TRIHEALTH, INC.
NURSING POLICY

TITLE: BLOOD AND BLOOD COMPONENTS: TRANSFUSION AND ADMINISTRATION **(NUR-06)**	
SKILL LEVEL: RN	
IMPLEMENTED DATE: 09/04	**REVIEWED/REVISED DATE(S): 10/04, 6/05, 10/08, 5/10, 6/11, 9/14, 3/17, 9/18, 3/21, 11/21, 4/22, 6/23**
AFFECTED AREAS: TriHealth Nursing	
POLICY OWNER: Corporate Nursing Policy and Procedure Committee	
APPROVED BY: Blood Utilization Committee, Corporate Nursing Policy and Procedure Committee, Practice Council and Site CNOs	
APPROVAL SIGNATURE: (Signed Originals on File) _____ **Practice Council** _____ **Site Chief Nursing Officer, Bethesda North Hospital** _____ **Site Chief Nursing Officer, Good Samaritan Hospital**	

Related Policies:

TriHealth Laboratories: General Guidelines	Emergency Issue of Uncrossmatched Blood Emergency Release Procedures Release of O Negative blood for trauma Massive transfusion protocol TriHealth Transfusion Guidelines for Nursing Blood Utilization Committee: BUC_06.00
Perinatal Service Line: Corporate Policy & Procedure	Blood and Blood Products administration Consent to Treat / Informed Consent #08_11.00

Policy Statement:

This policy establishes guidelines for ordering, initiating, patient monitoring and completion of blood and blood product transfusions. Blood and blood product transfusions will be administered in a manner which promotes patient safety according to established regulatory guidelines for transfusion. Refer to the TriHealth Transfusion Guidelines for Nursing. Prevention of transfusion reactions and adverse outcomes due to ABO Rh incompatibility is of utmost importance in the administration of blood and blood components. This policy is meant to ensure the safe delivery of blood and blood components to patients using positive patient identification.

Patients experiencing massive life-threatening hemorrhage may be managed using the Massive Transfusion Protocol (11.0 MTP Massive Transfusion Protocol).

Definitions:

- The different types of blood and blood products are listed and defined in the blood component therapy (Table 1).

- Leukopoor and leuko-depleted blood products are referred to as leukoreduced.

Documentation (of procedure):

- Blood transfusions are recorded directly in the electronic medical record using the Blood Administration doc flowsheet.

- If the blood must be given without using the electronic medical record (for example in emergencies or in the OR) use the Blood Transfusion Record.

- Record the transfusion volume on the Blood Administration Flowsheet. This volume will appear on the Intake & Output Activity in the electronic medical record (the exact amount of blood product is listed on blood component bag except for red blood cells).

General Care:

- Red blood cells can be administered via an approved infusion pump. See blood component therapy table at the end of this policy for more information about administration.

- The ideal catheter size for blood administration is a 20-gauge catheter or larger. Factor components may be given through an intravenous catheter larger than a 22 gauge. If giving large volumes of blood emergently, a larger gauge catheter is needed.

  - One unit of blood component will be released at a time, except during emergencies-/massive transfusion protocols. Certain outpatient care areas and any area in an emergent situation may receive multiple units of blood products in a Blood Bank cooler. Blood issued in a cooler must remain in that cooler until it is

transfused or can be moved into a monitored Blood Bank refrigerator (currently, at TriHealth, the only monitored Blood Bank refrigerators outside of the labs are located in the surgical core at Bethesda North and Evendale Hospitals).

- Blood or blood components should be obtained from the Blood Bank at the time they are to be administered and must not be stored in the nursing department refrigerator.

- When handling the blood, avoid prolonged warming. Do not warm the unit without an order from the MD or use of the blood warmer. Units of packed cells that have been issued in a cooler may have a temperature monitoring sticker placed on the product. Do not hold that part of the bag or lay the unit down on a countertop. In approved locations e.g. Evendale Hospital or outpatient settings), place the product directly back into the cooler or into the designated refrigerator after verifying the label. Do not move the temperature sticker.

- Transfusion of blood and blood components should be initiated within 30 minutes of removal from the Blood Bank refrigerator or the Blood Bank coolers. If there will be a delay and the unit is not spiked, return the blood or blood components to the Blood Bank or the Blood Bank cooler.

- If the anticipated administration time exceeds four hours, notify the Blood Bank before starting infusion so the Blood Bank may split the units into smaller units.

- **Transfusion** of each unit of blood or blood component should be completed within four hours of leaving refrigeration unless patient condition contraindicates or as ordered by the physician.

  Note: If there was a delay in starting the transfusion, and if blood was not returned to the Blood Bank within 30 minutes of issue, it does not necessarily indicate that the unit cannot be transfused. Since transfusion must be completed within 4 hours of issue of a unit, blood that has been on the floor for >30 minutes may still be administered as long as the transfusion is either completed or discontinued before 4 hours from time of issue.

  Blood can be infused through one Y-type administration set and filter for up to four hours. If the filter in the blood or platelet tubing becomes clogged, discontinue infusion, attach new blood tubing to the blood component and resume the transfusion. Do not force blood or platelets through filter. The same administration set/filter may be used up to four hours and may be used to transfuse a maximum of two units of blood components, but it is recommended that tubing be changed after 4 hours to reduce the risk of bacterial infection.

- There should not be an additional filter added to the Blood Administration set with 170-260-micron filter, unless transfusing cell salvage blood.

- The Informed Consent for Blood Transfusion must be signed before administration of the first unit, except in cases of emergency where delay would place the patient at unacceptable risk. This consent is good for the duration of the hospitalization for inpatients and 180 days for outpatients. The informed consent will be initiated by the physician ordering the blood product. If an adult patient refuses transfusion of blood or blood components the occurrence is documented in the electronic medical record and the Blood Transfusion Refusal Form should be completed. (See Attachment I). (References: Corporate Policy #08 _11.01 General Consent and Exceptions; Corporate Policy #08 _11.02 Informed Consent and Consent Forms).

- If blood components must be given before the crossmatch is completed, the MD must sign the "Physician Authorization For The Emergency Release Of Uncrossmatched Blood" which accompanied the unit of blood or blood component. The top (white) copy of the un-cross matched form is to be scanned into the electronic medical record. The bottom (yellow) copy of the form is to be returned to the Blood Bank. (See Attachment II).

- Medications are not added to blood and blood components or while blood and blood components are infusing.

- Blood and blood products are not given under pressure except in specialty areas, in emergency situations, specifically ordered by the physician.

    - The only exceptions for not completing bar code scanning (in required areas) order verification process, is a code in progress or an emergent level of care (Massive Transfusion Protocol), and during periods when downtime procedures are in effect. In these situations, the verification must be done manually by two licensed practitioners.

When administering any blood products, administer slowly (maximum 2 mL per minute) for the first 15 minutes, and then adjust the rate of flow as ordered. The patient requires constant surveillance for the first 15 minutes.

Patients that need to be transported to another department and are receiving blood may be transported after the first 15 minutes of infusion and with a nurse accompanying the patient. (Tip: To prevent the blood product from infusing during transport, the blood transfusion can be completely infused prior to transport or initiated when the patient returns to the unit.) Patients should only be transported in the first 15 minutes in an emergency situation, after physician notification and approval.

- Modification of blood products:
  Modified blood components may be ordered by the physician.

All blood components from Hoxworth Blood Center are leukocyte reduced and therefore considered 'CMV Safe'. A leukocyte filter does not need to be used when administering any leuko-reduced product from Hoxworth Blood Center.

- Irradiated products: To prevent transfusion-associated graft versus host disease (GVHD) products may be irradiated to inactivate any remaining white blood cells. In a blood component, the component may be irradiated to prevent GVHD. A doctor's order for irradiated blood or blood components must be written, and then the Blood Bank will obtain the ordered units, from Hoxworth Blood Bank.

    - Indications for irradiated blood components:
        - All neonates
        - Immuno-compromised patients at risk for transfusion-associated GVHD (including some patients with lymphoma or who are pre or post bone marrow or stem cell transplant)

Administration of blood components:
Equipment for procedure:

- Blood Administration set with 170-260-micron filter (If needed. See Administration tips section of Blood Component therapy grid at the end of this policy for information about which components require a filter.)
- IV Normal Saline solution
- Blood/blood component
- Infusion pump (Routine use of a pump is expected. Alaris Pumps may be used for administration of Red Blood Cells, Plasma, Factor concentrates, platelets and IVIg. See Administration tips section of Blood Component therapy grid at the end of this policy for more information).
- Optional: Blood warmer, Rapid Transfuser
- The Blood Transfusion Record form is not needed when the transfusion is documented in the electronic medical record with scanning of the blood product.

Procedure:

1. Place an order for blood components in the electronic medical record:
    - The blood order sets in the electronic medical record are required. These include the orders for Type & Screen, Prepare specified component, and Transfuse specified component.
    - If a Type & Screen has been performed within the preceding 3 days, then the preselected order for Type & Screen in the order set may be deleted.
    - A crossmatch order does not authorize the nurse to transfuse the blood, only to have the patient cross matched.
2. Verify physician's order, which must include amount to be given. (See attachment) Check for additional pertinent orders.

3. Verify that the Informed Consent for Blood Transfusion form is signed and dated.

4. Ensure adequacy and patency of intravenous access before requesting/obtaining the blood product from the Blood Bank.

5. The blood must be ordered using an order set for transfusions in the electronic medical record. Certain outside providers who do not have access to the electronic medical record may order blood using printed order forms.

    - When the RN is ready to transfuse the blood component, the RN will locate the Blood Administration flowsheet
      .
    - The RN will click on the hyperlink to release the unit.
    - If the patient is to receive more than one unit of blood, the RN will need to click the release link again when ready for the next unit of blood.
    - The RN must also call the Blood Bank when ready for each unit of blood. (Evendale – the RN, when ready for the unit of blood will go to the Blood Bank refrigerator and sign out the unit of blood.)

6. Prime tubing with normal saline before administration and ensure patency of IV.

7. Take and record pre-infusion vital signs and breath sounds immediately before requesting/obtaining unit of blood. Fever must be evaluated and treated, if possible, before any blood component is given. Record the findings in the blood administration flowsheet. Vital signs and breath sounds should be repeated within 15 minutes after the initiation of the transfusion, hourly during the transfusion, and at completion. For inpatients, vitals should also be takenone hour post-transfusion. The vital signs and breath sounds sequence should be restarted with each new unit of blood product.

8. The Blood Bank will affix a Laboratory Information System cross-matched unit label to the front of the unit. This label contains the patient's name, Medical Record Number (MRN), date of birth, Donor Identification Number (DIN), type of component, patient and donor blood type and compatibility.

9. Cross-matched blood components are administered like a medication which includes positive patient identification and scanning of the patient wristband.

10. Blood and blood components must be visually inspected prior to use. If the container or bag is not intact or the appearance is abnormal, do not administer and notify the Blood Bank. Abnormal findings include: excessive hemolysis or clots, color change, color difference between blood component in the bag and the component in tubing, cloudy appearance or sedimentation (AABB, 2012).

11. At the bedside, two licensed professionals must verify that the MRN number, patient's name and date of birth (DOB) on the Blood Bank label attached to the front of the blood product matches the MRN number, patient's name and date of birth (DOB) on all of the following:
    - The patient's identification bracelet.
    - The identification information in the electronic medical record.
      If the Blood Transfusion Record form is being used in place of the electronic medical record, both labels on the form must match.

In addition, verify:

- The Blood Bank DIN on the bag (the label with the patient identifiers) matches the unit number on the Blood Administration flowsheet in the electronic medical record and also matches the original blood collection facility's label (usually from Hoxworth) on the front of the bag.
- Donor blood type on the original blood collection facility's label matches the ABR (donor and patient blood type) on the Blood Bank label and Blood Transfusion Record form, when used in place of the electronic medical record.
- The ABR on the Blood Bank label matches the patient blood type displayed in the patient electronic medical record.
- Verify the unit expiration date and time.
- Special transfusion requirements if ordered.
- Enter the beginning rate in the **Rate** row on the Blood Administration flowsheet and press Enter. Then scan the patient ID band on the patient wrist for documentation in electronic medical record. The unit number plus the check digit can be manually entered when bar code scanner is not functioning or the bar code is unreadable.
- Scan the barcode **Unit Number** on the front of the unit. The unit number will be automatically filled in.

  Note: In some cases, the blood bank will substitute a product with a compatible blood type.

- Scan the barcode **Product Code** on the front of the unit. The product code will be automatically filled in.

- Scan the barcode **Blood Type** on the front of the unit. The unit blood type will be automatically filled in.

- Scan the barcode **Exp Date** (expiration date and time) on the front of the unit. The expiration date and time will be automatically filled in.

With barcode scanning, if the product is correct the nurse documents the route of administration and rate then is prompted for a co-signature. (The co-signer is verifying that he/she has verified all of the information in step 11 above, at the bedside.)

12. Flush tubing with 30-50 ml of normal saline (see Blood Component therapy table for compatibility information) after administration is complete to ensure the entire blood product has been infused.

13. Infusion start time and completion time must be documented in the electronic medical record.

14. After the transfusion is complete, the RN must end the transfusion by documenting the Blood Intake Volume and Suspected Reaction then entering) in the Rate field on the blood administration flowsheet. Press Enter then scroll down to **Accept and Complete** to document the time ended in the electronic medical record.

Transfusion reactions/ assessment and management:
A transfusion reaction can occur with transfusion of any type of blood component. Hypersensitivity, anaphylactic, ABO, or acute hemolytic reactions are most likely to occur during the first 15 minutes of a transfusion. Transfusion-related acute lung injury and transfusion-associated circulatory overload may occur up to 6 hours after transfusion. Signs and symptoms of a blood reaction include:

- itching
- hives
- feeling hot
- flushing
- chills
- fever
- wheezing
- shortness of breath
- flank pain
- chest pain
- headache

Refer to the Transfusion Reaction Reference Table, at end of the policy for more information as well as the Transfusion Reaction Management Policy.

If a transfusion reaction is suspected:

1. Immediately stop transfusion and assess the patient.
2. Disconnect the blood tubing. Change the tubing to a mainline and keep the IV running with Normal Saline. Stay with the patient.
3. Notify physician and ask if transfusion of component should be continued.
4. Enter Y in the Suspected Reaction row of the Blood Administration flowsheet. A cascade of questions appears including lab notification, physician notification, reaction symptoms, and reaction interventions. Document the actions taken.

If Physician requests transfusion reaction investigation (See Transfusion Reaction Investigation quidelines):

1. Notify Blood Bank immediately by phone.
2. Obtain urine specimen and send to the Lab.
3. A post-transfusion specimen will be drawn and sent to the lab. The specimen should not be drawn from the IV site where the blood was administered.
4. Initiate and complete the Transfusion Reaction Investigation information on the blood administration flowsheet
5. Enter a Transfusion Reaction Note.
6. Blood container with any unused blood, infusion set, and all attached tubing should be sent to the lab.
7. Document in the electronic medical record on the Transfusion Reaction Investigation section of the blood administration flowsheet:
   - Time of transfusion
   - Amount of blood/blood product infused
   - Clinical symptoms (reasons discontinued)
   - The time and date the attending physician was notified and ordered the transfusion reaction investigation.
8. Document in the electronic medical record via a nursing note:
   - Patient's response to medications given for reaction.
   - Signs and symptoms of delayed reaction.
   -

See BUC_06.00 for guidelines on blood administration

Tables of Reference

TriHealth Blood Component Therapy Table
Transfusion Reactions Table

Associated TriHealth Forms

- Physician Authorization For The Emergency Release Of Uncrossmatched Blood Form
- Refusal of Blood or Blood Products Form
- Blood and Blood Component Transfusion Order Set/Form
- Blood Transfusion Record Form
- Transfusion Reaction Investigation Form
- Massive Transfusion Protocol

Evidence Table: Yes

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See BUC_06.00 for guidelines on blood administration

Blood Component Therapy Table

Type	Use	Special Considerations	Administration Tips
Packed Red Blood Cells: prepared from whole blood	Used for treatment of symptomatic anemia Increases O_2 carrying capacity by increasing the mass of circulating red blood cells. Used as a component of a massive transfusion protocol.	Should not be used as a volume expander or to correct stable types of anemias that may be treatable with medications. One unit contains 200-350mL	Administer in less than 4 hours using a blood administration set with a 170-260-micron filter. Flush line with Normal saline. Red Blood Cells may be infused via an approved IV pump. One blood administration set may be used to administer up to two units of PRBCs as long as the set does not hang for more than four hours. Assess and monitor patient. Record assessment on blood transfusion record.
Autologous Blood	Replacement of blood lost during surgery with autologous blood stored before the procedure Increases O_2 carrying capacity by increasing the mass of circulating red blood cells	Autologous units can be stored for 3 years if frozen.	Must be used within 24 hours if thawing. See administration tips for packed red blood cells. One blood administration set with a 170-260-micron filter may be used to administer up to two unit of PRBCs as long as the set does not hang for more than four hours. Assess and monitor patient using protocol on page 6 of this policy. Record assessment on blood transfusion record.

Type	Use	Special Considerations	Administration Tips
Fresh Frozen Plasma (FFP) or Thawed Plasma Plasma frozen within 24 hours (PF24)	To replace deficient coagulation factors either multiple factors such as in liver disease or warfarin or single factors for which there are no concentrates available. For replacement for plasma exchange for thrombotic thrombocytopenic purpura Used as a component of a massive transfusion protocol.	Notify blood bank 1 hour prior to infusion time to allow time for thawing of Fresh Frozen Plasma Must be used within 24 hours after thawing. PF24 and Thawed Plasma have lower levels of the labile coagulation factors: Factor V, VIII and protein C. PF24 or Thawed Plasma should not be used in the treatment of these specific factor deficiencies.	Use blood administration set with a 170-260-micron filter to give Fresh Frozen Plasma.
Platelets *please note that the normal color range of pooled platelets is pink to salmon	To prevent or treat bleeding in patients with acquired or congenital thrombocytopenia or with platelet function defects. Used as a component of a massive transfusion protocol	Platelets should be ordered 24 hours in advance whenever possible. They do not have to be ABO group compatible or crossmatched. Consider ordering volume reduction for non-actively bleeding patients receiving multiple transfusions over a short period of time to prevent volume overload. Platelets may be apheresis from a single donor or acrodose, a pool product from 5 donors. Both products have the same amount of platelets.	Use blood administration set with a 170-260 micron filter to administer platelets Platelets may be administered by Alaris pump. Flush with Normal saline. Administer rate low for the first fifteen minutes. Gently agitate bag before administration Number of units in bag varies-one unit contains 30-60mL of platelet concentrate. Change blood administration set after each concentrate (bag) of platelets is given. Assess and monitor patient using protocol on page 7 of this policy.

Type	Use	Special Considerations	Administration Tips
IV Gamma globulin or IV Ig	To treat congenital or acquired immunoglobulin deficiency. To treat autoimmune diseases To give passive immunity against certain infections such as CMV	Rate of Infusion: Per Order. If side effects occur, the infusion should be stopped, or the rate decreased until symptoms subside. Infusion may be resumed at half the rate it was infusing before the IVIG was stopped. Signs of reaction to IVIg include: • Headache • Hypotension • Fever and chills • Diaphoresis • Nausea and vomiting • Flushing • Chest tightness • Dizziness • Sweating • Back pain • Malaise • Joint pain • Muscle aches • Skin rash	• For **Carimune**: the standard concentration is 6% (6 gm/100 mL) unless otherwise ordered. • Should be hung as a mainline and should not be mixed with any other solution or medication. • Administer premed if ordered. (e.g. ASA or Tylenol, Benadryl, and/or Solu-medrol) • Obtain Baseline Vital Signs (T, P, R, BP). Vital Signs (P, R, BP) every 15 minutes x4, then every 30 minutes until maximum dose achieved, then every 1 hour till complete.
IM Gamma Globulin	To treat agammaglobulinemia To act as a prophylaxis for hepatitis exposure.	Pooled plasma contains antibodies to infectious agents. Administer 0.25 - 0.50 ml of immune serum globulin/kg of body weight every 2 - 4 weeks.	Given IM
Cryopreciptate	To treat clients with von Wille-brand's disease in whom DDAVP treatment is not effective and when von Willebrand factor, factor VIII, factor XIII and fibrinogen. Indicated for treatment or prevention of	Derived from fresh-frozen plasma	Use blood administration set with 170 - 260 micron filter to infuse. Flush line with Normal saline Usual infusion rate is 2 mL/minute. Must be infused in less than 4 hours.

Type	Use	Special Considerations	Administration Tips
	bleeding with Fibrinogen level less than100mg/dL		
Factor VIII	To treat clients with factor VIII deficiency, hemophilia A	The amount of Factor VIII given is weight and circumstance based. The dose of acute bleeding is usually repeated every 12 hours for 1-3 days until hemostasis is attained Dose and schedule before procedures, before surgery and for maintenance is dependent on situation. May be recombinant or plasma derived.	Factor concentrate is dispensed by pharmacy and must be used within 3 hours of preparation. TPR and B/P are taken before and immediately after administration. Check factor concentrate like a medication before giving (verify product to order and pt name and date of birth. AHF level may be drawn before and after administration to monitor response and risk for bleeding. Any straight-line IV administration set without filter can be used to administer factor concentrate by drip or by IV push—not to exceed 10 ml/minutes. Use 25 gauge or larger intravenous catheter to administer. Give slow IV push using butterfly. Flush with Normal saline after administration. Document administration and vital signs on nursing progress notes.
Factor IX	To treat clients with factor IX, hemophilia B	The amount of Factor IX given is weight and circumstance based. The dose of acute bleeding is usually repeated every 24 hours for 1-3 days until	Factor concentrate is dispensed by pharmacy and must be used within 3 hours of preparation. TPR and B/P are taken before and immediately after administration.

Type	Use	Special Considerations	Administration Tips
		hemostasis is attained. Dose and schedule before procedures, before surgery and for maintenance are dependent on situation. May be recombinant or plasma derived.	Any straight-line IV administration set without filter can be used to administer factor concentrate by drip or by IV push—not to exceed 10 ml/minute. Use 25 gauge or larger intravenous catheter to administer. Check factor concentrate like a medication before giving (verify product to order and pt name and date of birth). Flush with Normal saline after administration. Document administration and vital signs on nursing progress notes.
Prothrombin complex concentrate	Emergency correction of coagulopathy from warfarin	Contains factors II, VII, IX and X. Is plasma derived.	Administration is similar to factor IX.
Von Willebrand/ Factor VIII concentrate	Used for treatment of von Willebrand disease in cases when DDAVP is thought to be ineffective.	Used for treatment of von Willebrand disease in cases when DDAVP is thought to be ineffective.	Administration is similar to factor VIII concentrate.

Transfusion Reaction Table (Adapted from the AABB)

Reaction Type	Etiology	Presentation	Treatment/Prevention
Acute Hemolytic	Red cell incompatibility Incidence: ABO/Rh mismatch: 1:14,000	Chills, fever, hemoglobinuria, DIC, back pain, anxiety, bleeding	Stop transfusion. Pressure and volume support Careful attention to detail and processes
Febrile, nonhemolytic	Accumulated cytokines in	Fever (1-2°F increase), chills,	Rule out hemolytic reaction. May treat with

	component, antibodies to donor white cells 0.1 – 1% with leukocyte reduction	headache, vomiting	antipyretics.
Urticarial	Antibody to donor plasma proteins 1-3% occurrence	Urticaria, pruritis, flushing	Antihistamine treatment. May restart unit slowly after medication if symptoms are resolved. Rule out hemolytic reaction.
Anaphylactic	Recipient antibodies to transfused plasma proteins, particularly IgA in IgA deficient recipients or cytokines Incidence: 1:250,000	Hypotension, urticaria, bronchospasm (respiratory distress, wheezing), local edema, anxiety	Stop transfusion. Fluids, antihistamines, steroids, treat symptomatically, trendelenberg position Rule out hemolytic transfusion reaction. Test for IgA deficiency and transfuse IgA deficient components
Transfusion associated sepsis	Bacteria contamination Incidence: 1:3,000, more common in platelet transfusions	Fever (2-4°F increase), chills/rigors, back pain, hypotension, GI symptoms	Stop transfusion. Treat sepsis per MD (broad spectrum antibiotics), support blood pressure
Transfusion related acute lung injury (TRALI)	HLA (WBC) antibodies in donor, Other WBC-activating agents in components Incidence: 1:5000	Respiratory distress, hypoxemia, fever, bilateral pulmonary edema	Stop Transfusion, Supportive care, rule out circulatory overload (TACO)
Transfusion associated circulatory overload (TACO)	Volume overload Incidence: Incidence 1:100 More common in elderly, CHF, renal failure, neonates and ICU patients	Dyspnea, orthopnea, hypertension, tachycardia, headache, diaphoretic	Slow/stop transfusions depending on severity, rule out TRALI, upright position, oxygen therapy, diuretics, monitor I/O's Consider splitting units in cardiovascular compromised patients
Hypocalcemia	Rapid citrate infusion (anticoagulant in components) Incidence: greater with massive	Paresthesia, tetany, arrhythmia	PO calcium supplement for mild symptoms, slow calcium infusion while monitoring ionized calcium levels in severe cases.

	transfusion		
Hypothermia	Dependent on clinic Rapid infusion of cold components	Cardiac arrhythmia	Use blood warmers
Delayed hemolytic	Immune response to foreign antigens from donor RBC's Incidence: 1:100	Anemia 1-2 weeks after red cell transfusion, fever, mild jaundice, newly positive antibody screening test	Blood Bank will identify antibody, transfuse red cell components as needed that are antigen negative
Transfusion associated graft vs host disease (TA-GVHD)	Donor lymphocytes engraft in recipient and mount attack on host tissues (usually immunocompromised patient) Incidence: rare	Erythrodema, maculo-papular rash, fever, N,V,D, skin rash	Corticosteroids, cytotoxic agents Prevention: transfuse irradiated blood products
Post transfusion purpura	Recipient platelet antibodies destroy autologous platelets	Thrombocytopenia purpura, bleeding 8-10 days after transfusion	IVIG therapy, transfuse HPA-1 (or antigen) negative platelets, plasmapheresis
Iron overload	Multiple red cell transfusions (usually >100 RBC units), increases iron stores in transfusion dependent patients	Diabetes, cirrhosis, cardiomyopathy	Iron chelators, judicious transfusions

ATTACHMENT I

REFUSAL OF BLOOD AND/OR BLOOD PRODUCTS

Blood Refusal: I, _____ (Patient Name) direct one or more of the following:

I, _____ (Patient Initials) direct that **no blood** or **blood products** be given to me during this hospitalization.

I, _____ (Patient Initials) direct that **only the following blood products *may be given*** to me during this hospitalization:

Blood Products that may be given to me: (Check all that apply)

- ☐ Albumin
- ☐ Cryoprecipate
- ☐ Heart-Lung equipment (non-blood primed closed circuit)
- ☐ Immunoglubulins (IVIG)
- ☐ Intraoperative blood salvage (Cell Saver)
- ☐ Intraoperative hemodilution without blood storage (ANH or AHH)
- ☐ Plasma-derived (non-recombinant) antihemophiliac clotting factors
- ☐ Plasma or Fresh Frozen Plasma (FFP)
- ☐ Platelets
- ☐ Pre-Donation of patient's own blood
- ☐ Red cells or Packed Red Cells
- ☐ Topical thrombin
- ☐ White cells
- ☐ Whole blood
- ☐ Other _____

I have talked with my doctor about my refusal of blood and/or blood products and the possible consequences of my refusal. I fully understand that the consequences of my refusal of, or instruction to limit blood or blood products, may cause additional harm to me, including my death.

I therefore, release the hospital, the personnel, and the doctors attending to my care from all responsibility for undesirable results, including my death, due to my refusal to permit or my instruction to limit the use of blood or blood products.

_____	_____	_____	_____AM/PM
Patient Name/Legal Representative	Patient Signature/Legal Representative	Date	Time
_____	_____	_____	_____AM/PM
Physician Name	Physician Signature	Date	Time
_____	_____	_____	_____AM/PM
Witness Name	Witness Signature	Date	Time

Scan in as Document Type Refusal of Blood and/or Blood Products

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INFORMED CONSENT FOR REFUSAL OF BLOOD & BLOOD PRODUCTS

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PATIENT IDENTIFICATION LABEL

ATTACHMENT II

TriHealth

TRIHEALTH LABORATORIES
TRANSFUSION SERVICE

PHYSICIAN AUTHORIZATION FOR THE EMERGENCY RELEASE OF UNCROSSMATCHED BLOOD

TO BE COMPLETED BY BLOOD BANK

IS BLOOD BEING ISSUED TO AN AS YET UNIDENTIFIED TRAUMA PATIENT?

YES [X] NO [__] (If NO then complete the patient information below)

Pt Name:_____
(LAST) (FIRST) (M.I.)

Hospital ID #:_____ DOB:_____

Pt ABO/RH (if known): _____

#Units initially issued: pRBC 2 FFP_____ Other (specify)_____
(Additional units of uncrossmatched blood will be issued upon request. Units issued uncrossmatched will be crossmatched to the patient as soon as testing is completed.)

Date: 4.22.2014 Time: 1202

TO BE COMPLETED BY PHYSICIAN AUTHORIZING RELEASE

The clinical situation is sufficiently urgent to require release of blood before completion of compatibility testing.

Signature of Authorizing Physician:_____

Name of authorizing physician (PRINT):_____

Date:_____ Time:_____

INSTRUCTIONS:
1. Blood bank complete gray box and retain PINK copy.
2. Nursing, attach a patient identificaiton label to this form.
3. Nursing, place the signed WHITE copy in the patient chart.
4. Nursing, send the signed CANARY copy to the blood bank.

PATIENT IDENTIFICATION LABEL

WHITE –Chart Copy CANARY – Blood Bank PINK – Temporary BB