



Transfusion Guidelines

Quick Reference



**Children's Hospital
of Philadelphia®**

Division of Neonatology

CHOP Transfusion Guidelines

Quick Reference

Platelet Transfusion Guidelines		
Platelet Count Threshold (x 10 ³ /L)	Non Bleeding Neonate	Bleeding Neonate **
<25	Transfuse (10ml/kg over 2 hours)	Transfuse (10ml/kg over 2 hours)
25-50	Stable- No transfusion Consider Transfusion <ul style="list-style-type: none"> Critically ill <1000 gram and <1 week*** Hemodynamically unstable Previous major bleeding <1 week of age* Current minor bleeding ** Concurrent coagulopathy Pre/Post operative (72hr) Pre IR procedure or Lumbar puncture 	Transfuse
50-100	Do Not transfuse	Transfuse
>100	Do Not transfuse	Do Not Transfuse

* Grade III or IV IVH, intracranial bleeding or pulmonary hemorrhage (new onset)
 ** Petechia, puncture site oozing, blood streaked ET secretions
 *** Please use clinical judgement in specific circumstances

Please contact Hematology if qualitative platelet defect suspected

Red Blood Cell Transfusion Guidelines, <35 weeks GA		
	Hgb(g/dL)/Hct (%) Threshold	
Week of life	Critical Illness	Non Critical Illness
1	11/32	10/29.5
2	10/29.5	8.5/25
≥3	8.5/25	7/21

Feedings should continue at their current volume during a blood transfusion

* Critical Illness: High Flow Nasal Cannula ≥ 4L and/or FiO2 ≥ 30% ; Hemodynamic instability
 ** Recommended transfusion volume of 15-20ml/kg over 3 hours
 *** Discretion of the provider to be used in terms of transfusions in unique clinical situations
Conservative evidence based transfusion thresholds not based on superiority

CHOP Consensus 2/2023

Plasma and Cryoprecipitate Transfusion Recommendations

Recommend against routine evaluation of coagulation studies in neonates

- Use clinical judgement, obtain lab work as appropriate

Recommend against using Plasma (FFP) or Cryoprecipitate for intravascular volume

- Consider crystalloid (normal saline) or 5% albumin for intravascular volume

Consider Plasma or cryoprecipitate **(5-10ml/kg over 1 hour)** for at-risk neonates **with signs/symptoms of bleeding**

- *At risk neonates include:*

- Neonates with active bleeding or uncontrolled oozing
- HIE undergoing cooling with bleeding or oozing
- Pre-surgical neonates with active bleeding

Normal ranges for ages < 6 months

Test	Reference Range
PT	10.5-13.0 seconds
PTT	25-37 seconds
Fibrinogen	131-405 mg/dL

Values change rapidly in the neonatal period and are dependent on gestational age at delivery

From CHOP Dept. of Pathology & Laboratory Medicine Reference Ranges Document

<https://media.chop.edu/data/files/pdfs/chop-labs-reference-ranges.pdf>

Reference values for coagulation tests in healthy premature infants (30-36 weeks' gestation) during first 6 months of life

Test	Day 1	Day 5	Day 30	Day 90
PT (sec)	13 (10.6-16.2)	12.5 (10-15.3)	11.8 (10-13.6)	12.3 (10-14.6)
PTT (sec)	53.6 (27.5-79.4)	50.5 (26.9-74.1)	44.7 (26.9-62.5)	39.5 (28.3-50.7)
INR	1 (0.61-1.70)	0.91 (0.53-1.48)	0.79 (0.53-1.11)	0.88 (0.53-1.32)
Fibrinogen (mg/dL)	243 (150-373)	280 (160-418)	254 (150-414)	246 (150-352)

Many studies transfuse if values reach 2x normal value

Mean (95% Confidence Interval)
From Nathan & Gail's Hematology of Infancy and Childhood, 8th Ed,
Table A5-4 Original data: Andrew et al, Blood 1988 (PMID 3178444)

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