Acute transfusion reactions (ATR)

East of England Regional Tranfusion Committee

Telephone numbers: **Transfusion laboratory** _____ **Haem. consultant** _____

Is my patient having an acute transfusion reaction? Features may include:

fever, chills, rigors, tachycardia, hyper- / hypo-tension, collapse, flushing, urticaria, pain (bone, muscle, chest, abdominal), respiratory distress, nausea, general malaise

STOP THE TRANSFUSION – Assess (rapid clinical assessment), **Check** (patient ID / blood compatibility label), **Inspect** (look for turbidity, clots, discoloration)

Evidence of life threatening problems? Airway / Breathing / Circulatory problems, and/or **wrong blood given** and/or **evidence of contaminated unit?**

Yes

Severe or life threatening

- Call for urgent medical help
- Initiate resuscitation – ABC
- Maintain venous access
- Monitor patient, eg. TPR, BP, urinary output, O_2 saturations
- Fluid resuscitate (normal 0.9% saline) as appropriate guided by BP, pulse, urine output (catheterise if necessary)
- Perform appropriate investigations as per guidelines

- If likely anaphylaxis / severe allergy; follow anaphylaxis pathway
- If bacterial contamination likely follow sepsis pathway
- If haemorrhage likely to be causing hypotension fluid resuscitate / continue transfusion
- Consider if Transfusion Associated Circulatory Overload likely

Report urgently to transfusion laboratory
for review at HTC and report to SHOT/MHRA as appropriate

No

Inform medical staff

Moderate

- Temperature ≥ 39°C or rise ≥ 2°C and/or
- Other symptoms (not pruritis / rash only)

- Review patient's underlying condition and **transfusion history**
- Monitor patient more frequently, eg. TPR, BP, O_2 saturations, urinary output

Not consistent with condition or history
Consider bacterial contamination and undertake appropriate investigations

Consistent with condition or history
Consider continuation of transfusion at slower rate and appropriate symptomatic treatment

Discontinue transfusion

If transfusion related

Mild

- Isolated temp 38–39°C or rise 1–2°C
- Pruritis / rash only

- Consider symptomatic treatment
- Monitor patient more frequently as for moderate reactions
- If symptoms worsen, manage as for moderate / severe reaction

Continue transfusion

Document in notes. Report only if recurrent

If transfusion is discontinued, **DO NOT** discard unit but return with administration set to transfusion lab

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NHS
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Safe transfusion practice – **Be careful, be vigilant**

All patients who have a blood component transfusion are at risk of an ATR

- Patients receiving a transfusion must be in a clinical area monitored by trained staff competent to manage transfusion and ATR
- **Check** 'Right patient, right blood'. **Confirm** patient identity with patient, **check** patient ID band **check** component compatibility label

Inspect: **Examine** component bag for abnormal appearance (clumps, particles or discolouration). **Check** IV cannula site for infection

Monitor: **Measure** patient's vital signs before transfusion, during transfusion and after transfusion

Inform: **Ask** patient to report any new symptoms or signs during transfusion and within **24 hours** of transfusion

Signs and symptoms of ATR

- Fever, chills, rigors
- Hypotension
- Pain
- Myalgia
- Hypoxia
- Signs of analphylaxis
- Nausea
- Acute bleeding from mouth, rectum, bladder, wounds
- Severe anxiety or sense of impending doom
- Mouth or throat tingling or swelling (angioedema)
- Breathlessness or noisy breathing (stridor or wheeze)
- Skin rashes or itch

Management

Stop transfusion immediately • ABC • Oxygen • Get medical help urgently

Suspect	If symptoms of	Treat	Investigate
Anaphylaxis	• Wheeze • Swelling • Pain • Hypotension • Collapse	Anaphylaxis pathway Give intramuscular adrenaline **Consider** chlorpheniramine • hydrocortisone • salbutamol	• FBC, U&E, LFT, coagulation screen • First urine sample (haemoglobin) • Repeat blood group screen and save • IgA level (EDTA) • Serial mast cell tryptase at time 0, 3h, 24h (plain tube) • Blood cultures (if sepsis suspected) • Consider CXR if breathlessness present
ABO incompatibility or sepsis (infection)	• Fever • Rigors • Tachycardia • Hypotension • Anxiety • Pain • Breathlessness	IV saline Sepsis pathway (if sepsis) IV broad spectrum antibiotics (if sepsis)	
TACO or TRALI	• Acute breathlessness • Hypoxia	Furosemide (if TACO)	

Report to laboratory all severe reactions • return blood component to laboratory • complete report / incident form

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