



Red Blood Cells Screening

- APL Transfusion Medicine (TM) screens orders for Red Blood Cells (RBC) for adult patients based on the following criteria.
- Orders that fall outside these recommendations require approval from a TM Physician.
- RBC Orders for pediatric patients and patients with active bleeding will not be screened.

Stable, Non-Bleeding Patients

- Applies to Inpatients and Emergency Department Patients
- Hemoglobin (HGB) must have been performed within the last 24 hours.

HGB (g/L)	Adult Transfusion Recommendation
HGB less than 60	<ul style="list-style-type: none"> • Transfusion likely appropriate. • Transfuse 1-2 units.
HGB less than 70	<ul style="list-style-type: none"> • Transfusion likely appropriate. • Transfuse 1 unit.
HGB 70 - 80	<ul style="list-style-type: none"> • Likely appropriate in patients with cardiovascular disease. • Likely appropriate if there are signs and symptoms of impaired tissue oxygenation. • Transfuse 1 unit.
HGB greater than 80	<ul style="list-style-type: none"> • Likely inappropriate unless there are signs and symptoms of impaired tissue oxygenation. • Ordering physician to consult TM Physician. • Indication for transfusion must be clearly documented in patient's chart. • Transfuse 1 unit.
HGB greater than 90	<ul style="list-style-type: none"> • Transfusion Likely inappropriate. • Ordering physician to consult TM Physician.

Booked Outpatients

- Applies to patients with scheduled transfusions, including chronic transfusion recipients.
- HGB must have been performed within the last 96 hours.
- Chronic transfusion recipients with requirements outside these recommendations must have their patient-specific transfusion parameters approved by a TM physician.

HGB (g/L)	Approved RBC Orders
HGB less than 70	Up to three (3) RBC units
HGB 70 - 85	Up to two (2) RBC units
HGB 86-90	One (1) RBC unit
HGB greater than 90	Requires TM Physician approval



RBC Screening FAQ

1. Why is RBC screening being done?
 - To reduce unnecessary transfusions, decrease risk to patients, decrease RBC demand, and to reduce associated costs to the health care system.
 - RBC screening aligns with [Choosing Wisely Canada recommendations](#) that transfusion decisions for stable, non-bleeding patients be based on symptoms and hemoglobin (HGB) concentration, and recommend single unit transfusions. Additional units should only be prescribed after re-assessment of the patient and their hemoglobin value.
2. Which patients does RBC screening affect?
 - Stable, non-bleeding patients, asymptomatic adult patients.
 - Patients booked for scheduled routine transfusions are screened according to different criteria.
3. Which patients are exempt from RBC screening?
 - The following patient groups are exempt:
 - Hemodynamically unstable or experiencing life-threatening bleeding;
 - Post-operative vascular or cardiac surgery patients (up to 48h post-op);
 - Pediatric and neonatal
 - Patients with hemoglobinopathy undergoing exchange transfusion
 - Patients in trauma rooms, operating rooms (OR), Post-Anesthesia Recovery Rooms (PARR)/Post-Anesthesia Care Units (PACU)
 - ECMO Prime
 - Cellular Therapy Product transplant patients
 - Chronically transfused patients with in-date Transfusion Parameters approved by Transfusion Medicine.
 - Those demonstrating significant symptoms from impaired oxygen delivery such as elevated heart rate, dizziness or fainting, or cardiac symptoms like chest pain or shortness of breath
 - **The MRHP (Most Responsible Health Practitioner) that is placing the red cell order must include the information that the patient is unstable, bleeding and/or significantly symptomatic from anemia to ensure that information is reliably communicated to the laboratory staff.**
4. Why are post-operative vascular and cardiac surgery patients excluded? Shouldn't all post-operative patients be considered equally? Why are post-operative vascular and cardiac surgery patients excluded for only 48h post-op?
 - It is not actually the bleeding risk that excludes these patients. It is due to vascular insufficiency issues that would raise the thresholds that make cardiac and vascular patients different.
 - Up to 48h post-op, these patients are still considered 'perioperative,' and are thus excluded from RBC screening.
5. Are patients sent to an emergency department for transfusion by their family physician due to ordering privileges exempt from RBC screening?
 - No, but they will be screened according to separate criteria for scheduled / booked outpatient transfusions.
6. Is a CBC required or just the HGB?
 - Only HGB is required.
 - Blood gas measurements of HGB are acceptable.
7. Within what time frame of the RBC request does the HGB result have to be?
 - Within the past twenty-four (24) hours of the RBC request for emergency department and inpatients.



- Within the past 96 hours for booked / scheduled outpatients.
8. What time-frame should a post-transfusion Hb be drawn?
- Thirty (30) minutes post-transfusion.
9. If HGB is 'trending down,' is this considered bleeding?
- Yes, HGB trending down with a drop of at least 10 g/L in 24h or less is considered blood loss or hemolysis. If HGB is trending down, please indicate on the order that the patient is bleeding.
10. What about specific clinical protocols or patient requirements that necessitate different transfusion requirements?
- If a patient has specific transfusion requirements, these transfusion parameters can be approved on a patient-specific basis by consulting with a TM physician.
 - Evidence indicates that restrictive protocols are safe in non-bleeding adult inpatients, including hematology patients undergoing chemotherapy. Additional inappropriate transfusions increase the alloimmunization and transfusion reaction risks for these patients.

Contact Information

For questions or comments, please contact your local TM Physician or the APL Transfusion Safety Team Transfusion.SafetyTeam@aplabs.ca