Blood Ordering v5.0: Place Orders

**Approval & Citation**

**Explanation of Evidence Ratings**

**Summary of Version Changes**

**Transfusion Reaction**

**Blood Special Requirements**

### Inpatient, ED, and Outpatient Blood Administration order set
- Use Blood Administration order set
- Determine dose and rate of transfusion, see Job Aid: Transfuse Blood Products (for SCH Only)
- Complete Prepare and Transfuse orders
- EHR automatically selects:
  - ABO/RhD and Antibody Screen (Type & Screen)
  - ABO/RhD (confirmatory)
  - Exception: check specimen availability for blood orders via Therapy plans.
- Order premedications, if needed

**Update Blood Special Requirements and Transfusion Profile**
- Add Blood Special Requirements based on diagnosis via Blood Administration Navigator
- Once charted, blood special requirements will automatically be added to blood orders
- Note all patients receive irradiated RBCs and platelets unless “Do not irradiate RBCs” is specifically requested and Transfusion physician on-call approves issuing non-irradiated components.
- Documentation of Suggested Premedications on Blood Administration Navigator Transfusion Profile displays in inpatient and outpatient Blood Administration order sets

**Transfusion Needed?**

- **Possibly in Operating Room**
  - Order Prepare Blood Products for procedure in OR order panel or Anesthesia Blood Administration order set.

- **Possibly at Bedside**
  - For Bedside Procedure
    - Order via Blood Administration order set and keep linked Transfuse order as this allows electronic barcode scanning of blood via Epic BPA.
  - Keeping Blood Available
    - Order Type & Screen
  - Just in time ordering of blood is recommended. Consult with Transfusion Service physician on call.

**Blood sample(s) required?**

- **Yes**
  - **Draw Sample(s)**
    - Refer to the P&P: Blood Component Ordering and Administration (for SCH Only)
    - If 2 ABO/RhD samples required, draw separately.
    - Use Blood Testing for Transfusion (PE1712) for education
  - **Prepare and Deliver Product** (if not already at bedside)
    - Blood Bank receives order to prepare product
    - Complete in Blood Administration Navigator
      - Pre-Transfusion Documentation
      - Ensure Release to location is completed and correct
      - Move to Transfusion Orders and Release the product that is going to be transfused
    - Blood Bank sends product
    - Administering staff utilizes the Job Aid: Transfusion Workflow (for SCH Only)
    - See P&P: Blood Component Ordering and Administration (for SCH Only) for handling instructions
  - **When Blood Product Needed, Order Transfusion**
    - In operative services, anesthesiologist transfuses product as needed during procedure.
    - For inpatients with “Prepare only” orders placed using Blood Administration order set, modify existing Transfuse order to indicate rate when ready to transfuse blood product.
    - Determine dose and rate of transfusion, see Job Aid: Transfuse Blood Products (for SCH Only)
    - Order premedications, if needed

- **No**

For questions concerning this pathway, contact: bloodordering@seattlechildrens.org

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### Inclusion Criteria
- Blood ordered preoperatively in outpatient setting

### Exclusion Criteria
- Inpatient, OR

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#### Review Blood Administration Navigator

- Confirm Transfusion Profile
  - Update if needed

#### Order

- Consider ordering additional RBCs for surgery (crossmatch turn-around time is 1-4 hours)

- Does patient have RBC antibodies?
  - Yes
  - No

#### Order Samples and Products

- Collect ABO/RhD and Antibody Screen (Type & Screen) within 3 days of surgery
- Order ABO/RhD (confirmatory) if required.
- Order blood:
  - For OR, order Prepare Blood Products for Procedure in OR order panel or Anesthesia Blood Administration order set.
  - For bedside procedure, order Blood Administration order set which will allow RN transfusion using BPAM.

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#### Determine if Blood Special Requirements or Premedications Needed

- Add Blood Special Requirements based on diagnosis via Blood Administration Navigator
- Once charted, blood special requirements will automatically be added to blood orders.
- Note all patients receive irradiated RBCs and platelets unless "Do not irradiate RBCs" is specifically requested and Transfusion physician on-call approves issuing non-irradiated components.
- Documentation of Suggested Premedications on Blood Administration Navigator Transfusion Profile displays in inpatient and outpatient Blood Administration order set

#### Order Samples and Products

- Obtain Pre Admission Type and screen within 30 days of surgery.
- Order ABO/RhD confirmatory if required (no historical ABO type on file).
- Order blood:
  - For OR, Order Prepare Blood Products for procedure in OR panels or Anesthesia Blood Administration order set.
  - For bedside procedure order Blood Administration order set which will allow RN transfusion using BPAM.
For reactions, symptoms, and intervention, go to Transfusion Reaction Decision Tree

Inclusion Criteria
- Blood transfusion in process or completed

Exclusion Criteria
- None

For questions regarding transfusion diagnosis or management, call the Transfusion service at 7-5151 for the Transfusion Service physician on call, available 24/7.

Immediate Actions:
- STOP TRANSFUSION IMMEDIATELY (do not discard)
- Keep IV line open
- Stay with and assess patient
- Ask for help if needed
- Repeat patient/component ID check
- Call provider to assess patient
- Document vital signs every 5-10 minutes and actions taken

Report
- Order Transfusion Reaction Workup in EHR and add to Problem List if not previously documented
- Report fatalities, unanticipated reactions, serious complications, or suspected disease transmission possibly related to transfusion of blood or blood components to the Transfusion Service physician on-call at (206) 987-5151 as soon as possible
- Transfusion Service physician reviews all reported reactions
- Transfusion service notifies blood supplier and FDA when required.
DO NOT modify blood special requirements unless you are a licensed independent provider (e.g. MD, NP), or have been authorized to do so. In general, residents should not be independently completing this section.

For ALL patients, red blood cells (RBCs) and platelets are leukocyte-reduced and considered CMV-safe. For all infants LESS THAN 4 months, RBCs are Hemoglobin S negative; RBCs and platelets are Irradiated.

<table>
<thead>
<tr>
<th>Patient Type</th>
<th>Select blood special requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oncology, severe immunodeficiency, hematopoietic stem cell transplant (HSCT)</td>
<td>Irradiated</td>
</tr>
<tr>
<td>Infant less than 4 months</td>
<td>Irradiated, Sickle Cell (Hgb S) Negative</td>
</tr>
<tr>
<td>Cardiac surgery</td>
<td>If LESS THAN 2 years: Irradiated</td>
</tr>
<tr>
<td>Hyperkalemic/renal failure AND does not meet any other requirement for irradiated blood products</td>
<td>Do not irradiate RBCs • Previously irradiated RBCs may contain increased extracellular potassium. • Previously irradiated platelets do not pose a clinical risk.</td>
</tr>
<tr>
<td>Volume sensitive or history of repeated transfusion reaction</td>
<td>Plasma reduced platelets</td>
</tr>
<tr>
<td>Hemoglobinopathy</td>
<td>Rh/K antigen-selected, If sickle cell disease: Sickle Cell (Hgb S) Negative</td>
</tr>
<tr>
<td>History of SEVERE transfusion reaction (e.g. anaphylaxis)</td>
<td>Washed RBCs or Washed Platelets (requires Transfusion Service Physician On-call approval)</td>
</tr>
<tr>
<td>Transplant patient</td>
<td>1. Irradiated (for Heart, Intestine, HSCT)</td>
</tr>
<tr>
<td></td>
<td>2. Supernatant removed RBCs (for ABO-incompatible Heart transplant protocol)</td>
</tr>
<tr>
<td></td>
<td>3. If applicable, complete “Heart/Liver transplant” or “HSCT” transfusion profile smart forms under “More Activities” to provide additional instructions to the Transfusion Service.</td>
</tr>
</tbody>
</table>
Definitions

**Serious complications:**
- Hemolytic transfusion reaction
- Bacterial contamination
- Transfusion-related acute lung injury
- Transfusion-associated graft versus host disease
- Post-transfusion purpura

**Suspected disease transmission (transfusion-transmitted infection) may include:**
- Bacterial contamination
- Hepatitis A, B, or C
- Chagas Disease
- HTLV-1 and HTLV-2
- Syphilis
- West Nile Virus
- Human Immunodeficiency Virus (HIV)
Blood Ordering Approval & Citation

Approved by the CSW Blood Ordering for July 29, 2015

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Retrieval Website: https://www.seattlechildrens.org/pdf/blood-ordering-pathway.pdf

Example:
This pathway was developed through local consensus based on published evidence and expert opinion as part of Clinical Standard Work at Seattle Children’s. Pathway teams include representatives from Medical, Subspecialty, and/or Surgical Services, Nursing, Pharmacy, Clinical Effectiveness, and other services as appropriate.

When possible, we used the GRADE method of rating evidence quality. Evidence is first assessed as to whether it is from randomized trial or cohort studies. The rating is then adjusted in the following manner (from: Guyatt G et al. J Clin Epidemiol. 2011;4:383-94.):

Quality ratings are downgraded if studies:
- Have serious limitations
- Have inconsistent results
- If evidence does not directly address clinical questions
- If estimates are imprecise OR
- If it is felt that there is substantial publication bias

Quality ratings are upgraded if it is felt that:
- The effect size is large
- If studies are designed in a way that confounding would likely underreport the magnitude of the effect OR
- If a dose-response gradient is evident

Guideline – Recommendation is from a published guideline that used methodology deemed acceptable by the team.

Expert Opinion – Our expert opinion is based on available evidence that does not meet GRADE criteria (for example, case-control studies).

Quality of Evidence:
- ★★★★★ High quality
- ★★★★ Moderate quality
- ★★★ Low quality
- ★★ Very low quality
- ★ Guideline
- Expert Opinion

Return to Home
Summary of Version Changes

- **Version 1 (2/11/2015):** Go live
- **Version 2 (5/27/2015):** Fixed box errors in Preadmit phase
- **Version 3 (7/29/2015):** Implemented electronic process to request and verify receipt of blood products
- **Version 4.1 (3/11/2019):** Removed erroneous “to bibliogarphy” button
- **Version 5.0 (10/3/2020):** Updated algorithm to align with Epic
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Medicine is an ever-changing science. As new research and clinical experience broaden our knowledge, changes in treatment and drug therapy are required.

The authors have checked with sources believed to be reliable in their efforts to provide information that is complete and generally in accord with the standards accepted at the time of publication.

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