# Plasma transfusion

Indications for the Transfusion of Plasma

The following indications for the transfusion of plasma were developed by Puget Sound Blood Center medical staff. They are evidence-based to the extent that evidence exists, otherwise they are felt to reflect commonly used good transfusion practice. These indications are intended only as general guidance and may not apply in all clinical situations. The final decision to transfuse or not to transfuse must be made by the patient's physician after consideration of all the clinical circumstances.

Indications for Use of Plasma:

Bleeding or imminent surgery/invasive procedure with documented clinically significant acquired coagulation factor deficiency. INR > 1.5 For bleeding or planned procedures within closed spaces, it may be reasonable to try to maintain higher factor levels (e.g. INR < upper limit of normal range: ~1.3) INR within 24 hours of Vitamin K therapy may not reliably reflect reversal of warfarin effect; PTT should also be evaluated. Not correctable in timely manner by other means vit K more specific coagulation factor concentrates Dosing: 10-15 ml/kg (4-6 units in 70kg adult) For reversal of warfarin anticoagulation in the face of life or organ/limb threatening bleeding (e.g. intracranial bleeding) or imminent life-saving surgery: For INR > 1.5: 10mg Vitamin K IV slowly and 2u FFP For INR 2-4 add 25U/kg Bebulin (Prothrombin complex concentrate) For INR >4 add 40U/kg Bebulin Reassess with repeat INR; if > 1.5 give additional 2 u FFP If continued abnormality, hematology consultation recommended Monitoring: Post-infusion INR. Monitor every few hours as infused factors will decay with usual half life. To treat or prevent coagulopathy in bleeding emergency (e.g. trauma with massive transfusion, obstetrical emergency). Dosing: 10-15 ml/kg (4-6 units in 70kg adult) or plasma:RBC ratio 1:1-1:3 until coagulation parameters determined. Then adjust accordingly. Certain congenital factor deficiencies that are not correctable with more specific factor concentrates (e.g. Factor V, XI deficiency). Hematology consultation recommended. Thrombotic thrombocytopenic purpura. Dosing: Usually as part of 1.0-1.5 volume plasma exchange; at least 50% of replacement fluid If no plasma exchange, 2-6 units/day, depending on circumstances and ability to tolerate volume Replacement of other plasma factors. e.g. AT III, C1 esterase inhibitor (concentrates also available) Dosing: 5-10 ml/kg Plasma NOT indicated for:

Volume expansion Nutrition Hypoalbuminemia Most instances of isolated prolongation of PTT (hematology consultation recommended) References

Counts RB et al. Ann Surg 1979;190:91-9 McVay PA et al. Am J Clin Pathol 1990;94:747-53 Segal JH, Dzik WH. Transfusion 2005;45:1413-25 American Society of Anesthesiologists Task Force on Perioperative Blood Transfusion and Adjuvant Therapies. Anesthesiology 2006;105:198-208 CAP Task Force. JAMA 1994;271:777-81 Lessinger CA, et al. Am J Hematol 2008;83:137-43