consider comorbidities. <sup>4</sup>	● Transfusion is usually inappropriate.		
<b>Chemotherapy with risk factors</b>	● Transfuse 1 adult dose. Calculate paediatric dose.	● Transfusion usually unnecessary – consider comorbidities. <sup>4</sup>	● Transfusion is usually inappropriate.		
<b>Chemotherapy without risk factors</b>	● Transfuse 1 adult dose. Calculate paediatric dose.	● Transfusion usually unnecessary – consider comorbidities. <sup>4</sup>	● Transfusion is usually inappropriate.		
<b>Post-cardiac surgery</b>	● Transfusion usually unnecessary – consider comorbidities. <sup>4</sup>		● Transfusion is usually inappropriate.		
<b>Preterm and low birth weight infants</b>	● Calculate paediatric dose.	● Transfusion usually unnecessary – consider comorbidities. <sup>4</sup>	● Transfusion is usually inappropriate.		
<b>Preterm neonate with fetal and neonatal alloimmune thrombocytopenia (FNAIT)</b>	● Calculate paediatric dose.			● Transfusion is usually inappropriate.	
<b>Term neonate with FNAIT</b>	● Calculate paediatric dose.		● Transfusion usually unnecessary – consider comorbidities. <sup>4</sup>	● Transfusion is usually inappropriate.	

### References

This work is based on/includes the National Blood Authority's Patient Blood Management Guidelines: Modules 2, 3, 4, 5 and 6 which are licensed under the Creative Commons Attribution-Non Commercial Share Alike 3.0 Australia licence.

1. Padhi S, Kemmis-Betty S, Sharangini R, Hill J, Murphy MF. Blood transfusion: summary of NICE guidance. *BMJ* 2015;351:h5832
2. Kaufman RM, Djulbegovic B, Gernsheimer T, Kleinman S, Tinmouth AT, Capocelli KE, et al. Platelet Transfusion: A Clinical Practice Guideline From the AABB. *Ann Intern Med*. 2015;162:205-213.
3. Estcott LJ, Birchall J, Allard S, Bassey SJ, Hersey P, et al on behalf of the British Committee for Standards in Haematology. Guidelines for the Use of Platelet Transfusions – A British Society for Haematology Guideline. 2016. Available at: <http://www.b-s-h.org.uk/guidelines/guidelines/use-of-platelet-transfusions/>
4. Haematology Society of Australia and New Zealand: Tests, treatments and procedures clinicians and consumers should question. Available at: <http://www.choosingwisely.org.au/recommendations/hsanz>

# PLATELET THRESHOLD TABLE

## THERAPEUTIC PLATELET TRANSFUSION

(see over for prophylactic platelet transfusion)

PLATELET COUNT (x10 <sup>9</sup> /L)	10	20	30	50	100
<b>Thrombocytopenia with clinically significant bleeding<sup>1</sup></b>	● Transfuse 1 adult dose. Calculate paediatric dose.		● Transfusion usually unnecessary – consider comorbidities. <sup>4</sup>		● Transfusion is usually inappropriate.
<b>Thrombocytopenia with severe bleeding<sup>2</sup></b>	● Transfuse 1 adult dose. Calculate paediatric dose. Second dose may be appropriate.			● Transfusion usually unnecessary – consider comorbidities. <sup>4</sup>	● Transfusion is usually inappropriate.
<b>Thrombocytopenia with bleeding at critical sites<sup>3</sup></b>	● Transfuse 1 adult dose. Calculate paediatric dose. Second dose may be appropriate.				● Transfusion is usually inappropriate.
<b>Disseminated intravascular coagulopathy (DIC)</b>	● Transfuse 1 adult dose, aim for > 50 x 10 <sup>9</sup> /L. Calculate paediatric dose.			● Transfusion usually unnecessary – consider comorbidities. <sup>4</sup>	● Transfusion is usually inappropriate.
<b>Fetal and neonatal alloimmune thrombocytopenia (FNAIT) with bleeding (non-intracranial)</b>	● Calculate paediatric dose.			● Transfusion usually unnecessary – consider comorbidities. <sup>4</sup>	● Transfusion is usually inappropriate.
<b>FNAIT with intracranial bleeding</b>	● Calculate paediatric dose.				● Transfusion is usually inappropriate.
<b>Functional platelet defects</b>	● Platelet counts are not a reliable indicator; transfuse only if bleeding or individual clinical needs.				● Transfusion is usually inappropriate.
<b>Immune thrombocytopenia (ITP), thrombotic thrombocytopenia purpura (TTP), heparin-induced thrombocytopenia (HIT)</b>	● Transfuse only if severe bleeding.		● Transfusion is usually inappropriate.		

### Notes

The use of a massive transfusion protocol (MTP) which includes platelet transfusions may reduce the risk of mortality in critically bleeding patients.

<sup>1</sup> Clinically significant bleeding e.g. prolonged epistaxis, extensive skin bleeding, haematemesis, melaena, WHO grade 2.

<sup>2</sup> Severe bleeding e.g. bleeding that requires a RBC transfusion, WHO grade 3–4.

<sup>3</sup> Critical sites e.g. CNS, eyes.

<sup>4</sup> Consider comorbidities e.g. anticoagulant and antiplatelet agents; significant renal, liver, cardiac or haematological disease; fever and/or infection; predicted platelet count and previous response to platelet transfusion; proximity to care, inpatient vs outpatient care.

### Paediatric dose calculation

<b>Neonates and infants &lt; 5 kg</b>	10mL/kg*
<b>5–9 kg</b>	1 paediatric unit (approx. 50 mLs)
<b>10–19 kg</b>	2 paediatric units (approx. 100 mLs)
<b>20–29 kg</b>	3 paediatric units (approx. 150 mLs)
<b>≥ 30 kg</b>	1 adult dose (apheresis or pooled)

\*Note: Volume based on apheresis platelet products.