

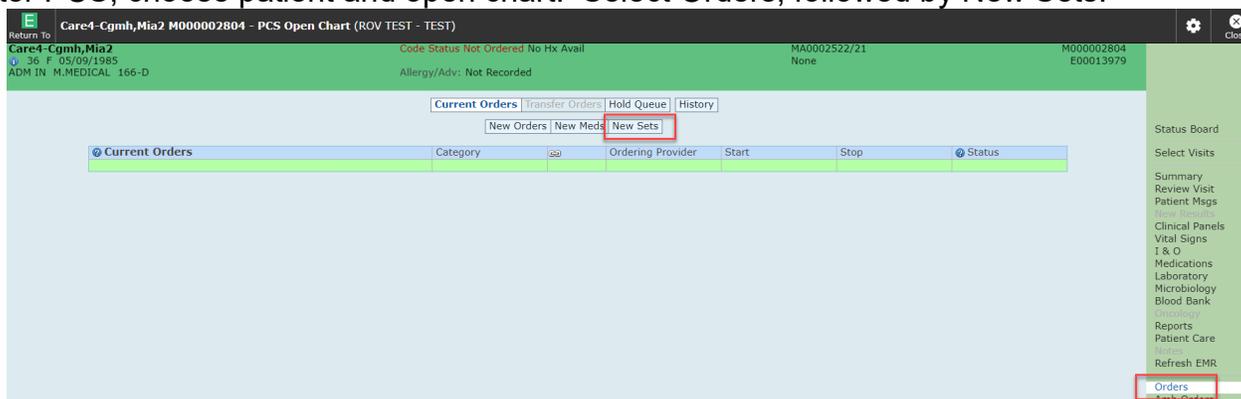
# CARE4 Tip Sheet

## Massive Hemorrhage Protocol

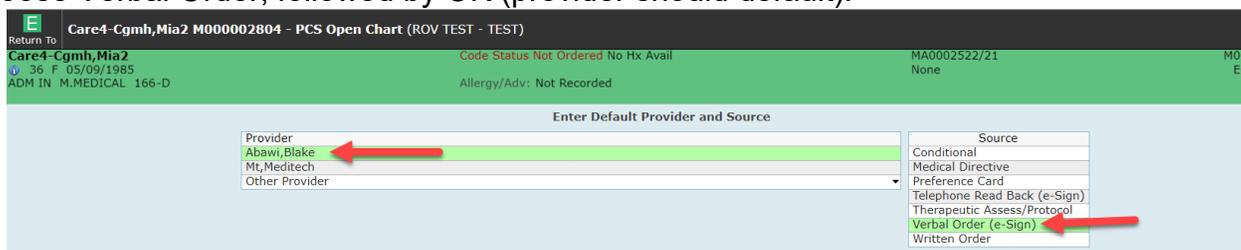
### Overview

This document provides instruction on how to enter orders for Massive Hemorrhage Protocol.

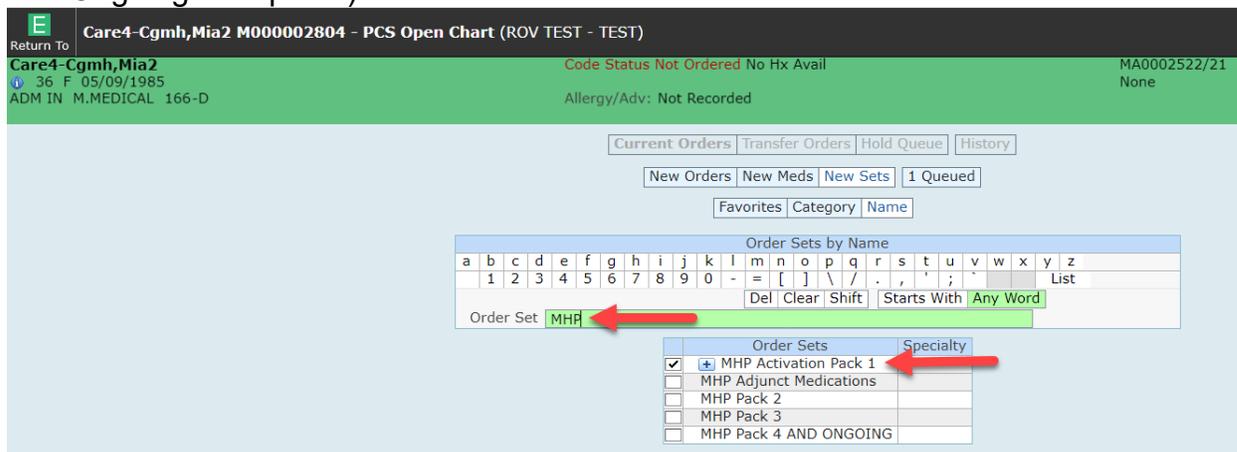
1. The Most Responsible Physician (MRP) activates the Massive Hemorrhage Protocol (MHP) and designates a clinical contact person to initiate and coordinate the MHP (i.e. enter orders for blood products, communicate with Blood Bank).
2. Enter PCS, choose patient and open chart. Select Orders, followed by New Sets.



3. Choose Verbal Order, followed by OK (provider should default).



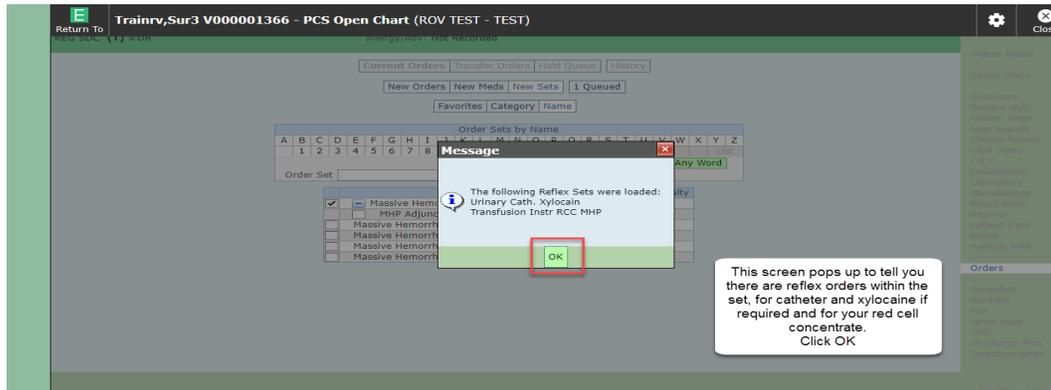
4. In search field, type in Mass or MHP, choose MHP Activation Pack 1, then click Next (\*call Blood Bank at time of each order set entry i.e. if/when Pack 1, 2, 3 and/or 4 and Ongoing is required).



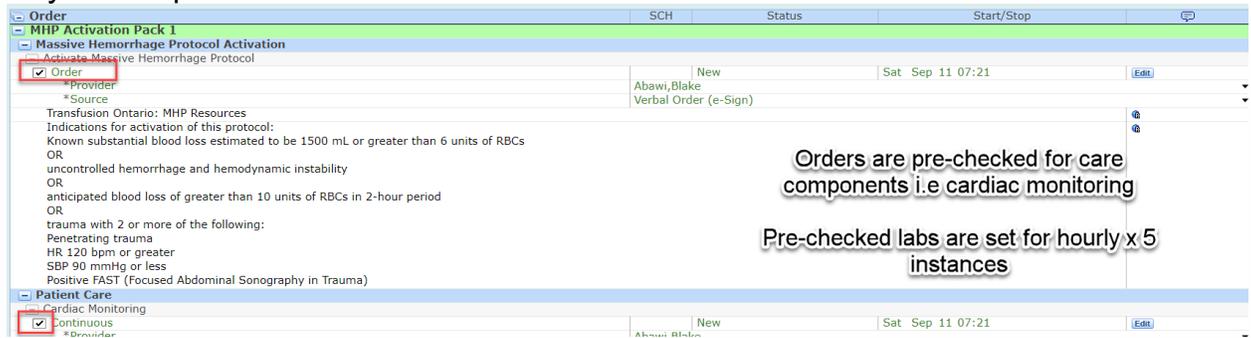
# CARE4 Tip Sheet

## Massive Hemorrhage Protocol

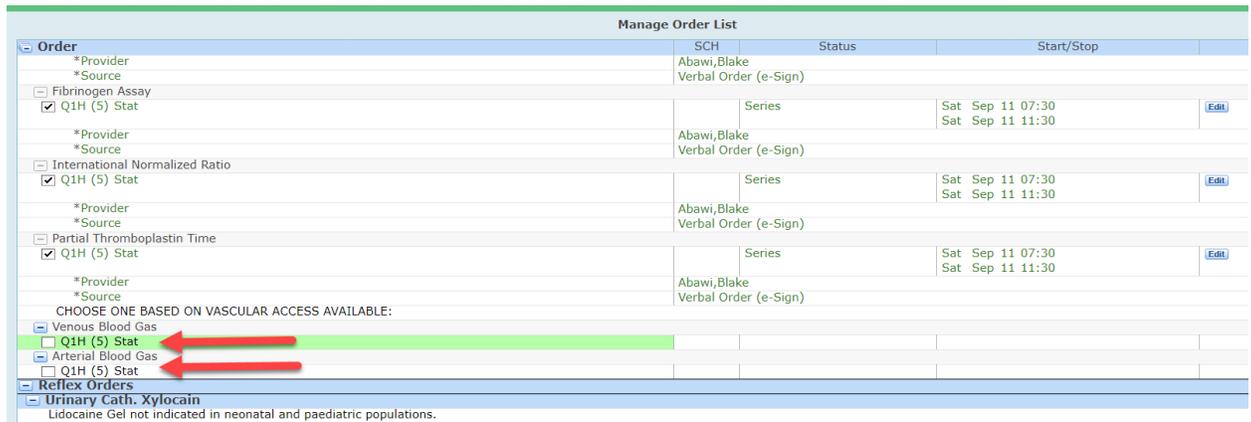
5. Click OK for the reflex orders.



6. Quickly review pre-checked orders.



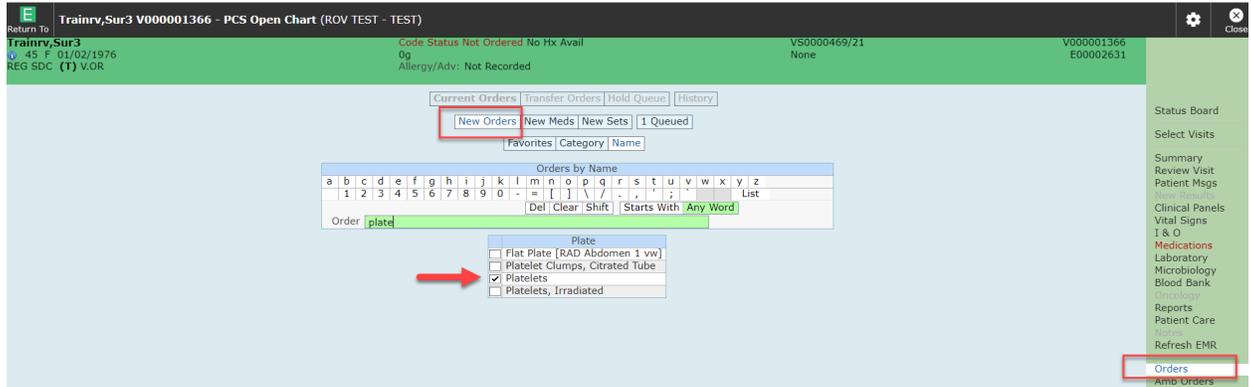
7. Select Venous Blood Gas or Arterial Blood Gas based on vascular access.



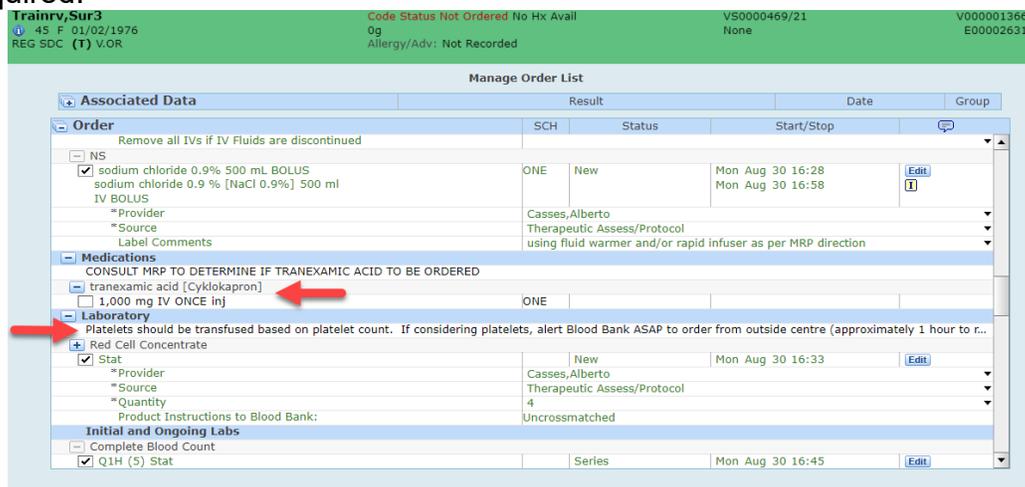
# CARE4 Tip Sheet

## Massive Hemorrhage Protocol

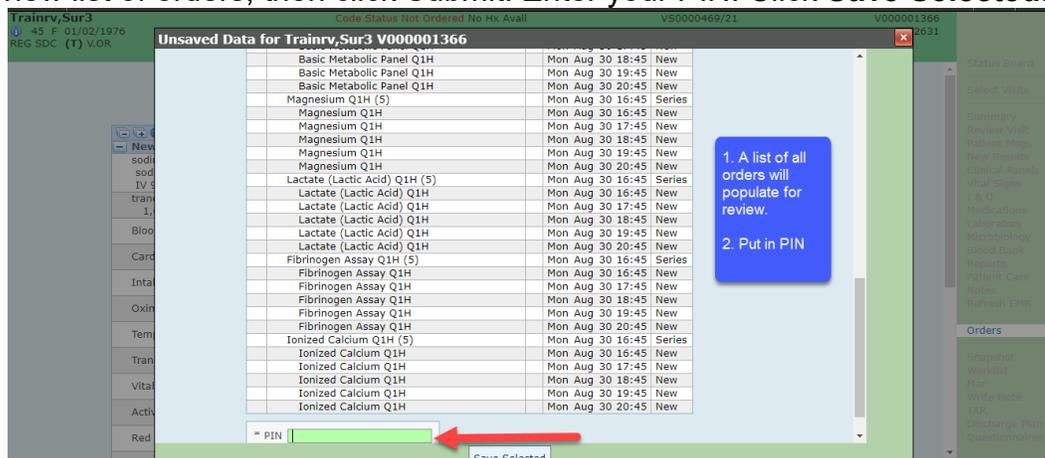
- Determine if platelets are required, and if so, notify Blood Bank and enter a separate order for Platelets (outside of MHP Order Set).



- Consult with MRP to assess if Tranexamic acid is required- check the box if required.



- Review list of orders, then click Submit. Enter your PIN. Click **Save Selected**.



# CARE4 Tip Sheet

## Massive Hemorrhage Protocol

11. You will now see the orders, including the series labs.

Physician: Rvhtthree  
 Code Status: Not Ordered No Hx Avail  
 VAD002967/21  
 V000003936  
 ADM IN V.SR2 SR2.10-2  
 Allergy/Adv: Not Recorded  
 None  
 E0004587

Current Orders | Transfer Orders | Hold Queue | History

New Orders | New Meds | New Sets

Category	Ordering Provider	Start	Renew/Stop	Status
Activity and Restrictions	Abdel ShaNid, Karim, MD	28/07/2021 08:58		Ordered
Assessment and Monitoring	Mt, Meditech	31/08/2021 08:37		Ordered
Assessment	Mt, Meditech	31/08/2021 08:37		Ordered
Assessment	Mt, Meditech	31/08/2021 08:37		Ordered
Assessment	Mt, Meditech	31/08/2021 08:37		Ordered
Assessment	Mt, Meditech	31/08/2021 08:37		Ordered
Assessment	Mt, Meditech	31/08/2021 08:37		Ordered
Assessment	Mt, Meditech	31/08/2021 08:37		Ordered
Assessment	Mt, Meditech	31/08/2021 08:37		Ordered
Communication	Mt, Meditech	31/08/2021 08:37		Ordered
Laboratory	Mt, Meditech	31/08/2021 08:37		Ordered
Lab	Mt, Meditech	31/08/2021 08:45	31/08/2021 12:45	Series
Lab	Mt, Meditech	31/08/2021 08:45	31/08/2021 12:45	Series
Lab	Mt, Meditech	31/08/2021 08:45	31/08/2021 12:45	Series
Lab	Mt, Meditech	31/08/2021 08:45	31/08/2021 12:45	Series

You will now see the ordered protocol, including the lab series order.

12. Order subsequent packs as required by following the same steps. Do not forget to communicate with Blood Bank verbally/telephone to ensure they are aware of upcoming requirements (Note: MHP Pack 4 AND ONGOING can be ordered if patient requires blood products after MHP Pack 3, and again after that if required).

MHP, Inpatient Two  
 Code Status: Not Ordered No Hx Avail  
 VAD004147/21  
 V000005092  
 ADM IN V.SSD SDC.02-1  
 Allergy/Adv: Not Recorded  
 None  
 E00011099

Current Orders | Transfer Orders | Hold Queue | History

New Orders | New Meds | New Sets | Equipment

Favorites | Category | Name

Order Sets by Name

Order Set: mhpl

Order Sets	Specialty
MHP Activation Pack 1	
MHP Adjunct Medications	
MHP Pack 2	
MHP Pack 3	
MHP Pack 4 AND ONGOING	

# CARE4 Tip Sheet

## Massive Hemorrhage Protocol

13. Lab results and other information can be viewed in the Associated Data section. Additional orders can be entered by clicking Any Order at footer of screen.

Code,Stroke V000006459 - PCS Open Chart (ROV TEST - TEST)

62 F 18/08/1959 FULL Resuscitation VA0006201/21 V00  
 DM IN RV.PURPLE RV08PUR-08-PZ Allergy/Adv: No Known Allergies None E0

**Manage Order List**

Associated Data	Result	Date
Hgb	130 g/L (115-160)	18/08/2021 09:25
INR	0.9 (<1.5)	18/08/2021 09:25
Plt Count	300 x10 <sup>9</sup> /L (150-400)	18/08/2021 09:25
Temperature	37.0 C	18/08/2021 09:17
Hct	0.450 L/L (0.350-0.470)	18/08/2021 09:25
RBC	4.50 x10 <sup>12</sup> /L (4.00-5.50)	18/08/2021 09:25

**Order**

**MHP Pack 2**

**Massive Hemorrhage Protocol Pack 2**

THIS IS STEP 2 OF THE MASSIVE HEMORRHAGE PROTOCOL - ORDER WHEN REQUIRED BY MRP AND CALL BLOOD BANK AT THE SAME TIME TO ADVISE

Transfusion Ontario: MHP Resources

Targets:

- Hgb greater than 80 g/L
- Fibrinogen greater than 1.5 g/L (or 2 g/L in obstetrical patients)
- INR less than 1.8
- Platelets greater than 50 x 10<sup>9</sup>/L
- Ionized Calcium greater than 1.15 mmol/L
- Temperature equal to or greater than 36 C

**Blood Products - PACK 2**

Platelets should be transfused based on platelet count. If considering platelets, alert Blood Bank ASAP to order from outside centre (approximately 1 hour to receive).

Product	Quantity	Status	Start/Stop
Red Cell Concentrate			
Stat			
*Quantity	4	New	Tue Sep 07 14:58
Product Instructions to Blood Bank:	Uncrossmatched		
Frozen Plasma			
Stat			
*Quantity	4	New	Tue Sep 07 14:58
Product Instructions to Blood Bank:			

**Reflex Orders**

**Transfusion Instr RCC MHP**

- Transfusion Instructions Red Cells
- ONCE
- Transfuse Each Unit Over (# hours)
- Warmer Required
- Rapid Infuser Required

Order List | Notify | Conflicts | Details | Edit All | **Any Order** | Manage Favorites | Back | Next

14. The MHP Adjunct Medications order set has been created to aid in the ordering of reversal agents and correction of hypocalcemia if required (note: orders in this order set are **not** pre-selected as they are dependant on patient's status).

Current Orders | Transfer Orders | Hold Queue | History

New Orders | New Meds | **New Sets** | 1 Queued

Favorites | Category | Name

Order Sets by Name

Order Set: **MHP**

Order Sets	Specialty
<input type="checkbox"/> MHP Activation Pack 1	
<input checked="" type="checkbox"/> <b>MHP Adjunct Medications</b>	
<input type="checkbox"/> MHP Pack 2	
<input type="checkbox"/> MHP Pack 3	
<input type="checkbox"/> MHP Pack 4 AND ONGOING	

**Order**

**MHP Adjunct Medications**

SCH | Status | Start/Stop

**Hypocalcemia Correction**

- calcium chloride [Calciject]
- 1,000 mg IV ONCE inj

**Apixaban/Rivaroxaban/Edoxaban Reversal with PCC**

Prothrombin Complex Concentrate (PCC) may be considered for reversal of apixaban, rivaroxaban or edoxaban in patient with serious or life threatening hemorrhage

CONTRAINDICATIONS TO PCC: patients with history of heparin-induced thrombocytopenia (HIT) (Beriplex and Octaplex both contain heparin.)

Prothrombin Complex Conc

- Stat

**Dabigatran Reversal with Idarucizumab**

idarucizumab [Praxbind]

2.5 g IV Q5M inj

**Warfarin Reversal - Serious/Life Threatening Bleed**

For patients with warfarin-associated major bleeding, rapid reversal with Prothrombin Complex Concentrate(PCC) is recommended, rather than with plasma. (Grade 2C)

STEP 1: HOLD Warfarin.

STEP 2: Order Prothrombin Complex Concentrate (Octaplex/Beriplex)

STEP 3: Regardless of the magnitude of INR elevation, give Vitamin K 10 mg by slow IV infusion.

- phytonadione [Vitamin K]
- 10 mg IV ONCE inj
- Prothrombin Complex Conc
- Stat

**Heparin Reversal**

- protamine sulfate
- DOSE mg IV ONCE inj

## CARE4 Tip Sheet

### Massive Hemorrhage Protocol

15. Blood Bank must be notified if Massive Hemorrhage Protocol is stopped or patient location changes. Unused products must be returned to Blood Bank as soon as possible. Clinical designate (i.e. patient's nurse) must stop all orders that are no longer required by selecting Current Orders, left click on the order(s) to be stopped, and enter a reason to stop the order (i.e. Doctors Order).

8-PZ FULL RESUSCITATION 1.73m 0g BMI:0.0kg/m² VAB000201721  
Allergy/Adv: No Known Allergies None

**Current Orders** | Transfer Orders | Hold Queue | History

New Orders | New Meds | New Sets

Current Orders	Category	Ordering Provider	Start	Renew/Stop	Status
<b>Electrocardiology</b>					
ECG 12 Lead Stat	ECG	Houldsworth, Kathryn Co, MD	18/08/2021 09:25		Ordered
<b>Laboratory</b>					
Lytes [Electrolytes] Routine	Lab	Havery, Ann Marie, MD	07/09/2021 15:42		Uncollected

Order	Start/Stop	Status
Lytes [Electrolytes] Routine	Tue Sep 07 15:42	Uncollected

\* Stop Reason