Alberta Health Services

This document applies to all Covenant and AHS sites.

Acute Transfusion Reaction Chart

Version 1.1
Released March 2013
Approved by: TM Network

Suspected Transfusion Reaction Signs & Symptoms		Timing of Symptoms	Immediate Actions	Next Step	Further Investigations & Procedures	Possible Etiology	Incidence
Fever >38°C **and** ↑ of at least 1°C from baseline	38°C to <39°C **and** no other symptoms	During transfusion, usually towards the end	√ **STOP** transfusion but do not disconnect product √ **RUN** the 0.9% saline at KVO rate in different IV tubing √ **CHECK** vital signs <u>or</u> start continuous monitoring if severe reaction √ **RE-CHECK** patient ID band vs. blood bank number & blood label √ **NOTIFY** Physician/ Nurse Practitioner √ **NOTIFY** Transfusion Medicine	Send to TM - ***Adverse Reaction Notification documentation***	1. Consider Acetaminophen 2. **RESTART TRANSFUSION CAUTIOUSLY** if product not expired (still <4 hrs from start of original transfusion) 3. Premed with antipyretic only after two episodes	**FNHTR** (febrile non-hemolytic transfusion reaction)	**Red Cells 1:300** **Platelets - 1:20**
	Or <39°C and chills, rigors, hypotension, shock nausea, vomiting, headache	Usually within the first 15 minutes but may be later		Order Transfusion Reaction Investigation Send to TM ***-Adverse Reaction Notification documentation*** -EDTA (purple top) blood sample -Offending product	1. **DO NOT RESTART TRANSFUSION** 2. Monitor pt status closely 3. Consider Acetaminophen 4. If bacterial contamination suspected, start antibiotics immediately 5. Consider Meperidine for shaking/chills 6. If bacterial contamination suspected order blood cultures and routine urinalysis. **<u>If patient experiences hemoglobinuria, flank pain, anxiety OR Lab reports plasma hemolysis present:</u>** 7. Draw CBC, electrolytes, creatinine, bilirubin, INR, PTT, fibrinogen & LDH 8. Monitor for hypotension, renal failure by measuring urine output/hour and DIC (oozing blood from different sites) 9. Start IV infusion of Normal Saline (Adult dose: 500 mL/hr and give 40 mg IV furosemide) to help prevent renal failure and consult with oncall nephrologist for further management	**BACT** (bacterial contamination)	*RCs-* **1:50,000** *Platelets-* **1:1,000**
	Or ≥ 39°C, chills nausea, vomiting, pain, dyspnea, tachycardia, hypotension, bleeding, hemoglobinuria	Within 24 hours of transfusion				**AHTR** (acute hemolytic transfusion reaction)	**1:40,000**
Urticaria (hives) **or** Rash	<2/3 body affected **and** no other symptoms	During transfusion, up to 2-3 hours from start		Send to TM - ***Adverse Reaction Notification documentation***	1. Consider diphenhydramine IV or PO (**Adults**: 50 mg. **Peds**: 1mg/kg) 2. **RESTART TRANSFUSION CAUTIOUSLY** if product not expired (still <4 hrs from start of original transfusion) 3. Premed with antihistamine only after two episodes	**Minor allergic**	**1:100**
	>2/3 body affected **+/-** Dyspnea, airway obstruction, SOB, ↓O2 sat, or ↓BP	Usually early in the transfusion		Order Transfusion Reaction Investigation Send to TM ***-Adverse Reaction Notification documentation*** -EDTA (purple top) blood sample -Offending product	1. **DO NOT RESTART TRANSFUSION** 2. **If respiratory difficulty, activate Code Blue/respiratory** 3. **Mild to moderate reaction** with stable V/S: corticosteriods (hydrocortisone **Adults:** 500 mg, **Peds:** 10mg/kg, to a max of 500 mg) antihistamine: dose varies per type of medication – per MD order 4. **Severe anaphylactoid reaction** and/or unstable V/S: IV/IM epinephrine (1:1000) IM **Adults:** 0.3-0.5 mL, **Peds:** 0.01mL/kg, (refer to product insert for max. dose), a bolus of Normal Saline (**Adult**: 500 – 1000 mL, **Peds**: 20 mL/kg,) – per MD order 5. Continuous monitoring (pulse, BP, resps, O_2 sats) 6. Chest X-ray & urinalysis 7. May require special blood products in future (consult Transfusion Medicine Physician on call)	**Severe allergic/ Anaphylactic/ Anaphylactoid**	**1:40,000**
	AND Profound hypotension, loss of conciousness, circulatory collapse, death	Usually early in the transfusion				**Anaphylactic Shock**	**1:40,000**
Dyspnea (SOB, ↓ O_2 sats)	Congestive Heart Failure, +/- Hypertension, orthopenea, cyanosis, tachycardia, jugular venous distension, pulmonary edema, pedal edema, headache	During or within 6 hours of transfusion		Order Transfusion Reaction Investigation Send to TM ***-Adverse Reaction Notification documentation*** -EDTA (purple top) blood sample -Offending product	1. **DO NOT RESTART TRANSFUSION** **2. If respiratory difficulty, activate Code Blue/respiratory** 3. Continuous monitoring (pulse, BP, resps O_2 sats) 4. Give diuretics (Furosemide), O_2, place in high Fowler's if condition allows 5. Subsequent transfusions: ↓ infusion rate (1 ml/kg/hr- max 4 hr/bag) 6. Consider preload with diuretic or between transfusions	**Circulatory Overload**	**1:700** (as high as 1:100 in elderly patients)
	Cyanosis, respiratory distress	Within 24 hours of transfusion				**Transfusion Associated Dyspnea**	**Unknown**
	And/or Hypotension, tachycardia, fever, cyanosis	Within 6 hours of transfusion; usually within the first 15 minutes but may be later		Order Transfusion Reaction Investigation Send to TM ***-Adverse Reaction Notification documentation*** -EDTA (purple top) and red top blood samples -Offending product <u>Note:</u> TM may ask for results of chest Xray	1. **DO NOT RESTART TRANSFUSION** 2. **If respiratory difficulty, activate Code Blue/respiratory** 3. Continuous monitoring (pulse, BP, resps, O_2 sats) 3. O_2, possible intubation, ventilation or vasopressors 4. If bacterial contamination suspected→ start antibiotics immediately **<u>If patient experiences hemoglobinuria, flank pain, anxiety OR Lab reports plasma hemolysis present:</u>** 5. Draw & send CBC, electrolytes, creatinine, bilirubin, INR, PTT, fibrinogen, LDH 6. Monitor for hypotension, renal failure by measuring urine output/hour and DIC (blood oozing from different sites) 7. Start IV infusion of Normal Saline (Adult dose: 500 mL/hour and give 40 mg IV furosemide) to help prevent renal failure and consult with oncall nephrologist for further management 8. Assess chest X-ray for bilateral pulmonary infiltrates.	**TRALI** (transfusion related acute lung injury) Differentiate from **BACT** or **AHTR**	**1:10,000** **See above** **See above**

NOTE: For additional assistance contact the Transfusion Medicine Physician/Pathologist on call