



Quick Reference Guide

for Physicians, Providers, Nurses, and Paramedics

This document highlights updates to the Damage Control Resuscitation (DCR) Clinical Practice Guideline.

	Goal	Updated Guidance	Actions
Triage / Rapid Assessment	To reduce mortality due to hemorrhage, rapidly recognize the need for early DCR and initiate early hemorrhage control and blood transfusion as close to time-of-injury as possible.	Maintain a target Systolic Blood Pressure (SBP) for DCR at 100 mmHg (110mmHg if TBI is presumed) when resuscitating with blood products.	<ul style="list-style-type: none"> • Triage: Identify severe injury patterns requiring early hemorrhage control and blood transfusion. • Initiate Rapid Casualty Assessment • Assess for signs of hemorrhagic shock: <ul style="list-style-type: none"> - SBP < 100 mmHg - Pulse > 100 bpm - Physiologic signs of shock - Hematocrit < 32% - pH < 7.25 - Clinical signs of coagulopathy
	To monitor the risk of coagulopathy during massive transfusion, assess International Normalized Ratio (INR).	Monitor International Normalized Ratio (INR) > 1.5 indicating risk for coagulopathy during massive transfusion.	<ul style="list-style-type: none"> • Limit use of crystalloids • Obtain baseline INR level testing as early as possible and monitor during resuscitation. • Assess risk of massive transfusion: <ul style="list-style-type: none"> - >2 regions positive on FAST scan - Lactate concentration on admission >2.5 - Admission INR ≥ 1.5 - Base Deficit > 6 mEq/L
Hemorrhage Control	To stop or reduce hemorrhage as close to time-of-injury as possible.	Utilize Resuscitative Endovascular Balloon Occlusion of the Aorta (REBOA) as an option for the control of non-compressible torso hemorrhage.	<p>Apply:</p> <ul style="list-style-type: none"> • tourniquets, • pressure bandages, • hemostatic dressings, and <p>assist with REBOA if assigned to a designated resuscitation team.</p>
Resuscitation	To treat and reverse hemorrhagic shock, provide warm whole blood as close to the time-of-injury as possible.	Prioritize using Low Titer O Whole Blood (LTOWB) as the fluid of choice for DCR.	<p>Administer DCR fluids from most to least preferred:</p> <ol style="list-style-type: none"> 1. Whole Blood (FDA-approved LTOWB preferred) 2. Plasma, platelets, red blood cells (RBCs), and CRYO in a 1:1:1:1 ratio 3. Whole blood in a recently tested donor 4. Plasma and RBCs in a 1:1 ratio 5. Plasma or RBCs alone
<p>NOTES:</p> <ul style="list-style-type: none"> • Warm fluids to 37°C/98.6°F with approved devices to prevent hypothermia. • Consider transfusion during transport to ensure rapid transfer to a surgical team. 			
Pharmacologic Adjuncts	To reduce mortality, fibrinolysis, and stabilize clot, administer TXA IV/IO within 3 HOURS of injury for casualties at high risk of hemorrhagic shock.	Consider administering undiluted TXA by slow IV push (over 10 minutes) is acceptable ONLY if supplies or tactical situation prevents providing a diluted infusion.	<ul style="list-style-type: none"> • Administer TXA 1g IV/IO in 100mL NS over 10 minutes within 3 HOURS of injury • Second dose of TXA 1g IV/IO in 100mL NS over 8 hours
	<p>NOTES: Rapid TXA IV push may cause hypotension.</p>		
	To prevent hypocalcemia related to massive transfusion, monitor ionized calcium. Administer calcium early.	Provide IV/IO calcium to all hemorrhagic shock patients whenever blood transfusion occurs during or immediately after first unit of blood.	<ul style="list-style-type: none"> • 1g calcium (30 ml of 10% calcium gluconate or 10 ml of 10% calcium chloride) IV/IO immediately after first blood unit transfused, then again after every four units keeping ionized calcium above 1.2 mmol/L
<p>NOTES: Calcium gluconate is preferred for peripheral IV administration.</p>			
<p>DISCONTINUE USE for DCR:</p> <ul style="list-style-type: none"> • Hydroxyethyl starch (Hextend, Hespan) • Recombinant human activated factor VII (rhFVIIa) 			

* **Note:** View the full CPG at https://jts.amedd.army.mil/index.cfm/PI_CPGs/cpgs. Last updated September 2019.