Cryoprecipitate, Leukocyte Reduced

APPLICABILITY: This document applies to AHS, Covenant Health, and all other health care professionals involved in the transfusion of blood components and products in Alberta.	***Other Names:*** *Cryo* ***Class:*** *Human Blood Component*

	INTRAVENOUS			OTHER		
ROUTES	**DIRECT IV**	**Intermittent Infusion**	**Continuous Infusion**	**SC**	**IM**	**OTHER**
Acceptable Routes*	No	Yes	No	No	No	NA

*** Professionals performing these restricted activities have received authorization from their regulatory college and have the knowledge and skill to perform the skill competently.**

DESCRIPTION OF PRODUCT:

- Cryoprecipitate, Leukocyte Reduced (Cryo) is prepared from slowly thawed Frozen Plasma (FP) that has been centrifuged to separate the insoluble cryoprecipitate from the plasma. The insoluble cryoprecipitate is refrozen.
- Volume of each unit is 5 - 15 mL, and contains ≥ 150 mg/unit of fibrinogen 75% of the time.
- Also contains coagulation factors VIII, XIII, von Willebrand factor complex (AHF_VWF), and fibronectin.

AVAILABILITY:

- Not all laboratories/transfusion services stock Cryo. Fibrinogen Concentrate may be available as an alternative and should be considered interchangeable with Cryo
- ABO and Rh blood groups are not considered for Cryo administration, except for neonates. ABO group may be considered for a pediatric patient
- Product is stored frozen and requires preparation time prior to issuing

INDICATIONS FOR USE:

- Documented cases of low fibrinogen (<1.0g/L)
- Congenital dysfibrinogenemia or hypofibrinogenemia with no fibrinogen concentrate available
- Prophylaxis in acute promyelocytic leukemia / chemotherapy (<1.5 g/L)
- In a bleeding patient, when:
  - Fibrinogen level is less than 1.5 g/L (2.0g/L in obstetrical hemorrhage or cardiovascular surgery)
  - The clinical status of the patient is highly suggestive of hypofibrinogenemia / dysfibrinogenemia, and the urgency of the situation does not allow time to wait for fibrinogen level results
- Von Willebrand's Disease (VWD) unresponsive to Desmopressin (DDAVP) and AHF-VWF Complex is not available

CONTRAINDICATIONS:

- Should not be used for Fibrin Glue
- Generally not recommended for the majority of patients with Hemophilia A or VWD if DDAVP or AHF_VWF complex are available and appropriate

DOSE:

- Most common recommended dose is 1 unit/10kg
- A typical dose is 10 units for adults (possibly more if fibrinolytic therapy)
- The volume needed to raise fibrinogen concentration 0.5 - 1.0g/L can be estimated as one unit of Cryo per 10kg body weight

ADMINISTRATION:

Confirm written (signed) consent has been obtained prior to requesting blood component from lab/transfusion service where possible.

Pre-Infusion:

- Ensure recent patient weight is on file and pertinent labs are available. Perform the appropriate pre-transfusion checks per nursing protocol.

Compatible Solutions:

- Cryo is only compatible with 0.9% Sodium Chloride

Administration Set:

- Administer through a standard or small volume blood transfusion set (170 – 260 micron filter) and change every 8 hours or as per manufacturer's recommendation.

Infusion Rate:

- Rate is specified by most responsible health practitioner (MRHP).
- Recommended infusion time is over 10-30 minutes per dose

Notes:

- Some sites receive their cryo dose pooled into one bag, while others will receive individual units
- If not using a pump, rinse each bag with 0.9% Sodium Chloride to ensure the entire volume of product is transfused.
- Normal saline should be run following the transfusion to ensure all the product remaining in the line is transfused

POTENTIAL HAZARDS WITH PARENTERAL ADMINISTRATION:

- Potential adverse events related to a blood component transfusion range in severity, from minor with no sequelae, to life-threatening.
- All adverse events occurring during a transfusion should be evaluated to determine whether or not the transfusion can be safely continued/restarted.
- All adverse events suspected to be related to a transfusion (whether during or after a transfusion) should be reported to your local laboratory/transfusion service.

NURSING IMPLICATIONS:

Patient Monitoring:

	Pre Transfusion Vitals?	Stay At Patient Bedside?			Vital Signs During Transfusion		Post Transfusion Monitoring
		First 5 Min	First 10 min	First 15 min	After 15 min	Remainder of transfusion (if applicable)	
ADULTS (in patients)	**Yes**		**NO**, but must be immediately available*		**Yes**	**q1h**	Set of V/S then monitor prn
ADULTS (out patients)	**Yes**		**NO**, but must be immediately available*		**Yes**	**q1h**	Set of V/S. Monitor for minimum of 15 min post**
PEDIATRICS & NEONATES	**Yes**	YES			**Yes**	**1st hour**→q15 min **2nd and 3rd hours**→ q30 min then q1h until complete	For 30-60 minutes following

* Defined as performing non-dedicated tasks with the patient in view.

**If patient has had a previous adverse reaction to component transfusion, or this is the first transfusion patient has had for component, monitor for 30-60 minutes

Note: Vital signs/patient monitoring may be conducted more frequently as determined by clinical condition of patient.

Patients receiving blood product transfusions must be observed closely for signs of any unexpected or untoward reactions. These reactions may occur during or after the infusion. For follow up instructions to a transfusion reaction, go to http://www.albertahealthservices.ca/lab/Page4240.aspx

Documentation:

- The transfusion documentation should be double signed (where required) to indicate infusion.
- Start and stop time of infusion and assessment of patient tolerability should also be documented in appropriate flowsheets or clinical record (electronic or paper) as required.
- Document vital signs as required in the appropriate flowsheet or clinical record (electronic or paper).
- Provide patient notification of transfusion documentation where required (electronic or paper).

STORAGE & STABILITY of PRODUCT:

- Once thawed, Cryo can be stored at 20-24 ^{o}C for a maximum of 4 hrs.
- When pooling, use 10-15mL of 0.9% sodium chloride injection (USP) to flush container and ensure removal of all material.

COMMENTS:

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For questions or comments about this document please contact Transfusion.SafetyTeam@ahs.ca

REFERENCES

Canadian Blood Services Circular of Information
CSA and CSTM Standards
AABB Technical Manual
Bloody Easy 4
NAC Statement on Fibrinogen Concentrate (available at www.nacblood.ca)