## What's in the Massive Hemorrhage Protocol (MHP) Package?

The Massive Hemorrhage Protocol Package is a set of documents intended to improve the coordination of a Massive Hemorrhage Protocol.

The kit contains:

1. A checklist to help improve Massive Hemorrhage Protocol process
2. Tips and reminders of important points for Massive Hemorrhage Protocol
3. Massive Hemorrhage Protocol
4. A sign to alert others that a computer is dedicated to MHP
5. Blood Product Tracking form
6. Issue Voucher for Blood Products (if labels unavailable)
7. Request form for Factor VII

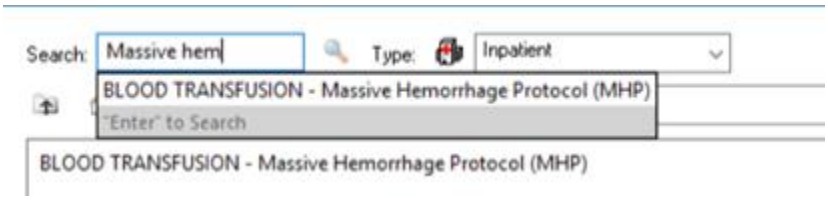
**The process requires the assignment of 2 individuals:**

1. An RN Massive Hemorrhage Protocol Leader
2. A runner (cannot be a porter)

1. **Assign an RN to be the Massive Hemorrhage Pathway Leader.** This role is similar to the role of the recorder in a cardiac arrest. The MHP RN Leader will work closely with the lead physician to order blood products, assign runners, monitor and coordinate pathway progress, ensure blood products are checked and tracked, record MHP related interventions, order/follow-up on labwork AND ensure all aspects of the checklist are activated/maintained. The MHP leader should be relieved of other patient care responsibilities to remain focused on recording, coordination and delegation. The RN MHP Leader will delegate tasks whenever possible in order to maintain oversight.

2. **Assign a Runner.** Assign a runner. Any employee with a hospital ID can pick up blood, including PSWs, RRTs and Unit Clerks. PORTERS cannot be a runner. The runner must be continuously available for BTL/Lab runs.

## TO ORDER MHP:



# MASSIVE HEMORRHAGE PATHWAY (MHP) CHECKLIST

- ☐ Obtain MHP Leader package from CN desk or website. **This is your only role!**
- ☐ Ensure MHP order entered in Power Chart (verbal order if needed)
- ☐ Assign a runner to pick up product/transport labs.
- ☐ **Runner cannot be a porter**; anyone with a hospital ID can pick up blood including Unit Clerk or RRT if necessary.
- ☐ **Initiate continuous temperature monitoring**
- ☐ Ensure Level 1 Rapid Infuser initiated. In the event that a Level 1 Rapid Infuser is not available, the HOTLINE can be used with a manual infusion pressure bag. You must add the blood tubing and the Level 1 in-line gas vent to the circuit.
- ☐ **KEEP A SECOND LEVEL 1 primed for immediate backup. Ensure manual blood pump bags are also available.**
- ☐ Consider using HOTLINE for administration of other IV fluids to maintain normothermia
- ☐ Hypotension should be treated with blood products. Higher use of crystalloids is associated with increased mortality.
- ☐ Review blood product tips and administration reminders contained in this kit.
- ☐ Hypothermia, acidosis and coagulopathy is referred to as the trauma triad of death.

**Coordinate MHP**

- ☐ Use dedicated computer for ordering/checking blood products/labs (Sign in MHP kit)
- ☐ Maintain a supply of BTL labels and reprint as required
- ☐ Prefill “next label” and have ready for runner
- ☐ Monitor rate of product utilization; order next set early to avoid interruption in supply
- ☐ Record all blood product administration on the MHP tracking record (in package)

**Manage and Monitor Blood Product Administration**

- ☐ Receive and cross-check all blood products. Any RN/RRT/MD can check products
- ☐ Only allow checked-blood to enter room. Place in one location and arrange products in the order they were received
- ☐ Place signed blood checked labels (2 signatures/time hung) on a blank Progress Record or Lab sheet
- ☐ Keep all empty bags in one biohazard container that is free of other waste (empty bags should be kept in one location in case a blood transfusion reaction occurs)
- ☐ Try to administer blood products as “whole blood” (not 4 units of PRBCs followed by 4 units of plasma). For example, hang PRBCs on one side of the rapid infuser and plasma on the other to balance red cells with clotting factors. Administer platelets simultaneously through another site (platelets should not be given by rapid infuser or via HOTLINE).
- ☐ Monitor tracking sheet to stay on top of next interventions (e.g. labs, fibrinogen replacement, tranexamic acid)

- **Note that the tracking sheet provides a place to record completion of each pack.** Platelets are given with every second (or even numbered) pack. Note that under platelets it shows “1” under Pack 2, “2” under Pack 4, “4” under Pack 8. This is showing the packs when ONE pool of platelets will be sent.
- Communicate MHP recommendations to physician/team
- Place orders for labwork, new transfusion samples or blood products as needed
- Assign a nurse to draw labs when due. ENSURE CORRECT LABEL (high risk situation for error and harm, use closed loop scanning once patient is admitted).
- Have runner take samples directly to lab (runner should ensure that tech knows that this is STAT)
- Monitor for lab results, communicate with lab as needed and report results to team.
- Monitor ionized calcium levels (on GEM); calcium replacement may be required due to large load of citrate during massive transfusion
- Notify BTL if patient expires or cancel MHP when no longer required
- Return any unused blood products to BTL promptly. Only red cells should be placed in cooler.
- Review the tips below to ensure products are managed and administered correctly

# Massive Hemorrhage Pathway Tips and Information

- If MHP was ordered in Power Chart prior to CCTC admission (e.g., ED, OR, ward), labels can continue to be used (even if patient has not been admitted in Power Chart to CCTC).

- If MHP was activated by telephone and not placed in Power Chart (e.g., in the OR), blood products WILL be available but labels will not be printed. Enter MHP in Power Chart upon admission.

- Until patient is admitted in Power Chart, use the paper-based Issue Voucher for Blood Products (included in package). Uncrossed blood will be issued until group and crossmatch is completed.

- Eight Blood Transfusion Labels print when the MHP is ordered. Multiple units and products can be ordered using one label. Choose “reprint” option or reorder MTP for additional labels.

- The Blood Transfusion Lab (BTL) will crossmatch and have 4 units of red cells, 4 units of plasma and 1 platelet pool available **UNTIL** MHP has been cancelled (autostops if unused for 4 hours). It is not necessary to call the Blood Transfusion lab for red cells, plasma or platelets, just send the runner.

- Red cell to plasma matching (1:1) is the goal to prevent depletion of clotting factors. Use blood products to treat hemorrhagic shock. Crystalloids will dilute existing clotting factors.

- **Only red cells should be placed in a cooler**, all other products must be kept at room temperature.

- Frozen plasma requires 30 minutes to thaw (LHSC does not have a microwave for rapid thawing).

- Use blood filter for all products except fibrinogen concentrate or prothrombin complex concentrate (prefiltered).

- Only use normal saline with blood products (ringers and dextrose can cause coagulation).

- BTL must be called for any product other than red cells, plasma and platelets

- All blood products contain citrate anticoagulant. During massive transfusion of any blood products, hypocalcemia can occur due to excessive administration of citrate and/or impaired hepatic clearance. Consider calcium administration if patient has hypotension that is not fluid responsive or is bradycardic. Monitor ionized calcium on GEM.

- MHP is activated, the hematology lab will phone abnormal CBC and INR/aPTT results prior to repeat confirmation. A low or unmeasurable INR/aPTT during MHP suggests a critically low fibrinogen level (indication for fibrinogen replacement).

- Hypothermia can contribute to coagulopathy and a sudden rise in temperature may indicate a blood transfusion reaction.

**Other Products Reminders**

**Platelets**

- **Platelets must be hung with a NEW blood filter each time** (platelets will get stuck in a previously used filter). **Do not administer through a rapid infuser or HOTLINE (Baxter pump is okay).**
- Platelets should be kept at room temperature.

**Fibrinogen Replacement Ordering**

- Obtain a STAT fibrinogen level with admission labs and during MHP.
- A delay or inability to report INR or PTT may indicate that fibrinogen level is low.
- In massive hemorrhage, order fibrinogen replacement for fibrinogen <1.5 g/L (or < 2.0 g/L) in obstetrical hemorrhage. Consider fibrinogen if hematology lab is unable to measure INR or PTT.*
- Do not order cryoprecipitate for fibrinogen replacement. The order should now be placed as "Fibrinogen Replacement (FIB.RPL)". Do not order the care set.


- Fibrinogen Concentrate is the primary product for fibrinogen replacement. BTL will autosubstitute with cryoprecipitate if necessary to manage blood product supply.
- Either one of two Fibrinogen Concentrate products may be provided; administration requirements are the same for either RiaSTAP™ or FIBRYGA™.
- They products are both manufactured from pools of human plasma. Product is reconstituted in the Blood Transfusion Lab; this will take approximately 30 minutes.
- One adult dose is 4 gm.
- The product should be clear or opalescent. If cloudy or turbulent, return to BTL.
- Use regular IV tubing and administer at room temperature (no blood filter required).
- Unlike prothrombin complex concentrates (PCCs), Fibrinogen Concentrate does not contain heparin (like most other blood products, they do contain citrate).
- Order online STAT. Add "Fibrinogen Replacement" to one of the printed labels.
- The risk of allergic reaction is similar to all blood products.

**Prothrombin Complex Concentrate (PCCs)**

- Octaplex/Beriplex are Prothrombin Complex Concentrates (PCCs).

- They contain pooled vitamin K dependent clotting factors and are indicated for urgent warfarin reversal. **They also contain heparin (contraindicated in HITT).** Administer with standard IV tubing (blood tubing or filter not required, products are filtered in BTL when pooling product).

- Octaplex™ is clear with slight blue tinge. Beriplex™ is clear with slight opalescent hue.

- Octaplex™/Beriplex™ is filtered and pooled into one transfer bag, based on weight based dosing requirements.

- The total dose is determined by the patient's weight and provided in increments of 500 IU doses (see BTL manual).

- The maximum rate of administration is different for Octaplex™ (maximum 3 ml/minute) vs Beriplex™(maximum 8 ml/min). ***Either product may be dispensed but will have a label affixed to the bag that identifies the product and maximum infusion rate.***

**Tranexamic Acid (Cyklokapron)**

- Tranexamic acid is now ward stock in CCTC (pharmacy product).

- Give 1 g in 50-100 ml of saline or dextrose and administer over 10 minutes (faster administration associated with hypotension)

- Give second 1 g in 50-100 ml of saline or dextrose and administer over 8 hours.

- Is an antifibrinolytic – it prevents the degradation of existing clot

**Recombinant Factor VII (rFVIIa)**

- Recombinant Factor VIIa (Niastase) comes from Blood Transfusion Lab (BTL). It was at one time included in the initial Trauma Transfusion Protocol, however, there is no convincing evidence for routine use and administration carries an increased risk for stroke. Tranexamic Acid has replaced rFVIIa in most cases. Ordering physicians must complete a request from or consult Haematology for rFVIIa that acknowledges the risks if using for non-hemophilia indications.

- If you look up Factor VII in the BTL, be sure to select the correct Factor VII option.

- Factor VIIa (Niastase) must be reconstituted at bedside (gentle rotation to prevent damage to the protein). It must also be given IV push (it is like a medication versus blood product, even though it comes from BTL). It does not contain any human blood product.

- In urgent situations, BTL will issue Factor VIIa before completion of the mandatory request form (included in this package; complete if possible). Consider before ordering:

    1. Have all surgical options (anatomical bleeding) been explored?
    2. Is INR < 1.5 , PTT < 55 sec, Fibrinogen > 1.0 g/L and Platelets > 50?
    3. Is acidosis and/or hypothermia corrected?

**Desmopressin (DDAVP)**

- DDAVP may be ordered (most commonly in cardiac surgical bleeding).
- DDAVP stimulates Vasopressin 2 (V2) receptors which stimulated the release of Von Willebrand Factor (VWF).
- VWF promotes platelet adhesion to the endothelium
- VWF is a carrier protein for Factor VIII. The increase in VWF prevents the inactivation of Factor VIII (therefore protecting Factor VIII levels in the blood).
- Dose of 0.3 ug/kg (~20 ug) can be given IV over 30 minutes

**References**

LHSC Blood Transfusion Manual.

National Advisory Committee on Blood and Blood Products. (2018). NAC statement on fibrinogen replacement.

CL Behring Riastap™ Fibrinogen Concentrate (Human) product monograph. http://labeling.cslbehring.ca/PM/CA/Riastap/EN/RiaSTAP-Product-Monograph.pdf

# MASSIVE HEMORRHAGE PROTOCOL (MHP) Flowchart (Draft)

**London Health Science Centre May 2021** This resource has been created specifically for LHSC (London, ON) and may not be applicable for other centres

**Severe / Uncontrolled Bleeding identified** Poor BP response to Fluids, Obvious Bleeding, Hypotension

## Initiate Massive Hemorrhage Protocol

**Clinician / MHP Leader (MD or designate)**

**Order MHP in Cerner**

(Cerner: type " MHP" or "Massive" into Orders Search box)

### 8 labels will print in clinical area

**Assign dedicated Runner for duration of MHP**

**Runner takes labels to Transfusion Medicine (TM) Lab for product pick-up (Located at VH- D1-230 or UH- )**

**For more labels, re-print labels OR bring down paper;" Issue Voucher for blood products" (Minimum requirement: Name and PIN)**


**Indicate Trauma pack/ MHP pack by tick box (4 units PRBC & 4 units FP) or indicate as per bloodwork: specific # of PRBC / FP**

**Platelets will be issued with every other pack or as indicated by tick box**

**Fibrinogen will be issued as required as Indicated by tick box**

### ***Top Priorities***

- **Identify source of hemorrhage and attempt to control (identify need for OR, Angiography, endoscopy)**
- **Obtain IV/IO access, collect STAT bloodwork (see Appendix 1 below)**
- **Consider Tranexamic acid early: 1g bolus IV/IO. If 2nd dose is required: 1g infused over 8 hours**
- **Limit use of crystalloids (avoid dilutional coagulopathy)**
- **Correct hypocalcemia: Administer Calcium Chloride ($CaCl^2$) 1g as required**
- **Keep patient's core temperature >36.C (aggressive re-warming; warming blanket/Blood warmer)**
- **Reverse anticoagulation if applicable (see appendix 1 below)**

### Reassess patient every 30-60 minutes

**Assess temperature, bloodwork**

(adjust Transfusions as per bloodwork; Monitor for hyperkalemia, hypocalcemia, acid/base balance)

**See Appendix 1 for Bloodwork requirements, Transfusion Thresholds, Anticoagulant reversal**

**See Appendix 2 for: Additional information**

**When Bleeding controlled / Pt hemodynamically stable Call TM (VH-Ext# 58292/ UH- Ext# 33441) to stop MHP**

MHP will auto stop if no blood products are issued in a 4-hour period



BM: Last Updated April 25, 2024

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## Severe / Uncontrolled Bleeding identified Poor BP response to Fluids, Obvious Bleeding, Hypotension

**Appendix 1:**

### Bloodwork required

| | Type of tube required | Frequency | Additional Information |
|---|---|---|---|
| Group and screen/BTLCT | 6ml pink Top | STAT | Uncrossmatched Blood (Group O or group specific) will be issued until G&S completed. BTLCT can't be signed at the same time as G&S |
| CBC | 4ml Lavender Top (EDTA) | STAT then q1hr at minimum | |
| INR/PTT/ Fibrinogen | 2.7ml Blue Top | | |
| Blood gases | Blood gas syringe | | Minimum volume 3ml for Arterial/venous sample. Completely filled for capillary |
| Electrolytes (including Magnesium), Lactate, Ionized Calcium | 4.5 ml Green Top (Lithium Heparin) | | Ionized Calcium: Capillary specimen can be sent when unable to obtain venous or arterial- must be sent on ice |

**CELL SALVAGE:** to request, have Switchboard page Perfusion on call

**Abbreviations:** Massive Hemorrhage Protocol (MHP) Medical Doctor (MD), Transfusion Medicine (TM), Patient Identification Number (PIN), Group & Screen (G&S), Blood Transfusion Lab Confirmation Test (BTLCT), Packed Red Blood Cells (PRBC), Platelets (Plts), Plasma (FP)

### Laboratory Transfusion Thresholds:

| Value | Transfuse |
|---|---|
| Hgb<80g/L | PRBCs |
| INR≥1.8 | Plasma 4 units |
| Fibrinogen< 1.5g/L (< 2.0 for postpartum hemorrhage or cardiac surgery) | Fibrinogen concentrate 4g Blood tubing / filter NOT required |
| Platelets < 50x $10^9$ | Platelets 1 adult dose |
| Ionized $Ca^{2}$< 1.15mmol/L | $CaCl^{2}$ 1g |

### Reversal of Anticoagulants

(Consultation with Hematologist recommended)

| Anticoagulant | Treatment for reversal |
|---|---|
| Warfarin (Coumadin) | Prothrombin Complex Concentrates (PCCs) Weight based-Available from TM |
| Dabigatran (Pradaxa) | Idarucizumab (Praxbind) Available from Pharmacy |
| Rivaroxaban Apixaban Edoxaban | Prothrombin Complex Concentrate (PCCs) Weight based-Available from TM . |

Concurrent 10mg Vitamin K should be given with PCCs for sustained effect

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# MASSIVE HEMORRHAGE PROTOCOL (MHP) Flowchart (Draft)

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**Severe / Uncontrolled Bleeding identified** **Poor BP response to Fluids, Obvious Bleeding, Hypotension**

## MASSIVE HEMORRHAGE PROTOCOL (MHP) Flowchart

**Appendix 2: ADDITIONAL INFORMATION**

**Each unit of Packed Red Blood Cells (PRBC), Platelets(PLTs), or Plasma(FP) can be transfused for up to 4 hours after removal from temperature controlled environment**

**eg.Dispensed from Transfusion Medicine Lab (TM) validated Fridge or incubator , or removed from Temperature controlled Transport Container)**

**Transport containers are validated to store products safely up to 12 hours in closed container**

*****Only remove blood products from the transport container as needed to maintain the controlled environment*****

**Only the blood products originally issued in the transport container should go back into that transport container for return to T M Lab if not required (if ≤ 1 hr since removal). All others should be returned separately.**

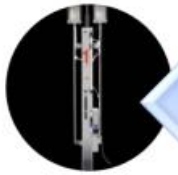
Blood components issued in a bag require standard blood tubing (which includes 170 to 260 micron filter)

**Blood Set / filter change is maximum 4 units or 4 hours whichever occurs first**

**Platelets issued in a bag:**

**Always administer via NEW / FRESH (not previously used) blood set / filter**

Do not transfuse Platelets with the Rapid Infuser



**Blood warmer/infuser: Level 1 Rapid Infuser/blood warmer, Ranger Blood warmer/pressure infuser. Blood warmer: Hotline fluid/blood warmer Can be used for PRBC or Plasma* DO NOT USE FOR PLATELETS***** Rapid infusers should only be used with large gauge IV catheter (minimum 20G)
The pressure on rapid infusers should not exceed 300mmHg. Temperature on blood warmers should not exceed 42.C.
The use of a blood warmer and the temperature of the device during use should be recorded in the patient chart

**Flush tubing with 0.9% Sodium Chloride;**

Do not use IV fluids containing calcium or dextrose to flush or infuse concurrently

Pag

BM: Last Updated April 25, 2024

# THIS COMPUTER IS RESERVED FOR MASSIVE HEMORRHAGE PROTOCOL

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# MASSIVE HEMORRHAGE PROTOCOL COOLER



- Holds up to 6u PRBC, 6u FP, and 1 Adult dose of PLT's
- Cleanable inside/outside with hospital approve disinfectants
- Wheels and pull handle to roll to bedside or side handles for ergonomic lifting. (Fully packed cooler approx. 25-30lbs)
- Cooler is validated to maintain appropriate temperature for 12 hours (1-10ºC for PRBC/ Plasma in the main red compartment, and 20-24℃ for Platelets in the front yellow compartment).

**Instructions for Clinical Area Use:**

1. TM will issue products as requested in MHP cooler
2. Runner to return with cooler to bedside.
3. Keep products in cooler until the time that they are required.
4. 4 hour "discard by" time starts when product removed from cooler.
5. Return cooler to TM to replenish blood products; may request second cooler if needed.
6. Return cooler to TM when products are no longer needed, when cooler is empty and no longer required, or when nearing the cooler expiry date/time.
7. Maximum storage date/time will be documented on the lid.

**Ensure blood products stay in clearly labeled designated areas within the cooler during use and when returning products.**

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# Other Transport Containers: Igloo/Cooler and PTB (Platelet Transport Bag)

- Only PRBC are placed in an igloo/cooler. Thawed plasma or platelets (or any other blood product) must **NOT** be placed in a transport igloo/cooler.
- Platelets arrive in a room temperature “lunch bag” (Platelet Transport Bag)
- Return RBCs in cooler; do not place other blood products being returned into the cooler.
- These coolers are pre-conditioned, packed and temperature validated to safely store PRBC for a maximum of 6 hours.
- PRBC units must remain in the closed transport igloo/cooler until ready to transfuse

Platelet Transport Bag

Small igloo/cooler - maximum 3 units PRBC

Large igloo/cooler - maximum 6 units PRBC

# Massive Hemorrhage (MHP)Tracking Form

| Patient name and PIN: | MHP Activation (Date/ Time):<br><br>MHP Discontinuation (Date/Time): |
|---|---|

| Blood Products Transfused | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TIME: | | | | | | | | | | | | | | | |
| | Trauma Pack (TP) | TP # 1 | | | | TP # 2 | | | | TP # 3 | | | | TP # 4 | | | |
| | PRBC | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | Plasma | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | Platelets | | | | | 1 | | | | | | | | 2 | | | |
| | Fibrinogen Replacement | | | | | | | | | | | | | | | | |
| | TIME: | | | | | | | | | | | | | | | | |
| | Trauma Pack (TP) | TP # 5 | | | | TP # 6 | | | | TP # 7 | | | | TP # 8 | | | |
| | PRBC | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
| | Plasma | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
| | Platelets | | | | | 3 | | | | | | | | 4 | | | |
| | Fibrinogen Replacement | | | | | | | | | | | | | | | | |

| Tranexamic Acid | |
|---|---|
| Dose 1(Time): | Dose 2 :(Time) |

| Patient Temperature (On Initiation of MHP then q15min) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| TIME: | | | | | | | | | |
| | | | | | | | | | |

| STAT Bloodwork | | |
|---|---|---|
| TIME: | | |
| G&S | | |
| BTLCT | | |

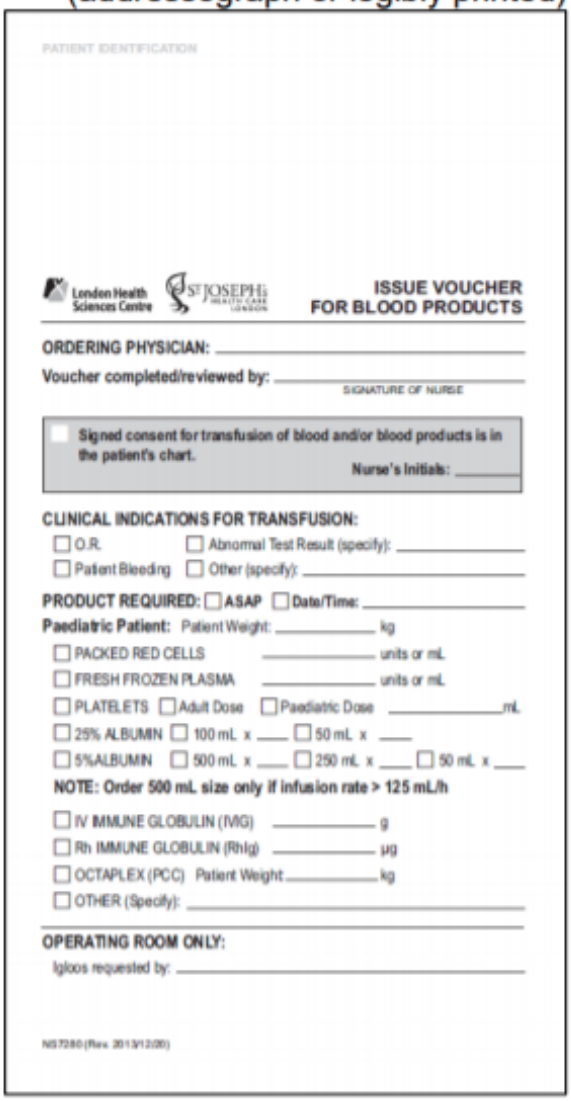
| STAT Bloodwork then q1hr and Prn | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CBC | | | | | | | | | | |
| INR/PTT | | | | | | | | | | |
| Ionized Calcium | | | | | | | | | | |
| Magnesium | | | | | | | | | | |
| Lactate | | | | | | | | | | |
| Gases (PH, Pao2, PaCo2) | | | | | | | | | | |

# Massive Hemorrhage Protocol (MHP): Ordering, Labels, Trauma Pack, Pick-Up / dispense Process, Tracking, discontinuation

The paper "ISSUE VOUCHER FOR BLOOD PRODUCTS" must clearly indicate:

- PIN
- Patient's surname and first name
- Type of product(s) requested
- Quantity or volume required
- Date and time product required
- Patient location

(addressograph or legibly printed)



PATIENT IDENTIFICATION

London Health Sciences Centre | St Joseph's Health Care London

**ISSUE VOUCHER FOR BLOOD PRODUCTS**

ORDERING PHYSICIAN: _____

Voucher completed/reviewed by: _____
SIGNATURE OF NURSE

☐ Signed consent for transfusion of blood and/or blood products is in the patient's chart.
Nurse's Initials: _____

CLINICAL INDICATIONS FOR TRANSFUSION:
☐ O.R. ☐ Abnormal Test Result (specify): _____
☐ Patient Bleeding ☐ Other (specify): _____

PRODUCT REQUIRED: ☐ ASAP ☐ Date/Time: _____

Paediatric Patient: Patient Weight: _____ kg

☐ PACKED RED CELLS _____ units or mL
☐ FRESH FROZEN PLASMA _____ units or mL
☐ PLATELETS ☐ Adult Dose ☐ Paediatric Dose _____ mL
☐ 25% ALBUMIN ☐ 100 mL x ___ ☐ 50 mL x ___
☐ 5%ALBUMIN ☐ 500 mL x ___ ☐ 250 mL x ___ ☐ 50 mL x ___
NOTE: Order 500 mL size only if infusion rate > 125 mL/h

☐ IV IMMUNE GLOBULIN (IVIG) _____ g
☐ Rh IMMUNE GLOBULIN (RhIg) _____ µg
☐ OCTAPLEX (PCC) Patient Weight _____ kg
☐ OTHER (Specify): _____

OPERATING ROOM ONLY:
Igloos requested by: _____

NS7280 (Rev. 2013/12/20)

[Forms Management Catalogue NS 7280]

# Request for Niastase (rFVIIa)

NIASTASE (rFVIIa) is only licensed for Hemophilia A and B patients with inhibitors or patients with acquired FVIII inhibitors, for the treatment of spontaneous bleeding events or prior to invasive procedures.
ALL other indications are OFF-LABEL.
NOTE: Thrombotic risk is associated with the use of rFVIIa off-label.

Patient name: _____ Patient PIN _____

Patient weight: _____ Dose requested: _____mg

| *Patient Weight* | *rFVIIa dosage **guideline*** | *Vials required for dose* |
|---|---|---|
| *< or = 40 kg* | *2 mg* | *1 X 2 mg vial* |
| *41 to 60 kg* | *3 mg* | *1 X 2 mg and 1 X 1 mg vial* |
| *61 to 80* | *4 mg* | *2 X 2 mg vial* |
| *> 80 kg* | *5 mg* | *1 X 5 mg vial* |

**Pre-rFVIIa Check List** (Consider the following)

- ✓ All surgical options (anatomical bleeding) have been explored
- ✓ INR is less than 1.5
- ✓ PTT is less than 55 seconds
- ✓ Fibrinogen is greater than 1.0 g/L
- ✓ Platelet count is greater than 50 X 10*9/L
- ✓ Acidosis is corrected
- ✓ Hypothermia is corrected

I understand the risks associated with the use of rFVIIa and consider that this off-label use is appropriate in this situation.

Physician's Name (please print) _____

Date: _____

You will be receiving a post-infusion questionnaire by email.
Thank-you for completing both the pre and post documentation.

Sincerely,
City-Wide Blood Transfusion Committee, Sub-committee of the MAC



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