

National Plan for Management of Shortages of Labile Blood Components – Summary for Blood Banks

This document summarizes the actions for hospital blood banks when a shortage advisory is received. Please refer to the full document at <https://www.nacblood.ca/resources/shortages-plan/index.html>

1. Shortage advisory received from National Emergency Blood Management Committee (NEMBC).	
2. Convene local hospital emergency blood management committee (HEBMC) and implement pre-established communication plan and action plan (according to phase). Role of HEMBC is to assist in utilization reduction, and provide effective communication and decision making. Suggested membership of HEBMC includes: <ol style="list-style-type: none"> a. Executive rep, blood bank director, nursing director, communications, safety officer, lab manager b. Heads of: Internal Medicine/ICU, Surgery, Anesthesiology, Emergency, Obstetrics/Gynecology 	
3. Report inventory of affected component to CBS at a frequency determined by NEMBC notification.	
4. Perform actions as described in the National Plan (and according to local contingency plans) depending on phase:	
Green Phase Advisory	<p><u>Definition:</u> CBS inventory levels are low with respect to a specific blood component</p> <p><u>Action:</u></p> <ol style="list-style-type: none"> 1. Determine local inventory and report back to CBS as advised on the NEMBC notification
Amber Phase	<p><u>Definition:</u> CBS inventory levels are insufficient to continue with routine transfusion practices.</p> <p><u>Action:</u></p> <ol style="list-style-type: none"> 1. Adjust inventory levels of affected components to pre-determined Amber Phase levels. 2. Request inventory from CBS based on Amber Phase levels. 3. Defer/cancel elective¹ surgery/procedures that require the affected component. 4. Follow transfusion guidelines for Amber Phase (see page 2). <ol style="list-style-type: none"> a. All requests that do not fulfill pre-determined acceptance criteria require referral to Medical Director or designate prior to issuing. Record the requests/outcomes.
Red Phase	<p><u>Definition:</u> CBS inventory levels are insufficient to ensure non-elective transfusion practices.</p> <p><u>Action:</u></p> <ol style="list-style-type: none"> 1. Adjust inventory levels of affected components to pre-determined Red Phase levels 2. Request inventory from CBS based on Red Phase levels. 3. Defer/cancel all surgery/procedures that require the affected component except for emergency¹ procedures. 4. If possible, defer stem cell transplantation, chemotherapy treatments or other treatments requiring affected blood component. 5. Follow transfusion guidelines for Red Phase (see page 2). <ol style="list-style-type: none"> a. All requests that do not fulfill pre-determined acceptance criteria require referral to Medical Director or designate prior to issuing. Record the requests/outcomes. 6. If instructed by NEMBC, refer to the Emergency Framework for Rationing/Triaging of blood during a Red Phase: https://nacblood.ca/resources/shortages-plan/emergency-framework-final.pdf
Recovery Phase	<p><u>Definition:</u> CBS inventory levels have begun to increase and expected to be maintained.</p> <p><u>Action:</u></p> <ol style="list-style-type: none"> 1. Slowly adjust inventory levels and reinstitute procedures and transfusions on the basis of urgency. Review previous documentation of requests/outcomes to help determine order of resumption. 2. Slowly or partially replace emergency stocks to sites that had inventory redistributed.

¹Definitions Urgent surgery: patient to have major morbidity if surgery not performed within the next one to 28 days
 Emergency surgery: patient likely to die within 24 hours without surgery

Recommended Guidelines for Amber and Red Phase for RBC & Platelets as per Shortages Plan

Plasma and Cryoprecipitate to follow local established Green Phase recommendations.

- Consider alternatives such as prothrombin complex concentrate and fibrinogen concentrate
- Group A plasma may be considered as an alternate to group AB if appropriate mitigation and monitoring

	Amber Phase		Red Phase	
	RBCs ²	Platelets ^{2,3}	RBCs ²	Platelets ^{2,3}
Major Bleed	Follow hospital guidelines	CNS trauma/bleeding: platelet > 80 x10 ⁹ /L Withhold routine platelet issue in massive hemorrhage packs in absence of an indication (e.g. platelet < 50 x10 ⁹ /L)	Follow hospital guidelines. Follow triage/rationing framework ¹ if instructed by NEMBC	Same as amber phase
Surgery/Obstetrics	Urgent & emergency surgery in consultation with HEMBC Consider use of alternatives to minimize RBC requirements Limit # units required for patient stabilization	Urgent & emergency surgery in consultation with HEMBC Surgery/active bleeding: platelet > 50 x10 ⁹ /L CNS surgery/trauma: platelet > 80 x10 ⁹ /L Other non-surgical invasive procedures (excluding bone marrow biopsy/aspirate): platelet > 10 x10 ⁹ /L	Emergency surgery in consultation with HEMBC Follow triage/rationing framework ¹ if instructed by NEMBC	Emergency surgery in consultation with HEMBC All requests for platelet transfusion must be reviewed by medical personnel
Non-surgical	All requests for Hb > 70 g/L must be reviewed by medical personnel For patients with hypoproliferative anemia, single unit transfusion should be provided if significant symptoms associated with anemia. Reassess symptoms after each unit.	Prophylactic: Platelet < 10 x10 ⁹ /L Consider < 5 x10 ⁹ /L Autologous stem cell transplant: Transfuse only if bleeding All requests for transfusion with platelet > 10 x10 ⁹ /L must be reviewed by medical personnel	All requests for Hb > 60 g/L must be reviewed by medical personnel For patients with hypoproliferative anemia, single unit transfusion should be provided if significant symptoms associated with anemia. Reassess symptoms after each unit.	Eliminate all prophylactic transfusions. All requests for platelet transfusion in non-bleeding patients must be reviewed by medical personnel.

¹Framework for triaging/rationing is available at: <https://nacblood.ca/resources/shortages-plan/emergency-framework-final.pdf>

²In consultation with patient's physician, may consider use of a component beyond its approved storage period. Justification must be documented in patient chart by responsible physician and every effort made to obtain patient consent.

³Consider split doses of platelets if available. Health Canada advises that this is considered aliquoting and not a processing activity.