

Hamilton Regional Laboratory Medicine Program - HRLMP (effective at Hamilton Health Sciences, St. Joseph's Healthcare and Associated Health Care Facilities)			
Initial Issue Date: Revision Date:	Administration Guidelines	Section: Laboratory Medicine Sub-Section: <i>Transfusion Medicine</i>	
Title: CRYOSUPERNATANT PLASMA		Document Number:	
Approved By: <i>Director, Laboratory Medicine Chair, Regional Transfusion Medicine Committee Head, Transfusion Medicine, HRLMP Manager, Transfusion Medicine, HRLMP Technical Specialist, Transfusion Medicine, HRLMP Chief of Nursing Practice, Hamilton Health Sciences Chief of Nursing Practice, St. Joseph's Healthcare</i>		Page 1 of 4	

Purpose: To Establish the Indications and Administration of Cryosupernatant Plasma (Plasma)

Scope: All patient care areas across HHS and St. Joseph's Healthcare

Definitions: Cryosupernatant Plasma is prepared by thawing Fresh Frozen Plasma at 1 - 6° C. A precipitate rich in Factor VIII and fibrinogen forms. After centrifugation, the plasma is separated from insoluble precipitate, harvested and frozen. This plasma is Cryosupernatant Plasma

Other Names: Plasma - Cryopoor	Date Approved:	Pages: 1 of 3
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<p>INDICATIONS:</p> <ul style="list-style-type: none"> – Replacement of multiple coagulation factors (except Factor VIII and von Willebrand Factor) e.g., vitamin K deficiency, liver disease, but not for DIC – Treatment of Thrombotic Thrombocytopenic Purpura (TTP) and adult Haemolytic Uremic Syndrome (HUS)
<p>DOSAGE:</p> <ul style="list-style-type: none"> – Volume transfused depends on the clinical situations and patient size – When plasma is given for coagulation factor replacement, the dose is usually 10 to 20 mL/Kg
<p>SUPPLIED:</p> <ul style="list-style-type: none"> – Plasma stored frozen at minus 30°C or colder for 12 months – Each plasma bag contains ≥ 100mL of plasma – ABO group indicated on each bag
<p>RECONSTITUTION AND STABILITY:</p> <ul style="list-style-type: none"> – Once thawed, product should be transfused within 4 hours if stored at room temperature – Stored frozen, thawing may take 20 to 30 minutes – Thawed plasma may be stored at 1°C- to 6°C in a temperature monitored refrigerator for 24 hours

ADMINISTRATION:

- Prior to administration, a recipient and product identification must be made
- Plasma should be ABO compatible
- Must be administered within 4 hours from the time it leaves the laboratory unless in a validated Transfusion Medicine cooler

Recipient's GroupCompatible Plasma Group

O O, A, B, AB

A A, AB

B B, AB

AB AB

RH not a consideration for plasma transfusion

METHOD	WHO/WHERE	DILUTION	HOW TO ADMINISTER	INFUSION PUMP	PRECAUTIONS AND MONITORING
IV PUSH	N/A	N/A	N/A	N/A	N/A
MINIBAG/ BURETROL	RN	No	No	No	No
PRIMARY IV BAG	RN	No	- Administer by infusion using blood administration set with a filter	Yes	- Observe and monitor for adverse reactions
IM or SC	N/A	N/A	N/A	N/A	N/A

COMPATIBILITIES/INCOMPATIBILITIES:

- Cryosupernatant plasma should not be used to provide blood volume expansion due to risk of exposure to transfusion transmitted diseases
- Cryosupernatant plasma should not be used for treatment of consumptive coagulopathies (e.g DIC) because it has decreased levels of Factor VIII.

ADVERSE EFFECTS:

Acute Reactions:

(a) Allergic Reaction:

- Manifested by cutaneous urticaria, wheezing
- If only a cutaneous reaction occurs, product should be stopped, antihistamine administered and transfusion can usually be resumed.
- Subsequent reactions may be prevented by premedication with an antihistamine

(b) Bacterial Contamination:

- Manifested by chills, high fever, hypotension, rigors
- Symptoms usually appear early in the transfusion
- Stop infusion immediately
- Return product to Transfusion Medicine for culture
- Perform blood culture on the patient
- Aggressive supportive care and antibiotic treatment

(c) Anaphylactic Reaction

- Manifested by bronchospasm, dyspnea, hypotension and shock
- Occurs in IgA deficient recipient, who has antibody to IgA
- Usually occurs after a small volume of blood (10 to 15mL) infused
- Immediate treatment with adrenaline and corticosteroids indicated
- Discontinue product immediately

(d) Transfusion Related Acute Lung Injury (TRALI)

- Manifested by fever, pulmonary edema without evidence of cardiac failure, tachycardia, hypotension
- Can occur 2 to 8 hours post transfusion
- Usually caused by a potent white cell antibody in the donor product that reacts with the patient's white cells
- Treat symptoms; Report to Transfusion Medicine (as donor must be removed from the donor pool)

(e) Febrile Reactions

- Manifested by temperature rise of $< 1.5^{\circ}\text{C}$ with or without chills
- Usually due to cytokines released by leukocytes

(f) Circulatory Overload

- Manifested by pulmonary edema
- Can occur after transfusion of excess volumes or at excessively rapid rates
- Particular risk in elderly patients of small stature or in patient's with chronic severe anemia
- Can be avoided by slowing the rate of infusion or administration diuretic

(g) Passive Alloimmune Thrombocytopenia

- Manifested by abrupt onset of thrombocytopenia within hours after plasma infusion
- Caused by donor plasma alloantibodies that destroy patients platelets
- Report to Transfusion Medicine as donor must be removed from the donor pool

(g) Alloimmune Hemolysis

- Hemolytic transfusion reaction may occur when incompatible ABO group plasma is given
- Stop transfusion, manage symptoms
- Treat symptoms

Delayed Reactions

(a) Post transfusion purpura- dramatic sudden thrombocytopenia 5 to 10 days after blood transfusion

(b) Transmission of infectious agents (Malaria, Chagas)

(c) Transmission of infectious disease (HIV, HBV, HCV)

MANAGEMENT OF ADVERSE EFFECTS:

- Notify physician
- Notify Transfusion Medicine
- Follow Transfusion Reaction Policy

Documentation:

Issue Transfusion sheet or requisition with unit number must be included in patient's chart
Written consent for transfusion must be obtained prior to administration

References:

- Circular of Information, Canadian Blood Services, August 1999.
- Blood Transfusion Therapy, A Physician's Handbook, 7th edition, American Association of Blood Banks, 2002
- Physician's Guide 2001, Informed Consent for Blood and Blood Products. British Columbia Provincial Blood Coordinating Office, 1999.

Developed By In Consultation With:

Transfusion Medicine Operations Group
Pediatric Clinical Nurse Educators
Adult Clinical Nurse Educators

REVIEW DATES:

REVISION DATES: