

Platelet administration

Platelet products

Pooled platelets

- The platelets are collected from a number of donations (4 separate donors) these are then pooled together to form one unit (>160mls)
- Leucocyte depleted and suspended in predominately platelet additive solution (PAS) and a small amount of plasma

Apheresis platelets

- Apheresis involves removing the donor's blood, spinning it in an apheresis machine, collecting the platelets and returning the other parts of the blood to the donor.
- Collected from a single donor via apheresis (adult bag 100–400mls). Apheresis donations are often available in paediatric splits of 4 or 8 (40–60mls)
- Leucocyte depleted and suspended in plasma
- **All platelet products from ARCBS (Australian Red Cross Blood Service) are irradiated**

Blood compatibility and platelet

Patient \ Pack type	O positive	O negative	A positive	A negative	O Pos low titre	O Neg low titre	B positive	B negative	AB positive	AB negative
O positive	1 st	3 rd	*	*	2 nd	*	*	*		
O negative	*	1 st	*	3 rd	*	2 nd	*	*		
A positive	*	*	1 st	2 nd	3 rd	*	*	*		
A negative	*	*	*	1 st	*	2 nd	*	3 rd		
B positive	*	*	*	*	3 rd	*	1 st	2 nd		
B negative	*	*	*	3 rd	*	2 nd	*	1 st		
AB positive			3 rd	*	*	*	*	*	1 st	2 nd
AB negative			*	2 nd	*	*	*	3 rd	*	1 st

1st choice most preferable *Check with blood bank

Which blood group?

- ABO and Rh (D) identical platelet products are preferable but not always available. See table above for guide of alternative groups or phone RCH Blood Bank with further questions 5829
- Rh Negative Immuno COMPETENT patients should receive Rh NEGATIVE donation. Patients who are immunocompromised and patients receiving intensive chemotherapy can receive Rh Positive
- If the ideal is not available the Blood bank scientist will select the next best available platelet product based on this table
- If ABO compatible transfusion is unavoidable then the use of pooled platelets in additive solution may reduce the risk of hemolysis

Platelet product administration safety

Platelet storage

- Platelets are stored at 20–24°C on a platelet agitator. They expire 5 days after collection, they must be commenced within 30 minutes of leaving the blood bank

Transfusion safety

- See blood administration poster

Platelet product transfusion observations

- See blood administration poster

Administering platelets

- Use a new blood administration filter when administering platelets
- If giving several paedi paks each donation number should be administered separately
- Can be administered over 30 minutes – 2 hours, but must be completed within 4 hours

What is an appropriate dose of platelets?

- Dose is usually based on number of packs/units according to product types (see above)
- **To avoid giving excess volume to neonates, infants and small children only a portion of the pack/unit will be required to a maximum vol of 10mL/kg**

Patient weight \ Platelet product	<10kg	10–20kg	20–30kg	30–40kg	>40kg
Platelets apheresis paediatric Leucocyte depleted Irradiated Part 1,2,3, or 4 of 4 (Volume 40–50mL)	1 pack or MAX 10ml/kg which ever is less	2 paedi packs	3 paedi packs	4 paedi packs	4 paedi packs

If a paediatric apheresis split is not available use the following guide

Platelets pooled in PAS Leucocyte depleted Irradiated (Volume >160mL – an adult dose)	MAX 10ml/kg	MAX 10ml/kg	MAX 10ml/kg	1 pack or MAX 10ml/kg which ever is less	1
Platelets apheresis Leucocyte depleted Irradiated (Volume >100ml – an adult dose)	MAX 10ml/kg	MAX 10ml/kg	MAX 10ml/kg	1 pack or MAX 10ml/kg which ever is less	1
Platelets apheresis Leucocyte depleted Irradiated Part 1 or 2 of 2 (Each part is an adult dose)	MAX 10ml/kg	MAX 10ml/kg	MAX 10ml/kg	1 pack or MAX 10ml/kg which ever is less	1