Document Owner:
Transfusion Medicine

Purpose of Document(s):
Algorithm for management of transfusion reactions at C&W.
To be used in conjunction with the Transfusion Reaction Response: Reference Guide

Applicability
BC Children’s Hospital & BC Women’s Hospital + Health Centre

Version History

<table>
<thead>
<tr>
<th>DATE</th>
<th>DOCUMENT NUMBER and TITLE</th>
<th>ACTION TAKEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>24-Sept-2019</td>
<td>C-0506-01-60377 Transfusion Reaction Response: Algorithm</td>
<td>Approved at: Transfusion Safety Committee</td>
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**Patient exhibits Signs & Symptoms of a Transfusion Reaction**

△ Use this Algorithm in conjunction with the Response to Transfusion Reaction Reference Guide

1. STOP the transfusion. Refer to Transfusion Reaction Immediate Management Procedure AND Transfusion Reaction Response Reference Guide:
   - Give 0.9% Normal Saline at TKVO, or prescribed rate, via rescue line.
2. ASSESS the patient’s vital signs and symptoms and stabilize the patient.
3. RECONFIRM unique identifiers on both patient and blood product.
   - Verify the information is IDENTICAL on the (1) patient ID band, (2) blood product tag, and (3) blood product label.
4. Call Transfusion Medicine Laboratory (TML) IMMEDIATELY at 7388 if an error has occurred, another patient may be at risk.

### IVIG Only

**Any of the listed signs & symptoms with IVIG**
- Light-headed
- Dizziness
- Nausea
- Flushing
- Irritability
- Muscle aches
- Itching
- Anxiety
- Shivering
- **Localized rash** over less than ¼ of the body

**NOTIFY** physician.
Restart permitted if ordered by the physician after consultation on the patient’s condition.
- **Restart** at a slower rate, 1 mL/k/h for 15 minutes
- **Directly** observe the patient for the first 15 minutes after restart
- **Recheck** vital signs 15 minutes after restart

### All blood components/products

**Hives & itching only over less than ¼ of the body with ALL blood products**

**Call TML IMMEDIATELY at 7388 if the patient has any of the following:**
- new onset red/brown urine, or
- sudden onset of hypoxemia, or
- sudden onset of hypotension, or
- if you suspect bacterial contamination of the product, refer to:
  - Table 1 on Transfusion Reaction Response Reference Guide

### Not a Transfusion Reaction

If remainder of transfusion is uneventful: document & complete a transfusion reaction report form & send to TML:
- **No** patient samples required
- **Do not** return the IVIg bag or administration set.

If signs & symptoms persist, or new signs & symptoms develop or the patient’s condition deteriorates subsequent to restarting the transfusion:
1. **STOP** the transfusion & NOTIFY physician of the change in the patient’s condition
2. **Refer** to Transfusion Reaction Immediate Management Procedure & Transfusion Reaction Response Reference Guide

### Any sign or symptom with all blood components/products

<table>
<thead>
<tr>
<th>One or more of the listed signs &amp; symptoms</th>
<th>Fever*</th>
<th>Hives over more than ¼ body</th>
<th>Back pain</th>
<th>Facial / tongue swelling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chills</td>
<td>Itching over more than ¼ body</td>
<td>Chest pain</td>
<td>Shortness of breath</td>
<td></td>
</tr>
<tr>
<td>Rigors</td>
<td>Skin rash other than hives</td>
<td>Jaundice</td>
<td>Wheezing</td>
<td></td>
</tr>
<tr>
<td>Flushing</td>
<td>Restless / anxiety</td>
<td>Hypertension</td>
<td>Diffuse hemorrhage</td>
<td></td>
</tr>
<tr>
<td>Headache</td>
<td>Nausea / vomiting</td>
<td>Hypotension</td>
<td>Red or brown urine</td>
<td></td>
</tr>
<tr>
<td>Dizziness</td>
<td>Joint / muscle pain</td>
<td>Tachycardia</td>
<td>Oliguria</td>
<td>Shock</td>
</tr>
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</table>

### Temperature Equivalency Table

<table>
<thead>
<tr>
<th>Oral</th>
<th>Temporal</th>
<th>Axilla</th>
<th>Rectal</th>
</tr>
</thead>
<tbody>
<tr>
<td>38°C</td>
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*Fever is defined as:
- Temporal temperature 38.5°C, or higher, **AND** a one degree or more rise above baseline temp, or
- Oral temperature 38°C, or higher, **AND** a one degree or more rise above baseline temp, or
- Axilla temperature of 37.5°C, or higher, **AND** a one degree or more rise above baseline temp.

1. NOTIFY physician of the reaction.
2. FOLLOW the physician’s instructions for the treatment and management of the clinical symptoms.
3. INITIATE the transfusion reaction investigation.
4. COMPLETE a Transfusion Reaction Report Form.
5. COLLECT PROMPTLY and send samples. Refer to Table 2 on Transfusion Reaction Response Reference Guide
   - EDTA (lavender), for DAT, optimum volume is 1mL, send to TML
   - Urine Sample, first voided post-reaction urine for routine urinalysis, send to chemistry.
   - Blood Cultures to microbiology, if meets criteria for suspected bacteremia, refer to table 1 on Transfusion Reaction Response Reference Guide.
6. Return sealed blood product(s) to TML (avoid contamination)
7. SEND Completed Transfusion Reaction Report Form to TML.
For Oncology & BMT patients on T8, Oncology Unit, only

- Fever* is the only symptom
- For patients receiving RBC, platelet or plasma transfusion only
- This policy does not apply to Hematology Patients e.g. Thalassemia patients

1. **STOP** the transfusion.
   - Refer to Transfusion Reaction (TR) Immediate Management Procedure & TR Response Reference Guide
   - Give 0.9% Normal Saline at TKVO or prescribed rate via rescue line.
2. **ASSESS** the patient’s vital signs and symptoms and **stabilize the patient**.
3. **RECONFIRM** unique identifiers on both patient and blood product.
   - Verify the information is **IDENTICAL** on the (1) patient ID band, (2) blood product tag, & (3) blood product label.
   - Call Transfusion Medicine Laboratory (TML) IMMEDIATELY at 7388 if an error has occurred, see page two. Another patient may be at risk.

**Physician Responsibilities:**
1. **Perform** a bedside clinical assessment of the patient to **exclude**:
   - Acute hemolytic Transfusion Reaction; Transfusion-Associated Sepsis, Transfusion-Related Acute Lung Injury
   - If suspected, **do not restart** the transfusion.
2. If the above possibilities are excluded:
   - **Document** findings; **write** an order for medication, if required, and to restart the transfusion.
3. If the post-DAT is newly positive or, there is an increase in the strength **compared to the pre-transfusion DAT**, **write** an order to discontinue the transfusion.

**Nursing Responsibilities**
1. **Before** restarting the transfusion:
2. **Complete** steps 1 to 4 on page 1 of Transfusion Reaction Response - Reference Guide
3. **Administer** medication, and
4. **Collect** and send **STAT** an EDTA sample, for DAT, to TML, and
5. **Report** the reaction to TML; even if the transfusion is restarted the reaction must be reported.
6. **Follow** physician directions for restarting the transfusion
7. **Restart** the transfusion at 1 mL/kg/h, **up to a maximum of 50 mL/h**, for first 15 minutes.
8. **Remain** with, or be in a position to **directly observe**, patient for the **first 15 min** after restart.
9. **Recheck** vital signs 15 & 60 minutes after restart and then hourly for the remainder of the transfusion, **observe** for:
   - response to interventions, or emerging S & S, or deterioration in patient’s condition
10. **Complete** the transfusion within **4 hours from time of issue**
11. **Collect and send** first voided post transfusion urine. Transfusion can be restarted before the urine sample is collected.

If **signs & symptoms persist**, or **new signs & symptoms develop** or the **patient’s condition deteriorates** subsequent to restarting the transfusion
1. **STOP** the transfusion & NOTIFY physician of the change in the patient’s condition
2. **Refer** to TR Immediate Management Procedure & page 1 of TR Response Reference Guide

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