Whittington Health NHS

Platelets – Clinical use

Subject:	Platelets – clinical use
Policy Number	N/A
Ratified By:	Hospital Transfusion Committee
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Policy Executive Owner:	Medicine, Frailty and Networked Service ICSU (Clinical Director)
Designation of Author:	Transfusion Laboratory Manager
Name of Assurance Committee:	Hospital Transfusion Committee
Date Issued:	July 2015
Review Date:	3 years hence
Target Audience:	All clinical staff involved in the prescription of Platelets
Key Words:	Platelets

Version Control Sheet

Version	Date	Author	Status	Comment
2.0	Nov 2009	J Dalton, Transfusion Laboratory Manager	OFF LINE	Approved at Hospital Transfusion Committee
3.0	July 2015	S Marston (Transfusion Laboratory Manager) A Thomas (Haematology Registrar)	LIVE	Reviewed with minor amendments

➢ Criteria for use

For use by clinicians that are responsible for patients who require platelet transfusions owing to thrombocytopaenia or defective platelet function.

➢ Background/ introduction

This document sets out the platelet requirements in different clinical situations. However, there is the need to recognise that deviations from the schedule will occur from time to time based on the clinical requirements of the patient.

NB. Requests that are outside of these guidelines will be referred to the consultant haematologist for guidance on clinical management of the patient.

Platelet transfusions are indicated for the prevention and treatment of haemorrhage in patients with thrombocytopenia or defective platelet function.

Risks associated with platelet transfusions include allo-immunisation, transmission of pathogens, allergic reactions and transfusion related acute lung injury. The patient should be informed about possible complications of transfusion, and the importance of reporting any adverse effects.

Benefits include reducing morbidity associated with minor haemorrhage and reducing major morbidity/mortality resulting from major bleeding.

➢ Contents

➢ 1. Conditions requiring platelet support:

The codes P1 to P10, used below, are the recommended national shorthand that are planned to be used on request forms and laboratory information systems to aid requesting and local, regional and national audit.

Bone marrow failure
To prevent spontaneous bleeding when the platelet count <10 x 10^9/L. **(P1)**

To prevent spontaneous bleeding when the platelet count <20 x 10^9/L in the presence of additional risk factors for bleeding such as sepsis or haemostatic abnormalities**. (P2)**

To prevent bleeding associated with invasive procedures, the platelet count should be raised to >50 x 10^9/L before lumbar puncture, epidural anaesthesia, insertion of intravascular lines, transbronchial and liver biopsy, and laparotomy, and to >100 x 10^9/L before surgery in critical sites such as the brain or the eyes. **(P3)**

Critical care/surgery
Massive blood transfusion. The platelet count can be anticipated to be < 50 x 10^9/L after 2 x blood volume replacement. Aim to maintain platelet count > 75 x 10^9 /L. Keep the platelet count > 100 x 10^9/L if multiple, eye or CNS trauma **(P4)**

Bleeding, not surgically correctable and associated acquired platelet dysfunction possibly combined with the use of potent anti-platelet agents such as clopidigrel. **(P5)**

Acute disseminated intravascular coagulation (DIC) in the presence of bleeding and severe thrombocytopenia. **(P6)** (platelet <50)

Inherited platelet dysfunction disorders e.g. Glanzmanns thrombasthenia with bleeding or as prophylaxis before surgery. **(P7) (Only after discussion with a specialist haemophilia centre)**

Immune thrombocytopenia
Autoimmune thrombocytopenia, in the presence of major haemorrhage. **(P8)**

Post-transfusion purpura, in the presence of major haemorrhage. **(P9)**

Neonatal alloimmune thrombocytopenia, to treat bleeding or as prophylaxis to maintain the platelet count >50 x 10^9/L. **(P10)**

➢ 2. Contraindications to platelet transfusion:

- Thrombotic thrombocytopenic purpura (TTP)
- Heparin Induce Thrombocytopenia (HIT)

MUST DISCUSS WITH HAEMATOLOGIST FOR ADVICE

➢ 3. Dosage and rate of platelet transfusion:

Adults: 1 pool. (If more than 1 pool anticipated, this must be authorised by Haematology SpR or Consultant)

Small children (< 15Kg) 10 – 20 mL/Kg up to 1 adult pool

Larger children (>15Kg) 1 adult pool

Platelets are issued on a named patient basis. They are not normally held as a stock item and are obtained through the blood transfusion laboratory (ext 5766) from the National Blood Service. Acquiring platelets may take more than 30 minutes in an emergency and up to 3 to 4 hours for planned surgery or prophylactic support.

Transfusion Rates:
In the absence of cardiovascular disease the following rates apply. If in doubt, discuss with the clinical haematologist.

Adult = 5 - 10 mL/minute
Larger children (>15Kg) = 5 - 10mL/minute
Small children (<15Kg) and neonates = 10 - 20 mL/Kg/hour

For requesting and administration of blood components:

	Please see Whittington Hospital NHS Trust Guideline: **‘ Blood Policy ~** **from prescription to administration’**

➢ 4. Response to platelet transfusion:

Response to platelet transfusions should be monitored by assessing the effect on bleeding, if it is present, and by measuring the platelet count after all transfusions. This will help guide further treatment.

➢ 5. ABO and Rh D compatibility:

Platelets from donors of the identical ABO group, as the patient, are the component of choice and should be used as far as is possible. Where this is not possible the blood transfusion laboratory (ext 5766) will advise.

	Patient Group	Donor group 1st Choice	Donor group 2nd Choice	Donor group 3rd Choice	Donor group 4th Choice
Platelets	**O**	**O**	**A*** **	**B*** **	**X**
	A	**A**	**O HT neg**	**B*** ** **HT neg**	**X**
	B	**B**	**O HT neg**	**A*** ** **HT neg**	**X**
	AB	**AB**	**A HT neg**	**O HT neg**	**B HT neg**
	Rh D Pos	**Rh D Pos**	**Rh D Neg**	**X**	**X**
	Rh D Neg	**Rh D Neg**	******Rh D Pos**	**X**	**X**

***Acceptable in an emergency to aid haemostasis but not for prophylactic support where a platelet increment is required

**** Where unavoidable in women of child bearing potential - cover with prophylactic anti-D immunoglobulin

Rh D negative platelets should be given, where possible, to Rh D negative patients, particularly to women who have not reached the menopause.
If Rh D positive platelets are transfused to a Rh D negative woman of childbearing potential, it is recommended that prophylactic anti-D immunoglobulin should be given. **(Discuss with Haematology)**

➢ 6. Contacts

- Clinical haematologists – bleeps, 3037, 3060
- Transfusion Practitioner – bleep 2953
- Blood transfusion laboratory – ext 5766
- Out of hours on-call haematologist – bleep 2686

➢ 7. References

Handbook of Transfusion Medicine HMSO
Guidelines for the use of platelet transfusions - British Committee for Standards in Haematology (BCSH)
Guidelines for neonates and older children BCSH
A National Blood Conservation Strategy – National Blood Transfusion Committee and National Blood Service

➢ 8. Compliance

This will be audited as part of national and regional platelet usage audits.

Haemovigilance reporting (SHOT)

Audits as detailed by NHS Blood and Transplant (as part of National Audit Program), monitored by the Hospital Transfusion Committee.

Appendix A

Plan for Dissemination and implementation plan of new Procedural Documents

To be completed and attached to any document which guides practice when submitted to the appropriate committee for consideration and approval.

Acknowledgement: University Hospitals of Leicester NHS Trust

Title of document:	**Platelets ~ clinical use**		
Date finalised:	**Nov 2009 (REVIEWED AND RE-ISSUED JULY 2015)**	**Dissemination lead: Print name and contact details**	
Previous document already being used?	**Yes**		
If yes, in what format and where?	**On intranet**		
Proposed action to retrieve out-of-date copies of the document:	**Replace on intranet**		
To be disseminated to:	**How will it be disseminated/implemented, who will do it and when?**	**Paper or Electronic**	**Comments**
Trust wide		**Electronic**	**Intranet**
Is a training programme required?	Currently transfusion training programme is mandatory for all medical and nursing staff involved in blood transfusion.		
Who is responsible for the training programme?	**Transfusion Practitioner**		

Appendix B

Equality Impact Assessment Tool

To be completed and attached to any procedural document when submitted to the appropriate committee for consideration and approval.

Impact (= relevance) 1 Low 2 Medium 3 High	Evidence for impact assessment (monitoring, statistics, consultation, research, etc	Evidential gaps (what info do you need but don't have)	Action to take to fill evidential gap	Other issues
Race	**1**			
Disability	**1**			
Gender	**1**			
Age	**1**			
Sexual Orientation	**1**			
Religion and belief	**1**			

Once the initial screening has been completed, a full assessment is only required if:

- The impact is potentially discriminatory under equality or anti-discrimination legislation
- Any of the key equality groups are identified as being potentially disadvantaged or negatively impacted by the policy or service
- The impact is assessed to be of high significance.

If you have identified a potential discriminatory impact of this procedural document, please refer it to relevant Head of Department, together with any suggestions as to the action required to avoid/reduce this impact.