

Blood Product Quick Reference Guide

Product	Components	Indications	Dose/Rate	Other Considerations
Fresh WB	All blood components	Most commonly hemorrhage, but can be used for any anemia with impaired oxygen delivery	2 mL/kg to increase PCV by 1%. Administer within 4 hours, but give as quickly as needed for stabilization in ongoing blood loss	Kept at room temp, gently agitated. Must be administered within 8 hours of collection to be considered fresh. If volume is a concern for your patient and/or they do not require plasma or other components, pRBC is ideal
Stored WB	All blood components; however, clotting factor viability decreases over time and is not recommended for replacement of vWF or VIII. Platelets may maintain viability up to 21 days; however, in vivo studies are lacking	See fresh WB	2 mL/kg to increase PCV by 1%. Administer within 4 hours, but give as quickly as needed for stabilization in ongoing blood loss	If volume is a concern for your patient and they do not require plasma or other components, pRBC is ideal
pRBC	Red blood cells	Anemia of any cause with impaired oxygen delivery	1.5 mL/kg to increase PCV by 1%. Administer within 4 hours, but give as quickly as needed for stabilization in ongoing blood loss	Concurrent administration of plasma products may be necessary in severe hemorrhage and massive transfusion
Fresh-frozen plasma (FFP)	All clotting factors (Vitamin K-dependent* and labile V, VII, vWF, fibrinogen), globulins, small concentrations of albumin, other plasma proteins	Coagulopathy (including vWD and hemophilia A and B), colloidal support	Initial dose: 10-20 mL/kg. Repeat as indicated. To increase albumin by 1 g/dL, ~45 mL/kg is required	Dogs do NOT need to receive type-specific plasma. Stored plasma contains small amounts of albumin and large doses are necessary to increase patient albumin
Frozen plasma (FP)	Vitamin K-dependent clotting factors	Vitamin K-dependent factor depletion insufficiency and coagulopathy, colloidal support	See FFP	After 1 year, FFP is deemed FP and can be stored for an additional 4 years
Liquid plasma, never frozen	Same components as FFP. Expiration: 32 days in controlled 1-6°C medical-grade refrigerator	See FFP	See FFP	
Thawed plasma	Same components as FFP. Expiration: 28 days in controlled 1-6°C medical-grade refrigerator	See FFP	See FFP	If unused, can be refrozen within 1 hour with no change to expiration. OR can be kept in the blood refrigerator (1-6°C) for up to 28 days
Cryoprecipitate	vWF, VIII, fibrinogen	Von Willebrand's disease, hemophilia A, hypofibrinogenemia, dysfibrinogenemia	1 unit per 10kg	Filters must be connected at the distal end of the administration set/closest to the patient
Cryo-poor plasma (CPP)	Vitamin K-dependent clotting factors	Vitamin K-dependent factor depletion, insufficiency and coagulopathy	Same as FFP	
Platelets	Platelets	Severe thrombocytopenia and life-threatening hemorrhage or need for invasive procedure	1 unit per 10kg	
Albumin (canine serum alb (CSA), 25% human serum alb (HSA))	Albumin	Increase patient albumin, colloidal support in critically ill patients	Up to 20 mL/kg/d until albumin is at threshold (typically ≥ 2 g/dL). Calculated dose = $[\text{normal alb} - \text{current alb}] \times (0.8)$. Admin rate: 2 mL/kg/h of 5% HSA	Filters are not required for albumin administration. Always follow manufacturer guidelines. Human albumin cannot be repeated and should be diluted to 5% HSA

- Cats should always be typed and administered type-specific RBC products
- Dogs should always be typed before transfusion. DEA 1 negative dogs can receive DEA 1 positive RBCs for their first transfusion
- Consider a major crossmatch for RBCs in all cats. Crossmatch is not necessary for dogs until after 4 days from their first transfusion
- *Vitamin K-dependent factors: II, VII, IX, X