



Government of Newfoundland and Labrador

Department of Health and Community Services
Provincial Blood Coordinating Program

PLATELET GUIDANCE DOCUMENT	NLBSP-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 primary role of transfused platelets is to participate in primary hemostasis through the provision of functionally normal platelets.

Platelet transfusions are prescribed for the treatment or prevention of hemorrhage in patients with low platelet counts, and sometimes with abnormal platelet function.

The shelf life of platelet components is seven (7) days.

Policy

1. NL Health Services (NLHS) facilities shall develop policies, processes and procedures for appropriate ordering, distribution, storage, and transfusion of platelet components.
2. Platelet components shall be prescribed by a physician or other authorized health prescriber.
3. Platelet components shall be stored at 20-24 °C with gentle agitation to preserve platelet function.
4. Platelet components shall 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 such as HLA-alloimmunization or refractory to random donor platelets. Canadian Blood Services has special requirements that must be met and follow up transfusion information is requested: See [HLA/HPA Selected Platelets](#)

Guidelines

1. Platelet count should be performed one hour post transfusion.
2. Each dose of platelets should increase the recipient's platelet count at one (1) hour by at least $15 \times 10^9/L$.
3. Patients should be monitored for platelet refractoriness if the desired increment is not achieved.
4. Rh(D)-negative children and Rh(D)-negative women of child-bearing potential who receive Rh(D)-positive platelets should receive Rh immunoglobulin (RhIg).
 - 4.1. Platelet components contain less than 0.5 mls of red blood cells.

- 4.2. A 120-microgram vial (600 IU) of Rhlg given intravenously covers six (6) mL of red blood cells (12 doses) for 21 days and should be given within 72 hours of the first exposure.
5. Rhlg 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 a Transfusion Medicine Physician.
 6. A threshold of less than or equal to $10 \times 10^9/L$ should be used for prophylactic platelet transfusion from patients with hypoproliferative thrombocytopenia.
 7. Although all ABO groups of platelets are acceptable, ABO identical platelets are preferred. Components that are compatible with recipient's red cells are recommended.
Note: Hemolysis may occur with multiple transfusions of ABO incompatible platelets.
 8. Multiple transfusions of platelets in platelet additive solution E (PAS-E) may lead to overdosage of potassium and magnesium.
 9. In the absence of ABO identical platelets, transfusion should not be withheld. Each transfusion should be based on a risk versus benefit evaluation.
 10. Both single donor apheresis and buffy coat derived pooled platelets from multiple donors are supplied and considered equivalent.
 11. Indications for platelet transfusion with decreased platelet count or platelet dysfunction to *stop bleeding*:
 - 11.1. Patients with clinically significant bleeding or major trauma with a platelet count less than $50 \times 10^9/L$.
 - 11.2. Immune mediated thrombocytopenia with a platelet counts less than $50 \times 10^9/L$ **and** significant bleeding.
 - 11.3. Central nervous system bleeding or life threatening hemorrhage with a platelet count less than $100 \times 10^9/L$.
 - 11.4. Platelet dysfunction **and** clinically significant bleeding.
 - 11.5. As part of a massive hemorrhage protocol in bleeding patients.
 - 11.6. Considered for patients undergoing coronary artery bypass grafting who exhibit perioperative bleeding with thrombocytopenia and/or evidence of platelet dysfunction.
 - 11.7. Bleeding that cannot be stopped in a patient taking anticoagulants with a platelet count less than $30 \times 10^9/L$.

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. Low risk procedures not associated with significant bleeding (e.g. central line placement, lumbar puncture, paracentesis with platelet count less than $20 \times 10^9/L$).

Note: Clinical judgement should be used for diagnostic lumbar puncture when counts are less than $50 \times 10^9/L$.

12.3. Pre-major elective surgery or procedure with blood loss expected to be greater than 500 mL with platelet count less than $50 \times 10^9/L$.

12.4. Pre-neurosurgery or head trauma or with platelet count less than $100 \times 10^9/L$.

12.5. Epidural anesthesia with a platelet count less than $80 \times 10^9/L$.

Key Words

Platelets, thrombocytopenia

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