**DOCUMENT NUMBER:** ABMT-COLL-010

**DOCUMENT TITLE:**
Directed-Donor Granulocyte Collection

**DOCUMENT NOTES:**

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**Document Information**

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ABMT-COLL-010
DIRECTED-DONOR GRANULOCYTE COLLECTION

1 PURPOSE
1.1 To describe the procedure for collecting directed-donor granulocytes.

2 INTRODUCTION
2.1 The American Association of Blood Banks and Federal Drug Administration have established standards for safe collection of blood and components. These standards will be maintained during the care of all donors undergoing leukapheresis.

2.2 Bone marrow or stem cell transplant patients may become septic during the period of pancytopenia following chemotherapy. If patients are unresponsive to antibiotics a request may be made to collect granulocytes from a related donor.

3 SCOPE AND RESPONSIBILITES
3.1 The apheresis nurse is responsible for the leukapheresis and care of the donor along with the BMT physician. The Stem Cell Lab will be responsible for processing the granulocytes and will red blood cell deplete or plasma deplete as indicated.

4 DEFINITION/ACRONYMS
4.1 ABO: Blood groups A, B, O and AB
4.2 WBC: white blood cell
4.3 RBC: red blood cell
4.4 IV: intravenous
4.5 ml: milliliter
4.6 Min: minute
4.7 AC: anticoagulant
4.8 BMT: Bone Marrow Transplant
4.9 G-CSF: Granulocyte colony stimulating factor
4.10 SQ: subcutaneous
4.11 RBC: red blood cell
4.12 PMN: polymorphonuclear
4.13 ACD: acid citrate dextrose
4.14 CBC: complete blood count
4.15 CMP: complete metabolic panel
5 MATERIALS
5.1 Refer to COBE Spectra: WBC Operation
5.2 500cc bag/bottle of 6% Hydroxyethyl Starch (6% Hetastarch or equivalent solution) obtained from pharmacy or Duke Stem Cell Laboratory.
5.3 30cc vial of trisodium citrate
5.4 Venipuncture supplies (Refer to Venipuncture Procedure)
5.5 Blood tubes (Refer to COBE Spectra: WBC Operation)

6 EQUIPMENT
6.1 COBE Spectra Blood Cell Separator
6.2 Blood Warmer

7 SAFETY
7.1 Follow all safety related standard operating procedures and wear Personal Protective Equipment when handling potentially hazardous blood and body fluids. PPE includes but is not limited to gloves, scrubs, surgical mask, face shield or goggles. Hand hygiene will be performed before and after patient contact.

8 PROCEDURE
8.1 Priming of donors
8.1.1 Donors may be stimulated prior to donation with r G-CSF to increase the number of circulating granulocytes. The BMT physician will order the cytokine. Priming cytokine ordered for donors will be administered by a BMT nurse, home health nurse or the donor or family member will be trained in SQ injection.
8.1.2 To further enhance the harvest of granulocytes from the donor, (6% Hydroxyethyl Starch will be infused during the collection. 6% Hydroxyethyl Starch enhances the separation of RBCs (causing a rouleaux effect) which increases the harvest of granulocytes. It is metabolized by the body slowly and is also a volume expander. Potential donors should be questioned about a history of headaches, heart disease, and hypertension. A pregnant donor should be deferred from donation.

8.2 Donor Screening: refer to Donor Selection, Evaluation and Management procedure

8.3 Collection
8.3.1 Refer to: WBC Operation (PMN Collection) in COBE Spectra Operator’s Manual, and COBE Spectra: WBC Operation
8.4 Donor Assessment: Refer to Donor Selection, Evaluation and Management

8.4.1 The procedure for collecting Directed Donor Granulocytes will be the same as WBC Collection COBE Spectra Procedure with the following exceptions:

8.4.1.1 When choosing the procedure, after choosing WBC collection, press #2: PMN (polymorphonuclear).

8.4.1.2 Whole blood flow rate may be set as high as the donor can tolerate up to 80ml/min. The default Inlet/AC Ratio will be 13:1.

8.4.1.3 The default Collect flow rate will be 3ml/min. Prime the machine with ACD 500ml bag.

8.4.1.3.1 Add 30ml trisodium citrate to a 500ml bag of 6% Hydroxyethyl Starch and shake the bag vigorously for several minutes. Place a medication added label to the 6% Hydroxyethyl Starch bag.

8.4.1.4 Following Prime, replace the ACD bag with the Hesperan/citrate mix. The 6% Hydroxyethyl Starch must be shaken approximately every 15 minutes since the citrate tends to settle to the bottom of the bag/bottle and can be used up early in the procedure.

8.4.1.5 Monitor the collect line color using the Cobe Spectra WBC Colorgram to maintain a 7.5% hematocrit.

8.4.1.6 Volume Processed will default to 7000ml. Collection will be continued until the 6% Hydroxyethyl Starch bag is empty.

8.4.1.6.1 To continue the collection, time or whole blood processed volume can be added to the Target screen.

8.4.1.6.2 The collection will end when 500ml of 6% Hydroxyethyl Starch has been infused. No more than 500ml of 6% Hydroxyethyl Starch shall be administered per collection. The physician may order a shorter collection. Granulocyte collections will average approximately 2 hours.

8.4.1.7 Plasma does not routinely need to be collected.

8.4.1.8 Perform donor health history and assessment. The MD must approve any exceptions to any questions on the health history form (refer to Donor Selection, Evaluation and Management procedure and Adult Donor History Questionnaire).
8.4.1.9 Obtain written consent for granulocyte donation if not previously completed.

8.4.1.10 Obtain blood tests and requisitions:
8.4.1.10.1 CBC, diff
8.4.1.10.2 CMP, Mg, Phos
8.4.1.10.3 Infectious Disease testing if not done prior to first donation (See Donor Selection and Evaluation and Management).
8.4.1.10.4 Type and Screen to be drawn on the first donation

NOTE: Granulocytes will be irradiated but NOT filtered by a leukoreduction filter for transfusion.

NOTE: Emergency release: in an emergency situation the granulocyte product may be transfused prior to receiving the results of all the infectious disease blood tests. Refer to Summary of Donor Eligibility procedure.

9 RELATED DOCUMENTS/FORMS

9.1 Consent for Granulocyte Donation
9.2 (FRM3) Adult Donor History Questionnaire
9.3 (FRM4) Interim Adult Donor History Questionnaire
9.4 (FRM1) COBE Spectra Leukapheresis Run Sheet
9.5 (FRM1) Adverse Events Record if applicable
9.6 (FRM1) Cellular Product Chain of Custody Form
9.7 (FRM3) Physician Procedure Form
9.8 (FRM2) Apheresis Checklist
9.9 (FRM4) Summary of Donor Eligibility and Infectious Disease Testing
9.10 Doctor’s Order Form for collection
9.11 Unique Identifier (ISBT-128) labels
9.12 Pre-printed for Use by Intended Recipient Only donor/patient identification labels

10 REFERENCE

10.1 COBE Spectra Operator’s Manual

11 REVISION HISTORY

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<td>05</td>
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# Signature Manifest

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All dates and times are in Eastern Time.

## ABMT-COLL-010 Directed-Donor Granulocyte Collection

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