#### **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.

E turn To	Care4-Cgmh,Mia2 M000002804 - PCS Open Chart (ROV	TEST - TEST)							•	Close
are4-Co	jmh,Mia2	Code Status Not Ordered N	o Hx Avail		MA	0002522/21		M000002804		
DM IN M	1.MEDICAL 166-D	Allergy/Adv: Not Recorded			NO	ne		200013979		
		Current Orders Tra		Hold Queue History						
		New Orde	rs New Med	s New Sets					Status Boa	ard
	@ Current Orders	Category	¢	Ordering Provider	Start	Stop	Ø Status		Select Visit	ts
								_	Summary Review Visi Patient Msc Clinical Pan Vital Signs I & O Medications Laboratory Microbiolog Blood Bank Reports Patient Car Refresh EM Orders Amb Orders	it gs ss nels ; gy k re MR

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

E Care4-Cgmh,Mia2 M00	0002804 - PCS Open Chart (ROV TEST - TEST)			
Care4-Cgmh,Mia2	Code Status Not Ordered No Hx A	vail	MA0002522/21	M00
ADM IN M.MEDICAL 166-D	Allergy/Adv: Not Recorded		None	
	Enter Default Pr	ovider and Source		
	Provider		Source	
	Abawi,Blake		Conditional	
	Mt,Meditech		Medical Directive	
	Other Provider	-	Preference Card	
			Telephone Read Back (e-Sign)	
			Therapeutic Assess/Protocol	
			Verbal Order (e-Sign)	
			Written Order	

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).





5. Click OK for the reflex orders.



Quickly review pre-checked orders. 6.

😑 Order	SCH	Status	Start/Stop	Ģ
MHP Activation Pack 1				
<ul> <li>Massive Hemorrhage Protocol Activation</li> </ul>				
Activate Massive Hemorrhage Protocol				
☑ Order	New	5	at Sep 11 07:21	Edit
*Provider	Abawi,Blake			
*Source	Verbal Order (e-Sign)			
Transfusion Ontario: MHP Resources				(î)
Indications for activation of this protocol:				(C)
Known substantial blood loss estimated to be 1500 mL or greater than 6 units of RBCs				
OR		Orders a	e pre-checked for	care
uncontrolled hemorrhage and hemodynamic instability				
OR		componen	ts i.e cardiac moni	torina
anticipated blood loss of greater than 10 units of RBCs in 2-hour period		General Street S		
OR				
trauma with 2 or more of the following:		B. I.I.I.		The second se
Penetrating trauma		Pre-cnecked	labs are set for ho	DURIY X 5
HR 120 bpm or greater		000000000000000000000000000000000000000	linetence	
SBP 90 mmHg or less			Instances	
Positive FAST (Focused Abdominal Sonography in Trauma)				
- Patient Care				
Cardiac Monitoring				
Continuous	New	5	at Sep 11 07:21	Edit

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

	Manage Order List	:		
- Order	SCH	Status	Start/Stop	
*Provider	Abawi, Bla	ke		
*Source	Verbal Or	der (e-Sign)		
<ul> <li>Fibrinogen Assay</li> </ul>				
✓ Q1H (5) Stat		Series	Sat Sep 11 07:30 Sat Sep 11 11:30	Edit
*Provider	Abawi, Bla	ke		
*Source	Verbal Or	der (e-Sign)		
<ul> <li>International Normalized Ratio</li> </ul>				
✓ Q1H (5) Stat		Series	Sat Sep 11 07:30	Edit
			Sat Sep 11 11:30	
*Provider	Abawi,Bla	ke		
*Source	Verbal Or	der (e-Sign)		
<ul> <li>Partial Thromboplastin Time</li> </ul>				
Q1H (5) Stat		Series	Sat Sep 11 07:30	Edit
			Sat Sep 11 11:30	
*Provider	Abawi,Bla	ke		
*Source	Verbal Or	der (e-Sign)		
CHOOSE ONE BASED ON VASCULAR ACCESS AVAILABLE:				
Venous Blood Gas				
Q1H (5) Stat				
Arterial Blood Gas				
🗌 Q1H (5) Stat				
- Reflex Orders				
- Urinary Cath. Xylocain				
Lidocaine Gel not indicated in neonatal and naediatric populations				



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



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



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

Trainry, Sur3	Code Status Not Ordered No Hx Ava		V000001366
REG SDC (T) V.OR	Unsaved Data for Trainrv,Sur3 V000001366		2031
	Basic Metabolic Panel Q1H	Mon Aug 30 18:45 New	A Status Board
	Basic Metabolic Panel Q1H	Mon Aug 30 19:45 New	
	Basic Metabolic Panel Q1H	Mon Aug 30 20:45 New	Soloet Mielte
	Magnesium Q1H (5)	Mon Aug 30 16:45 Series	
	Magnesium Q1H	Mon Aug 30 16:45 New	Summary
	Magnesium Q1H	Mon Aug 30 17:45 New	Raviow Mich
<u>u-u</u>	Magnesium Q1H	Mon Aug 30 18:45 New	Dationt Mone
_ N6	Magnesium Q1H	Mon Aug 30 19:45 New 1 A list of all	Now Results
so	Magnesium Q1H	Mon Aug 30 20:45 New	Clinical Panole
SC	Lactate (Lactic Acid) Q1H (5)	Mon Aug 30 16:45 Series Orders Will	Vital Sinns
IN box	Lactate (Lactic Acid) Q1H	Mon Aug 30 16:45 New populate for	18.0
u e	Lactate (Lactic Acid) Q1H	Mon Aug 30 17:45 New review	Medications
	Lactate (Lactic Acid) Q1H	Mon Aug 30 18:45 New	L aboratory
Blo	D Lactate (Lactic Acid) Q1H	Mon Aug 30 19:45 New	Microhiology
	Lactate (Lactic Acid) Q1H	Mon Aug 30 20:45 New 2. Put in PIN	Blood Bank
Ca	Fibrinogen Assay Q1H (5)	Mon Aug 30 16:45 Series	Reports
	Fibrinogen Assay Q1H	Mon Aug 30 16:45 New	Patient Care
Int	a Fibrinogen Assay Q1H	Mon Aug 30 17:45 New	Notes
	Fibrinogen Assay Q1H	Mon Aug 30 18:45 New	Refresh EMR
Ox	Fibrinogen Assay Q1H	Mon Aug 30 19:45 New	
	Fibrinogen Assay Q1H	Mon Aug 30 20:45 New	Orders
Te	Ionized Calcium Q1H (5)	Mon Aug 30 16:45 Series	
Too	Ionized Calcium Q1H	Mon Aug 30 16:45 New	Snanshot
In	Ionized Calcium Q1H	Mon Aug 30 17:45 New	Worklist
1/1	Ionized Calcium Q1H	Mon Aug 30 18:45 New	Mar
VIC	Ionized Calcium Q1H	Mon Aug 30 19:45 New	Write Note
0.0	Ionized Calcium Q1H	Mon Aug 30 20:45 New	TAR
AC			Discharge Plan
Re	* PIN		<ul> <li>Ouestionnaires</li> </ul>
i ke			
	Save Sel	lected	



Physician, 81 M 03/ ADM IN V.SR2	03/1940 SR2.10-2	Code Status Allergy/Adv:	Not Ordered No H	IX AN	zail		VA0002967/ None	21	V0000 E000
		Current	Orders Transfer	Ord	ers Hold Queue	History			
			New Orders Ne	ew P	1eds New Sets				
		😑 🕞 🕲 Current Orders	Category -	e	Ordering Provider	Start	Renew/Stop	Status	
		<ul> <li>Activity and Restrictions</li> </ul>			Abdal Shabid				
		Bed Rest Routine	Activity		Karim, MD	28/07/2021 08:58		Ordered	
		<ul> <li>Assessment and Monitoring</li> </ul>							
		Blood Pressure Monitoring Q5M	Assessment		Mt, Meditech	31/08/2021 08:37		Ordered	
		Cardiac Monitoring Continuous	Assessment		Mt, Meditech	31/08/2021 08:37		Ordered	
		Intake and Output Strict Q1HR	Assessment		Mt, Meditech	31/08/2021 08:37		Ordered	
		Oximetry Monitoring Continuous	Assessment		Mt, Meditech	31/08/2021 08:37		Ordered	
		Temperature Monitoring Q15M	Assessment		Mt, Meditech	31/08/2021 08:37		Ordered	
		Transfusion Instructions Red Cells ONCE	Assessment		Mt, Meditech	31/08/2021 08:37		Ordered	You will now see
		Vital Signs Q15M	Assessment		Mt, Meditech	31/08/2021 08:37		Ordered	including the lab
		<ul> <li>Communication</li> </ul>							series order.
		Activate Massive Hemorrhage Protocol Order	Comm		Mt, Meditech	31/08/2021 08:37		Ordered	
		<ul> <li>Laboratory</li> </ul>							
		Red Cell Concentrate Stat	Lab		Mt, Meditech	31/08/2021 08:37		Ordered	
		<ul> <li>Basic Metabolic Panel Q1H (5)</li> </ul>	Lab		Mt, Meditech	31/08/2021 08:45	31/08/2021 12:45	Series	
		Complete Blood Count Q1H (5)	Lab		Mt, Meditech	31/08/2021 08:45	31/08/2021 12:45	Series	
		🔹 Fibrinogen Assay Q1H (5)	Lab		Mt, Meditech	31/08/2021 08:45	31/08/2021 12:45	Series	
		■ International Normalized Ratio Q1H (5)	Lab		Mt, Meditech	31/08/2021 08:45	31/08/2021 12:45	Series	

11. You

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).

Current Orders       Hold Quaue       History         New Orders       New Gets       Outstand         Favorities       Category       Name         a       b       c       d       d       b       c       d       d       y       x       y       y       x       y       x       y       x       y       x       y       x       y       x       y       x       y       x       y       x       y       y       x       y       x       y       x       y       x       y       x       y       y       x       y       y       y       x       y       y       y       x       y       y       y       x       y       y       y       y       y       y       y	69 M 07/07/1952 M IN V.SSD SSD.02-1	Og Allergy/Adv: Not Recorded	None	E00011099
1       2       1       5       7       1       0       -		Current Orders Transfer Orders Hold Queue       Histo         New Orders New Meds New Sets       © Queued         Favrities       Category Name         Order Cats by Name       Order Cats by Name         A b c d c f a h       k m 0 a c a c r s t		
Mitip Adjunctications Mitip Pack 2 Mitip Pack 2 Mitip Pack 4 AND ONGOING		1 2 3 4 5 6 7 8 6 0 - = ( ) / / , , , Del Clear Shift   Start order Sets Specialty	; List s With Any Word	
		HIP Pack 3     MIP Pack 3     MIP Pack 3		



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.

eturn To				
ode,Stroke	FULL Resuscitation		VA0006201/21	V00
62 F 18/08/1959	1.73m 0g BMI:0.0kg/m²		None	EO
DM IN RV.PURPLE RV08PUR-08-PZ	Allergy/Adv: No Known Allergies			
	Manage Orde	er List		
Associated Data		Result	Dat	'e
Hab	130 g/L (115-160)	Result	18/08/2021 09:25	
INR	0.9 (<1.5) 🗊		18/08/2021 09:25	
Plt Count	300 x10^9/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 x10^12/L (4.00-5.50)		18/08/2021 09:25	
- Order		Status	Start/Stop	P
- MHP Pack 2				
Massive Hemorrhage Protocol Pack 2				
THIS IS STEP 2 OF THE MASSIVE HEMORRHAGE	PROTOCOL - ORDER WHEN REQUIRED BY MRP AND CALL BLOC	OD BANK AT THE SAME TIME T	O ADVISE	
Transfusion Ontario: MHP Resources				(à
largets:				
Hgb greater than 80 g/L Sibilar and that the state of the shot				
The last the 1.0	tetrical patients)			
Distribute granter than E0 v 10×0/				
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 (approxim	nately 1 hour to receive).	
Red Cell Concentrate	51 7	(11)	,	
Stat		New	Tue Sep 07 14:58	Edit
*Quantity		4		
Product Instructions to Blood Bank:		Uncrossmatched		
🛨 Frozen Plasma				
Stat		New	Tue Sep 07 14:58	Edit
*Quantity		4		
Product Instructions to Blood Bank:				
Reflex Orders				
- Transfusion Instr RCC MHP				
<ul> <li>Iransfusion Instructions Red Cells</li> </ul>		D (1	T 0 07 44 50	
✓ UNCE		Reflex	Tue Sep 07 14:58	Edit
Warmer Dequired		Voc		
Rapid Infuser Required		Vec		
tapid initiael required		100		
Prder List Notify Conflicts Details Edit All	Microsoft Edge	ler 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 dependent on patient's status).

Curr	ent Orders Transfer Orders	Hold Queue Hi	story	
	New Orders New Meds Nev	v Sets 1 Queued		
	Favorites Categor	v Name		
	Order Sets by	Name		
a b c d e f g h	I J K I m n o p	q r s t u v	v w x y z	
1 2 3 4 3 0 7		ift Starte With	Any Word	
Order Set MHR	Der elear on	Starts with A	any word	
	Order Sets	Specialty		
	MHP Activation Part			
	MHP Pack 2	ions		
	MHP Pack 3			
	MHP Pack 4 AND ONG	GOING		
Order	SCH	Status	Start/Stop	
MHP Adjunct Medications				
Hypocalcemia Correction				
<ul> <li>calcium chloride [Calciject]</li> </ul>	015			
1,000 mg IV ONCE IN     Anivahan (Rivarovahan (Endovahan Rovorcal with I	ONE			
Prothrombin Complex Concentrate (PCC) may be consid	lered for reversal of apixaban, rivaroxaban or edoxaban in	patient with serious or life threatenin	a hemorrhage	â
CONTRAINDICATIONS TO PCC: patients with history of I	heparin-induced thrombocytopenia (HIT) (Beriplex and Oct	aplex both contain heparin.)	5 5	-
Prothrombin Complex Conc				
Stat				
Dabigatran Reversal with Idarucizumab				
- Idarucizumab [Praxbind]	CCH			
Warfarin Reversal - Serious/Life Threatening Bleer	a son			
For patients with warfarin-associated major bleeding, ra	pid reversal with Prothrombin Complex Concentrate(PCC)	s recommended, rather than with pla	asma. (Grade 2C)	(A)
STEP 1: HOLD Warfarin.				
STEP 2: Order Prothrombin Complex Concentrate (Octa	plex/Beriplex)			
STEP 3: Regardless of the magnitude of INR elevation, g	give Vitamin K 10 mg by slow IV infusion.			
phytonadione [Vitamin K]	015			
10 mg IV ONCE inj	ONE			M
Protifrombin Complex Conc				
Henarin Reversal				
- protamine sulfate				
DOSE mg IV ONCE ini	ONE			



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).

8-1	1.73m 0g BMI:0.0kg/m² N 3-PZ Allergy/Adv: No Known Allergies							lone			
	Current Orders         Fransfer Orders         Hold Queue         History           New Orders         New Meds         New Sets										
	🕞 🕞 🕲 Current Orders		Category -	e	Ordering Provider	Start	Renew/Stop	Status			
	Eeno Eenocaralogram orgene		Leno		Addet, Meo, Hb	10,00,2021 10.50		ordered			
	<ul> <li>Electrocardiology</li> </ul>										
	ECG 12 Lead Stat		ECG		Houldsworth, Kathryn Co, MD	18/08/2021 09:25		Ordered			
	<ul> <li>Laboratory</li> </ul>										
	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 Doctor's Order		<b>_</b>

