



National Blood Shortage Contingency Planning During a Pandemic: Hospital Transfusion Medicine Laboratory (TML) Checklist and Considerations

General Blood Contingency Checklist:

- Ensure your provincial and local emergency coordinating centres aware of the Blood Contingency plans and how they would play into pandemic activities.
- Clarify if you have different mechanisms to report as a PEBMC in the context of pandemic versus an isolated blood shortage.
- Ensure your medical leaders and clinical front line staff aware of the contingency plans and Red Phase emergency framework.
- Ensure you have the capacity for **sustained** daily inventory reporting of components by blood group.
- Ensure you have mechanisms in place to ensure compliance with Amber and Red Phase criteria.
- Ensure screening documentation tools available for your blood bank or triage staff.
- Clarify procedures for site-to-site component and product shipment in case of need for engagement of blood redistribution.
- Maximize use of alternative strategies to RBC and platelet transfusion (iron, folate, erythropoietin, thrombomimetics and tranexamic acid)
 - Do you need to coordinate with provincial pharmacy partners to increase stocks or change policies for access?
- Evaluate policies for patients requiring Home Infusion/Home Therapy Products which are picked up from Transfusion Medicine Laboratories (ex. SCIG, coagulation factor concentrates)
 - What is the currently permitted volume of product issued at one time?
 - Can designated individuals pick up product for patients? If so, what criteria are in place (ex. letter from the patient; presentation of the patient name and healthcare number, plus photo ID of the person picking up product, etc.)
 - Are there designated facilities where this product can be accessed? Should this be consolidated to a single site?
- Ensure that you are aware of provincial and individual site plans for:
 - Elective surgery – cancelled or ongoing?
 - ECMO support for intubated COVID-19 patients – planned or not?
 - Stem cell and solid organ transplants – criteria for when they will proceed?
 - Prophylactic Sickle Cell exchanges – switch to top up RBC vs Cancel?
 - Chronic transfusion recipients/marrow failure – altered thresholds? Home infusion opportunities? When would they stop prophylactic platelet transfusion? Role of preemptive alternatives now?
 - CV surgery – smaller circuits? emergency cases only? enhanced preoperative anemia optimization?



Specific Blood Inventory Considerations:

Red Blood Cells (RBC):

- Is blood group testing on your essential test menu to ensure that blood banks can maximize non-O transfusion even in staffing shortages?
- Can you ensure that O negative RBC are being utilized only for females of childbearing potential?
- Does your facility have the ability to split/aliquot RBC units? What are implications to out-dating?
- Where is your RBC inventory across the province?
- What is the “red line” inventory for RBC emergency stock in all of your facilities?
- Are there opportunities for further redistribution of stock in your jurisdictions to avoid wastage?
- When should there be a change to irradiation criteria to preserve RBC inventory?
 - Can RBC be irradiated at the time of product issue, if an on-site irradiator is available?
 - Should older units be issued to patients requiring irradiated blood?
 - Recent evidence (pending publication) suggests non-irradiated RBC units >21 days old have no viable lymphocytes.
- If extending RBC shelf life becomes necessary, is your facility able to wash (additive deplete and saline replace) RBC?

Platelets:

- Does your facility have the ability to split/aliquot platelets in your facilities? What are implications to out-dating?
- If extending platelet shelf life becomes necessary, would you have refrigerator space to accommodate cold storage of platelets?
 - It may be possible to extend platelet storage life to 10-11 days for use in the acute bleeding/trauma setting (unsuitable for prophylactic transfusion).

Plasma:

- Are any patients requiring plasma exchange at this time? What is the projected treatment course and what are considerations for alternative therapies?

Cryoprecipitate:

- Does your lab have LIS codes or policies to facilitate fibrinogen concentrate use (instead of cryoprecipitate) in your facility? Have your clinical teams been trained to administer fibrinogen concentrate?