

Prothrombin Complex Concentrate (PCC) FACTSHEET

1. What is it?

Prothrombin Complex Concentrate (PCC) is a combination of blood clotting factors II, VII, IX and X with Protein C and Protein S. It is a human derived pooled plasma product which is virally inactivated.

Over anti-coagulation can occur from excessive warfarin. Warfarin achieves its anticoagulation by inhibiting the vitamin K effect on factor II, factor VII, factor IX and factor X, causing a functional deficiency of these factors and of anticoagulant proteins C and S.

2. Current products available

Generic name	Product name	Company	Type
PCC	Beriplex	CSL Behring www.cslbehring.co.uk	Pooled plasma product
PCC	Octaplex	Octapharma http://www.octapharma.com/corporate/	Pooled plasma product
PCC	Prothromplex T	Baxter Immuno www.baxter.com	Pooled plasma product

3. Licenced uses

Product	Licensed use
Beriplex	Treatment and perioperative prophylaxis of bleeding in: <ol style="list-style-type: none"> 1. acquired deficiency of prothrombin complex coagulation factors when rapid correction of the deficiency is required 2. congenital deficiency of any of the vitamin K dependant coagulation factors when purified specific coagulation factors are unavailable
Octaplex	Treatment and perioperative prophylaxis of bleeding in: <ol style="list-style-type: none"> 1. acquired deficiency of prothrombin complex coagulation factors when rapid correction of the deficiency is required 2. congenital deficiency of any of the vitamin K dependant coagulation factors when purified specific coagulation factors are unavailable
Prothromplex T	Not licensed for use in UK but may be made available on named patient basis.

4. Contraindications

- Known history of heparin induced thrombocytopenia.
- Use caution if administering to patients with a history of coronary artery disease, liver disease or at risk of thrombosis
- In the case of disseminated intravascular coagulation, prothrombin complex-preparations may only be applied after termination of the consumptive state

5. Associated laboratory tests

The level of anticoagulation is assessed by the prothrombin time (PT) standardised by the international normalised ratio (INR). The dose of PCC will depend on the INR before treatment and the targeted INR. The dose should be calculated according to the weight of the patient.

6. Guidelines

Guidelines for the use of Fresh Frozen Plasma, Cryoprecipitate and Cryosupernatant *British Journal of Haematology* 2004; 126(1): 11-28

Guidelines on oral anticoagulation (warfarin): third edition- 2005 update *British Journal of Haematol* 2006; 132(3): 277-85

Guidelines on the Management of Massive Blood Loss *British Journal of Haematology* 2006; 135(5): 634-41

7. Bibliography

Emergency Oral Anticoagulant Reversal Makris et al *Journal of Thrombosis and Haemostasis* 1997;77:477-480

Consensus protocol for the use of concentrated vitamin K dependant coagulation factors in the reversal of coumarin – induced (ie warfarin) anticoagulation.

Poster by Dolan G et al presented at 25th International Symposium on Intensive Care and Emergency Medicine 2005

Urgent reversal of warfarin with prothrombin complex concentrate Lankiewicz MW et al, *Journal of Thrombosis and Haemostasis* 2006; Vol 4 No 5 pp 967-970

Prothrombin Complex Concentrate (Octaplex) in patients requiring immediate reversal of oral anticoagulation Reiss HB et al *Thrombosis Research* 2007 10.1016/j.thomres.2007.02.009