ZSFG Blood Shortage Plan DRAFT

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Shortages expected – ZSFG inventory levels are near target but shortages are likely

- Postpone elective procedures that might require transfusion
- Request 24/7 standby coverage for intraoperative cell salvage
- Only 1 unit type O PRBC will be issued at a time, except for emergency release and MTP

Severe shortage – ZSFG Blood Bank inventory of O pos RBC < 25

- Prospective review by Lab Med attending of all non-emergency O RBC and plt orders
- Delay all transfusion as long as possible in stable patients
- If massive transfusion is needed or predicted, and patient meets Canadian National Shortage Plan general exclusion criteria*, do not transfuse type O RBC, consider fibrinogen concentrate (Riastap) preferentially over cryoprecipitate and over plasma.
- Trauma-specific guidelines
    - Do not activate massive transfusion in penetrating trauma with < 15 minutes of transport time if in asystole without tamponade
    - Do not activate massive transfusion in penetrating trauma with cardiac arrest and > 15 minutes of field CPR time
    - Do not activate massive transfusion in blunt trauma with out of hospital cardiac arrest
- Ruptured AAA: Do not transfuse type O blood, unless:
    - Patient stable enough for pre-operative CT
    - Anatomy on CT scan demonstrates contained rupture and anatomy suitable for endograft repair.
- Patient requires ECMO, or has GI bleed related to ESLD: do not transfuse type O RBC
- Limit massive transfusion cases to 8 units O pos RBC (2 coolers) if there is no expectation of immediate hemostatic control
- O neg RBCs available ONLY for patients with current or historical anti-D

Critical shortage – ZSFG Blood Bank inventory of < 5 of the ordered unit

- Give RhD pos for RhD neg patients unless current or historical anti-D
- If massive transfusion is needed or predicted, and patient meets Canadian National Shortage Plan general exclusion criteria*, do not transfuse any RBC blood type; fibrinogen concentrate (Riastap) used in place of cryoprecipitate.
- Trauma-specific guidelines:
    - Do not transfuse in blunt trauma with cardiac arrest
    - Do not transfuse in penetrating trauma with cardiac arrest, unless all of the following:
        - Arrest is due to tamponade
        - < 15 minutes of CPR
        - ROSC is achieved with release of tamponade
- Ruptured AAA: Do not transfuse
- If orders for blood exceed supply on hand, issue units according to the following criteria (in order)

- Greatest number of life-years saved
- Highest likelihood of hemostatic control
- First-come, first served

Notes: 1. Reassess the patient every 8 units PRBC or every 24 hours, whichever comes first.
2. All measures are cumulative as the shortage worsens.
3. **Link to lab manual with evidence-based transfusion thresholds**

Canadian National Shortage Plan general exclusion criteria:

General Exclusion Criteria:

A. Severe burns of patient with any 2 of the following:
   i. Age >60yrs
   ii. >60% of total body surface area affected
   iii. Inhalation injury requiring mechanical ventilation
B. Cardiac arrest
C. Advanced, progressive baseline cognitive impairment
D. Advanced, progressive untreatable neuromuscular disease
E. Metastatic malignant disease with expected survival less than 6 months
F. Advanced and irreversible immunocompromise
G. Severe and irreversible acute neurologic event or condition
H. End-stage organ failure meeting the following criteria:
   i. *Heart* – NYHA class III or IV heart failure
   ii. *Lungs* – COPD with FEV1 < 25% predicted, baseline PaO2 < 55mmHg, or secondary pulmonary hypertension; Cystic fibrosis with post-bronchdilator FEV1 < 30% or baseline PaO2 < 55mmHg; Pulomary fibrosis with VC or TLC < 60% predicted, baseline PaO2 < 55mmHg, or secondary pulmonary hypertension; mprimary pulmonary hypertension with NYHA class III or IV heart failure, right atrial pressure > 10mmHg, or mean pulmonary arterial pressure > 50mmHg