Alberta Health Services

This document applies to all Covenant and AHS sites.

Cryosupernatant Plasma, Leukocyte Reduced

Class: *Human Blood Component, Derived from whole blood.*

OTHER NAMES:
Cryopoor Plasma

	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:
Cryosupernatant, LR (CSP) is prepared from slowly thawed CP2D FFP that has been centrifuged to separate the insoluble cryoprecipitate from the plasma. The remaining cryosupernatant plasma is then refrozen. The average volume of a unit is approximately 265mL. Cryosupernatant does not contain measurable amounts of Factor VIII or fibrinogen.

AVAILABILITY:
- Not all laboratories/transfusion services stock Cryosupernatant plasma.
- Product is stored frozen, and as a result requires prep time prior to issuing.

INDICATIONS FOR USE:
- Plasma exchange in patients with Thrombotic Thrombocytopenic Purpura (TTP) or Hemolytic Uremic Syndrome (HUS).
- Warfarin reversal when factor concentrates are not available, Vit K deficiency

CONTRAINDICATIONS:
- Do not use for conditions that require von Willebrand Factor supplementation.

DOSE:
- The volume transfused will depend on the clinical situation and patient size.
- Standard dosing is 10-15 mL/kg
- Rounding up to nearest full number of units in adults is recommended.

ADMINISTRATION:

Ensure patient consent has been obtained prior to requesting blood component from lab/transfusion service where possible.

Acceptable Route(s):
- Peripheral, central, umbilical and PICC lines are acceptable sites for CSPL transfusion

Administration Set:
- Administer through a standard blood transfusion set (170 – 260 micron filter). Filter should be changed every 8 hours.

Compatible Soutions:
- CSP is only compatible with 0.9% Sodium Chloride.

Infusion Rate- Adults/Pediatrics/Neonates:
- Rate is specified by ordering physician or authorized prescriber. Infuse slowly in first 15 minutes.
- ALL blood components must be transfused within 4 hours of issue, do NOT store in unmonitored non-blood bank refrigerator.
- Monitor the patient during the transfusion. Patient should be monitored closely for the first 15 minutes (See **Patient Monitoring** below).

POTENTIAL HAZARDS WITH PARENTERAL ADMINISTRATION:

- Potential adverse events related to a blood 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.

The following adverse events have been described with transfusion of plasma components:

Event	Approximate Frequency	Symptoms and Signs	Notes
Mild allergy	1 in 100	Urticaria, pruritis and/or erythema.	Transfusion can be restarted after assessment and necessary intervention.
Transfusion associated circulatory overload (TACO)	1 in 700	Dyspnea, orthopnea, cyanosis, tachycardia, raised venous pressure and/or hypertension.	Due to excessive volume or excessively rapid transfusion rates. May be difficult to distinguish from TRALI.
Transfusion related acute lung injury (TRALI)	1 in 1,200-5,000	New onset of hypoxemia, new bilateral lung infiltrates on chest X-ray and no evidence of circulatory overload.	Occurs during or within 6 hours of transfusion. May be difficult to distinguish from TACO.
Isolated hypotensive reaction	Unknown	Hypotension, occasionally accompanied by urticaria, dyspnea and nausea.	Diagnosis of exclusion. May occur more frequently in patients on angiotensin-converting enzyme (ACE) inhibitor.
Acute hemolytic transfusion reactions	Rare	Shock, chills, fever, dyspnea, chest pain, back pain, headache and/or abnormal bleeding.	May be associated with ABO plasma incompatibility.
Anaphylaxis	Rare	Hypotension, upper and/or lower respiratory obstruction, anxiety, nausea and vomiting.	Resuscitation according to local policy. IgA deficient patients who have formed anti- IgA antibodies may experience anaphylactic reactions. However in most cases of anaphylactic reactions, no specific antibodies are found in the patient.
Transfusion related alloimmune thrombocytopenia	Rare	Abrupt onset of potentially severe thrombocytopenia within hours of transfusion.	Passive transfer of platelet antibodies leading to thrombocytopenia.
Bacterial contamination	Very rare	Fever, chills, rigors, nausea, vomiting, diarrhea, abdominal and muscle pain, hypotension, hemoglobinemia, and/or disseminated intravascular coagulation.	For evaluation and treatment of a reaction due to suspected bacterial contamination, refer to **http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/08vol34/34sl/34sl-eng.php**
Infectious disease	Varies from rare to very rare	Variable according to infectious disease.	Blood products have been described to transmit viruses other than HIV, HBV, HCV, HTLV I/II and WNV as well as parasites and prions.
Complications of massive transfusion	Dependent on clinical situation	Complications may include hypothermia, citrate toxicity, acidosis.	Appropriate monitoring may abrogate some complications.

NURSING IMPLICATIONS:

Patient Monitoring:

	Pre Transfusion Vitals?	Initial Monitoring: 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	
ADULTS	**Yes**		**NO**, but must be immediately available		**Yes**	**q1h**	Set of V/S then monitor prn
PEDIATRICS	**Yes**	YES			**Yes**	**1st hour**→q 15 min **2nd and 3rd hours**→ q30 min then q1h until complete	For 30-60 minutes following
NEONATES	**Yes**				**Yes**	**q15 min** for duration of transfusion	For 30-60 minutes following

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

Patients receiving blood component transfusions must be observed closely for signs of any unexpected or untoward reactions. These reactions may occur during or after the infusion of blood components or blood products. For follow up instructions to a transfusion reaction, see the following link:

http://www.albertahealthservices.ca/4240.asp

Documentation:

- The transfusion documentation should be double signed to indicate infusion.
- Start and stop time of infusion and assessment of patient tolerability should also be documented in appropriate flow chart or clinical record (electronic or paper) as required.
- *Recipients of blood components are to be notified in writing of the transfusion.*

STORAGE & STABILITY of PRODUCT:

- CSP is stored frozen at -18 ^{o}C for up to a maximum of 12 months from the date of collection.
- Once thawed CSP can be stored at 1-6 ^{o}C until the expiry required by local policy and procedure
- Expiry date and time is documented on the component label/tag..

COMMENTS:

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Approved By: TM Integration Network
For questions or comments, please contact trevor.richardson@albertahealthservices.ca

REFERENCES

Canadian Blood Services Clinical Guide to Transfusion
Bloody Easy 3