

# Prescribing Fresh Frozen Plasma

## Indications

**Transfusion of fresh frozen plasma (FFP) is inappropriate in many settings.**

**Evidence-based indications for FFP transfusion include:**

- replacement of single coagulation factor or protein deficiency if no factor specific concentrate is available:
  - severe hereditary protein S deficiency<sup>1</sup>
  - Factor V deficiency
- prevention of dilutional coagulopathy in the setting of massive transfusion (refer to your institutional massive transfusion protocol (MTP))
- disseminated intravascular coagulation (DIC)
- plasma exchange, for example, in thrombotic thrombocytopenic purpura (TTP)
- reversal of warfarin anticoagulation<sup>2</sup> for:
  - clinically significant bleeding and/or life-threatening critical organ bleeding **when Prothrombinex-VF is not available**
  - life-threatening critical organ bleeding (including intracranial haemorrhage) [150–300 mLs] **in addition to Prothrombinex-VF.**

**FFP may have a role in treating coagulopathy with active bleeding in children:**

- undergoing surgery<sup>1,3</sup> or prior to invasive procedures with risk of significant bleeding<sup>1</sup>
- critically ill patients,<sup>3</sup> and
- preterm and low birthweight infants.<sup>3</sup>

## Dose

**In most cases the dose will be 15 mL/kg. Consider:**

- 15–20 mL/kg for adults, and
- 10–20 mL/kg for paediatric patients < 30 kg.

For patients on warfarin, refer to the *Warfarin reversal* card for indications and dosing of FFP.

**Warning:** Consider lower dose range in patients at risk of fluid overload e.g. neonates and congestive cardiac failure.

## Outcomes

**When prescribing FFP, evaluate clinical outcomes to determine success e.g. cessation of bleeding.**

**International normalised ratio (INR) changes may not correlate with clinical effect of FFP transfusion:<sup>4</sup>**

- the effect of plasma transfusion on INR is transient
- for the same volume of transfused plasma, a greater reduction in INR is observed at a higher initial INR, and
- the effect of plasma transfusion on INR reduction diminishes as more plasma is transfused.

## References

1. New HV, Berryman J, Bolton-Maggs PHB, Cantwell C, Chalmers EA, Davies T, Gottstein R et al. on behalf of the British Committee for Standards in Haematology. Guidelines on transfusion for foetuses, neonates and older children. British Society for Haematology 2016. Available at: <https://b-s-h.org.uk/guidelines/guidelines/transfusion-for-fetuses-neonates-and-older-children/>
2. Tran HA, Chunilal SD, Harper PL, Tran H, Wood EM, Gallus AS. An update of consensus guidelines for warfarin reversal. MJA 2013;198(4):198–199. Available at: <https://www.mja.com.au/journal/2013/198/4/update-consensus-guidelines-warfarin-reversal>
3. National Blood Authority. Patient Blood Management Guidelines: Module 6 – Neonatal and Paediatrics. 2016.
4. Bryan et al. Plasma Transfusion Demystified: A Review of the Key Factors Influencing Response to Plasma Transfusion. Lab Medicine 2017;48:108–112.