Blood Filters
All blood and blood components must be transfused through a sterile, pyrogen-free transfusion set that has a filter that can retain particles potentially harmful to the recipient.

Packed red blood cells, washed red blood cells, whole blood, and fresh frozen plasma should be administered through a “Y”-Type Blood Solution Recipient Set. No more than 2 units may be administered through each filter; the filter cannot be used for more than 4 hours.

- An 80-micron filter is used for routine transfusions
- A 170-micron filter is used in surgery and emergency room
- Neonate transfusions are filtered into a syringe by the transfusionist using a microaggregate filter attached to a Component Infusion Set

Platelets and cryoprecipitate AHF may be infused by:

- IV push using a syringe attached to a Blood Component Infusion Set
- IV drip using a 170-micron filter, “Y”-Type Blood Component Recipient Set

Plateletpheresis, plateletteuksapheresis, and leukapheresis products are administered using a 170-microfilter, “Y”-Type Blood Component Recipient Set. A red blood cell leukocyte filter is available upon request for patients with a history of febrile transfusion reactions and for patients with leukemia or other malignancies requiring elective, long term transfusion therapy. One unit of packed red blood cells may be administered through 1 filter; the filter cannot be used for more than 4 hours.

Patient Identification Procedures
When pretransfusion blood specimens are drawn, phlebotomist verifies patient’s identity by a wristband worn by hospital inpatients or by asking outpatients to identify themselves. At this time, the phlebotomist will place a pink band with a Transfusion Service unique control number on the patient’s wrist. This number will be used to positively identify the source of patient’s pretransfusion blood specimen and blood products issued for transfusion.

The compatibility label and transfusion record sheets bear the patient’s name, visit number, medical record number, Transfusion Service unique control number, ABO and RH group and the donor’s identification number, ABO and RH group, component’s expiration date, and compatibility test results when performed. Recipient-specific donated units have an additional specialty label bearing the intended recipient’s name. These documents accompany the corresponding blood component unit.

Before a blood component unit is released from the Transfusion Service, the technologist and the person accepting the unit, or another technologist, must compare all identifying information on the component label, component requisition form, compatibility label, and when applicable, the recipient-specific donor label to verify that there is no discrepancy.

Immediately before transfusion of every blood component unit, the transfusionist must make certain that the identifying information found on the patient’s hospital and Transfusion Service pink wristbands (including the Transfusion Service unique control number) and that found on the component unit label, compatibility label, recipient-specific donor label, when applicable, and transfusion record sheets match exactly.

The above applies to therapeutic apheresis and therapeutic phlebotomies even if blood products are not ordered.

Perioperative Autologous Transfusion
Intraoperative autologous cell salvage is currently contracted by the hospital with Illinois Perfusion Technical Services.

Transfusion Service Medical Director is actively involved in establishing policies related to intra- and perioperative collection procedures to assure the current Standards for Blood Banks and Transfusion Services are followed. Transfusion Service Medical Director is available for medical consultation to the patient’s physician and is involved in monitoring of clinical outcomes.

Preadmission Testing (PAT)
Patients scheduled for elective surgery may have a type and screen or type and crossmatch done prior to admission when a physician orders it and in accordance with the Transfusion Service “Patient Identification Procedures”.

Patients transfused or pregnant within the last 3 months or whose transfusion history is unknown must have their blood specimen drawn and tested within 3 days of the scheduled surgery.

Patients not transfused or pregnant within the last 3 months, may have their blood specimen drawn and tested up to 14 days before the scheduled surgery.

Autologous donors must also have a blood specimen drawn according to the proceeding policies to assure proper patient/donor unit identity and in the event homologous transfusions are necessary.

Prenatal Testing
All women must have an ABO and Rh typing performed at Little Company of Mary Hospital on each admission until
concordant results on 2 or more separate occasions are obtained and noted on the current clinical record. An antibody screen should be performed early during each pregnancy regardless of the patient's Rh typing to detect antibodies that may cause hemolytic disease of the newborn. If a clinically significant antibody is detected, extended antibody titration should be considered.

**Release of Blood and Blood Components for Transfusion**

When crossmatching and other routine pretransfusion testing indicate no unexpected irregularities between donor unit and recipient's blood, the unit is released to nursing service on demand if a proper order is presented and routine identification procedures are followed. However, when the possibility of an immune-mediated blood transfusion reaction is more than minimal or negligible, the decision to transfuse or not must be made on clinical grounds. If attending physician should elect to transfuse the patient, he must acknowledge awareness of the possibility of a transfusion reaction by signing the appropriate release form. In certain cases, however, the Transfusion Service Director, after consulting with the attending physician, may waive this requirement.

In an emergency, when there is not enough time to complete a crossmatch and antibody screen, the blood supplied will be ABO and Rh type-specific or rarely, group O Rh negative. In this case, a physician must authorize by signature the release of blood for transfusion. If physician cannot personally sign the release for, it may be signed by a nurse designated by the physician to do so. However, the physician must countersign it within 24 hours.

After a blood “type and screen” has been done and no unexpected antibodies are found, the signature of the attending physician is not required if blood is transfused before crossmatching complete.

When an abnormality is found in pretransfusion blood testing, the director of the Transfusion Service will assess the risk and decide if the signature of the attending physician is necessary to authorize the release of blood.

In cases where a patient sample is sent to Heartland Blood Centers Reference Lab for antibody identification, requests for crossmatched blood will require a MD signature until the final report is received.

In all cases, the Director ( or a technologist designated by the physician) will inform the attending physician of the problem. If physician ordering blood cannot personally sign the release form, it may be signed by a nurse designated by the physician to do so. However, the physician must countersign it as soon as possible.

**Rh Immune Globulin Therapy**

Potential candidates for administration of Rh immune globulin have a D negative blood type and no actively acquired anti-D in the serum.

Clinical indications for administering Rh immune globulin to serologically-qualified candidates include:

- Delivery of an infant with D or weak D positive blood type
- Abortion or miscarriage
- Ectopic pregnancy
- Antepartum fetal-maternal hemorrhage
- Antepartum; 28 to 30 weeks gestation
- Amniocentesis
- Third trimester vaginal bleeding
- Following abdominal trauma
- Transfusion of a blood component containing Rh-positive red cells

Administration of 1 vial of Rh immune globulin intramuscularly within 72 hours after there is a clinical indication is usually sufficient unless a larger fetal-maternal hemorrhage has occurred. In the latter case, the Transfusion Service Director may be consulted regarding calculation of the number of vials of Rh immune globulin to be administered.

Administration of Rh immune globulin at 28 weeks gestation is recommended. Such prophylaxis decreases the incidence of Anti-D developing during pregnancy and does not harm the fetus.

If Rh immune globulin is administered antepartum, a second dose should be administered after 12 weeks unless parturition has occurred. If the newborn is D or weak D positive, an additional dose of Rh immune globulin should be administered.

Administration of Rh immune globulin after amniocentesis:

- Women who have an amniocentesis at 15 or 18 weeks gestation should receive 1 dose of Rh immune globulin after procedure. A second dose should be given 12 to 13 weeks later ( or at 28 weeks gestation), and a third dose after delivery if the infant is D or weak D positive.
- Women who have an amniocentesis during the second or third trimesters should receive 1 dose of Rh immune globulin after the procedure and 1 dose after the delivery if the infant is D or weak D positive.

The Director of the Transfusion Service may be consulted regarding other circumstances that may require Rh immune globulin administration.

Consult the director of the Transfusion Service regarding the number of vials of Rh immune globulin required for Rh negative patient who has received Rh positive red blood cells.

**Routine Type and Crossmatch**
Patients will have their blood typed and crossmatched for red blood cell transfusions when a written order from a physician is received. Red blood cells will be held for the designated patient for 3 days after obtaining the recipient specimen.

**Source of Blood**
A regular donor service is not maintained by the Transfusion Service. However, recipient-specific donations, autologous, and directed can arranged by calling Heartland Blood Centers (HBC) at 1-800-7-TO GIVE

- Autologous donations require a written physician’s order. The last donation must be completed at least 72 hours before a scheduled operative procedure.
- Directed donations require a written order from the recipient’s physician and a written list of potential donors approved by the recipient. At least 4 to 5 weekdays are required to complete all the necessary testing and procedures for directed donations. To prevent graft versus host disease, blood donations by family members will be irradiated before transfusion.

Essentially all the blood and blood components are obtained from HBC. Whole blood and fresh Whole blood are not stocked and, therefore, are not available. The use of packed red blood cells in combination with crystalloid and colloid solutions is recommended instead of whole blood.

The Transfusion Service stocks fresh frozen plasma, cryoprecipitate, and packed red blood cells. Washed erythrocytes will be prepared on request. Other components must be ordered specifically from HBC when needed.

Specialized blood products (eg, leukoreduced, irradiated, cytomegalovirus negative, hemoglobin S negative, and HLA matched, etc.) are available from HBC when needed.

Se Table I: “Summary Chart of Blood Components” in “Transfusion Service (Blood Bank)” in “General Information”.

**Standards and Methods for Transfusion Service Practices and Testing**
The Transfusion Service at Little Company of Mary Hospital is conducted in accordance with the American Association of Blood Banks, standards of Blood Banks and Transfusion Services, and standards and regulations established by the food and Drug Administration (FDA), College of American Pathologists (CAP), the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), and the federal Clinical Laboratory Improvement Act (CLIA’88).

**Therapeutic Apheresis**
Therapeutic apheresis procedures are contracted by the hospital with Fresenius Medical Care Extracorporeal Alliance, Inc. (1-800-521-9757). Nursing will verify two patient identifiers, have a written physician order and will call the house physician if any adverse event should occur. Nursing should evaluate the patient for risks prior to starting procedure. All patients should be thoroughly evaluated before, during and after the apheresis for any signs of an adverse reaction. The Laboratory Medical Director is available for consultation.

The Transfusion Service is not involved with these procedures directly but will supply fresh frozen plasma as a replacement fluid when ordered by a physician.

Arrangements for use of albumin as a replacement fluid are made through the pharmacy.

**Therapeutic Phlebotomy**
Inpatient therapeutic phlebotomies are contracted by the hospital with Fresenius Medical Care Extracorporeal Alliance, Inc. (1-800-521-9757).

Outpatient therapeutic phlebotomies are performed by Lifesource. Appointments may be made by calling 1-847-299-7386.

The Transfusion Service is not directly involved with these procedures. The Laboratory Medical Director is available for consultation.

**Type and Screen**
A “Type and Screen” may be ordered on any patient who is unlikely to require transfusion. If irregularities are found, the physician will be notified at once and the cause investigated. In these cases, crossmatching for compatible blood will be done. If no irregularities are detected and blood is urgently needed, the blood will be released in <15 minutes after completion of an “immediate spin” crossmatch.
<table>
<thead>
<tr>
<th>Component</th>
<th>Volume</th>
<th>Administration Set*</th>
<th>Infusion rate (min-hrs)</th>
<th>Minimum notice**</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red Blood Cells</td>
<td>250mL to 350 mL</td>
<td>Y-Type BSR Set 80µ or 170 µ</td>
<td>1 to 2 hours¹</td>
<td>60 to 90 minutes</td>
<td>Uncrossmatched blood is available in 5 to 10 minutes</td>
</tr>
<tr>
<td>Washed Red Blood cells</td>
<td>200mL to 300 mL</td>
<td>Y-Type BSR Set 80µ or 170 µ</td>
<td>1 to 2 hours¹</td>
<td>2 to 3 hours</td>
<td>Outdates 24 hours after washing</td>
</tr>
<tr>
<td>Deglycerolized (Frozen) Red Blood Cells</td>
<td>200mL to 300 mL</td>
<td>Y-Type BSR Set 80µ or 170 µ</td>
<td>1 to 2 hours¹</td>
<td>6 hours³</td>
<td>Outdates 24 hours after deglycerolizing</td>
</tr>
<tr>
<td>Fresh Frozen Plasma / Plasma Frozen Within 24 Hours After Phlebotomy</td>
<td>220mL to 250 mL</td>
<td>Y-Type BSR Set 80µ or 170 µ</td>
<td>As rapidly as tolerated¹</td>
<td>40 to 60 minutes</td>
<td>Outdates 24 hours after thawing. Infuse as soon as possible after thawing</td>
</tr>
<tr>
<td>Thawed Plasma</td>
<td>220mL to 250 mL</td>
<td>Y-Type BSR Set 80µ or 170 µ</td>
<td>As rapidly as tolerated¹</td>
<td>40 to 60 minutes</td>
<td>Outdates 5 days after thawing of the original component.</td>
</tr>
<tr>
<td>Cryoprecipitate, Single donor</td>
<td>5mL to 10 mL</td>
<td>BCI Set 170 µ</td>
<td>As rapidly as tolerated²</td>
<td>30 minutes</td>
<td>Outdates 6 hours after thawing. Infuse as soon as possible after thawing</td>
</tr>
<tr>
<td>Cryoprecipitate, Pooled</td>
<td>50mL to 100 mL</td>
<td>Y-Type BCR Set 170 µ</td>
<td>As rapidly as tolerated²</td>
<td>40 to 60 minutes</td>
<td>Outdates 4 hours after thawing. Infuse as soon as possible after pooling</td>
</tr>
<tr>
<td>Plateletpheresis</td>
<td>200mL to 300 mL</td>
<td>Y-Type BCR Set 170 µ</td>
<td>As rapidly as tolerated²</td>
<td>2 to 36 hours³</td>
<td></td>
</tr>
</tbody>
</table>

*BSR = Blood Solution Recipient  
*BCI = Blood Component Infusion  
*BCR = Blood Component Recipient  
** MINIMUM NOTICE-The minimum time required after pretransfusion specimen is received in the Transfusion Service.

¹ Rate of infusion should be slower in patients with clinical conditions increasing the risks of volume overload, but must not exceed 4 hours. Should it be necessary to infuse longer than 4 hours, ask the Transfusion Service to split the unit.

² Infusion should be slower in patients with clinical conditions increasing the risk of volume overload.

³ The time required to obtain the product from the blood supplier may be substantially longer when the supply is diminished.