POLICY FOR BLOOD COMPONENT AND BLOOD PRODUCT ADMINISTRATION
1.0 Policy Statement

1.1 A policy shall be in place to ensure that blood components and blood products are transfused to recipients for clinically appropriate conditions with a goal to optimize recipient outcomes and ensure blood components and blood products are used appropriately according to established standards.

1.2 An informed consent policy shall be established to ensure recipients are properly informed before receiving blood components and blood products. The recipient shall receive information that includes a description of blood components or blood products and the associated risks and benefits as well as alternatives to transfusion if appropriate. The policy shall identify the process of obtaining recipient informed consent including the opportunity to ask questions and obtain satisfactory answers. All recipients shall be notified in writing that they have received blood components and blood products.

1.3 Polices and procedures shall be established for:
   1.3.1 Preparation and receipt of requests for transfusion
   1.3.2 Unequivocal identification of recipient
   1.3.3 Collection and labelling of recipient blood specimens
   1.3.4 Record checks
   1.3.5 Pre-transfusion testing.

1.4 A policy shall be established in special circumstances that include:
   1.4.1 Massive transfusion
   1.4.2 Emergency transfusion
   1.4.3 Transfusions in infants under 4 months.

1.5 Each facility shall have policies and procedures for:
   1.5.1 The transfusion and administration of blood components and blood products and the generation and maintenance of transfusion records.
   1.5.2 The operation of infusion devices and associated equipment.

2.0 Definitions

2.1 Blood Component: a therapeutic part of blood intended for transfusion.

2.2 Blood Product: therapeutic product derived from human blood or plasma and produced by a manufacturing process.
2.3 Compatibility Label/Tag: tag or label attached to a blood component or blood product that has been designated for a specific recipient, specifying information that identifies the blood component or blood product for that recipient.

2.4 Transfusionist: individual who administers a blood transfusion.

2.5 Transfusion Medicine Laboratory: Hospital Blood Bank.

2.6 Vital Signs: the measurement of temperature, pulse, respiration rate and blood pressure.

2.7 Whole Blood: unaltered anticoagulated blood collected from a donor.

2.8 Shall: Implies that the standard is mandatory. Non-compliance means that the transfusion service is not meeting the current acceptable expectations for the practice of transfusion medicine.

2.9 Should: Implies that the standard is recommended but is not mandatory for the transfusion service.

2.10 May: Implies that the standard is considered valid but is used at the discretion of the transfusion service medical director and/or the technical supervisor.

3.0 Ordering Blood Components and Blood Products

3.1 The physician or physician delegate shall ensure the following is legibly documented when prescribing blood components and blood products:

3.1.1 Written consent for transfusion
3.1.2 Recipient refusal to transfusion
3.1.3 Recipient’s first and last name, identification number and location on the order request
3.1.4 Clinical indication for transfusion
3.1.5 Date and time of the transfusion, rate of the transfusion or duration of the transfusion
3.1.6 Type and quantity of blood product including specific product requirements or modifications (e.g. CMV negative, irradiated products or washed)
3.1.7 Sequence in which multiple products are to be transfused
3.1.8 Requirement for the use of blood warmers or rapid device, except in identified clinical areas where there is an established hospital policy and procedure
3.1.9 Pre/post transfusion medication orders related to transfusion.
3.2 The transfusionist’s responsibility shall include:
   3.2.1 Confirmation that the physicians order accurately identifies the recipient name, identification number, blood component or blood product, rate of infusion, date and time and all other items listed in Section 3.1.
   3.2.2 Confirmation that the recipient consent to transfusion has been signed.
   3.2.3 Completion of the requisition for request to provide blood components and blood products.

3.3 Identification
   3.3.1 Policies shall be established that ensure unequivocal identification of the recipient and the blood component or blood product throughout the transfusion.

4.0 Administration

4.1 IV ACCESS, ADMINISTRATION SETS and COMPATIBLE SOLUTIONS
   4.1.1 Transfusions to hemodynamically stable recipients should be avoided outside core day time hours unless clinically essential in an effort to prevent adverse transfusion events.
   4.1.2 Whole blood and blood components shall be transfused using sterile, pyrogen free administration sets containing a filter (i.e. Adults: 170-260 microns). Pediatrics: Reference should be made to hospital policy and procedure. For blood products the transfusionist should refer to the product monograph for filter size where applicable.
   4.1.3 Blood administration sets should be connected directly to the IV access site. Blood components shall not be piggy-backed into an existing line as it increases the risk of contamination and/or infusion of an incompatible IV fluid.
   4.1.4 Blood component administration should begin within thirty (30) minutes from the time the product is released from temperature controlled storage.
   4.1.5 Transfusions of blood components and blood products shall not exceed four (4) hours from the time of issue from temperature controlled storage.
   4.1.6 Blood components and blood products shall be returned to the Transfusion Medicine Laboratory immediately if a decision is made not to transfuse.
4.1.7 Blood components that have been out of temperature controlled storage greater than 30 minutes shall not be returned to inventory or re-issued and shall be discarded by the Transfusion Medicine Laboratory.

4.1.8 Blood products may be returned to the Transfusion Medicine Laboratory where policies exist.

4.1.9 Administration sets shall be changed after four consecutive units of red cells have been transfused, if the administration set becomes occluded, at least once every 24 hours or according to manufacturer’s recommendations.

4.1.10 Administration sets shall be changed between the administration of different blood components and blood products. Platelets should always be administered using a new blood administration set to prevent platelets from becoming trapped in the used filter.

4.1.11 Only Health Canada approved infusion devices and ancillary equipment shall be used. Infusion pumps shall be used as recommended by the manufacturer. The pressure exerted by pressure pumps should not exceed 300mm Hg. Rapid infusion devices shall be used only by appropriately trained staff.

4.1.12 Blood warming devices shall be validated and have a temperature sensing device and an audible alarm system.

4.1.13 Medication shall not be added directly to a blood component, blood product or to the administration set containing a blood component or blood product.

4.1.14 0.9% sodium chloride solution for IV use may be added to red blood cells on the request of the physician or if the administration set requires priming for blood components.

**NOTE:**
- 5% dextrose in water will cause clumping and/or hemolysis of red cells.
- 5% dextrose in 0.2% saline causes red cell agglutination at room temperature.
- Lactated Ringer’s may cause clotting due to calcium content.

**EXCEPTION: Intravenous Immune Globulin (IVIG)**
- 5% dextrose in water (D5W) shall be used when administering IVIG. 0.9 sodium chloride is **Not** compatible with IVIG.

4.1.15 Air shall not be introduced into the administration set or the blood components or blood products being transfused.
4.1.16 Blood components and blood products shall be visually inspected for clots, clumps or discoloration immediately before issue and the inspection documented. The expiry date shall be checked to ensure the blood component or blood product is not outdated.

4.1.17 Blood components and blood products (specifically red cells, platelets and cryoprecipitate) shall be mixed gently by inversion to re-suspend the product.

4.1.18 Transfusion flow rates should be indicated on the physician’s order. If possible, transfusions should start slowly and the recipient observed for the first 15 minutes for any adverse effects of transfusion.

4.2 TRANSFUSION OF BLOOD COMPONENTS AND BLOOD PRODUCTS

4.2.1 Pre-transfusion vital signs shall be monitored and documented prior to transfusion of all blood components and blood products. These include temperature, pulse, respiration rate and blood pressure.

4.2.2 The compatibility label/tag shall remain attached to the blood component or blood product until the transfusion is complete.

4.2.3 Immediately prior to transfusion in the presence of the recipient, confirmation and documentation of identifying information linking the recipient and the blood component or blood product shall be performed by the transfusionist.

4.2.4 If a discrepancy is identified, transfusion shall not be initiated until the discrepancy is resolved.

4.2.5 There shall be an identical match between the recipient and the blood components or blood products and the compatibility label/tag for the following with the exceptions noted in Appendix 1 - ABO & Rh Compatibility Table:

- Recipient Name and identification number shall match on:
  - Compatibility label/tag attached to blood component or blood product
  - Recipient blood group and Rh or crossmatch report on the medical chart/record
  - Recipient’s armband
  - If the recipient is conscious, the recipient should be requested to state their full name and birthdate.
Blood group and Rh of both the recipient and blood component or blood product shall match on the:
- Compatibility label/tag attached to blood component or blood product
- Recipient blood group and Rh or crossmatch report on the medical chart/record
- Canadian Blood Services blood component label.

Unit number/Lot number of the blood component or blood product shall match on the:
- Compatibility label/tag attached to blood component or blood product
- Recipient blood group and Rh or crossmatch report on the medical chart/record
- Canadian Blood Services blood component label.

Confirm that the blood component or blood product has not expired.

**NOTE:** DO NOT START the transfusion if there is not an identical match. Notify the Transfusion Medicine Laboratory. (See Appendix 1: ABO Compatibility Table).

4.2.6 The recipient should be informed of the purpose of the transfusion and instructed to notify the nurse if any of the following complications occur: chills, rigors, hives or itching, difficulty breathing, backache, pain.

4.2.7 Date and start time of transfusion shall be documented.

4.2.8 Recipient vital signs shall be monitored and documented before the transfusion begins, within the first 15 minutes of starting the transfusion, every hour during the transfusion and 30 minutes after completion of the transfusion.

4.2.9 The transfusionist shall assess the recipient during the transfusion for signs and symptoms of adverse transfusion reactions that include but are not limited to: fever, chills, rigors, hives or itching, difficulty breathing, backache, pain. (See Appendix 2: Algorithm for Suspected Transfusion Reactions).

4.2.10 **IF ANY ADVERSE TRANSFUSION REACTIONS ARE OBSERVED:**

- **THE TRANSFUSION SHALL BE STOPPED IMMEDIATELY** by clamping the tubing as close to the IV site as possible. Any remaining blood component or blood product in the tubing should not be flushed.
- Lines should be kept open with 0.9% Sodium Chloride.
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- Vital signs shall be rechecked and documented.
- The name of recipient and identification number on the recipient armband shall be confirmed against the compatibility label/tag and documented.
- The physician shall be notified.
- The Transfusion Medicine Laboratory shall be notified.
- All observed signs and symptoms shall be documented on the patient’s medical chart/record, the compatibility label/tag and if applicable the adverse transfusion reaction form.
- The volume transfused shall be documented on compatibility label/tag and on the recipient’s chart.
- Any intervention or action taken shall be documented.
- All blood component and blood product containers with attached administration set and IV solutions, whether empty or not, appropriate blood samples and documentation shall be returned to the Transfusion Medicine Laboratory as soon as possible for follow-up investigation.

4.2.11 Serious Adverse Transfusion Reactions shall include but are not limited to:
- Immediate hemolytic reactions
- Delayed hemolytic reactions
- Transfusion related acute lung injury
- Systemic allergic reactions including anaphylactic shock
- Bacterial sepsis
- Other transfusion transmissible infections
- Death
- Transfusion associated graft versus host disease
- Post transfusion purpura
- Other serious reactions.

(See Appendix 3: Suspected Transfusion Reactions – Signs and Symptoms)

4.2.12 In the absence of an adverse transfusion reaction, the transfusion shall continue to completion.

4.3 POST ADMINISTRATION

4.3.1 The IV line shall be flushed following transfusion.

4.3.2 The blood component or blood product and administration set shall be disconnected.

4.3.3 Following completion of the transfusion, post transfusion information shall be documented on the compatibility label/tag and the patient’s chart.
4.3.4 The laboratory portion of the compatibility label/tag shall be completed and returned to the Transfusion Medicine Laboratory according to local policy.

4.3.5 The transfusionist shall monitor the recipient’s vital signs for at least 30 minutes after the transfusion. If direct medical monitoring of a recipient after a transfusion is not possible the recipient or a responsible care giver shall be provided instructions concerning possible adverse events.

4.3.6 Distribute recipient notification of transfusion as per facility policy.

4.3.7 Red blood cell and platelet bags should be placed in a sealed plastic bag and kept for a minimum of 4 hours post-transfusion for investigation of suspected bacterial contamination.

4.3.8 Blood component and blood product containers shall be disposed of in compliance with standard precautions according to hospital policy and procedure.

5.0 Records Management

5.1 The recipient’s medical chart/record shall contain a transfusion record that includes the following information:

5.1.1 blood component or blood product identification number
5.1.2 type of blood component or blood product transfused
5.1.3 start, finish, date and time of transfusion
5.1.4 identity of transfusionist
5.1.5 any transfusion reactions.

5.2 For each blood component issued, a record system shall be in place which documents:

5.2.1 recipient’s name and identification number
5.2.2 recipients ABO group
5.2.3 recipients Rh group
5.2.4 identification number and name of blood component
5.2.5 ABO group of the blood component
5.2.6 Rh group of the blood component for red cells, platelets and granulocytes
5.2.7 compatibility verification for red cells and granulocytes
5.2.8 visual inspection
5.2.9 date and time of issue
5.2.10 identity of the person issuing the blood component
5.2.11 identity of the person transporting the blood component to the recipient’s location.
5.3 For each blood product issued, a record system shall be in place which documents:
   5.3.1 recipient’s name and identification number
   5.3.2 blood product name and manufacturer
   5.3.3 lot number
   5.3.4 volume and/or potency
   5.3.5 dosage/vials issued
   5.3.6 visual inspection
   5.3.7 date and time of issue
   5.3.8 identity of the person issuing the blood product
   5.3.9 identity of the person transporting the blood product to the recipient’s location.

5.4 A copy of the transfusion information related to the recipient shall become part of the recipient’s permanent medical chart/record.

5.5 The record keeping system shall be able to trace the blood component or blood product.

5.6 Records shall be retained for the time periods stated in Appendix 4.
6.0 References


This document may be incorporated into each Regional Policy/Procedure Manual.


APPENDICES

APPENDIX 1: ABO & Rh Compatibility Table

ABO & RH COMPATIBILITY TABLE

<table>
<thead>
<tr>
<th>Patient’s ABO &amp; Rh</th>
<th>Donor Blood Component Compatibility</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Packed Red Cells&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>O Pos</td>
<td>O Pos</td>
</tr>
<tr>
<td>O Neg</td>
<td>O Neg</td>
</tr>
<tr>
<td>A Pos</td>
<td>A Pos</td>
</tr>
<tr>
<td>A Neg</td>
<td>A Neg</td>
</tr>
<tr>
<td>B Pos</td>
<td>B Pos</td>
</tr>
<tr>
<td>B Neg</td>
<td>B Neg</td>
</tr>
<tr>
<td>AB Pos</td>
<td></td>
</tr>
<tr>
<td>AB Neg</td>
<td>AB Neg</td>
</tr>
</tbody>
</table>

1. Rh negative recipients should be transfused with Rh negative red cells. A policy shall be in place for the administration of Rh positive red cells to any Rh negative recipient when Rh negative red cells are in diminished supply.

2. Rh is not considered when transfusing plasma components.

3. When Rh positive platelets are given to an Rh negative patient, Rh Immune Globulin should be administered.
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APPENDIX 2: ALGORITHM FOR SUSPECTED TRANSFUSION REACTIONS

1. STOP TRANSFUSION IMMEDIATELY and keep IV line open with 0.9% saline.
2. Contact physician for medical assessment.
3. Check vital signs every 15 minutes until stable.
4. Check all labels, tags, forms, blood order and patient’s identification band to determine if there is a clerical discrepancy.
5. Notify Transfusion Medicine (TM) Laboratory
6. Complete transfusion reaction reporting form

Note: Patients who are transfused for the first time may have a more serious transfusion reaction.

IF Patient HAS ANY ONE OR MORE OF THE FOLLOWING SYMPTOMS DURING transfusion:
- Fever: ≥1°C temperature increase from pre-transfusion value and a temperature of ≥ 38°C with onset < 15 minutes into the transfusion
- Onset < 15 minutes - Generalized flushing - Rigors
- Hives/rash > ⅓ body area - Hemoglobinuria - Anxiety
- Back / chest pain - Dyspnea / SOB
- Nausea / vomiting / diarrhea - Tachycardia / arrhythmia
- Bleeding/pain at IV site - Hypotension
- Hypotension / shock - Cyanosis

DO NOT RESTART TRANSFUSION
- Notify Physician immediately
- Notify Transfusion Medicine (TM) Laboratory
- Appropriate post transfusion blood & urine samples
- Completed Compatibility Label / Tag and reaction reporting form
- Remaining Blood component or blood product and administration set/IV fluid
- Blood and blood component cultures if temperature increase is ≥1°C from pre-transfusion value and temperature ≥ 38°C
- Send samples to Transfusion Medicine (TM) Laboratory for appropriate testing
- If serological testing is negative, transfusion may be resumed slowly and cautiously; complete within 4 hours of issue

Consider Serious Transfusion Reactions:
- Serious Febrile Non-Hemolytic
- Acute Hemolytic
- Severe Allergic
- Anaphylactic
- Bacterial Contamination
- Transfusion Related Acute Lung Injury (TRALI) or Possible TRALI
- Transfusion Associated Circulatory Overload (TACO)
- Transfusion Associated Dyspnea (TAD)

Serious Signs & Symptoms?

Clerical Discrepancy?

Minor Symptoms?

Allergic Reaction?

Fever: ≥1°C temperature increase from pre-transfusion value and a temperature of ≥ 38°C with onset > 15 minutes into transfusion AND no other symptoms

○ Physician may order
- Diphenhydramine 25-50mg IV or PO
- Complete transfusion reaction form
- Physician may order Acetaminophen 650mg PO or PR
- Complete Transfusion reaction form
- Send samples to Transfusion Medicine (TM) Laboratory for appropriate testing
- If serological testing is negative, transfusion may be resumed slowly and cautiously; complete within 4 hours of issue

Febrile Reaction?

Skin Reaction ONLY AND Mild Hives/rash (< ⅓ body area) AND no other symptoms

If remainder of transfusion is uneventful, blood specimens are not required - Initiate Transfusion reaction form

- Observe patient directly for first 15 min after resuming transfusion.
- IMMEDIATELY STOP the transfusion if patient develops any SERIOUS SIGNS and SYMPTOMS
- Follow the serious signs and symptoms pathway

Minor Allergic

Minor Febrile Non-Hemolytic

If remainder of transfusion is uneventful, - Send the blood component or blood product and blood administration set to Transfusion Medicine (TM) Laboratory

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## APPENDIX 3: SUSPECTED TRANSFUSION REACTIONS – SIGNS AND SYMPTOMS

<table>
<thead>
<tr>
<th>Type of Reaction</th>
<th>Suspected Transfusion Reaction Signs &amp; Symptoms</th>
<th>Timing of Symptoms</th>
<th>Actions &amp; Suggested Treatment / Investigations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ACUTE (&lt; 24 hours)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minor Allergic Reaction</td>
<td>Pruritis, mild rash (&lt; ½ body area), urticaria, flushing and no other symptoms</td>
<td>During and up to 4 hours post transfusion</td>
<td>Consult with Physician – may prescribe antihistamine and cautiously resume transfusion.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STOP THE TRANSFUSION if symptoms worsen.</td>
</tr>
<tr>
<td>Minor Febrile Non-Hemolytic</td>
<td>Fever (&gt; 15 minutes into transfusion) and no other symptoms</td>
<td>During and up to 4 hours post transfusion</td>
<td>STOP THE TRANSFUSION Consult with Physician – may prescribe antipyretic.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Initiate Transfusion Reaction Protocol. Smaller transfusion or serological investigation is negative. Complete transfusion within 4 hours of issue.</td>
</tr>
<tr>
<td>Febrile Non Hemolytic</td>
<td>Fever (&lt; 15 minutes into the transfusion) headache, malaise, chills, nausea, vomiting</td>
<td>During and up to 4 hours post transfusion</td>
<td>DO NOT RESTART TRANSFUSION Consult with Physician – may prescribe antipyretic.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Initiate Transfusion Reaction Protocol.</td>
</tr>
<tr>
<td>Acute Hemolytic (AHTR)</td>
<td>Fever, chills, rigors, hemoglobinuria, renal failure, hypotension, tachycardia, DIC, oliguria, ooze from IV or infusion site, back/ flank pain, pain along infusion vein, anxiety</td>
<td>Usually within first 15 minutes but may be up to 24 hours post transfusion</td>
<td>DO NOT RESTART TRANSFUSION Monitor for hypotension, renal failure and DIC.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Treatment aimed at preventing renal failure.</td>
</tr>
<tr>
<td>Transfusion Associated Circulatory Overload (TACO)</td>
<td>Dyspnea, orthopnea, productive cough with pink frothy sputum, cyanosis, tachycardia, hypertension, headache, increased venous pressure, congestive heart failure</td>
<td>During or within 6 hours post transfusion</td>
<td>DO NOT RESTART TRANSFUSION Consult with Physician – may prescribe Diuretics, Oxygen.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Elevate head of bed (high Fowler’s position) Chest x-ray.</td>
</tr>
<tr>
<td>Severe Allergic / Anaphylactic</td>
<td>Urticaria, pruritus, flushing, erythema, rash (&lt;2/3 of body area), anxiety, respiratory distress, hypotension, laryngeal/swallowing edema, bronchosopia, nausea, vomiting, dyspnea, cyanosis, tachycardia, subternal pain, shock, loss of consciousness, cardiac arrhythmia, cardiac arrest</td>
<td>Severe Allergic within 2-3 hours of start of transfusion. Anaphylactic: Usually early in transfusion (&lt; 1-45 minutes) after small volume of product transfused</td>
<td>DO NOT RESTART TRANSFUSION Consult with Physician – may prescribe Epinephrine, corticosteroids, antihistamines, vasopressors. Test for Anti IgA Antibodies. Patient may require IgA deficient blood components</td>
</tr>
<tr>
<td>Transfusion Related Acute Lung Injury (TRALI)/Possible TRALI</td>
<td>Acute respiratory distress, non-productive cough, hypotension, chills, fever, cyanosis, hypotension, tachycardia, non-cardiogenic bilateral pulmonary edema</td>
<td>Within 1-2 hours during transfusion or within 6 hours post-transfusion</td>
<td>DO NOT RESTART TRANSFUSION Consult Physician – may prescribe Oxygen, intubation and ventilation, vasopressors, Chest x-ray.</td>
</tr>
<tr>
<td>Transfusion Associated Dyspnea (TAD)</td>
<td>Respiratory distress within 24 hrs of transfusion that does not meet the criteria of TRALI, TACO or allergic reaction. Respiratory distress not explained by patient’s underlying condition</td>
<td>Within 24 hours of transfusion</td>
<td>Consult with Physician Assess symptoms; consider other types of transfusion reactions if circulatory overload is not the cause of the dyspnea Oxygen and supportive care as required.</td>
</tr>
<tr>
<td>Hypotensive</td>
<td>Flushing, abrupt onset of hypotension (&lt; 30 mm Hg and a systolic blood pressure below 80 mm Hg) with or without bradycardia, nausea, dyspnea, urticaria</td>
<td>Usually within 5 minutes of start of transfusion, during the transfusion or 4 hours of its completion</td>
<td>DO NOT RESTART TRANSFUSION Consult with Physician may administer saline bolus, vasopressors. Withdraw ACE inhibitor therapy 24-48 hours prior to next transfusion.</td>
</tr>
<tr>
<td>Bacterial Contamination</td>
<td>Fever, shock, DIC, nausea, vomiting, diarrhea, tachycardia, hypotension, chills, rigors, SOB, circulatory collapse</td>
<td>During or within 4 hours of transfusion</td>
<td>DO NOT RESTART TRANSFUSION Treatment of shock, DIC, renal failure Perform blood cultures on recipient and component prior to administering antibiotics.</td>
</tr>
<tr>
<td><strong>DELAYED (&gt;24 HOURS)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delayed Hemolytic</td>
<td>Jaundice, unexplained fall in post-transfusion hemoglobin, fever, weakness, malaise, fatigue, hemoglobinuria</td>
<td>Within 3-7 days post-transfusion and up to 30 days post-transfusion</td>
<td>Provide antigen negative blood components for future transfusions.</td>
</tr>
<tr>
<td>Transfusion Associated Graft Versus Host Disease (TA-GVHD)</td>
<td>Erythroderma, maculopapular erythematous rash, nausea, anorexia, vomiting, diarrhea, hepaticitis, pancytopenia, fever, jaundice, elevated liver enzymes</td>
<td>Usually 1-6 weeks following transfusion. Fever within 7-30 days of transfusion.</td>
<td>Immunosuppressive therapy, Irradiated products. Most patients die within 1-3 weeks. Prevention: Transfuse patient with irradiated red blood cells and platelets.</td>
</tr>
<tr>
<td>Post Transfusion Pneumonia (PTP)</td>
<td>Purpura, petechiae, bleeding, fall in platelet count &lt; 100,000. May be accompanied by chills, rigors, fever, bronchosopia</td>
<td>Within 5-12 days post transfusion</td>
<td>IVRI first line therapy: Plasma exchange. Corticosteroids, future transfusion with platelet antibody negative platelets.</td>
</tr>
<tr>
<td>Iron Overload</td>
<td>Cardiomyopathy, hepatic and pancreatic failure</td>
<td>After multiple transfusions</td>
<td>Minimize frequency of transfusion.</td>
</tr>
<tr>
<td>Sickle Cell Hemolytic</td>
<td>Fever, post-transfusion hemoglobin lower than pre-transfusion value, reticulocytopenia, elevated LD and bilirubin levels over baseline, hemoglobinuria, back/ leg/ abdominal pain</td>
<td>Usually occurs within one week of transfusion.</td>
<td>Phentemophore recipient prior to initial transfusion, if possible. Provide antigen negative blood components.</td>
</tr>
<tr>
<td>Delayed Serological</td>
<td>Detection of new alloantibody post-transfusion with no evidence of hemolysis</td>
<td>28 days following a transfusion</td>
<td>Phentemophore recipient Provide antigen negative blood components.</td>
</tr>
</tbody>
</table>
### APPENDIX 4: RECORD RETENTION REQUIREMENTS

<table>
<thead>
<tr>
<th>MINIMUM RETENTION PERIOD</th>
<th>TYPES OF RECORDS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Indefinitely</strong></td>
<td>Blood component and blood product final disposition</td>
</tr>
<tr>
<td></td>
<td>Blood supplier correspondence related to blood components and blood products</td>
</tr>
<tr>
<td></td>
<td>Blood supplier packing slips</td>
</tr>
<tr>
<td></td>
<td>Directed Donor charts</td>
</tr>
<tr>
<td></td>
<td>Donor ABO and Rh Groups</td>
</tr>
<tr>
<td></td>
<td>Donor testing worksheets and results</td>
</tr>
<tr>
<td></td>
<td>Lookback and traceback documents</td>
</tr>
<tr>
<td></td>
<td>Serious adverse reactions</td>
</tr>
<tr>
<td></td>
<td>Transfusion recipients transfusion medicine laboratory data</td>
</tr>
<tr>
<td></td>
<td>including serologic test records</td>
</tr>
<tr>
<td></td>
<td>Transfusion medicine laboratory packing slips</td>
</tr>
<tr>
<td><strong>In accordance with health care facility policy</strong></td>
<td>Transfusion records in recipient medical chart / record</td>
</tr>
<tr>
<td></td>
<td>Autologous donor charts</td>
</tr>
<tr>
<td><strong>10 years</strong></td>
<td>Donor ABO, RH and blood group determination problems</td>
</tr>
<tr>
<td></td>
<td>Employee signature, initials, computer identification (retained for 10 years after last use)</td>
</tr>
<tr>
<td></td>
<td>Staff qualification, training, competency (retained for 10 years after employment ceases)</td>
</tr>
<tr>
<td><strong>5 years</strong></td>
<td>Adverse reactions</td>
</tr>
<tr>
<td></td>
<td>Autologous donor charts</td>
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<td>Apheresis procedure records</td>
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<td>Blood component and blood product complaints</td>
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<td>Inspection of blood prior to use</td>
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<td>Internal audits</td>
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<td>Proficiency testing reports</td>
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<td>Quality assurance reports</td>
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<td>Quality control of blood components and blood products reagents and equipment</td>
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<td>Temperature monitoring of blood storage devices</td>
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<td><strong>3 years</strong></td>
<td>Non-transfusion serologic test records</td>
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<td>Validation and operation of computer systems</td>
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<td><strong>1 year</strong></td>
<td>Date and time of specimen collection</td>
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<td>Phlebotomists identification</td>
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<td><strong>3 months</strong></td>
<td>Slides from fetal-maternal hemorrhage</td>
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<td>Records of units phenotyping and ABO reconfirmation of units</td>
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<td><strong>1 month</strong></td>
<td>Request for serologic tests</td>
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