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Area: *Laboratory-Blood Bank*
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Granulocytes by Apheresis - Blood Bank

Document Type: Procedure

I. PURPOSE AND OBJECTIVE:

This document will provide policy and procedure relating to the request for Granulocytes.

II. CLINICAL SIGNIFICANCE:

A. A unit of Granulocytes is a suspension of granulocytes obtained from 3 to 7 liters of blood from one donor collected by continuous apheresis and suspended in the donor's plasma.

B. Severe reactions are associated with the administration of Granulocytes. There are narrow and defined indications for the transfusion of granulocytes. Refer to Granulocyte Transfusion in the AABB *Technical Manual*, current edition for more details.

III. DEFINITIONS / ACRONYMS:

A. **Designee**: Any Blood Bank Technical Director or Transfusion Medicine Fellow.

IV. SPECIMEN COLLECTION AND HANDLING:

The preferred specimen is a 6 mL EDTA sample with affixed identifying label. Refer to Transfusion Medicine policy, Triaging and Identifying Acceptable Samples for Testing for acceptable alternatives.

V. POLICIES:

A. Red cells in granulocyte transfusions must be ABO compatible with the recipient and crossmatch compatible with the recipient's plasma. A major crossmatch must be performed utilizing the pilot tube provided by the blood supplier.

B. All requests for granulocyte transfusion must be approved by Medical Director (MD) before placing order for the product with the blood supplier.

C. The patient must have a current type and antibody screen performed in accordance with the following Transfusion Medicine policies; Determining The ABO and RhD Of Patients Who Are At Least Four Months Old and Antibody Screening - Blood Bank.

D. Granulocyte concentrates should be stored at 20° - 24°C. Constant agitation is not recommended, although adequate mixing prior to infusion is advisable.

E. Granulocyte concentrates must be irradiated by the supplier.

F. Granulocyte concentrates should be infused as soon as possible and not more than 24 hours after collection.

VI. PROCEDURE:

A. Upon receiving the order for Granulocytes, contact the ordering physician for the following:

1. Confirm the order and patient diagnosis. Note: An order for Granulocytes must be at least for three (3) consecutive days.
2. Obtain current WBC and platelet count for the patient if available.
3. Obtain names and phone numbers of any relatives who could possibly donate.

B. Inform the Blood Bank Medical Director or designee so that case may be reviewed and confirm the patient meets the criteria for Granulocyte transfusion.

C. Once the order is approved by Medical Director or designee:

1. Call the American Red Cross order desk 1-877-507-4889, Option # 1.
2. Request granulocytes for at least 3 consecutive days.
3. Request that the product be irradiated prior to sending.
4. Write the order on the communication log/board to notify others the order has been placed. Note: Versiti Michigan no longer collects or distributes granulocytes as of December 15, 2021.

D. Family member donors should be referred to the the American Red Cross donor station in their area for pre-screening. The collections usually begin the next day.

E. Upon receipt of the granulocyte concentrate in the Blood Bank, enter the product into the Blood Bank Computer system. Refer to Transfusion Medicine policy,Receiving Blood Components from an Outside Source into Inventory - Blood Bank and Blood Bank CDM, *Placing a Unit on Hold*.

F. Perform an immediate spin and gel crossmatch with each granulocyte using the pilot tube of donor blood attached to the unit. Refer to Transfusion Medicine policy, Serological Crossmatching of Red Blood Cells.

G. Granulocytes should be administered as soon as possible and not more than 24 hours after collection.

H. Store the granulocytes at 20° - 24°C without agitation. Place them inside the Platelet Incubator but not on an agitator or rotator.

I. Contact the patient's Registered Nurse (RN) to encourage early transfusion as viability decreases rapidly. Transfusion must occur no later than 24 hours after collection.

VII. NOTES:

A. Infusion Instructions

1. The concentrate should be administered through a recipient set containing an ordinary blood filter. Microaggregate filters must not be used. The use of a Y administration set with isotonic saline permits the ascertainment of a good IV flow before the concentrate is entered and the rinsing of residual leukocytes from the bag at the end of the transfusion.
2. The flow rate should be established to allow 1 1/2 to 2 hours for the leukocyte transfusion to be completed; although the rate also is dictated by the recipient's ability to tolerate the product volume.

The concentrate should be transfused with in 4 hours of entering the pack.

VIII. REFERENCES:

1. AABB, *Technical Manual*, Current Edition.

Attachments

No Attachments

Approval Signatures

Step Description	Approver	Date
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Applicability

Dearborn, Farmington Hills, Grosse Pointe, Royal Oak, Taylor, Trenton, Troy, Wayne