

July 9, 2004

## Platelet Gel processing utilizing Fresenius C.A.T.S and Direct Draw Methodology.

### CARDIAC PROCEDURE

1. Determine that Cardiac Surgeon wishes to use platelet gel for sealant and sternal closure. Have residual platelet volume held for EVH closure on sterile field, if desired. Notify Anesthesia prior to beginning of procedure the need to perform a “single pass” sequestration for Platelet volume.
3. After selecting the **PLASMA SEQUESTRATION DIRECT DRAW** program, set up C.A.T.S system for the autotransfusion procedure with the addition of the “PSQ - DD” kit. Fresenius part number 9005151. Follow prompts as necessary.
4. To facilitate the sequestration, spike a saline wash solution bag on the available spike of the saline spike Y. Manually push 50 cc’s of saline into the plasma bag. Also, with the saline bag spike line open to the system, press “**Load Pump**” soft key 2 – 4 times to prime the saline/plasma pump and tubing. After priming, close the white Robert’s clamp on the saline bag side of the Y and reopen the white Robert’s clamp on the plasma bag connection point. These two steps make PRC processing much easier to accomplish by providing the volume necessary to prime the plasma/saline pump and eliminate the tendency of that pump to have difficulty pulling the much more viscous plasma through the fluid sensor array to move the PRC’s through the system.
5. Attach blood line to side port on the Swan Ganz catheter introducer. Press **START**. Process will run until the 500 cc volume is reached. You will receive a message to that effect on the C.A.T.S information screen.
7. Press the soft key for “**PRC TRANSFER**”.
8. Processing should continue to move PRC’s to reinfusion bag and plasma to plasma bag until you receive “**PRP TRANSFER**” notification. Select “**PRP TRANSFER**” soft key.
9. *100 cc’s is the maximum amount of Platelet Rich Plasma you can produce from a single pass processing.* The highest concentration of platelets is the first 10 cc’s out of the centrifuge. *(See our data at 10 and 20 cc PRP volumes).* The Surgeon will determine the volume he needs and how and where it will be applied. Once the volume required by the Surgeon is determined, the platelet transfer can be interrupted and the appropriate amount of high concentration platelet volume can be harvested into a syringe from the platelet bag using a **Medtronic BT -945 IV Spike/Stopcock Assembly** before completing PRP Transfer.

A typical cardiac application would be 10 to 20 cc’s for the sternum and topical use on the heart and the residual for application during closure of EVH “tunnel” sites.

## Asheville Cardiovascular & Thoracic Surgeons

There is no waste with this process. All the Red Cells, Plasma and residual Platelets can be returned since the processing is in conjunction with an auto-transfusion procedure. The C.A.T.S can now be converted to auto-transfusion use.

### *PRC's – Packed Red Cells*

#### OTHER SUPPLIES NEEDED

1. Fresenius part number – 9005151 “PSQ – DD” kit
2. Medtronic part number – BT -945 IV spike stopcock assembly
3. Hemamyst spray set up also available from Micromedics
4. EVH applicator wand or tubing also Micromedics
5. 5 or 10 cc syringes X 4
6. 1 gram CaCl X 2
7. Thrombin 5,000 units X 2

Thrombin / CaCl mix – 7 cc's CaCl and 3 cc's Thrombin in a cup on sterile field.

Equal amounts of platelets and activator are applied simultaneously.

\*All surgical site irrigation should be completed before application of platelet gel. It is possible to wash it off!

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