

Section S: Blood Product Overview – Fresh Frozen Plasma (FFP) / Frozen Plasma (FP)

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DESCRIPTION of PRODUCT

- Collected from volunteer donors by the Canadian Blood Services (CBS).
- Donor is screened and blood is tested for:
 - Hepatitis B Surface Antigen (HBsAg)
 - Syphilis
 - Antibodies to Hepatitis B core antigen (HBcore), Hepatitis C Virus (HCV), Human T-cell Lymphotropic Virus (HTLV-1 and 2), Human Immune Deficiency Virus (HIV-1 and 2)
 - Presence of viral RNA: HIV-1, HCV and West Nile Virus (WNV)
 - Presence of viral DNA: Hepatitis B virus (HBV)

• **Single unit Plasma** (1 unit/approx 250mL) is separated from whole blood and if frozen within eight hours of collection, it is labeled as Fresh Frozen Plasma (FFP). Plasma that is separated from whole blood between 8 and 24 hours of collection is labeled Frozen Plasma (FP). The slightly reduced levels of Factor VIII are not considered to be clinically significant. FFP and FP will be issued interchangeably in most circumstances.

NOTE: In this document all references to FFP also apply to FP

- **Apheresis FFP** (2 units/approx 500mL) is collected by apheresis and frozen within eight hours of collection
- FFP contains the labile clotting Factors VIII and V, as well as all the other non-labile clotting factors
- 1 unit of plasma contains 400-900mg fibrinogen
- FFP may also serve as a source of plasma proteins and has volume expansion and oncotic properties

Date effective: Jan 2005

Date revised: Mar 2011

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AVAILABILITY of PRODUCT

- All LHSC/SJHC BTL sites stock FFP
- Since FFP contains no or very small amounts of RBCs, Rh on plasma unit is not significant
- FFP must be ABO identical or compatible with patient's ABO group (see [ABO compatibility chart](#))

STORAGE of PRODUCT

- FFP is stored frozen (below -18°C) and has an expiry date of 1 year from date of collection.
- Once thawed, FFP has a shelf life of 24 hours.

CLINICAL INDICATIONS

- Management of bleeding patients (or pre-invasive procedure) who require replacement of multiple plasma coagulation factors.
- Correction of coagulation deficiencies not corrected by specific factor concentrates.
- Urgent reversal of Warfarin therapy (insufficient time for Vitamin K). [Prothrombin Complex Concentrate](#) may be product of choice.
- Massive transfusion with clinical and/or documented coagulopathy (INR/PTT >1.5 normal).
- Plasma exchange (TTP/HUS if Cryosupernatant Plasma not available).

REQUESTS for FFP

- A group and screen from current hospital admission is required to issue FFP. In urgent situations, before the specimen is tested, Group AB FFP may be issued.
- FFP should NOT be given based only on INR/PTT results. The cause of the coagulopathy and alternate means such as Vitamin K to resolve the coagulopathy should be investigated.
- FFP should NOT be used as a volume/plasma expander (5% albumin, other colloid or crystalloid solutions are more appropriate to use).
- FFP is stored frozen, and BTL will thaw only as requested.
- Thaw time is approximately 30 minutes.

ADMINISTRATION of PRODUCT

- Administer through a standard blood transfusion set (170 - 260µ filter). Filter should be changed at least every 4-6 hours
- FFP is only compatible with 0.9% Sodium Chloride
- To correct coagulopathy in an adult, at least 4 units are usually required

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- Rate should be specified by ordering physician, and should include an initial rate of 50mL/hr for the first 15 minutes for non-urgent transfusions. Infusion time is usually 30 to 120 minutes.
- ALL blood products including FFP must be transfused within 4 hours of issue, do NOT store in any fridges outside of the BTL.
- Monitor the patient during the transfusion. Patient should be monitored closely for the first 15 minutes.
- Check and record patient's vital signs before infusing, within the first 15 minutes, and at minimum once again at the end of the transfusion.
- Check INR/PTT after infusion (10 – 60 minutes)

ADDITIONAL RESOURCES

Canadian Medical Association [Guidelines for Red Blood Cell and Plasma Transfusion for Adults and Children](#)