

Blood Product Administration

Safety

Transfusion safety

- Make sure the **right** patient gets the **right** blood – always adhere to the pre-transfusion check on the back of the Blood Transfusion Record
- Start blood products within **30 minutes** of issue and complete within **4 hours**
- The Blood Transfusion Record is a legal document and must be filed in the medical record on completion of transfusion

Immediate management of suspected transfusion reaction

Recognise

- Fever
- Chills
- Hypotension/hypertension
- Pain (IV site, chest or back)
- Acute respiratory distress/stridor/wheeze
- Dark urine
- Bleeding, oozing (DIC)
- Urticaria (hives)

React

Stop transfusion (leave IV line in place), then:

- Provide emergency patient care
- Arrange immediate medical review
- Keep IV line open with N/Saline (flush IV cannula or attach side arm)
- Repeat pre-transfusion check

Report

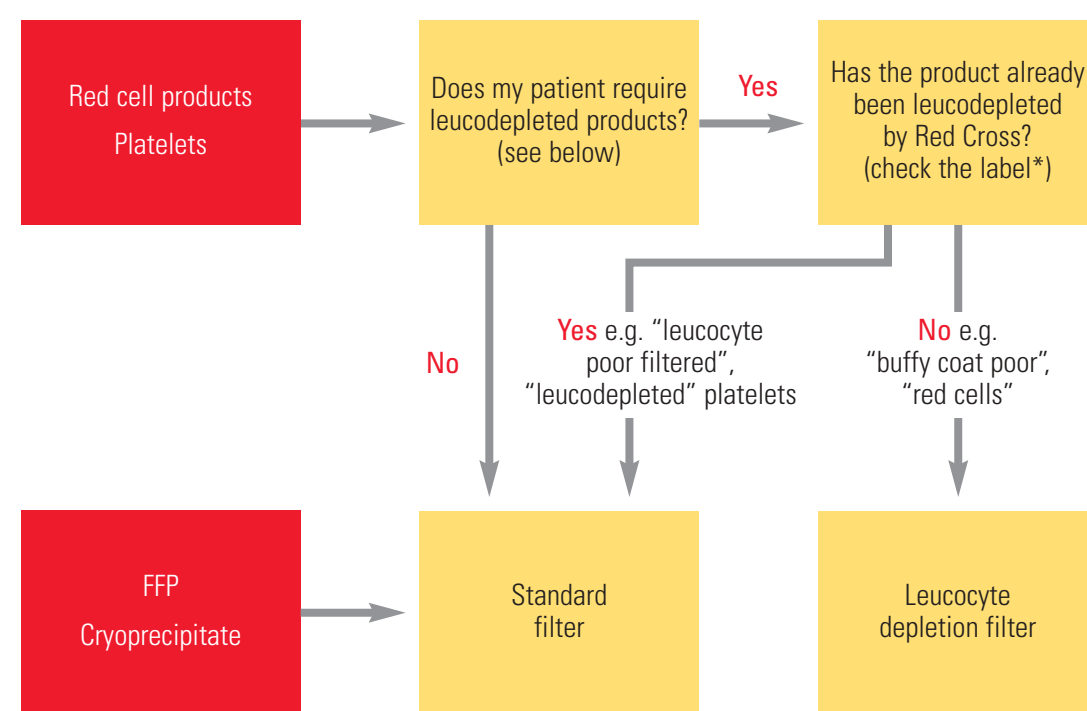
Further detail on reverse of Blood Transfusion Record and Blood Transfusion Website

Care of transfused patients

- Monitor your patient for adverse effects of transfusion, observe closely during the first 15 minutes
- As a minimum take and record vital signs (T, P, BP)
 - before starting
 - 15 minutes after commencement
 - on completion of each pack of red cells/platelets/FFP/cryoprecipitate

Blood filters

Which filter should I use?



*Not sure that the product has been leucodepleted? – ring hospital blood bank on 5829

About Blood Filters



Filter Type	Standard (170–260µm)	Leucocyte depletion for platelets	Leucocyte depletion for red cells
Purpose	To filter out large clots and aggregates that accumulate during storage	To filter out contaminating leucocytes to $<1 \times 10^6$ (also removes large clots and aggregates)	To filter out contaminating leucocytes to $<1 \times 10^6$ (also removes large clots and aggregates)
Filters how many packs?	Up to 4 packs of red cells (change at least 12 hourly or earlier if flow rate compromised)	Up to 10 packs of single donor platelets (=2 packs of pooled platelets)	1 pack of red cells
Can be flushed with N/Saline?	Yes	No	No
Brand/name	† McGaw "In-line blood filter IV set"	Terumo Immugard III-PL	Terumo Immugard III-RC
Stores order number	001466	305291	301371

† NB Some IV lines incorporate a standard filter eg. Tuta "Blood/Solution Administration Pump Set" (PICU/theatre)

Leucocyte depletion

What does it do?

Removes leucocytes to less than 10^6 per blood pack

Which products?

Cellular products (platelets and red cells)

Why do it?

- Reduces the risk of CMV transmission when CMV -ve products are not available
- Reduces frequency of recurrent febrile reactions
- Reduces alloimmunisation to HLA and leucocyte antigens

Which patients?

- Oncology patients
- Solid organ transplant recipients
- Immunocompromised patients
- Patients requiring chronic transfusion
- Patients less than 12 months of age

Irradiation*

What does it do?

Destroys donor lymphocyte's ability to divide (does not remove them)

Which products?

Cellular products (platelets, red cells)

Why do it?

Prevents Transfusion-Associated Graft Versus Host Disease (TA-GVHD)

Which patients?

- Oncology patients
- Solid organ transplant recipients
- Immunocompromised patients
- Patients receiving transfusion from a relative (directed donation)

* Life saving transfusion should not be delayed while waiting for irradiated blood products

Compatible ABO groups

Group identical blood products should be given. However, in circumstances where this is not possible, a non-identical but compatible group may be issued.

Recipient ABO group	ABO group of compatible red cells				ABO group of compatible FFP					
	Group	O	B	A	AB	Group	O	B	A	AB
AB	★	★	★	★	★					★
A	★			★				★	★	
B	★	★					★			★
O	★					★	★	★	★	

What about platelets?

Should ideally be compatible with the recipient's red cells. However due to supply issues cross grouping may be necessary – consult with Haematologist on call.

Volumes and rates for transfusion of blood products

4mls of packed red cells/kg will raise the Hb by 1gm/dL. The formula for calculating the volume of packed cells is $4 \times \text{weight} \times \text{required rise in Hb (g/dL)}$.

Rate of infusion of blood products should reflect the patient's clinical condition:

- Approximately 1 to 1½ times maintenance in the well/stable patient
- Faster in an actively bleeding or hypovolaemic patient
- **Caution** (slower transfusion) for:
 - infants
 - cardiac compromise
 - severe anaemia (transfusion in increments over 2–3 days may be required)