

Acute Transfusion Reactions

Patient shows signs/symptoms of an acute transfusion reaction

Predominant symptoms			Other possible symptoms
Fever	Shortness of breath	Allergic reaction	Including: tachycardia, hypertension or hypotension, collapse, pain (back, flank, muscle, chest, abdominal), diarrhoea, nausea, feeling unwell, jaundice, dark urine, bleeding from IV lines
Temp $\geq 38^{\circ}\text{C}$ and increase of $\geq 1^{\circ}\text{C}$ from baseline, chills, rigors	Dyspnoea, wheeze, stridor, cough, cyanosis	Pruritus/rash, flushing, angioedema, periorbital swelling/redness, anaphylaxis	

STOP THE TRANSFUSION

Undertake rapid clinical assessment, check patient's ID/blood compatibility label, visually assess unit

Evidence of: Life-threatening **Airway** and/or **Breathing** and/or **Circulatory** problems and/or **wrong blood** given and/or evidence of **contaminated unit**?

YES

SEVERE REACTION

Potentially life-threatening

- Call for emergency assistance
- Initiate resuscitation (ABC) with IV fluids, O_2
- Discontinue transfusion but do not discard implicated unit/s
- Maintain venous access with IV saline
- Monitor vital signs e.g. temperature, pulse, respiration rate, BP, O_2 saturations, urinary output (catheterise if necessary)

- If anaphylactic reaction/severe allergy suspected follow local protocol
- If bacterial contamination suspected take patient blood cultures and then start antibiotic treatment immediately
- If acute onset shortness of breath assess fluid balance and CXR for cardio-pulmonary changes (? TRALI/TACO)
- Inform your transfusion laboratory (see contact details below*)
- Return implicated unit/s (with administration set) to your transfusion laboratory
- Request appropriate laboratory investigations (see below)

NO

MODERATE REACTION

- Temperature $\geq 39^{\circ}\text{C}$ or rise $\geq 2^{\circ}\text{C}$ (from baseline) and/or
- Other symptoms/signs

- Inform medical staff and your transfusion laboratory (see contact details below*)
- Consider bacterial contamination if the temperature rises as above
- Review patient's underlying condition and transfusion history
- Monitor vital signs more frequently e.g. temperature, pulse, respiration rate, BP, O_2 saturations, urinary output

Not consistent with patient's condition or transfusion history

- Discontinue transfusion but do not discard implicated unit/s
- Request appropriate laboratory investigations (see below)

Consistent with patient's condition or transfusion history

- Provide appropriate symptomatic treatment
- If further transfusion required seek specialist advice regarding recommencement or subsequent transfusion

MILD REACTION

- Isolated temperature $<39^{\circ}\text{C}$ and rise of 1 – 2°C (from baseline) and/or
- Transient flushing, urticaria or rash only

- Inform medical staff and your transfusion laboratory (see contact details below*)
- Consider symptomatic treatment
- Cautiously continue transfusion
- Monitor vital signs more frequently (as for moderate reactions)
- If no improvement or symptoms/signs worsen, manage as moderate/severe reaction

Document and report suspected adverse event

Review at Blood Management/Hospital Transfusion/equivalent Committee

Related to transfusion

Not related to transfusion

LABORATORY INVESTIGATIONS

Contact your transfusion laboratory for investigations and specimen requirements

* TRANSFUSION LABORATORY CONTACT DETAILS

P: _____ E: _____

HAEMATOLOGIST or ON CALL SPECIALIST CONTACT DETAILS:

P: _____ E: _____

SEPSIS workup: Gram stain on blood product bag, blood cultures on both patient and products. If bacterial contamination suspected contact Lifeblood to discuss recall of associated components

INCOMPATIBLE BLOOD workup: Blood group, antibody screen and DAT on pre and post transfusion samples

HAEMOLYSIS workup: FBC, LDH, bilirubin, haptoglobin, electrolytes, creatinine, urinalysis. Disseminated intravascular coagulation (DIC) may complicate severe reactions - aPTT, PT, Fibrinogen, D-Dimer (or FDP)

ANAPHYLACTIC REACTION workup: IgA levels and anti-IgA antibodies where relevant, serum tryptase

TRALI/TACO workup: BNP/pro-BNP levels, HLA and HNA typing and antibodies

DISCUSS WITH PATIENT

- Provide information
- Discuss any future implications
- Highlight importance of advising future health professionals

FURTHER REPORTING

- Review at Blood Management/Hospital Transfusion/equivalent Committee;
- Report to your incident management system and jurisdictional haemovigilance program
- Notify Lifeblood if bacterial contamination or TRALI to ensure quarantine and testing of components from same donor(s)