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All Wales Guideline for HLA and HPA Selected Platelets: Requesting and Feedback

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1 Introduction

1.1 This document sets out guidance for Health Boards in Wales regarding requesting and monitoring of Human Leucocyte Antigen (HLA) and Human Platelet Antigen (HPA) selected platelets from the Welsh Blood Service (WBS).

1.2 This document supersedes the guidelines initially drafted and issued by the HLA Platelet Working Group on 31 May 2012. This new policy has been reviewed and approved by the National Oversight Group prior to formal issue.

1.3 The aim is to provide HLA/HPA selected platelets to those most likely to benefit.

2 Background

2.1 The patient groups for which HLA/HPA selected platelets may be considered are documented in section 4 and follow the principles of the British Society for Haematology (BSH) Platelet Use guidelines (BSH, 2016).

2.2 HLA and HPA selected platelets are a limited resource and rely on the continued commitment of a small group of regular apheresis donors. Apheresis clinic staff at the WBS coordinate collection. If the request cannot be met from the WBS, platelets may be imported from NHS Blood & Transplant (NHSBT) at a cost of approximately £700 per unit (costings as of May 2018).

2.3 All HLA/HPA selected platelets are irradiated and suspended in plasma.

2.4 Apheresis clinic staff maintain a record of patients currently requiring selected platelets and their suitable donors. Donors are usually called to donate 2 - 4 days before platelets are required. The process requires time, commitment and forward planning.

2.5 All staff have a duty to ensure best practice in requisition and usage.

3 Aims and Objectives

3.1 The aim of this document is to ensure the effective use of this scarce resource by adherence to the following principles:

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3.1.1 HLA/HPA selected platelets are provided in accordance with BSH guidance regarding appropriate use and selection of HLA/HPA components (see section 4). The hospital clinical team (registrar or above) should contact a Clinical Scientist at the Welsh Transplantation and Immunogenetics Laboratory (WTAIL) to order/discuss patient requirements.

3.1.2 Discussion should include clinical urgency and causes of non-immune refractoriness. A preliminary schedule for transfusion should be agreed.

3.1.3 **Escalation of request**. Where the hospital lead clinician would like to consider HLA selected platelets for a patient that does not meet the criteria detailed below (section 4), discussion with a WBS Consultant is required. All requests for HPA matched platelets require WTAIL and WBS Consultant approval.

3.1.4 Samples for HLA/HPA typing and antibody testing are processed by WTAIL and results used to identify suitable active donors. Wherever possible the best matched donors will be utilised.

3.1.5 Monitoring and feedback of the response to the transfusion is essential in thrombocytopenic patients. This is required to assess efficacy and determine if continuation with selected platelets is appropriate. If the increment is poor, options include: review of initial match list provided to the apheresis clinic, further testing, switching the patient back to random platelet transfusions or discontinuation of platelet support unless bleeding occurs.

3.1.6 In the absence of appropriate WBS HLA/HPA selected donors, discussion of the treatment plan between the lead clinician and a WBS Consultant is required to determine if imported platelets from NHSBT is required.

4 Indications for HLA/HPA Selected Platelets

4.1 Platelet transfusion refractoriness in patients with hypoproliferative thrombocytopenia (bone marrow failure). Non-immune conditions such as consumptive coagulopathy, sepsis and splenomegaly are recognised as the most common cause of platelet refractoriness, accounting for approximately 80% of cases. Allo-immune refractoriness in a patient with thrombocytopenia

due to bone marrow failure is defined as a 10 minute to one hour increment of less than 5 x 10^9/l on 2 consecutive occasions, using ABO-identical platelets and in the absence of predominantly non-immunological factors (BSH, 2016).

Recommendations for patients with hypoproliferative thrombocytopenia and platelet refractoriness (BSH 2016):

- ABO matched platelets should be used when available to maximise increments
- Refractoriness due to non-immune factors – no indication for the use of HLA/HPA selected platelet transfusion(s)
- Refractoriness in the presence of HLA Class I antibodies – trial of HLA Class I selected platelet transfusion(s)
- Refractoriness still present, following the administration of HLA Class I selected platelet transfusion(s), in the presence of HPA antibodies, - trial of HPA selected platelet transfusion(s)

4.2 Congenital Platelet Function Disorders.

Recommended practice for this group:

- Consider recombinant factor VIIa (rFVIIa) for first line treatment or prevention of bleeding in Glanzmann Thrombasthenia (GT), and tranexamic acid (TXA) plus desmopressin in other congenital platelet function disorders
- Consider transfusion of platelets where pharmaceutical therapies are contraindicated, ineffective, or there is a high risk of bleeding.

Requests for prophylactic use of HLA/HPA selected platelets is acceptable, in patients with a definite diagnosis of a congenital platelet function disorder, when accompanied by a written schedule of use authorised by a consultant specialised in this area.

4.3 Neonatal allo-immune thrombocytopenia (NAIT).

Maternally derived HPA platelet antibodies most commonly cause NAIT. The suggested threshold of 25×10^9/l in the absence of bleeding is the same as that for neonates without NAIT.

Recommended practice for this group:

- Antibodies directed at HPA-1a/-5b are responsible for over 90% of NAIT cases. In the absence of diagnostic test results, HPA-1a/5b negative platelets should be requested. If there is evidence of ICH, platelet transfusions are required to maintain platelets of 50 - 100×10^9/l while at highest risk of ongoing haemorrhage.
- For NAIT patients refractory to HPA-1a/-5b negative platelets, or where HPA matched platelets (at other loci) are unavailable, consider the use of intravenous immunoglobulin.

5 Responsibilities

5.1 *Local Clinical Team Responsibilities*

5.1.1 The hospital clinical team must request selected platelet provision from staff in WTAIL with reference to the platelet antibody investigation report. If selected platelets are to cover planned surgery, the clinical team must ensure this is not cancelled at short notice because of the significant resource required to select the component.

5.1.2 The hospital Consultant/Specialist Registrar is responsible for completing the initial HLA/HPA Selected Platelet request form (example shown in Attachment 1) and sending to the hospital transfusion laboratory. Forms can be accessed from the WBS Hospital Resource pages (https://wbs-intranet.cymru.nhs.uk/bht/policies-guidance-forms/forms), accessible to NHS Wales.

5.1.3 The hospital clinical team is responsible for ensuring that pre and post transfusion counts are performed in thrombocytopenic patients, for each platelet transfusion episode. The results should be returned to the hospital transfusion laboratory on the dedicated HLA/HPA Selected Platelet feedback form (example shown in Attachment 2). Forms can be accessed from the WBS Hospital Resource pages (https://wbs-

intranet.cymru.nhs.uk/bht/policies-guidance-forms/forms), accessible to NHS Wales.

5.1.4 The hospital clinical team is responsible for maintaining communication with the WTAIL/WBS Clinicians where patients fail to increment following treatment with HLA/HPA selected platelets. Failure to increment may indicate the need for repeat HLA and/or HPA antibody testing, revision of the list of suitably matched donors, returning to random platelet transfusion or discontinuing platelet support unless there is bleeding. For patient's requiring ongoing clinical support the hospital clinical team should send a new HLA-matched platelet request form every two weeks and send further samples for repeat HLA antibody testing on a monthly basis.

5.1.5 The hospital clinical team is responsible **for notifying the hospital transfusion laboratory when selected platelets are no longer required or if the schedule is to be changed,** and for maintaining a record of requests/cancellations in the patient's clinical notes.

5.2 *Hospital Transfusion Laboratory (HTL) Responsibilities*

5.2.1 The HTL must be aware of a patient's requirements for HLA/HPA selected platelets. The HTL acts as the centre for communication and distribution and in so doing will:

- Email a copy of the initial HLA/HPA Selected Platelet request form (Attachment 1) to the WBS (using the address provided on the form).
- Ensure that HLA/HPA selected platelets are accompanied by the HLA/HPA Selected Platelet feedback form (Attachment 2) to the clinical area.
- Email the completed HLA/HPA Selected Platelet feedback form (Attachment 2) to the WBS (using the address provided on the form).

- Notify the clinical area when selected platelets for a patient have been delivered from WBS and maintain awareness of expiry date of any units.
- Contact the clinical area and WBS (using the phone number provided on the initial HLA/HPA Selected Platelet request form - Attachment 1) if platelets are left unused.
- Notify WBS when HLA/HPA selected platelets are no longer required (using the phone number provided on the initial HLA/HPA Selected Platelet request form - Attachment 1).

5.3 *WTAIL Responsibilities*

5.3.1 WTAIL staff should discuss the indication for HLA/HPA selected platelets and the treatment plan with the hospital clinical team. Where the use of selected platelets is outside of guidance (section 4), WTAIL will refer the request to a WBS Consultant.

5.3.2 Review increment data supplied by the hospital clinical team and liaise with WBS Consultants as required.

5.3.3 In the absence of a suitable WBS HLA-matched donor, WTAIL will refer to a WBS Consultant to determine whether it is appropriate to import platelets from NHSBT. If this causes delay in provision of selected platelets, the local clinical team will be informed.

5.4 *Apheresis Clinic Responsibilities*

Coordinate collection of suitably matched platelets.

5.5 *WBS Consultant Responsibilities*

5.5.1 Where there is uncertainty of benefit i.e. outside of guidance (section 4), requests for long term support, if the patient is not incrementing to selected platelets or if there is no WBS selected platelet component available, the WBS Consultant to discuss with the hospital clinical team to agree management.

5.5.2 Requests for HPA selected platelets for cases such as NAIT or PTP requires discussion between a WBS Consultant and the hospital clinical team.

6 Implementation

6.1 This guideline provides a framework to ensure effective provision and use of HLA/HPA selected platelets, which are a limited resource.

6.2 Hospital Transfusion Teams should ensure that local standard operating procedures/clinical guidelines/policies reflect this document.

6.3 Failure to provide increment data may result in discontinuing HLA/HPA selected platelet support.

6.4 An outline of the process is provided in Attachment 3 and a flowchart in Attachment 4.

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7 References

British Committee for Standards in Haematology. (2016). Guidelines for the use of platelet transfusions. *British Journal of Haematology*, www.b-s-h.org.uk/guidelines/

New HV, Berryman J, Bolton-Maggs PH, Cantwell C, Chalmers EA, Davies T, Gottstein R, Kelleher A, Kumar S, Morley SL, Stanworth SJ; British Committee for Standards in Haematology. *Br J Haematol*. 2016 Dec;175(5):784-828. Guidelines on transfusion for fetuses, neonates and older children.

ATTACHMENTS

Attachment 1 – HLA/HPA Selected Platelet Provision Request Form
Attachment 2 – HLA/HPA Selected Platelet Feedback Form
Attachment 3 - HLA/HPA Selected Platelet Process Outline
Attachment 4 – HLA/HPA Selected Platelet Process Flowchart

Example of the Selected Platelet Provision Request Form – to be completed as fully as possible for all such requests

Gwasanaeth Gwaed Cymru
Welsh Blood Service

HLA/HPA SELECTED PLATELET PROVISION REQUEST FORM

TO BE COMPLETED BY PATIENT'S SPECIALIST CLINICAL TEAM

Please email completed forms to WBS_SelectedPlatelets@wales.nhs.uk

PROVIDE A COPY TO THE HOSPITAL TRANSFUSION LABORATORY

Please ensure you have discussed this request with a member of staff in WTAIL by calling 01443 622186, and have sent appropriate samples for HLA/HPA antibody investigation.

10ml CLOTTED and 40ml EDTA are required. Contact the WTAIL paediatric patients or those difficult to bleed.

***This information is mandatory. Failure to adequately complete this information may result in a delay.**

***SURNAME**	***FORENAME**
***NHS Nº** ☐☐☐■☐☐☐■☐☐☐☐	
***DOB** ___/___/___	***Sex** Male ☐ Female ☐
Hospital No If NHS Nº not available Hospital Nº **MUST** be provided	
Referring Hospital	**Consultant**
***ABO / Rh Group**	**Ward**

***Diagnosis/Clinical Details**			
CMV Status: Positive ☐		**Negative** ☐	
Weight (kg)		**Height (cm)**	
Clinician Completing Form			
***Name**	***Signature**	***Telephone Nº**	***Bleep Nº**

Additional patient information:	**Chemo** ☐	**Post Chemo** ☐	**Post BMT** ☐	**ATG** ☐
Reason for requirement:			**Prophylactic** ☐	**Poor Increments** ☐

INCREMENTS FOR LAST TWO PLATELET TRANSFUSIONS				**ABO Compatible**	**Reaction**
***Date** ___/___/____	***Pre**	x10⁹/l	***Post** x10⁹/l	Yes/No	Yes/No
***Date** ___/___/____	***Pre**	x10⁹/l	***Post** x10⁹/l	Yes/No	Yes/No

***Non Immune Reasons Present** Yes ☐ No ☐ (please tick all applicable)						
Bleeding ☐	Fever ☐	Splenomegaly ☐	Infection ☐	DIC ☐	Antimicrobials ☐	

REQUIREMENTS NOTE: MINIMUM OF 4 WORKING DAYS REQUIRED BEFORE ISSUE

Start Date ___/___/____

***CMV NEGATIVE: ESSENTIAL** ☐ **UNNECESSARY** ☐ **NOTE: All units are irradiated**

*State number of units required. *Please note that all requests are to be reviewed every two weeks if treatment anticipated to continue beyond this timeframe.*

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Week 1							
Week 2							

Please inform the WTAIL if platelets are no longer required to prevent unnecessary provision of a limited, time-intensive resource.

Example of the Selected Platelet Feedback Form – to be completed in full and returned to the WBS to allow monitoring of the efficacy of selected platelets

Gwasanaeth Gwaed Cymru
Welsh Blood Service

HLA/HPA SELECTED PLATELET FEEDBACK FORM

Failure to complete this form will affect the future provision of platelets for your patient

HOSPITAL TRANSFUSION LABORATORY complete this section and send to the clinical area with the pack of platelets													
Donation No	**G151**											**Pack No**	

PATIENT DETAILS ***(Addressographs not acceptable)***			
Surname		Forename	
Hospital No		NHS No	
Date of Birth		Hospital	

CLINICAL STAFF - complete this section and return to the Hospital Transfusion Laboratory as soon as possible with traceability documentation	
Date of Transfusion	
Start time	

Platelet Count Information:

	Platelet Count ($x10^9$/l)	**Date**	**Time**
Pre transfusion (≤24 hrs prior to transfusion)			
Post transfusion (10mins – 1hr post transfusion)			

Adverse reaction to transfusion	Yes/No
If yes, was the hospital transfusion laboratory notified?	Yes/No

Name		Position	
Signature		Date	

Laboratory Use

Increment data complete ☐ Fax sent ☐

Signature		Date	

Please email completed forms to WBS_SelectedPlatelets@wales.nhs.uk

Outline of the HLA/HPA Selected Platelet Provision Process

It is essential that all parties adhere to the following guidance.

5 Key Stages

1 *Clinical Decision that selected platelets may be required*

- The haematology Consultant/SpR should discuss with the WTAIL at the WBS. The request should comply with Section 4 (based on BSH recommendations).
- A poor response to 2 or more ABO compatible random platelet transfusions
- Blood samples for HLA/HPA typing and antibody testing (20-40mls EDTA and 10-20mls clotted samples).
- An initial schedule of transfusion to be agreed
- WTAIL to progress provision within the WBS

2 *Ordering through hospital transfusion laboratory*

- After agreement the hospital clinical team complete the HLA/HPA Platelet Provision Request Form (Appendix 1) and send to the HTL. This should include the proposed initial schedule for transfusion
- The HTL should ensure that patient details and blood group on the request form are complete
- The form should be sent to WBS using the email address provided
- The HTL provides feedback to the clinician on the agreed schedule (for practical reasons this may differ from that originally requested)
- The HTL arranges with the WBS for the delivery of platelets according to the agreed schedule and issues to the clinical area
- The HLA/HPA Selected Platelet follow up form (Appendix 2) must accompany each unit issued to the clinical area

3 *Monitoring effectiveness – increment*

- Increment data must include a pre and post-transfusion platelet count. This should take place 10 minutes to 24 hours after completion of the transfusion.
- The clinical team should document increment data on the HLA/HPA Selected Platelet follow up form (Appendix 2) and return to the HTL, ideally no later than the next working day
- The HTL should check that the form is completed with pre and post transfusion counts and forward to the WBS using the email address provided

Outline of the HLA/HPA Selected Platelet Provision Process

4 *Ongoing clinical management*

- The hospital clinical team should update WTAIL regarding progress of the patient (at least fortnightly)
- Increment data and degree of HLA match will allow for optimal use of donors
- Samples (a minimum of 10ml clotted) for repeat HLA antibody testing is required at monthly intervals:
    1. where the patient requires continued support,

       or

    2. prior to further selected platelet support; where there has been a time lapse since initial sample for HLA/HPA selected platelet support
- HPA antibody testing, when indicated, will require a further 10mls clotted sample
- If a **change to the schedule** is agreed, the hospital clinician should complete a further HLA/HPA selected platelet request form (Appendix 1) and notify the HTL. The HTL should sent to WTAIL using the email address provided
- In the event that an initial or ongoing request cannot be fulfilled, due to unavailability of suitable donors, the WTAIL will contact a WBS Clinician to discuss with the hospital clinical team. A decision regarding the necessity to import suitably selected platelets or alternative management of the patient will be made.

5 *Cancellation of order*

- When HLA/HPA platelets are no longer required it is the hospital clinician's responsibility to notify the HTL and the WTAIL
- If HLA/HPA platelets are left unused the HTL should contact the clinical team to enquire whether the order should be amended or cancelled
- To cancel the order an initial telephone call is required but must be followed up by completion of the Cancellation section of the HLA/HPA matched platelet provision request form (Appendix 1), sent to the WTAIL by email using the address provided

Flowchart of the HLA/HPA Selected Platelet Provision Process