

Guideline 7

Transfusion Reaction - Identification, Management, and Reporting

When any unexpected or untoward sign or symptom occurs during or shortly after the transfusion of a blood component, a transfusion reaction must be considered as the precipitating event until proven otherwise.

Purpose

- 7.0** To provide best practice guidelines for nurses which align with the standards set forth by the American Association of Blood Banks (AABB), Accreditation Canada (AC) Transfusion Services, Canadian Standards Association (CSA) and the Canadian Society for Transfusion Medicine (CSTM) for the recognition and management of transfusion reactions.
- 7.1** The standards state a process and procedure shall be in place for the transfusionist to recognize, manage, and report a transfusion reaction and for the recording of relevant information in the patient's medical record.

Serious adverse events requiring prompt reporting to transfusion service include but are not limited to:

Immediate hemolytic reactions;
Delayed hemolysis;
Transfusion related acute lung injury (TRALI);
Systemic allergic reactions including anaphylactic shock;
Bacterial sepsis;
Other transfusion-transmissible infections;
Transfusion Associated Graft Vs Host Disease (TA-GVHD); Post-transfusion purpura;
Other serious reactions; and
Death.

Policy for Identification of Transfusion Reaction

- 7.2** Persons administering blood components and plasma protein products should be familiar with the common signs and symptoms of a transfusion reaction.
- 7.3** A thorough assessment of the patient's condition is necessary **prior** to the administration of blood components and plasma protein products in order to recognize new onset signs and symptoms.

Signs & Symptoms of a Transfusion Reaction include **NEW onset** of:

Temperature rise greater than 1°C	Chills	Jaundice
Shortness of breath (dyspnea)	Rigors	Hemoglobinuria
Hypertension	Rash	Bleeding at IV site
Hypotension	Urticaria	Pain (back, chest, bone, abdomen)
Hypoxemia	Pruritus	Tachycardia

Policy for Management of Transfusion Reaction

- 7.4** For all cases of suspected transfusion reaction refer to the Transfusion Reaction Algorithm.

Refer to **Appendix 10** [Transfusion Reaction Algorithm](#)

- 7.4.1** Stop the transfusion immediately.
- 7.4.2** Do not discard product.
- 7.4.3** Maintain IV with 0.9% saline using a separate/new intravenous set as per RHA policy.
- 7.4.4** Contact MD/designate for medical assessment/ treatment.

Important If this is assessed as a suspected transfusion reaction, and the physician orders a transfusion reaction investigation proceed to 7.4.5. If this is assessed as **NOT** a suspected transfusion reaction, proceed with transfusion and document this in the patient's chart.

- 7.4.5 If a transfusion reaction is suspected, proceed with the prescribed treatment and continue with the algorithm.
- 7.4.6 Perform vital signs every 15 minutes and PRN until patient is stable.
- 7.4.7 Perform visual inspection of unit.
- 7.4.8 The labels on the blood products and records shall be examined for clerical errors in identifying the patient, blood, or blood component.
- This is a 2 person (authorized health care providers) check.
- 7.4.9 Notify the blood bank of the suspected transfusion reaction.

Most transfusion reactions occur within 1 to 30 minutes from start of transfusion.

Transfusion Reaction Action

- Stop the Transfusion
- Do NOT discard product
- Maintain IV with normal saline using a new IV set
- Contact MD/designate for medical assessment or treatment.
- Suspect transfusion reaction?
 - If yes, proceed with prescribed treatment and continue with algorithm
 - Perform vital signs every 15 minutes until patient is stable
 - Visually assess product
 - Check for clerical discrepancy
 - Notify blood bank/ lab

See table below for **Minor and Major symptoms of a suspected transfusion reaction**. These symptoms may result in interruption or discontinuation of the transfusion.

Minor Symptoms	Major Symptoms
Urticaria/hives Other skin rash Temperature greater than 1°C from baseline AND Temperature between 38°C to 38.9°C AND No associated MAJOR symptoms AND Onset greater than 10 minutes into transfusion	Hypertension Hypoxemia Severe respiratory distress Temperature rise greater than 39°C Hypotension/shock Back/chest pain Hemoglobinuria Jaundice Bleeding at IV site Severe allergic reaction Tachycardia/arrhythmias

7.4.10 If a transfusion is discontinued prior to completion due to major symptoms and there has been a transfusion reaction investigation ordered by the MD/Designate, the following needs to be completed urgently;

Return the blood or blood product with tubing attached (clamps in locked position and end capped), manilla-colored product tag attached to product (this tag should not be removed until the transfusion is complete).

A completed Transfusion Reaction Investigation Form (CM105)

Any additional ordered blood work and if required a new crossmatch sample

7.4.11 If **bacterial contamination is suspected and the patient meets the following criteria** the patient and blood product will need to have blood cultures ordered for investigation (the blood bank will culture the blood product) **but the physician ordering the transfusion reaction investigation will need to write the order.**

- Temperature rise more than 1°C AND greater than 39°C
- Temperature rise greater than 1°C AND between 38 and 39°C AND rigors/chills OR hypotension/shock OR tachycardia OR severe respiratory distress
- Temperature rise not responding to antipyretic and/or suspicion of sepsis in absence of fever

Returning Blood to the Blood Bank

Blood/blood product shall be returned to the blood bank:

- ✓ With all tubing attached
- ✓ All clamps on the tubing must be in the clamped/closed position.
- ✓ The end of the tubing that was connected to the patient must have a cap attached to seal the line.

Return the product to the blood bank as soon as possible to initiate the investigation of the transfusion reaction.

Policy for the Reporting of a Transfusion Reaction

- 7.5** All transfusion reactions (Minor or Major) that are ordered must be reported to the facility blood bank. This is accomplished with the completion and submission of the CM105.
- 7.6** The only incident where a CM105 is not submitted is when administering IVIG and minor symptoms are observed and resolved by slowing the infusion rate.

Documentation for the Identification, Management and Reporting of Transfusion Reaction

- 7.7** Details of the transfusion reaction should be documented in the patient's health record.
- 7.8** Documentation of the transfusion reaction should include the Cumulative Blood Product Record (CBPR) Patient Progress Notes and the Transfusion Reaction Investigation Form CM1055.

Quality Control

- 7.9** A facility-based quality improvement system or process should be in place to ensure all major transfusion reactions are reported immediately to the Transfusion Medical Director or designate.
- 7.10** Following notification of a serious adverse event, the Transfusion Medical Director or designate will conduct an investigation which may include laboratory tests to determine the probable cause.
- 7.11** Review all confirmed reactions and outcome reports.
- 7.12** Reports shall be submitted to the appropriate authorities.

Notes/Special Consideration

Refer to Appendix 11 [Transfusion Reaction Quick Reference Guide](#)