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CENTER OF SPECIAL CARE
POLICY AND PROCEDURES

TITLE: BLOOD AND BLOOD PRODUCTS THERAPY	**EFFECTIVE/LAST MODIFIED DATE:** 10/08/2025
NEXT REVIEW DATE: 10/08/2027	
RESPONSIBLE DEPARTMENT/COMMITTEE: MEDICAL STAFF EXECUTIVE COMMITTEE (MSEC)	
APPROVED BY: MSEC AND BLOOD BANK DIRECTOR	
CITATION/REFERENCE: American Heart Association (2020). *Pediatric Advanced Life Support*, Dallas TX: American Heart Association Printing, p. 46, 53, 58. 2. Silverleid, A.J. (2018). Approach to the patient with suspected transfusion reaction. *UpToDate* Retrieved from https://www.uptodate.com/contents/approach-to-the-patient-with-a suspected-acute-transfusion-reaction?search=transfusion%20reaction&source=search_ result&selectedTitle=1-150&usage_type=default&display_rank=1#H3609443 3. World Health Organization. Retrieved (4/3/2019 from https://www.who.int/bloodsafety/ Transfusion services?ClinicalTransfusionPracticeGuide1inesforMedicalInterns Bangladesh.pdf)	
Replaces/Previous Title: BLOOD AND BLOOD PRODUCTS THERAPY HARTFORD CAMPUS/SATELLITE BLOOD AND BLOOD PRODUCTS THERAPY (NEW BRITAIN CAMPUS)	

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PURPOSE:

To provide unified guidelines on the safe, efficient, and effective use of blood and blood products at the Hospital for Special Care (HFSC) campuses in New Britain and Hartford (Satellite).

POLICY:

1. Blood and Blood Products and related services will be provided by an approved blood bank that meets accreditation requirements from The Joint Commission, the College of American Pathologists (CAP), and the American Association of Blood Banks (AABB) where applicable.

2. Suppliers of blood products for the hospital:

2.1 New Britain Campus:
The Hospital of Central Connecticut (THOCC) Blood Bank provides blood products and services to HFSC, New Britain campus. All products are tested and supplied by the Rhode Island Blood Center.

2.2 Hartford (Satellite) Campus:
Collaborative Laboratory Services (CLS) Blood Bank provides blood banking services in partnership with the American Red Cross.

2.3 Products include leukocyte-reduced packed red blood cells, fresh frozen plasma, and cryoprecipitate. Albumin is provided by the HFSC Pharmacy. If additional components are needed, they are coordinated case-by-case with the Blood Banks.

3. Patients and/or legal representatives must be informed of the risks, benefits, and alternatives to transfusion. A signed Informed Consent for Transfusion of Blood and Blood Products (see Attachment A) must be completed and filed in the patient's medical record prior to transfusion (except for albumin).

3.1 The consent is valid for one year unless there is a change in the patient's Advance Directive or a significant change in clinical status.

3.2 In emergent situations when consent cannot be obtained, the provider must document the nature of the emergency and attempts made to obtain consent.

4. Patients must wear an identification band with full name and HFSC medical record number prior to specimen collection and throughout the transfusion process.

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5. All involved staff must be validated in IV therapy and trained in recognition and management of transfusion reactions and resuscitation protocols.

6. A Registered Nurse (RN) must initiate and discontinue a transfusion. The RN performs assessments and ensures complete documentation.

7. If a patient must be transported to another facility while receiving a transfusion, blood products may be continued in transit only if all of the following conditions are met:
- -7.1 Provider writes a clear order to continue transfusion during transport
- -7.2 Receiving provider and blood bank are consulted
- -7.3 An RN accompanies the patient
- -7.4 Transfusion records and monitoring documentation accompany the patient

8. Universal body substance precautions will be maintained at all times.

9. Age-related, developmental, and cultural considerations will be incorporated into care planning.

10. Transfusion QA/QI data will be reviewed regularly to identify opportunities for improvement.

11. Oversight of this policy is provided by the HFSC Medical Director.

PROCEDURE:

Ordering Blood and Blood Products

NEW BRITAIN CAMPUS:

1. Providers order blood through Altera (the Electronic Medical Record) and complete a signed consent. Type and cross or type and screen orders must follow Altera protocol. Justification for transfusion must be documented per criteria (see Attachment B).

2. All Blood Transfusion testing is done at THOCC. On 1st shift, the HFSC Laboratory draws the blood work for a Blood Bank product and sends it to the Blood Bank at THOCC by a THOCC courier. THOCC Blood Bank will call the nursing unit when the Blood Bank product is ready to be sent to HFSC for patient transfusion.

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Note: Blood Bank orders on the 2nd or 3rd shifts will have pre-transfusion testing drawn by nursing. Nursing should call THOCC Blood Bank to verify if transfusion history (prior ABO/Rh) is available on patient. If yes, draw two pink top tubes. If no, draw two pink top tubes separately, 5 minutes apart, to ensure that correct patient was drawn. The second tube is for ABO/Rh confirmation.

3. Patients are typed and cross-matched only if transfusion is planned within 72 hours. Type and Screen is the preferred order if transfusion is anticipated, but not planned within 24 hours.

4. All lab samples collected for Blood Bank testing must be hand labeled at the patient's bedside in a legible manner and include the following information:

4.1 Patient's full name
4.2 Medical Record Number
4.3 Date of collection
4.4 Time of collection
4.5 First and last name of person collecting sample.

5. Once specimen collected, call Central Processing at THOCC for a pickup as follows:

- Central Processing: 860-224-5900 ext. 2336
- Direct number to Blood Bank: 860-224-5202
- Fax number to Blood Bank: 860-224-5903

6. Any discrepancies found prior to or during the transfusion process must be immediately brought to the attention of the THOCC Blood Bank before the product can be transfused.

HARTFORD CAMPUS:

6. The provider must first enter the blood transfusion order into Altera, the Electronic Medical Record (EMR) at HFSC.

6.1 A Type and Screen or Type and Cross specimen order is sent to the SFH laboratory.
Type and screen are preferred when transfusion is anticipated but not immediate.
Type and cross is required when transfusion is planned within 72 hours.

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6.2 A Blood Product Issue Request Form and a copy of the order from the EMR is faxed to the Blood bank. Fax Number 860-714-8055 (see Attachment F). The form must include:

6.2.1 Patient full name
6.2.2 Date of birth (DOB)
6.2.3 Medical Record Number (MRN)
6.2.4 Type of blood product /Number of units requested

6.3 CLS Blood Bank will confirm receipt and coordinate specimen collection and blood product delivery.

- CLS Blood Bank: 860-714-4480.

Blood Product Transport and Delivery (Both Campuses)

1. Blood products will be delivered in containers that maintain appropriate temperatures for the product. Blood Products should be started as soon as possible, with the note that Red Blood Cells in unopened Styrofoam container are stable for up to 18 hours, and platelets are stable for up to 24 hours.

NEW BRITAIN CAMPUS:

2. THOCC courier delivers blood products directly to HFSC nursing units 24/7.

2.1 Products are shipped in temperature-controlled containers. One unit per container is standard, except for dialysis patients who may receive more than one unit at a time.

2.1.1 Clinical staff should notify their manager or shift supervisor of all transfusions.

2.2 Staff do not need to notify the lab or send back the blood ticket after transfusion unless a transfusion reaction occurs.

2.2.1 If a reaction occurs, notify Blood Bank, return the blood unit, tubing, transfusion slip, and copy of the EMR flowsheet to the THOCC Blood Bank.

2.3 Empty transport containers are returned to the HFSC Lab (day shift, 8:00 am – 3:30 pm).

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HARTFORD CAMPUS:

3. After CLS Blood Bank receives and verifies the faxed requisition:

3.1 Blood products are packed in containers with temperature indicators and appropriate coolant (wet ice for red cells and thawed plasma; gel packs for platelets/cryoprecipitate).
One unit per patient is shipped at a time, in separate containers.

3.2 CLS Courier delivers blood products to HFSC's Hartford Satellite Campus.

3.2.1 Clinical staff should notify their manager or shift supervisor of all transfusions.

3.3 Staff do not need to notify the lab or send back the blood ticket after transfusion unless a transfusion reaction occurs.

3.3.1 If a reaction occurs, notify Blood Bank, return the blood unit, tubing, transfusion slip, and copy of the EMR flowsheet to the CLS Blood Bank.

3.4 Couriers return containers to CLS after blood administration.

Bedside Verification

1. Pre-check at the nursing station (by any licensed provider):

1.1 Confirm physician/APP order
1.2 Confirm signed Informed Consent is on file (valid for 1 year)
1.3 Confirm the product received matches the order

2. At the bedside: Must be performed by two licensed healthcare providers (RN, LPN, MD, or APP). If both are nurses, at least one must be an RN. Verify the following:

2.1 Patient's first and last name
2.2 HFSC medical record number
2.3 ABO and Rh on the transfusion record matches the blood unit
2.4 Blood unit number matches the transfusion record
2.5 Temperature indicator shows a proper temperature (no red color inside the green circle). This dot may not be pre-attached to the unit.

2.5.1 Nursing staff must remove the temperature indicator from the box and affix it to the blood bag prior to bedside verification
2.5.2 If the dot appears green, the product is within acceptable temperature range; if red, it must be returned and not administered.

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2.5.3 If any discrepancy is found or the temperature is out of range, the product must be returned in its original container and the blood bank notified immediately.

3. Documentation:

3.1 Both verifiers must complete and sign the Blood Transfusion Record in the Electronic Health Record (EHR).

3.2 It is only necessary to have signatures on the Blood Ticket when there is a suspected reaction, to provide proof of a second check.

3.3 The Blood Ticket would also be required to have two (2) signatures on it in the event that there is a downtime before or during transfusion.

Blood Product Administration and Patient Monitoring

1. Pre-Administration

1.1Confirm physician/APP order.

1.2 Explain the procedure to the patient.

1.3 Initiate or assess IV access (18–24 gauge preferred; PICC line acceptable if 4 Fr. or larger).

1.4 RN will document baseline vital signs and complete respiratory and circulatory assessments (up to 30 minutes of transfusion).

1.4.1 Temperature ≥100°F requires provider order before starting transfusion
1.4.2 Normal adult ranges: BP 100–149/60–90, Pulse 60–90
1.4.3 Document on the Blood and Blood Products Monitoring Flowsheet in EHR (or downtime forms as needed)

2. Setup & Equipment

2.1 Use filtered IV Blood administration set for all blood and blood products.

2.1.1 Use IV pump Y-set for red blood cells and whole blood, platelets, plasma

2.2 Prime one side of Y-tubing with 0.9% Normal Saline only.

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2.2.1 Invert blood bag gently 1–2 times before spiking into other Y-site, checking for color, clarity, clots.
2.2.2 Maintain sterility when connecting to the IV line. Prime blood through tubing.

3. Transfusion Initiation: Transfusion time starts when blood enters the vein.

3.1 Start transfusion at 50 mL/hr. for the first 15 minutes (12.5 mL will have infused).

3.1.1 The RN initiating the transfusion must remain with the patient continuously during the first 15 minutes.

3.2 If no signs of reaction are observed, increase the rate based on:

3.2.1 A minimum transfusion time of 2.5 hours from the start time
3.2.2 A maximum time of 4 hours from removal from the shipping container.
3.2.3 Calculate the infusion rate accordingly (e.g. for an estimated 300 mL unit, aim for a steady rate over approximately 2.75 hours unless otherwise specified by provider).
3.2.4 Platelets are usually administered over a shorter period of time due to their outdating period (typically 5 days post-collection and 4 hours post-pooling-Note: that HOCC does not currently supply pooled platelets).

4. Product-Specific Administration

Product	Equipment	Notes
RBC/PRC	IV Pump Y-set + Filter	Prime with NS only: estimate volume at 300ml
FFP/Platelets/Cryoprecipitate	Filtered Y-set	Platelets require faster admin- typically 45 minutes or less
Factor Concentrates	As per manufacturer	Ordered through pharmacy
Albumin (5% or 25%)	Vented IV set	No filter required; order through Pharmacy

5. Monitoring During Transfusion

5.1 Document assessment of Respiratory/Circulatory status and Vital Signs at minimum:

5.1.1 Before transfusion

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5.1.2 15-minutes after start
5.1.3 At completion
5.1.4 Monitor for signs of transfusion reaction
5.1.5 Document all data on the Blood and Blood Products Flowsheet in the EHR

Post-Transfusion

1. Disposal

1.1 If no transfusion reaction occurs:

1.1.1 Dispose of blood bags and tubing in a biohazardous waste container after transfusion. Do not discard bags until final vital signs and assessments are complete and at least one hour has passed post-transfusion.

1.2 If a transfusion reaction is suspected: Refer to - Transfusion Reactions: Identification and Management (Attachment H)

1.2.1 Do not disconnect tubing from the blood bag
1.2.2 Return the following items to the blood bank:
- Unused blood product
- Tubing
- Transfusion ticket (signed by both nurses at bedside)
- Transfusion lab work- refer to blood transfusion reaction order set in EHR

1.3 For both campuses:

1.3.1 One copy of the transfusion ticket goes with the blood
1.3.2 One copy is retained in the patient's chart

2. Monitoring

2.1 Complete transfusion completion respiratory and circulatory assessments

2.2 Document vital signs at completion

2.3 Use the Blood and Blood Products Monitoring Flow Sheet in EHR or downtime forms

3. Laboratory Monitoring: Order hemoglobin and hematocrit (H&H) within 24 hours of final unit transfusion.

4. Documentation

4.1 Complete all transfusion details in EHR Monitoring Flowsheet.

4.2 Initiate a Nursing DAR Note.

4.3 Place paper transfusion documentation in designed unit location for scanning into EHR.

Quality Assurance/Improvement

1. Transfusion records are routinely audited by designated HFSC clinical leaders. Audits include:

1.1 Documentation completeness (EHR, flow sheets, consent)

1.2 Protocol adherence

1.3 Appropriateness and timeliness of transfusions

2. Issues and trends are submitted to Departmental Leadership, Clinical Practice Council, HFSC Quality Council. Opportunities for improvement are identified and shared with key stakeholders, with action plans to remedy these.

3. Summary reports go to HFSC's Pharmacy and Therapeutics Committee, Medical Staff Executive Committee (MSEC) and other groups as indicated based on trends.

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Attachment A – Informed Consent for Transfusion of Blood and Blood Products

Patient Label

HOSPITAL FOR SPECIAL CARE
New Britain, Connecticut 06053

INFORMED CONSENT FOR TRANSFUSION OF BLOOD OR BLOOD PRODUCTS

Name of Patient: _____ _____ Medical Record Number: _____

1. I, _____, have been advised by Dr. _____, (and/or an associate selected by him/her), that I may need blood transfusions and/or receive blood products during my hospitalization.

2. I have been informed that the blood and/or blood products used by the Hospital are primarily from volunteer donors. The nature of the transfusion procedure has been explained to me.

3. I have been informed to my satisfaction and understanding of the anticipated benefits and reasonably foreseeable risks and hazards of receiving blood transfusions. I recognize and understand that the following are some, but not all, of the potential risks that may occur as a result of a blood transfusion: fever, allergic reactions, and transmission of diseases such as hepatitis and HIV/AIDS. While the precautions generally taken in testing and screening of the donor and his/her blood and/or blood products generally reduce the risk of such complications, I understand the blood and blood products can never be 100% safe and that I may be subject to such potential risks.

4. I have been informed about the alternatives to receiving a blood transfusion and the common foreseeable benefits and risks of these alternatives. I have been advised of the possible consequences if I refuse a blood transfusion or an alternative to receiving a blood transfusion.

5. I have been informed of the options of autologous blood donations (using my own blood) and designated donor transfusions (using the blood of friends or relatives selected by me) and that arrangements can be made outside of Hospital for Special Care to the appropriate institution at my own cost, if such options are requested.

6. I have been informed that if I do not understand any of the information that has been provided to me regarding blood transfusions, if I have any special concerns, or if I want more detailed information, I may ask more questions and get more information before signing this or agreeing to treatment.

7. I understand that this consent can be revoked by me at any time upon written request (not retroactively), and that this consent will automatically expire one year after the date of signing.

I certify that I have read, fully understand, and do not request additional explanation of the above information.

_____ _____/_____/_____ _____ a.m./p.m.
Signature of Patient Date Time

Patient is unable to sign because _____

_____ _____/_____/_____ _____ a.m./p.m.
Signature of Person Signing On Patient's Behalf Date Time

Name and relationship to patient: _____

_____ Date _____/_____/_____Time _____ a.m./p.m.
Provider Signature

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Attachment B – Blood Product Use Criteria

1. **Red Cell Transfusion in Adults:**

1.1 Anemia documented by Hct equal to or less than 23% or Hb of 7.6 g/dl which cannot be corrected with medicinal therapy, e.g., iron, folate, vitamin B12.

1.1.1 Exceptions:

1.1.1.1 Symptomatic cardiopulmonary disease

1.1.1.2 Symptomatic anemia (fatigue on minimal exertion, tachypnea, dyspnea at rest)

1.1.1.3 Difficult to wean off ventilator support

1.1.1.4 Symptomatic anemia during an active rehabilitation

1.1.1.5 Preoperative or pre-chemotherapy

1.1.1.6 A reduction in Hb or Hct over a short period of time.

1.2 Transfusions for Hb > 7.6g/dl or Hct > 23 may be considered acceptable in certain cases. However, charts will be audited to ensure clinical justification.

1.3 or Hypovolemia as documented by one of the following:

1.3.1 20% fall in systolic blood pressure, or

1.3.2 Symptomatic orthostasis, or

1.3.3 Documented blood loss of 750 ml's or higher (or 10% of patient's blood volume in pediatric patients).

2. **Albumin Infusion:**

2.1 Potentially reversible acute ischemic renal failure secondary to hypoalbuminemia (s. albumin <2.5).

2.2 Must be approved by nephrologist or attending of record.

3. **Fresh Frozen Plasma:**

3.1 Effectiveness is documented clinically and/or by normalization of PT/PTT.

3.2 Documentation of bleeding disorder, secondary to deficiency of coagulation factors (II, VII, IX, and X), as demonstrated by PT/PTT 1.5 the control.

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4. **Platelet Transfusions:**

4.1 Patient bleeding, or prior to an invasive procedure, or surgery, with platelet count less than 50,000/mm or,

4.2 Platelet count less than 10,000/mmm with no bleeding.

4.3 Patients with idiopathic thrombocytopenic purpura who are undergoing surgery, or with significant bleeding.

4.4 Effectiveness is documented by a follow up platelet count.

5. **Criteria for Use of Cryoprecipitate:**

A consultation with a Hematologist or Blood Bank physician is recommended before ordering cryoprecipitate.

5.1 Von Willebrand (VW) Disease with bleeding or preoperatively documented by a positive for suggestive history and two of the following lab studies.

5.1.1 Decreased plasma factor VIII activity

5.1.2 Decreased platelet aggregation to ristocetin or VWF activity testing

5.1.3 Decreased factor VIII antigen study

5.2 Hypofibrinogenemia documented by all of the following:

5.2.1 History or clinical course suggestive of decreased fibrinogen and,

5.2.2 Bleeding either actively or in the past and,

5.2.3 Laboratory evidence of fibrinogen concentration of less than 100 mgm/dl. One exception would be in pregnancy when fibrinogen levels are normally elevated. If bleeding occurs and laboratory evidence of DIC (decreased platelet count, elevated D-dimer results, elevated thrombin time), cryoprecipitate might still be used with absolute fibrinogen levels above 100 mgm/dl.

5.2.4 Effectiveness is documented by clinical improvement and correction of factor deficiency.

5.3 Uremia with significant bleeding

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Attachment C – Blood Donor-Related Potential HIV and/or HCV Infection

1. If a blood donor tests positive for antibodies to HIV and/or HCV and confirmatory tests are positive, the Rhode Island Blood Center will initiate a "look back process." If previous blood products from that donor have been distributed, the Rhode Island Blood Center will notify the receiving facility. When such a notification is received, the Collaborative THOCC Blood Bank will review their computer files to identify patients who might have been Transfused with a blood product from the implicated donor. If this involves an HSC patient, Blood Bank Physician will promptly notify the HFSC Chief of Infectious Diseases.

    1.1 If the patient is currently hospitalized at HFSC, the Chief of Infectious Diseases/designee will notify the patient's attending physician who will inform the patient or his/her authorized representative that he/she may have received a potentially infected blood/blood product transfusion. Appropriate education/counseling and laboratory testing will be provided. In the case of HIV testing, the HIV testing system will be utilized.

        1.1.1 If the patient was discharged from HFSC, the CLS Blood Bank Physician will be notified of this by the HFSC Chief of Infectious Diseases. Follow up patient education, counseling and laboratory testing will be done according to CLS Blood Bank policies and procedures.

    1.2 In all cases, notifications to patients, or authorized representatives, will be attempted at least three times in eight weeks and will be documented as such in the medical record.

    1.3 All above interventions will be documented in the patient's medical record and kept confidential.

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Attachment D – Blood Product Information Chart

BLOOD PRODUCT INFORMATION CHART

All samples must be hand labeled with the following or they will be rejected:
Patient full name
Medical Record #
Date and Time of sample collection
Name of person collecting the sample

Product	Specimen Required	ABO/Rh Type Specific	Tubing Needed for Transfusion	Infusion Rate	Special Notes
Packed Red Blood Cells (all are leukocyte reduced)	(1) pink top tube Good for 72 hours from time of collection	Yes	Y blood set with filter	1 ½ - 4 hrs	To transfuse for >4 hours needs provider and blood bank pathologist approval **If a pt. is new to THOCC you will be asked to draw a 2nd pink top tube for ABO/Rh confirmation**
Platelets (all are leukocyte reduced)	If patient is already on file in THOCC-NBG blood bank then no blood draw is needed. If this is a new patient then draw (1) pink top tube	Yes* *When possible, preferred, not necessary	Y blood set with filter	45-60 min (may be administered as quickly as patient will tolerate)	Patient must have a platelet count performed by the lab within 48 hours of ordering platelets **If a pt. is new to THOCC you will be asked to draw a 2nd pink top tube for ABO/Rh confirmation**
Albumin (Order from Pharmacy not Lab)	No specimens needed	No	Use vented administration set	Check with Pharmacy for rate	Product supplied by **HFSC pharmacy** Can be stored at room temp -RN should administer Albumin -Two clinician check (patient, and product) -Piggyback Albumin with normal saline using secondary tubing sent via Pharmacy. -Take vitals: Pre-Transfusion, at 15 minutes during transfusion, at transfusion completion, -Administration should be documented under Blood and Blood Product Flowsheet in EMR -RN should monitor patient for anaphylactic reaction. RN must stay with patient for the first 15 minutes.

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BLOOD PRODUCT INFORMATION CHART (Continued)

Product	Specimen Required	ABO/Rh Type Specific	Tubing Needed for Transfusion	Infusion Rate	Special Notes
Cryo (cryoprecipitate)	If patient is already on file in THOCC- Blood Bank then no blood draw is needed. If this is a new patient then draw (1) pink top tube	Yes	Straight set with filter	Depends on volume (Usually 1-2 mL/min)	Patient must have PT and/or PTT, fibrinogen, within 48 hours of transfusion cryo **If a pt. is new to THOCC you will be asked to draw a 2nd pink top tube for ABO/Rh confirmation**
FFP (fresh frozen plasma)	If patient is already on file in THOCC- blood bank then no blood draw is needed. If this is a new patient to NBG then draw (1) pink top tube	Yes	Straight set with filter	200 ml per hour	Patient must have PT and/or PTT within 48 hours of transfusing FFP **If a pt. is new to THOCC you will be asked to draw a 2nd pink top tube for ABO/Rh confirmation**

Patient MUST have an ID wristband on at all times throughout the transfusion process.
All products received from the blood bank must remain in their original container until the time the transfusion begins.

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Attachment E – HFSC Downtime Laboratory Order Form

PATIENT LABEL

Hospital for Special Care
BLOOD OR BLOOD PRODUCT ORDER SHEET
(Downtime Form Only)

1. **Informed Consent obtained by: _____ Date: _____**
2. **Patient History**:
Diagnosis/Clinical History: _____
Previous Transfusions: _____Yes _____No
Previous Transfusion Reaction: _____Yes _____No

Pre-Transfusion Hgb: _____ Hct: _____ Plt: _____ PT: _____ PTT: _____

Post- Transfusion CBC: _____

3. **Transfusion Status**
□ Type and Screen □ Type & Cross □ # Units to be Transfused □ Transfusion Date: _____

4. **COMPONENT ORDERED**

	# of Units		# of Units
□ Packed Red Blood Cells	_____	□ Cryoprecipitate	_____
□ Fresh Frozen Plasma	_____	□ Platelets	
□ Other: _____	_____	□ Albumin _____ %	

5. **INDICATIONS FOR TRANSFUSION MUST BE CHECKED.**

Summary of INDICATIONS FOR RED BLOOD CELLS
I. Hbg > 7.6 g/dl □ Symptomatic □ High Risk □ Bleeding > 500 ml
II. Hgb < 7.6g/dl □ Symptomatic □ High Risk □ Bleeding > 500 ml

Summary of INDICATIONS FOR FRESH FROZEN PLASMA Transfuse FFP only to increase the level of clotting factors in patients with demonstrated deficiency. If PT and PTT and < 1.5 times normal, FFP transfusion is rarely indicated.
PT and/or > 1.5 times normal range with any of the following:
□ Active Bleeding
□ Significant risk for bleeding because of invasive procedure trauma or other medical condition
□ DIC
□ Suspected coagulopathy because of abnormal oozing with coagulation tests pending.

Summary of INDICATIONS FOR PLATELET TRANSFUSION Platelet count: _____/ul
□ Platelet count < 10,000
□ Platelet count < 50,000/ul and impending surgery or invasive procedure
□ Diffuse microvascular bleeding in patient with documented DIC or transfusion > on blood volume and Platelet count < 50,000/ul or laboratory results not available
□ Bleeding in a patient with qualitative platelet defect, regardless of platelet count.

Indications for Albumin: _____

MD signature: _____ Date: _____ Time: _____

Nurse signature: Date: Time:

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Attachment F – Blood Product Issue Request Slip (Hartford Campus)

BLOOD PRODUCT ISSUE REQUEST
Hospital For Special Care

Collaborative Laboratory Services
Blood Bank
St. Francis Campus
114 Woodland Street
Hartford, CT 06105

Patient Identification	
Patient Addressograph Stamp	Typenex #

Product To Be Issued		Special Attributes	
☐ Whole Blood	☐ Granulocyte Concentrate	☐ CMV Seronegative	☐ Irradiated Autologous Donor
☐ Red Blood Cells	☐ Deglycerolized Red Blood Cells	☐ Leukocyte Reduced	☐ Irradiated Directed Donor
☐ Fresh Frozen Plasma	☐ Rho(D) Immune Globulin	☐ Irradiated	☐ Platelet Crossmatch Compatible
☐ Cryoprecipitate(s)	☐ Anti-Inhibitor Coagulant Complex	☐ HLA Matched	☐ Irradiated Hgb S Negative
☐ Platelet Concentrate(s)	☐ Other (Specify):	☐ Other (Specify):	
☐ Plateletspheresis		**Volume / Amount**	
☐ Serum Albumin (5%)		_____ Unit(s)	_____ ug
☐ Serum Albumin (25%)		_____ gm	_____ I.U.
☐ Factor VIII Concentrate		_____ cc	
☐ Factor IX Concentrate		Other (Specify):	

Fax Issue Request to 714-8055

Date/Time Required: _____

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Attachment G – HFSC Blood and Blood Products Monitoring Form (Downtime use only)

PATIENT LABEL

BLOOD AND BLOOD PRODUCTS MONITORING FLOW SHEET

Please check yes when completed and continue to complete flow sheet during downtime administration of blood products.

	Order Verified					
	Verification of Consent					
	Product Quality verified- including temperature appropriate, no clots, bag intact					
	Patient Identity Confirmation- Identity of Patient and hospital number match the transfusion ticket					
	Blood Tag/Unit Match: blood type and unit number on the ticket match those that are on the unit					
	Time removed from shipping Container:					
TIME	VITAL SIGNS	T	P	R	BP	Pre-transfusion Respiratory/Circulatory Assessment
	Before Transfusions					
TIME	Start of Transfusion:					
TIME	VITAL SIGNS	T	P	R	BP	Comments:
	15 min after transfusion start -					
	1 hour after transfusion start -					
	2 hours after transfusion start -					
	3 hours after transfusion start -					
	Completion of Transfusion -					
	Post Transfusion Respiratory/Circulatory Assessment					
TIME	VITAL SIGNS	T	P	R	BP	
	1 hour after completion of treatment					

Did a suspected blood or blood component transfusion reaction occur? _____
_____

(If yes, fill out section on the blood bank slip and follow procedure for blood transfusion reaction)

The date the post transfusion H&H has been ordered_____

Signature of RN_____ Date/time:_____
_____

****please show verification of proper blood product with a 2-nurse verification using the ticket attached to the blood product in case of downtime****

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Attachment H – Transfusion Reactions: Identification and Management

Reaction and Symptoms	Nursing Actions
Hemolytic Reaction Onset usually in first 15 minutes burning (heat) sensation along vein Facial flushing, chills, fever, headache, nausea/vomiting, hives Pain or tightness in chest or lumbar region – low back pain Rapid labored breathing Red Urine Shock symptoms	Stop transfusion immediately & switch to NS Notify provider and blood bank Treat shock, monitor vital signs, provide supportive treatment as necessary Return unused blood, ticket, and transfusion set to blood bank DO NOT disconnect tubing from bag Follow transfusion reaction steps and management for required labs
Febrile: Temperature elevation of 2˚ F or 1˚C from pre-transfusion Temp Onset usually during first hour Headache, nausea and/or vomiting Tachycardia	Stop transfusion immediately & switch to NS Notify provider and blood bank Monitor vital signs Provide supportive treatment as ordered Return unused blood and transfusion set to blood band DO NOT disconnect tubing from bag
TACO – Transfusion Acquired Circulatory Overload Onset within 1 hour Pounding headache Neck vein distention, increase in central venous pressure Chest tightness, dry cough, dyspnea Rales – pulmonary edema	Stop or slow transfusion (change to NS if stopping transfusion) Notify provider and blood bank Place patient in semi-fowlers position with feet dependent Treat pulmonary edema as ordered (diuretics, etc.) Stay with patient as the condition warrants Monitor vital signs
Allergic Reaction Onset varies Hives, rash, itching, flushing In severe cases – wheezing and/or facial or glottal edema, pulmonary edema Anaphylaxis	Stop transfusion switch to NS Notify provider and blood bank Provide supportive treatment as ordered Monitor vital signs Return unused blood and transfusion set to blood band DO NOT disconnect tubing from bag
TRALI – Transfusion Related Acute Lung Injury Increased capillary permeability Pulmonary edema, Dyspnea Hypoxia and potential for hypotension	Notify provider and blood bank Potential Medical Emergency Maintain airway and blood pressure
Air Embolism Dyspnea Shock Cardiac arrest	Stop transfusion switch to NS and notify provider Put patient in Trendelenburg positioning on Left side (air will collect in the right atrium) Potential Medical Emergency Maintain airway and blood pressure
Bacterial Contamination Onset usually within 2 hrs. Chills, fever, flushing, dry skin, hypotension, Pain in abdomen, back and extremities Bloody vomiting and/or diarrhea	Stop transfusion, switch to NS and notify provider and Blood Bank Potential Medical Emergency Maintain airway and blood pressure Stay with patient as the condition warrants
Potassium Toxicity Onset within 15 minutes Slow, irregular pulse, apprehension, potential for cardiac arrest Weakness and tingling in hands, feet and tongue	Stop transfusion, switch to NS and notify provider and Blood Bank Potential Medical Emergency Maintain airway and blood pressure Stay with patient as the condition warrants
Citrate Toxicity Onset within several hours Tingling in fingers, hypotension, cramps, potential for convulsions or cardiac arrest	Stop transfusion, switch to NS and notify provider and Blood Bank Potential Medical Emergency Maintain airway and blood pressure Stay with patient as the condition warrants

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Attachment I – Report of Suspected Transfusion Reaction (New Britain Campus)

THOCC, 100 GRAND STREET, NEW BRITAIN, CT 06053
BLOOD BANK REPORT OF INVESTIGATION OF TRANSFUSION REACTION

PATIENT'S NAME_____HOSP.#_____ROOM#_____
TECHNOLOGIST'S NAME_____DATE:_____

Steps No 1 through 5 must be completed for all suspected transfusion reactions as soon as they are REPORTED.

1. The Blood Bank must receive the following for the investigation:

   a. The Blood Bank slip accompanying the unit reporting the reaction.
   b. Both EDTA and Serum specimens FROM the patient.
   c. The blood bag and the attached transfusion set.

2. Clerical check-includes all blood components transfused in last 24 hours. Use Blood Bank work sheets, patient pre-transfusion blood sample(s) and Blood Bank patient slips for this information.

   Clerical error: ☐ Yes ☐ No

3. Check returned blood bag and transfusion set for clots and/or hemolysis unit number_____

   Returned to Blood Bank (date)_____(time)_____Approximate mls_____
   of _____product, donor ID#_____other units transfused
   Donor #_____Product_____Donor #_____Product_____

4. Visible hemolysis or icterus in recipient's pre and post transfusion samples.
   Pre-transfusion sample: Hemolysis ☐ Yes ☐ No Icterus ☐ Yes ☐ No
   Post-transfusion sample: Hemolysis ☐ Yes ☐ No Icterus ☐ Yes ☐ No

   NOTE: If hemolysis is present in the post-transfusion sample, a post-transfusion urine must be obtained and tested for free hemoglobin immediately.

5. Direct Antiglobulin Test: (DAT) on Post Transfusion (EDTA) sample_____(0-4+)
   If positive, do a (DAT) on Pre-Transfusion sample _____(0-4+)
   If there is no evidence of hemolysis or clerical error and numbers 4 and 5 are negative, steps 6 through 10 are not required.
   Call the nursing unit and report to a floor nurse that the transfusion Reaction Workup is negative.
   If there is evidence of hemolysis, a positive (DAT), a clerical error, or bacterial contamination the Blood Bank Pathologist and the patient's provider and floor must be notified immediately.

Culture submitted (date)_____Technologist_____(Report see separate page)
Culture report_____Called to (if needed)_____date & time_____Technologist_____
Call to nursing Unit (date)_____(time)_____Technologist_____Nurse_____
Reviewed by Supervisor_____(date)_____
Transfusion history_____
_____
_____
Conclusions by pathologist_____
_____
Pathologist_____ Date:_____

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Attachment I – Report of Suspected Transfusion Reaction Continued

THOCC, 100 GRAND STREET, NEW BRITAIN, CT. 06050

BLOOD BANK REPORT OF INVESTIGATION OF TRANSFUSION REACTION

6. Recheck of ABO and Rh

	ABO	Rh		ABO	**Rh**
Patient pre-transfusion			Donor #		
Patient post-transfusion			Donor #		
			Donor #		

7. Patient antibody studies
   Patient Pre-transfusion_____
   Patient Post-transfusion_____

8. Compatibility Testing – includes all units transfused within 24 hours prior to the reaction including the suspected unit.
   Pre-transfusion with donor #_____major_____minor_____
   Pre-transfusion with donor #_____major_____minor_____
   Pre-transfusion with donor #_____major_____minor_____

   Post-transfusion with donor #_____major_____minor_____
   Post-transfusion with donor #_____major_____minor_____
   Post-transfusion with donor #_____major_____minor_____

Remarks:_____

_____

All units on hold for possible future transfusion must be recrossmatched with the post-transfusion sample.

9. Special studies – notify nursing unit to collect 3 urine samples.
   Urine No. 1 Hgb._____(Microscopic if hgb is positive)_____
   Urine No. 2 Hgb._____(Microscopic if hgb is positive)_____
   Urine No. 3 Hgb._____(Microscopic if hgb is positive)_____
   Culture blood bag of suspected unit-Unit No._____
   Date Planted_____Date Reported_____
   Results_____

10. Other tests as indicated (by pathologist)
    Serum creatinine_____mgm/dl
    Total bilirubin_____mgm/dl (5-7 hours)
    Plasma Hemoglobin_____(post hemolytic reaction)
    BUN_____

    Reviewed by Supervisor_____Date and Time_____

    Conclusions by Pathologist_____

    _____

    _____

Pathologist_____

_____

Date:_____

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Attachment J – Blood Transfusion Record (New Britain Campus)

THE HOSPITAL OF CENTRAL CONNECTICUT

NEW BRITAIN CAMPUS
NEW BRITAIN CT 06050
CLIA #07D0092913

BRADLEY CAMPUS
SOUTHINGTON CT 06489
CLIA #07D0097858

TRANSFUSION SERVICE PRODUCT ID TAG

NAME: **PASSION,FRUIT**
MRN: **2245216**
DOB: **12/15/1969**
ACC# F15380 SPEC EXP. DATE 08/15/2022
LOCATION CC18

PT BLOOD TYPE: O-POSITIVE
UNIT BLOOD TYPE: O-NEGATIVE

UNIT/LOT# **W0517 22 613949 M A0**
PRODUCT: LR RBC
EXP. DATE/TIME: **08/23/2022 2359** VOL **270**
COMPATIBILITY: **COMPATIBLE**

PT AG/AB: Anti-c (little) c (little)
Negative

UNIT AG/AB: c (little) Negative

UNIT ATTR: **CMVNEG HBSNEG**
UNIT COMMENTS:

TECH: VP

ISSUED BY: ISSUED TO:

ISSUED DATE/TIME:

TRANSFUSIONIST:

VERIFIED BY:

START DATE/TIME:

END DATE/TIME:

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Attachment K – Pediatric Vital Signs Parameters

Pediatric Normal Vital Signs Parameters

Normal Respiratory Rates by Age

Age	Breaths per Minute
Infant	30-53
Toddler	22-37
Preschooler	20-28
School-age child	18-25
Adolescent	12-20

Normal Heart Rate by Age

Age	Awake Rate (/min)	Sleeping Rate (/min)
Neonate	100-205	90-160
Infant	100-180	90-160
Toddler	98-140	80-120
Preschooler	80-120	65-100
School-age child	75-118	58-90
Adolescent	60-100	50-90

Normal Blood Pressure by Age

Age	Systolic Pressure* (mm Hg)	Diastolic Pressure* (mm Hg)	Mean Arterial Pressure+ (mm Hg)
Neonate	67-84	35-53	45-60
Infant (1-12 months)	72-104	37-56	50-62
Toddler (1-2 years)	86-106	42-63	49-62
Preschooler (3-5 years)	89-112	46-72	58-69
School-age child (6-7 years)	97-115	57-76	55-72
Preadolescent (10-12 years)	102-120	61-80	71-79
Adolescent (12-15 years)	110-131	64-83	73-84

*Systolic and diastolic blood pressure ranges assume 50th percentile for height for children 1 year and older.
+Mean arterial pressures (diastolic pressure + [difference between systolic and diastolic pressure/3]) for 1 year and older, assuming 50th percentile for height.
Reproduced from the American Heart Association (2020). *Pediatric Advanced Life Support.* Dallas, TX: American Heart Association Publishing, pp. 46, 53, & 58.

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Attachment L – Safe-T-Vue Temperature Indicators- Used at both locations