

Factor	T <sub>1/2</sub>	Hemostat
II	72 h	>30%
V	36 h	>25%
VII	4 h	>25%
VIII	12h	
IX	20h	
X	40 h	>15%
XI	80 h	>30%
XIII	9 days	>5%

Typical Volume/U:	Amount/Unit
<b>PRBC:</b> 300cc	HCT: 70%
<b>Platelet:</b> 50cc	≥ 5.5x10 <sup>11</sup> plt/unit
<b>FFP:</b> 250-300cc	
<b>Cryo:</b> 10-15cc	VIII: 80 units Fibrinogen: 250mg

#### Neonatal Factor Levels

I, V, VIII, vWF ~normal. Others low

Dosing	Ideal Response
<b>PRBC:</b> $\frac{HCT_{desired} - actual}{HCT_{PRBCs}} \times TBV$	
<b>Pit:</b> 1 unit/10kg	Increase 50,000
<b>FFP:</b> 10-15 cc/kg	Increase in factor levels of 20%
<b>Cryo:</b> 1 U/10kg	Increases Fibrinogen 50 mg/dL

**VIII dosing:** 1 U= 2% increase in activity

Minor: 40% correction; Major: 100-150% correction

**IX dosing:** 1 U= 1% increase in activity

Minor: 30% correction. Major: 80-100% correction

Note: IX has large V<sub>D</sub>: initial dosing more frequent

Some patients require up to 1.5 U/kg for 1% increase

#### Blood Volume

Preterm: 100cc/kg

Infant/Toddler: 80cc/kg

≥Child: 70cc/kg

#### SCD Alloimmunization

30% develop alloAb:

21% E, 18% K, 14% C

**CMV transmission:** Leukoreduced = CMV neg

#### Blood Product Manipulations

Irradiation: Age <6 years, Immunosuppressed

Washed: Moderate/Severe allergy, IgA deficient

Concentrated: Volume restricted (Note: lose quality with manipulation)

#### BMT Mismatch

**Minor:** Donor plasma has anti-A/B, e.g. O into A

Plasma deplete graft to prevent hemolysis

Passenger lymphocytes:

Hemolysis BMT D+7-14

**Major:** Recipient makes anti-A/B to graft e.g. A into O

#### Platelet Corrected Count Increment (CCI)

$\frac{\text{Plt increment}}{\# \text{ units transfused}} \times \text{BSA}$  >5000 1 h post

>2500 24h post

#### Blood Product Infection Risk

**HIV** < 1 in 2,000,000

**HCV** < 1 in 2,000,000

**HBV** 1 in 500,000

**B19** 1 in 10,000

**Prion** < 1 in 10,000,000

**West Nile** 1 in 500,000 during epidemic

**Bacteria** 1 in 50,000

#### Adverse Reaction (All Blood Products)

Major Allergy/Anaphylaxis 1 in 10,000

Minor Allergic Reaction 1 in 30

Febrile non-hemolytic 1 in 10

TRALI 1 in 5,000

**NAIT:** 1 in 2,500

75% HPA-1a; 20% HPA-5b

#### Reasons not to be directed donor

-Less likely to be truthful about risk

-Increase transfusion GVHD if relative

-Alloimmunize if potential BM donor

Be a good general donor instead





