



Government of Newfoundland and Labrador

Department of Health and Community Services
Provincial Blood Coordinating Program

PLATELET GUIDANCE DOCUMENT	NLBPCP-066
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Overview

Platelets are a blood component prepared from whole blood donation or by apheresis technology, consisting of platelets suspended in plasma or an approved storage solution. Platelets provide the basis for clotting, which helps control bleeding. The shelf life of platelet components is seven (7) days.

Policy

1. Regional Health Authorities (RHAs) shall develop policies, processes and procedures for appropriate ordering, distribution, storage, and transfusion of platelet components that comply with Provincial Blood Coordinating Program policies.
2. Platelet components shall be prescribed by a physician or other authorized health professional.
3. Platelet components shall be stored at 20-24 °C with gentle agitation, except during transport, until date of expiry.
4. Platelet components may only be transported for a maximum of 24 hours.
5. Human leukocyte antigen (HLA)/Human platelet antigen (HPA) matched platelets may be provided upon request and completion of testing in an appropriate clinical setting. Canadian Blood Services also has special requirements that must be met and follow up transfusion information is requested:
https://blood.ca/sites/default/files/1000101869_Request_For_HLA_HPA_Platelets.pdf
https://blood.ca/sites/default/files/F800938_HLA_HPA_Selected_Platelet_Report.pdf

Guidelines

1. Platelet count should be performed one hour post transfusion.
2. Each dose of platelets should increase the recipient's platelet count at 1 hour by approximately $15-25 \times 10^9/L$.
3. Rh(D)-negative children and Rh(D)- negative women of child-bearing potential who receive Rh(D)-positive platelets should receive RH immunoglobulin (RhIg).
 - 3.1. One pooled platelet can contain up to 0.5 mL of red blood cells.
 - 3.2. One apheresis platelet contains 0.0001 mL to 0.0325 mL of red blood cells.
 - 3.3. A 120 microgram vial (600 IU) of RhIg covers six (6) mL of red blood cells (12 doses) for 21 days.

4. RhIG is not recommended for males or for females of non-childbearing potential, because risk of immunization from platelets is low (about one percent.) However in some clinical situations it may be considered in consultation with Transfusion Medicine Physician.
5. A threshold of less than or equal to $10 \times 10^9/\text{L}$ should be used for prophylactic platelet transfusion from patients with hypoproliferative thrombocytopenia.
6. Although all ABO groups are acceptable, ABO identical platelets are preferred. Components that are compatible with recipient's red cells are recommended.
7. If a facility has the ability to perform ABO titres on platelet units, titres should be performed on platelet units issued to non-ABO identical recipients.
8. If the platelet unit contains high titre anti-A or Anti-B, patients who receive platelets who have antigens to the high titre antibody may become sensitized resulting in a positive direct anti-globulin test. Hemolysis may occur with large volume transfusion (two or more adult doses per 24 hour period).
9. In the absence of ABO identical platelets, transfusion should not be withheld just because the titre is unknown. Each transfusion should be based on a risk versus benefit evaluation.
10. Both apheresis and pooled platelets are used interchangeably and are leukoreduced.
 - 10.1. Apheresis platelets are from one donor.
 - 10.2. Pooled platelets are the buffy coats of four donors of the same group. They are pooled and suspended in the plasma of one donor, who must be male.
11. Indications for platelet transfusion with decreased platelet count or platelet dysfunction to *stop bleeding*:
 - 11.1. Patients with non-immune, clinically significant bleeding with a platelet count less than $50 \times 10^9/\text{L}$.
 - 11.2. Immune mediated thrombocytopenia with a platelet count less than $20 \times 10^9/\text{L}$ **and** significant bleeding.
 - 11.3. Head trauma or life threatening hemorrhage with a platelet count less than $100 \times 10^9/\text{L}$.
 - 11.4. Platelet dysfunction **and** clinically significant bleeding.
 - 11.5. As part of a massive hemorrhage protocol in bleeding patients.
12. Indication for platelet transfusion to *prevent bleeding*:

- 12.1. Patients with therapy induced platelet count less than $10 \times 10^9/L$.
- 12.2. Elective central line with platelet count less than $20 \times 10^9/L$.
- 12.3. Elective lumbar puncture with platelet count less than $50 \times 10^9/L$.
- 12.4. Major elective non-neuroaxial surgery with platelet count less than $50 \times 10^9/L$.
- 12.5. Neuroaxial surgery with platelet count less than $100 \times 10^9/L$.
- 12.6. Considered for patients undergoing coronary artery bypass grafting who exhibit perioperative bleeding with thrombocytopenia and/or evidence of platelet dysfunction.

Key Words

Platelets, thrombocytopenia

References

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