

ADULT PATIENTS, NON-DEFINITIVE CARE AT HOSPITAL
 NO PLASMA AVAILABLE ON SITE
 PATIENT TO BE TRANSFERRED TO TERTIARY CENTRE

To be repeated on each page

**MASSIVE HEMORRHAGE
 PROTOCOL (MHP) CHECKLIST**

TIME	ACTION	INITIALS
ACTIVATION & PACK 1 (date __/__/__ time __/__)		
	MHP Lead RN: _____	
	Call to hospital locating (ext. ----) to activate CODE TRANSFUSION	
	Provide patient number, name, sex, age, location, and information regarding patient use of antiplatelet or anticoagulants to blood bank at ext. ---- Antiplatelets <input type="checkbox"/> Yes; Anticoagulant <input type="checkbox"/> Yes, drug name: _____	
	<input type="checkbox"/> Ensure identification band is affixed to patient	
	<input type="checkbox"/> Obtain group and screen sample	
	<input type="checkbox"/> Obtain baseline blood work	
	Tranexamic acid: Administer 2 gram iv bolus in 100 mL over 20 minutes. <i>Hold if: more than 3 hours from injury/onset of hemorrhage or given pre-hospital or pre-activation or patient has a gastrointestinal hemorrhage</i>	
	Hypothermia prevention: <input type="checkbox"/> Measure and document patient temperature <input type="checkbox"/> Obtain blood warmer for all infusions <input type="checkbox"/> If patient temperature less than 36°C start active warming	
	Initiate transfer out: Notify if required: <input type="checkbox"/> CritiCall - 1-800-668-4357 <input type="checkbox"/> EMS <input type="checkbox"/> Ornge	
	Obtain 1st MHP pack (if not obtained before activation): Pack arrival time (__/__) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 4 units Red Cells (RBCs) <i>Use Rh-negative blood only for females under 45 years</i> <i>Avoid additional boluses or infusions of crystalloid except on physician order</i>	
	<input type="checkbox"/> Platelets (if available): If platelet count below 50 x10 ⁹ /L or patient on an antiplatelet drug, transfuse 1 pool of platelets	
	<input type="checkbox"/> Fibrinogen: if fibrinogen less than 1.5 g/L, 4 grams of fibrinogen concentrate over 5 min by iv push;	
	<input type="checkbox"/> Calcium: 1g Calcium Chloride or 3g Calcium Gluconate iv push after pack 1	
	Anticoagulant reversal: <input type="checkbox"/> If Warfarin: PCC 2000 IU iv over 10 minutes AND <input type="checkbox"/> Vitamin K 10 mg iv <input type="checkbox"/> If Xa inhibitors (e.g., apixaban, rivaroxaban): PCC 2000 IU iv over 10 minutes <input type="checkbox"/> If Dabigatran: Idarucizumab 5 grams iv over 10 minutes <input type="checkbox"/> If Heparins: consult Pharmacy for protamine dosing	
PACK 2 (time __/__)		
	<input type="checkbox"/> Obtain hour one blood work	
	<input type="checkbox"/> Review last set of blood work to ensure at target: Hemoglobin greater than 80 g/L, INR less than 1.8, fibrinogen greater than 1.5 g/L, platelets greater than 50x10 ⁹ /L	
	<input type="checkbox"/> Measure and document patient temperature <input type="checkbox"/> If patient temperature less than 36°C start active warming	

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	Obtain 2nd MHP pack (if needed): Transfusions based on laboratory measures where feasible <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 4 units Red Blood Cells <input type="checkbox"/> 2000 IU of Prothrombin Complex Concentrates <input type="checkbox"/> 4 grams of fibrinogen concentrate over 5 min by iv push	
	<input type="checkbox"/> Platelets (if available): if platelet count below 50 x10 ⁹ /L, 1 pool of platelets	
	Anticoagulant reversal (only if ongoing hemorrhage): <input type="checkbox"/> If Xa inhibitors (second dose): PCC 2000 IU iv over 10 minutes <input type="checkbox"/> Calcium: 1g Calcium Chloride or 3g Calcium Gluconate iv push after pack 2	
PACK 3 (time __ / __)		
	<input type="checkbox"/> Obtain hour 2 blood work	
	<input type="checkbox"/> Review last set of blood work to ensure at target	
	<input type="checkbox"/> Measure and document patient temperature <input type="checkbox"/> If patient temperature less than 36°C start active warming	
	Obtain 3rd MHP pack (if needed) Transfusions based on laboratory measures where feasible <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 4 Units Red Blood Cells <input type="checkbox"/> 2000 IU of Prothrombin Complex Concentrate <input type="checkbox"/> 4 grams of fibrinogen concentrate over 5 min	
	<input type="checkbox"/> Platelets (if available): if platelet count below 50 x10 ⁹ /L, 1 pool of platelets	
	<input type="checkbox"/> Calcium: 1g Calcium Chloride or 3g Calcium Gluconate iv push after pack 3	
TERMINATION (time __ / __)		
	Once either hemorrhage control is obtained and patient is hemodynamically stable call blood bank and the hematology laboratories to terminate the protocol or patient has been transferred to tertiary centre for definitive hemorrhage control	
	<input type="checkbox"/> Measure and document patient temperature	
	<input type="checkbox"/> Return all unused blood products in appropriate storage containers	
	<input type="checkbox"/> Complete this form and place in patient chart	
	<input type="checkbox"/> Complete handover SBAR tool below with transport team	

HANDOVER SBAR TOOL FOR HANDOVER TO THE TRANSPORT TEAM

(Time __ / __)

S: SITUATION (Relay the following)	HANDOVER NOTES
<input type="checkbox"/> Patient age, sex, weight	
<input type="checkbox"/> Context (trauma ± TBI, surgery, or other)	
B: BACKGROUND (Relay the following)	
<input type="checkbox"/> TXA administration _____ grams	
<input type="checkbox"/> Total numbers of blood products _____ RBC _____ PLTs _____ g Fibrinogen _____ IU PCC	
<input type="checkbox"/> Total (L) crystalloid and/or colloid and urine output	

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_____ L of non-blood product fluid	
<input type="checkbox"/> IV access and need for vasopressors	
<input type="checkbox"/> For trauma, external/internal bleeding ± TBI management	
<input type="checkbox"/> Consultant(s) involved (e.g., surgery, radiology or gastroenterology)	
<input type="checkbox"/> Complications (hypothermia, coagulopathy, acidosis or arrhythmias)	
A: ASSESSMENT (Relay the following)	
<input type="checkbox"/> Hemodynamic status (stable or unstable, vitals and temperature)	
<input type="checkbox"/> Blood products prepared for transport	
<input type="checkbox"/> Critical labs (specify) and latest blood work results Hb _____ PLT _____ INR _____ fibrinogen _____ lactate _____ Calcium _____	
R: RECOMMENDATION (Consider the following)	
<input type="checkbox"/> Consider need for additional blood products during transport	
<input type="checkbox"/> Consider need for drug re-dosing during transport	