

**VENTURA COUNTY MEDICAL CENTER/SANTA PAULA HOSPITAL  
CLINICAL PRACTICE GUIDELINES / PROTOCOLS**

**Use of Profilnine SD (PCC)**

*The contents of this clinical practice guideline are to be used as a guide. Healthcare professionals should use sound clinical judgment and individualize patient care. This CPG is not meant to be a replacement for training, experience, CME or studying the latest literature and drug information*

**Procedure:** Profilnine SD (PCC)

**Guidelines for Use:** To control and prevent bleeding of patients who are in Warfarin induced coagulopathy, particularly for patients who cannot tolerate large fluid volumes.

**Barriers/Limitations:**

- Made from human pool blood
- Greater risk of developing thrombosis
- It should not be infused at a rate exceeding 10 ml/minute. Rapid administration may result in vasomotor reaction

**Dose:**

- Profilnine SD 25 Units/kg IV for INR 1.5 -3.9
- Profilnine SD 50 Units/kg for INR  $\geq$  4

**Drug Properties:**

- Prothrombin Complex Concentrates are hemostatic blood products containing four vitamin K-dependent clotting factors. They are as follows: II, VII, IX and X. They are very reliable and a fast alternative to fresh frozen plasma for the reversal of the effects of oral anticoagulation treatments, usually in the form of vitamin K agonist. They are sometimes used for Factor II or Factor X replacement in patients with congenital or acquired deficiency. The factor that we currently have at Ventura County Medical Center is Factor IX complex, Profilnine SD.
- Profilnine SD is a non-activated Factor IX complex prepared from pooled human plasma and purified by DEAE cellulose. Each vial of Profilnine SD is labeled with the Factor IX potency expressed in International units.
- The Profilnine SD that we have at Ventura County Medical Center does not contain heparin. Profilnine SD contains low levels of activated coagulation factors, as indicated by the non-activated Partial Thromboplastin Time Test. Profilnine SD contains no preservatives.
- The Profilnine SD that we have at Ventura County Medical Center contains the following dosages:
  - Factor II: 150 Units per 100 Units of Factor IX
  - Factor VII: 35 Units per 100 Units of Factor IX
  - Factor X: 100 Units per 100 Units of Factor IX
  - And of course, 100 Units of Factor IX
- Factor IX or Prothrombin Complex Concentrate is a useful alternative to fresh frozen plasma when volume is an issue; particularly in the elderly with coronary artery disease or congestive heart failure. Its  $\frac{1}{2}$  life is much longer than Factor VII and could be used as an adjunct with FFP for quicker reversal; particularly if an emergent operation is to be done on a patient who is on Coumadin or has a mounting dilutional coagulopathy secondary to hemorrhage.

**Other Areas of Use/Study:**

- Pediatric Cardiac Surgeries
- Ob/GYN surgeries
- Transplant Surgery
- Jehovah Witness patients who do not want blood transfusions
- Trauma patients

## MASSIVE TRANSFUSION PROTOCOL: Schedule of Products

| SHIPMENT<br>By set  | RED CELLS<br>(Units)  | JUMBO<br>FFP<br>(Units)             | PLATELETPHERESES<br>(Apheresis Units) | TRANEXAMIC<br>ACID /                            | Adjuncts   |
|---|---|-------------------------------------|---------------------------------------|---|--|
| Delivered in a cooler<br>with a ratio<br>alternating 4/4/1<br>and 4/4/0 | <b>IMMEDIATE<br/>ACCESS</b><br>O negative<br><br>(2 units brought by<br>lab personnel to<br>Trauma Bay for<br>Tier I activations) | 1 Jumbo<br>equivalent to<br>2 units |                                       | Administer<br>within 3 hours<br>of presentation | Factor VII<br>Profilnine SD<br>Cryoprecipitate<br>#4, #6, #7 |
| <b>1<sup>st</sup> set</b>   | 4   | 4                                   | 1                                     | # 5   |  |
| <b>2<sup>nd</sup> set</b>   | 4   | 4                                   |                                       |   |  |
| <b>3<sup>rd</sup> set</b>   | 4   | 4                                   | 1                                     |   |  |
| <b>4<sup>th</sup> set</b>   | 4   | 4                                   |                                       |   |  |
| <b>5<sup>th</sup> set</b>   | 4   | 4                                   | 1                                     |   |  |
| <b>6<sup>th</sup> set</b>   | 4   | 4                                   |                                       |   |  |
| <b>7<sup>th</sup> set</b>   | 4   | 4                                   | 1                                     |   |  |
| <b>8<sup>th</sup> set</b>   | 4   | 4                                   |                                       |   |  |

**Note:**

- IMMEDIATE ACCESS to O NEGATIVE BLOOD IN TRAUMA ROOM.** These units are brought by a member of the laboratory personnel to ED Trauma Bay.
- Notify pharmacy to deliver tranexamic acid:** EXT 6220.
- Notify Blood Bank at EXT 6040. O negative units OR type specific if patient testing complete.
- Call Blood Bank for Cryoprecipitate (10 units) recommended for OB/GYN DIC patients if low fibrinogen levels below 100. Consider infusing this product every second set.
- Tranexamic acid 1gm IV over 10 minutes followed by 1gm over 8 hours. *See Tranexamic Acid protocol*
- Profilnine SD (PCC) *See PCC protocol.*
- Factor VIIA (will be available by REQUEST ONLY). *See Factor VII protocol*

**Notify Blood Bank if MTP is no longer needed**