Other Names	• Frozen plasma (FP) • Apheresis fresh frozen plasma (AFFP) • Cryosupernatant plasma (CSP) • Solvent detergent (S/D) treated human plasma (Octaplasma)

Description	• Frozen plasma (FP)
	  ○ Approximately 293 mL of plasma separated from an individual unit of whole blood
	  ○ Stored at ≤18°C within 24 hours after donation
	  ○ Contains all coagulation factors except has slightly reduced amounts of Factors V and VII
	• Apheresis fresh frozen plasma
	  ○ Collected by apheresis and frozen within eight hours of donation
	  ○ Contains both labile clotting Factors V and VII, plus non-labile coagulation factors
	  ○ Average volume of 495 mL
	• Cryosupernatant plasma (CSP)
	  ○ 285 mL of plasma separated from an individual unit of whole blood
	  ○ Contains all coagulation factors
	  ○ Reduced levels of high molecular weight von Willebrand's factor
	• Solvent detergent (SD) plasma
	  ○ Pathogen-inactivated human plasma alternative to FP

Special Approvals/authorizations	• An independent 2-person check is required for all doses, as per Canadian standards.
	• Nurses may administer plasma on the written order of the attending physician or designate.
	• Solvent detergent plasma (SD plasma) must be ordered by the established approval process. The physician must initiate the Canadian Blood Services Solvent Detergent Plasma Request Form (SDPRF) F800052.
	• SD plasma has been approved by NAC and the following supporting information is required for approval:
	  ○ Patient has experienced and allergic reaction to plasma
	  ○ Patient has a pre-existing lung disorder
	  ○ Patient is group AB and needs plasma but a blood group compatible product is unavailable

Indications	Appropriate use of FP/AFFP is limited almost exclusively to the treatment or prevention of clinically significant bleeding due to a deficiency of one or more plasma coagulation factors. This includes the treatment of: • Bleeding patients or patients undergoing invasive procedures who require replacement of multiple coagulation factors (e.g. severe liver disease or DIC) • Patients with massive transfusion with clinically significant coagulation abnormalities • Patients on warfarin anticoagulation who are bleeding or need to undergo an invasive procedure before vitamin K can reverse the warfarin effect and for whom **prothrombin complex concentrates** are not available. • Patients with rare specific plasma protein deficiencies for which no more appropriate or specific alternative therapy is available • Patients requiring treatment of thrombolytic thrombocytopenic purpura (TTP) and adult hemolytic uremic syndrome (HUS) by plasma exchange. CSP • Treatment of TTP and adult hemolytic uremic syndrome (HUS) by plasma exchange • Treatment of multifactor deficiency when fibrinogen replacement is not required • Reversal of warfarin therapy when PCC and/or vitamin K is not indicated or available

	SD plasma • Thrombotic thrombocytopenic purpura • Hemolytic uremic syndrome • Coagulation factor deficiencies
Contraindications	• Not indicated for volume replacement alone • Not indicated for single coagulation factor deficiency if specific recombinant products or plasma-derived virally inactivated products are available • Should not be used to treat hypovolemia without coagulation factor deficiencies • Not to be used when coagulopathy can be more appropriately corrected with specific therapy such as vitamin K, prothrombin complex concentrate, cryoprecipitate or specific coagulation factor replacement • Do not use cryosupernatant plasma for conditions that require fibrinogen, Factor VIII or von Willebrand's factor replacement.
Dosage	• The volume transfused will depend on the clinical situation and patient size. • Standard dosing is 10-15 ml/kg • Rounding up to the nearest full number of units in adults is recommended. **Special Considerations:** **Neonate (up to 6 weeks corrected) or less than 10 kg body weight (or fluid volume is a concern)** • Prime the blood administration set with the plasma • Flush IV/access device with 1 – 5 ml of 0.9% saline upon completion of transfusion **Pediatric or greater than 10 kg body weight** • Prime the blood administration set with either the plasma or 0.9% saline • Flush access device with 10 – 20 ml of 0.9% saline upon completion of transfusion
Stability	• Plasma is stored at -18°Celsius for up to a maximum of 12 months from the date of collection. • Once thawed, FP can be stored at 1-6° Celsius for a maximum of 5 days. • Once thawed AFFP can be stored at 1 - 6° Celsius for a maximum of 24 hours.
Compatibilities/ Incompatibilities	*Only isotonic, calcium-free intravenous solutions may be added to, or come in contact with blood products. Calcium will bind with the citrate anticoagulant and promote clotting in the tubing. Excess glucose and/or dextrose cause hemolysis and shorten red cell survival. The following solutions are acceptable:* • 0.9% NaCl (normal saline) is the fluid of choice. • **MEDICATIONS MUST NOT BE ADDED TO BLOOD PRODUCTS**. If it is necessary to administer medications simultaneously with blood, it is safest to use an alternate site for the drug.
Administration, Identification and ABO Compatibility	Refer to **Manitoba Best Practice Guidelines** • section 2.2 Standards- Identification and administration • section 1.4 for ABO compatibility • FP, AFFP and CSP product is stored frozen and as a result requires prep time prior to issuing.

Patient's ABO group	Compatible plasma
O	O or A or B or AB
A	A or AB
B	B or AB
AB	AB

Administration, Method	**Administration Set:**
	• Administer through a standard blood transfusion set with a filter to remove gross fibrin clots and aggregates:
	  ○ Adults: 170-260 micron filter
	  ○ Pediatrics: 80-260 micron filter
	• Set should be changed:
	  ○ A maximum of every 4 hours, or
	  ○ Four consecutive units of plasma have been infused through it, or
	  ○ More than 30 minutes has elapsed between transfusion/infusion, or
	  ○ Administering a different component, or
	  ○ The set has become occluded.
	• Normal saline should be used to prime the administration set for adult administration.
	
	Infusion Rate:
	• Rate is specified by the ordering physician or authorized prescriber.
	• The initial rate of infusion should be slow (less than 1 mL/minute) for the first 15 minutes of the infusion, unless urgent replacement is required. If the patient exhibits no signs of reaction and is tolerating the transfusion, the rate may be increased as per the physician order.
	
	Special Consideration for Infusion Rate: Pediatrics
	• The initial rate is 1 ml/kg/hour (to a maximum of 50 ml/hour for the first 15 minutes)
	• Subsequent rate is calculated; volume of transfusion (ml/length of transfusion hours) =
	  X ml/hour

Monitoring	Refer to regional policy for monitoring of patients during transfusion of plasma. Patients should be under direct observation during transfusion. Nurse should remain with patient for the first 15 minutes. Vital signs are to be monitored 15 minutes after start of transfusion, every hour during and at the end of the transfusion. Vital signs should be recorded one hour after the completion of the transfusion.
Adverse Events	Refer to **Manitoba Best Practice Guidelines** section 2.7 for transfusion reactions.
Resources:	1. Manitoba Transfusion Medicine Best Practice Resource Manual for Nursing, June 2. Canadian Blood Services Guide to Transfusion http://www.transfusionmedicine.ca/resources/clinical-guide-transfusion 3. AABB Transfusion Therapy Clinical Principles and Practice (reference) 4. Bloody Easy 3 5. Octaplasma Introduction Letter 23 April 2012 https://blood.ca/sites/default/files/octaplasma-Canadian-Blood-Services-HCP-letter-Final-April-23-2012.pdf 6. National Advisory Committee on Blood and Blood Products (2012) Framework for appropriate use and distribution of solvent detergent treated plasma in Canada.