



Trauma
PREHOSPITAL BLOOD INITIATION (PHBI)
Practice Guideline

Patient Care Goals
 1. Advanced management of hemorrhagic shock
 2. Reduce coagulopathy, prevent acidosis

Patient Presentation
Inclusion Criteria
 Potential hemorrhagic shock due to trauma
 EMS-witnessed traumatic cardiac arrest

Exclusion criteria
 Unwitnessed (EMS) cardiac arrest, non-hemorrhagic shock, non-trauma etiology, religious/personal objection to blood products

Patient Management
 Treat reversible causes:
 Control hemorrhage (tourniquet, wound pack)
 Treat tension pneumothorax (Chest seal, NDC)
 Treat tamponade (pericardiocentesis)
 Stabilize pelvis (pelvic sling or sheet)
 LSI in traumatic cardiac arrest

Medication
Blood product infusion
 • Low titer O+ whole blood *or*
 • Fresh frozen plasma *or*
 • Packed red blood cells
 Adult age ≥18yrs: One unit, IV/IO infusion *rapid*
 Pediatric age <18yrs: 10mL/kg IV/IO infusion *rapid*
 Max dose 1 unit

TXA Tranexamic Acid
 Adult (Age ≥18 yrs): 2G IV/IO infuse 10 min

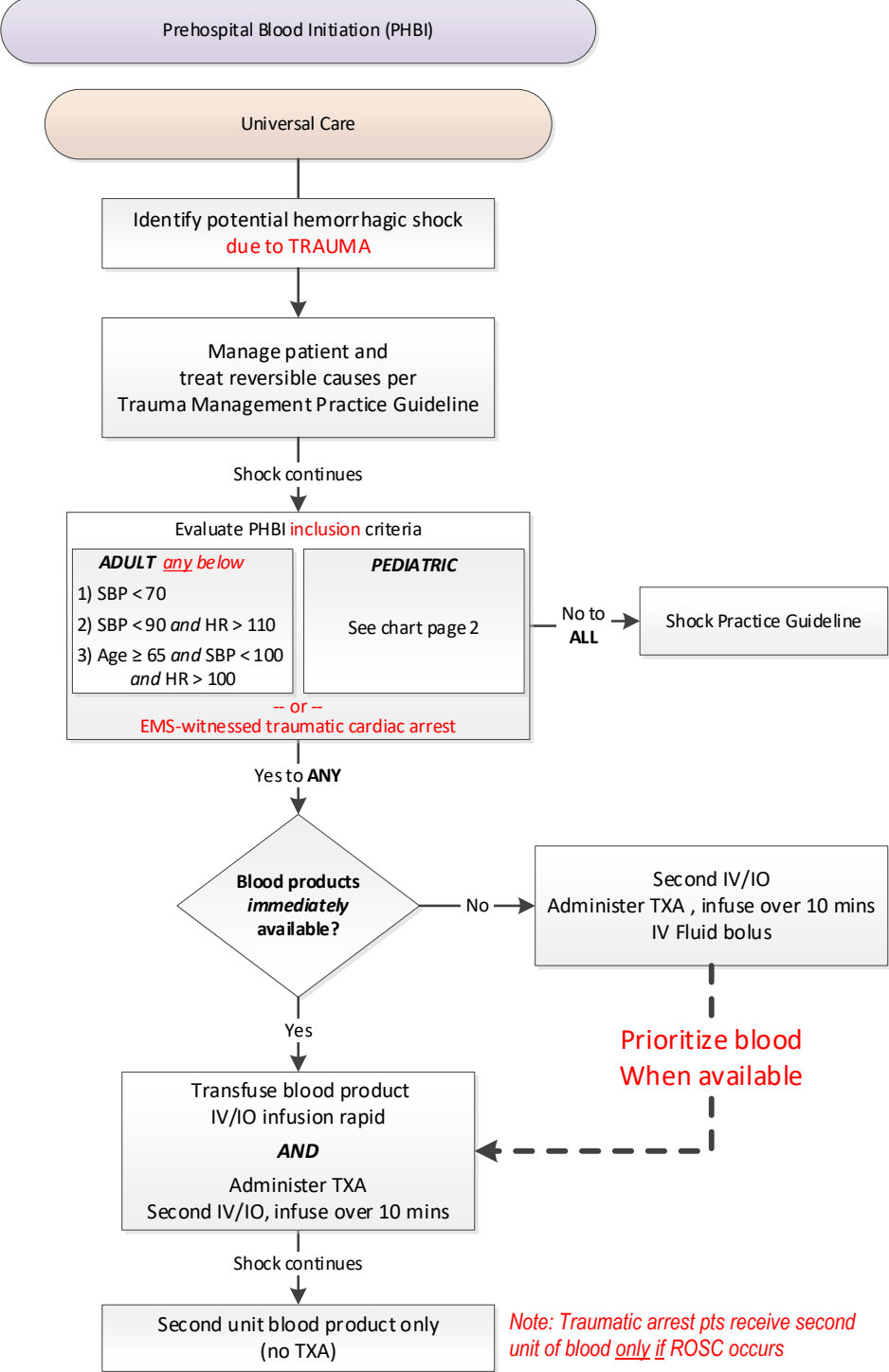
Incidents with potential patient blood needs and prolonged prehospital time (MCI, active shooter, entrapped victims): *If* blood products are not immediately available, **contact EMSCOM** for closest available blood capable unit.

Patient Safety Considerations
All blood administration should take place en route to trauma center

Prehospital blood products should not be initiated if patient or their medical decision maker objects due to religious or other reasons.

Quality Improvement
 Key Documentation Elements
 Transfusion details: time, blood unit number/code, route, provider, status at end of call (infusion completed or still running)
 Documentation of blood administration in OPIQ

Key Performance Indicators
 Scene time
 Blood pressure trends
 Product Management (wasted blood)



Initiated: 04/15/2024
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 Revision 3

Approved: Benjamin Weston, MD, MPH Medical Director
 Approved: Dan Pojar, BSEMS, FP-C, NRP EMS Division Director
 WI DHS EMS Approval:

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PHBI Inclusion Criteria

Adults (age 18 years or older):

SBP < 70 <i>OR</i> SBP < 90 <i>and</i> HR > 110 <i>OR</i> Age > 65 <i>and</i> SBP < 100 <i>and</i> HR > 100		For adults, <u>any</u> of the three listed criteria
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Pediatric (Age less than 18 years):

Age	SBP	<i>and</i>	HR
< 29 days	< 70	<i>and</i>	<100 or > 180
30 days - < 1 year	< 70	<i>and</i>	< 80 or > 160
1 year	< 72	<i>and</i>	< 60 or > 130
2 years	< 74	<i>and</i>	< 60 or > 130
3 years	< 76	<i>and</i>	< 60 or > 130
4 years	< 78	<i>and</i>	< 60 or > 130
5 years	< 80	<i>and</i>	< 60 or > 130
6 years	< 82	<i>and</i>	< 60 or > 130
7 years	< 84	<i>and</i>	< 60 or > 130
8 years	< 86	<i>and</i>	< 60 or > 130
9 years	< 88	<i>and</i>	< 60 or > 130
>10 years	< 90	<i>and</i>	< 60 or > 110

Adults and Pediatric:

EMS-witnessed traumatic cardiac arrest



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BLOOD PRODUCTS														
BLOOD PRODUCTS	ADULT DOSE		PEDIATRIC DOSE		ADMINISTRATION GUIDELINE				INDICATIONS		CONTRA-INDICATIONS		MACC	
Hemorrhagic shock due to trauma IV/IO RAPID INFUSION	1 Unit		10 mL/kg		Rapid infusion with pressure bag (adults only)				Traumatic hemorrhagic shock		Religious or personal objection			
			Use Buretrol device to set volume											
		Concentration: 1 unit												
Weight (kg)	5	10	15	20	25	30	35	40	50	60	70	80	90	100
Dose (10 mL/kg)	50 mL	100 mL	150 mL	200 mL	250 mL	300 mL	350 mL	400 mL	1 unit	1 unit	1 unit	1 unit	1 unit	1 unit



TRANEXAMIC ACID (TXA)			**ADULT Age ≥ 18 yrs DOSING BELOW**							
TXA	ADULT DOSE (Age 18 yrs or older)		ADMINISTRATION GUIDELINE		INDICATIONS		CONTRA-INDICATIONS		MACC	
Hemorrhagic shock due to trauma IV/IO INFUSION	2 g		Adults: Dilute 2 g into 100 mL bag Infuse over 10 minutes		Traumatic hemorrhagic shock		> 3 hrs from injury onset Isolated head injury Current or recent DVT/PE/stroke Dialysis patient			

Next page: Blood Administration Complications

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Blood Administration Complications

If complications are noted, always perform the specific interventions as noted in the following individual scenarios:

