

CANADIAN ANIMAL BLOOD BANK

2055 Notre Dame Ave., Rm AB71
Winnipeg MB R3H 0J9
Ph: (204) 632-2586
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www.rrc.mb.ca/abb

Cryoprecipitate

Cryoprecipitate is made from 450 ml of whole blood collected in the anticoagulant Citrate Phosphate Dextrose Adenine (CPDA-1). Cryoprecipitate is obtained from Fresh Frozen Plasma that has been slowly thawed and the supernatant plasma removed. Shelf life is 1 year from collection date when stored in the freezer.

Product Number

CR01 Volume of 5-30 ml, with a minimum of 80 IU FVIII and 150 mg of Fibrinogen per bag

Indications for use

- Treatment for Hemophilia A and von Willebrand's disease
- Replacement of unstable clotting factors FVIII, FVIIIc following massive transfusion with resulting dilution of coagulation factors
- Dysfibrinogenemia
- Hypofibrinogenemia

Dosage / Rate of Infusion Guideline

1 unit / 10 Kg body weight – See reverse for further information

Preparation

- Check expiration date
- **DO NOT USE A MICROWAVE TO THAW THE UNIT!**
- Enclose unit in a zipper-style plastic bag and thaw in a water bath at 37°C or less for 5-10 minutes. Mix regularly to speed thawing.
- Inspect the unit for leaks or cracks
- Open one port and insert spike from filter set
- Dilute concentrate with 10 ml of physiological saline
- Several units may be pooled, filtered into a syringe, and given bolus
- Recommended filter is 80µm.

Precautions

- Do not use past the expiration date
- Do not re-freeze an unopened thawed unit.
- Always use a filter set
- Discard any unused portion to biohazardous waste
- Never run or mix IV medications, colloids, Ringer's lactate with the plasma, even if they are in different limbs. These products are not compatible with blood products and will cause clotting. The IV line must be flushed with saline following the infusion of the blood product

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Reactions

- *Anaphylactic, anaphylactoid:* Characterized by urticaria, pruritis, erythema, edema, emesis, dyspnea, hypertension, bronchoconstriction, and severe shock. Can be mild or life threatening. Onset is rapid, occurring 1-45 minutes from the start of the transfusion.

Further Information

The usual dose of FVIII necessary to control Hemophilia A or von Willebrand's is 20-50 IU/Kg initially, and then 20-30 IU/Kg every 12 hours thereafter until bleeding is under control. Although the half-life of FVIII is usually 12 hours, the half-life of initially circulating FVIII is only 4 hours because of equilibration with extravascular space. A second infusion may be required within 8 hours. One IU of FVIII per kilogram of body weight will usually raise the FVIII level by 2% (or 0.2 IU/ml). Levels of 40-50% (of normal) are usually adequate to control bleeding. APTT levels can be used as a rough guide to FVIII activity if a specific factor assay is unavailable.

The concentration of von Willebrand's factor closely mirrors that of FVIII. Treatment efficacy can be assessed by normalization of the patient's bleeding time. *The clinician may wish to consider the use of DDAVP (Desmopressin®) prior to surgery. In certain circumstances, DDAVP may reduce or eliminate the need for cryoprecipitate when treating a von Willebrand's patient.*

The following calculations can be used for determining the dosage of cryoprecipitate for both Hemophilia A and von Willebrand's patients. The calculations assume that the patient has a normal body weight. In dealing with the obese patient, the calculation must be made using the estimated normal weight for the patient's body structure.

Weight (Kg) X 70 ml/Kg = Blood volume (ml)

Blood volume (ml) X (1 - PCV) = Plasma volume (ml)

Plasma volume (ml) X (desired FVIII level - current FVIII level) = Units (IU) of FVIII needed

Units (IU) of FVIII needed ÷ 80 + Number of Cryoprecipitate bags needed.

Example: 20 Kg dog, PCV is 40% (0.40 L/L), APTT level is 2% (0.2 IU/ml)

20 X 70 ml/kg = 1400 ml blood volume

1400 X (1 - 0.40) = 840 ml plasma volume

840 X (0.4 - 0.2) = 168 IU of FVIII needed (assuming desired level is 40% of normal)

168 ÷ 80 = 2.1 bags of cryoprecipitate needed