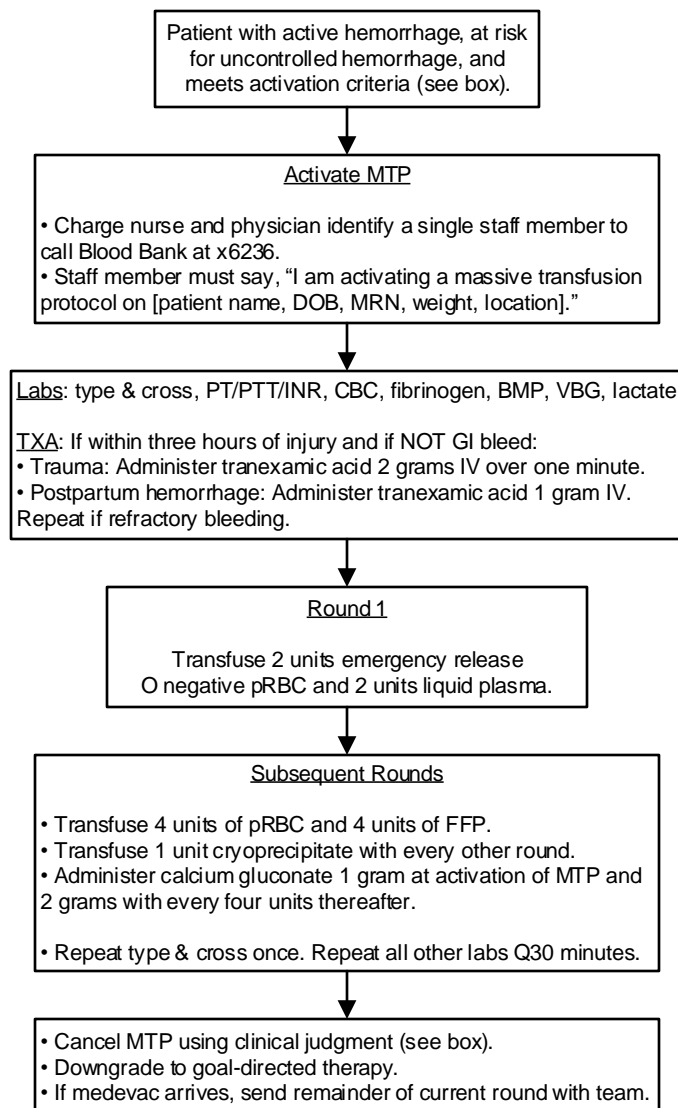




# Yukon-Kuskokwim HEALTH CORPORATION

## Treatment Protocol

### Massive Transfusion Protocol (≥14 years)



#### Criteria for Activation (any)

- Patient has required ≥3 units pRBC in 1 hour
- Shock Index of HR/sBP > 1
- pH < 7.24 or base deficit ≤ -10
- ABC Score: ≥2 of the following
  - Penetrating mechanism
  - (+) FAST exam
  - Systolic BP < 90
  - Heart rate > 120
- RABT Score: ≥2 of the following
  - Penetrating mechanism
  - (+) FAST exam
  - Shock index > 1
  - Pelvic fracture

#### Factors to Consider for Cancellation of the MTP

- Bleeding is controlled or significantly improved.
- Hemodynamic status is improving
  - Stable or decreasing HR
  - Stable or increasing BP
  - Stable or increasing UOP
  - Decreasing vasopressor requirement
- Labs improving:
  - Hgb > 8
  - PT < 18
  - PTT < 42
  - Platelets > 50
  - Fibrinogen > 150
  - Lactate < 3
- Recognition of medical futility of further resuscitative efforts.

#### Risks of Massive Transfusion

Non-fatal complications in 50% of patients transfused >5 units of blood:

- Coagulopathy
- Thrombosis
- ARDS: adult respiratory distress syndrome
- TACO: transfusion-associated circulatory overload
- TRALI: transfusion-related acute lung injury
- Hemolytic reaction

#### Tips

- Avoid crystalloids to prevent dilution
- Acidosis predicts mortality. Treatment is to optimize resuscitation. No clear benefit to bicarb but may be considered if pH persistently < 7.2 despite resuscitation.
- Avoid hypothermia; keep core temperature > 36°C.
- pRBC should be transfused with a mass transfuser and blood warmer.
- Utilize ED technician to transport blood products during an MTP.

#### Availability of Blood Products at YKHC

Blood type	Quantity (units)	Rounds**
O negative	10	2-3
O positive	16	4-5
A positive	10	6-7
B positive	6	5-6
AB	none	7-8

#### Anticoagulation Reversal Agents at YKHC

- DOA/warfarin: Kcentra 2000 units or 25-50 units/kg at ~3 units/kg/minute
- Warfarin: Vitamin K 2.5-10 mg IV over 10-20 minutes
- Dabigatran: PraxBind® 2.5 grams IV Q5 minutes x2
- Heparin: Protamine 0.5-1 mg IV over 10 minutes

\*\*Per lab policy, the blood bank cannot dispense all units to a single patient in case of other emergencies. May discuss with Clinical Director on call.

This guideline is designed for the general use of most patients but may need to be adapted to meet the special needs of a specific patient as determined by the medical practitioner.

Approved by Clinical Guideline Committee 11/21/23.  
Click [here](#) to see the supplemental resources for this guideline.

If comments about this guideline, please contact  
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