NZBLOOD
Te Ratonga Toto O Aotearoa

ACUTE TRANSFUSION REACTION (ATR) NOTIFICATION TO BLOOD BANK

Patient Details (pre-printed label accepted on form)

Patient NHI: **DOB:** **Gender:**

Family Name:

Given Names:

Hospital:

Location:

Was the patient under general anaesthesia and/or ventilated?
❑ Yes ❑ No

Transfusion Details

Date / time transfusion started:

Date / time transfusion reaction detected:

Volume transfused (mL or units)

Which blood component(s) were administered?
❑ Red Cells ❑ Fresh Frozen Plasma ❑ Platelets ❑ Cryoprecipitate ❑ Other*.....

*If recipient reacted to a fractionated plasma product (e.g. IVIg), use form 111F003, available from Blood Bank or www.nzblood.co.nz

Donation number(s) of the administered blood components?

Clinical History

Patient's diagnosis and reason for transfusion

Will further blood component support be required in the next 24 hours? ❑ Yes ❑ No ❑ Unknown

Clinical Assessment

Baseline Vital Signs (prior to starting the transfusion)	**RR:**	**SpO_2:** %	❑ R/A **or** ❑ O_2 ..... % or L	**HR:**	**BP:**	**Temp:** °C
Vital Signs (at the time reaction detected)	**RR:**	**SpO_2:** %	❑ R/A **or** ❑ O_2 ..... % or L	**HR:**	**BP:**	**Temp:** °C

Was this a mild febrile OR a mild allergic event only? (see classifications/guidance overleaf)

Mild Febrile: Temperature > 38°C and < 1.5°C from baseline with no other symptoms? ❑ Yes

Or

Mild Allergic: Localised rash with no other symptoms? ❑ Yes

If Yes: Ensure the patient has been assessed & managed by a medical officer. Notify Blood Bank via this form of the event but NO blood tests/investigations are required.

If the reaction is assessed as NOT being a mild febrile *OR* a mild allergic event, further investigations are required. Complete this form in full.

What signs, symptoms and physiological changes were evident? (tick all which apply)

Changes in Vital Signs/Early Warning Scores (EWS) and associated parameters

❑ Bradypnoea ❑ Tachypnoea ❑ Hypoxaemia ❑ Tachycardia ❑ Bradycardia ❑ Arrhythmia
❑ Hypertension ❑ Hypotension ❑ LOC change ❑ Pyrexia/Fever ❑ Rigors ❑ Chills

Physiological Changes

❑ Dyspnoea ❑ Pulmonary oedema ❑ Cough ❑ Elevated JVP ❑ Wheeze +/- Stridor
❑ Red/black urine ❑ Abnormal bleeding ❑ Pain at IV site ❑ Chest and/or Loin Pain
❑ Diarrhoea ❑ Nausea and/or Vomiting ❑ Jaundice ❑ Restlessness/Anxiety

Skin / Dermis Symptoms

❑ Isolated Rash ❑ Extensive rash or urticaria ❑ Angioedema ❑ Extensive flushing

Other Signs and Symptoms:

Clinical Management and Investigations (see guidance overleaf)

List any medications given to manage symptoms:

Indicate below what investigations were requested:

❑ **Standard ATR Investigations:** (complete for all moderate or severe reactions)
Return discontinued unit & IV set, EDTA sample (pink top) & notification form to Blood Bank (BB). You may include a BB request form if futher transfusion is likely. Send FBC, blood film, U&E to pathology. Complete ward urinalysis for blood/haemoglobin.

❑ **Additional Investigations** (dependent on symptoms, consider add-ons as follows)
❑ haptoglobin, LDH, coagulation screen (if evidence of haemolysis) ❑ CXR, ABGs, BNP (if respiratory distress)
❑ serum tryptase +/- anti-IgA antibodies (if severe allergy/anaphylaxis) ❑ Blood cultures (if sepsis / shock possible or present)

Reported by **Date** / / **Contact Number**

Clinical advice is always available. Contact numbers can be obtained via your local Blood Bank.

ACUTE TRANSFUSION REACTIONS

Recognise. Respond. Report.

PATIENT HAS SIGNS AND SYMPTOMS SUGGESTIVE OF POTENTIAL TRANSFUSION REACTION

STOP the transfusion immediately

Assess: rapid clinical assessment

Check: confirm patient ID band matches blood swing label details

Inspect: visual check of unit for turbidity, clots or abnormal appearance

Talk with the Patient: establish status, inform and comfort

Are symptoms LIFE THREATENING? Airway/Breathing/Circulation?
***OR* Wrong Blood Given? *OR* Evidence of Abnormal Unit?**

YES

Severe or Life Threatening Events

- ✓ **CALL** for **urgent** medical help and review
- ✓ **INITIATE** Resuscitation: ABC
- ✓ **DISCONNECT** IV infusion set/unit – do **NOT** discard/restart
- ✓ **MAINTAIN** venous access with saline via **NEW** infusion set
- ✓ **ADMINISTER** IV fluids/O_2 if clinically indicated
- ✓ **MONITOR** TPR/BP/SpO_2/urine output (*q*5-15 min)
- ✓ **TREAT** according to clinical status/symptoms, noting:
  - ➜ **? anaphylaxis/severe allergy:** use NZRC Anaphylaxis Guide
  - ➜ **? septic shock:** use DHB Sepsis Guidelines
  - ➜ **? acute haemolysis:** maintain BP, force diuresis, alkalinise urine
  - ➜ **? circulatory overload:** diuretics, O_2, positive airway pressure
  - ➜ **? TRALI:** respiratory support, ask NZBS to start donor review

ALERT: Is **haemorrhage** a possible cause of the hypotension? Resuscitate with fluids and consider further transfusion

INFORM your local clinical haematologist or TMS via Blood Bank ASAP or, contact directly if treatment advice needed

NO

INFORM medical staff – seek PROMPT clinical review

Moderate Events

- ✓ All symptoms that are not classified as mild, severe or life threatening

Management

- ✓ Disconnect IV infusion set/unit – do **NOT** discard set/unit
- ✓ Replace IV infusion set
- ✓ Maintain venous access with saline
- ✓ Treat according to clinical status
- ✓ Do **NOT** restart transfusion

Mild Events

- ✓ Fever > 38°C and < 1.5°C above baseline with no other symptoms
- ✓ Localised rash with no other symptoms

Medical Review

- ? If fever – consider antipyrexial
- ? If localised rash – consider antihistamine

Management

- ✓ Consider restarting transfusion at slower rate. Directly observe for first 15 minutes
- ✓ Increase frequency of monitoring vital signs (TPR/BP/SpO_2) thereafter

Reporting

- ✓ Document in clinical notes
- ✓ Send NZBS ATR Notification Form (111F009) to Blood Bank
- ✓ No blood tests required

Investigations and Reporting

- ✓ **DO** – 'Standard ATR Investigations' and undertake 'Additional Investigations' as needed *(see below)*
- ✓ **COMPLETE** – NZBS ATR Notification Form (111F009)
- ✓ **SEND** – blood unit/IV set, ATR Notification Form and EDTA (pink) sample to BB and other samples to Pathology
- ✓ **RECORD** – in clinical notes

If symptoms worsen?

STOP transfusion and manage as per a **moderate** or **severe** event

ACUTE TRANSFUSION REACTIONS (ATR) – INFORMATION FOR CLINICAL STAFF

1. Recognise.

Signs and symptoms may include:

- Fever, chills, rigors
- Tachycardia, arrhythmias
- Hyper or hypotension, collapse
- Generalised flushing
- Rash, urticaria, angioedema
- Anxiety, severe apprehension
- Nausea, vomiting
- Pain *(chest, loin, muscle, bone, abdominal, cannula site/vein)*
- Dyspnoea, respiratory distress, hypoxia
- Pink/red/black urine or abnormal bleeding

2. Respond.

Management and investigations

1 **Clinical Review/Treatment –** as above

2 **Standard ATR Investigations – for ALL moderate and severe events are:**
- EDTA (pink top) for serology – to Blood Bank
- Full blood count/film and UE – to Pathology
- Ward urinalysis for blood/haemoglobin

3 **Additional Investigations: if…**
- ? **Haemolysis:** consider haptoglobin, LDH, coag's
- ? **Respiratory Distress:** consider CXR, ABGs, BNP
- ? **Sepsis/Shock:** consider blood cultures from patient
- ? **Severe allergy/anaphylaxis:** consider serum tryptase & query need for anti-IgA antibodies

3. Report.

Haemovigilance to Blood Bank (BB)

- Report all mild, moderate and severe ATRs using the NZBS ATR Notification Form
- If the event is **moderate or severe**, remember to include the EDTA (pink) sample, the discontinued unit and blood IV infusion set with the ATR Form (111F009)

Advice on management, further transfusion needs or recurrent reactions should be discussed with the transfusion medicine specialist (TMS) or the clinical haematology consultant.