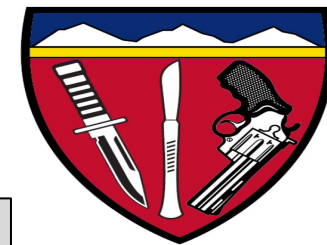


Denver Health Resuscitation Algorithm

Identify if the patient is in shock



Determine the type of shock

Assess the Patient

- History
- Vital signs
- Physical exam
- Labs
- Chest x-ray and eFAST

Assess Fluid Responsiveness

- Passive leg raise
- PPV / SVV
- Point of care ultrasound – IVC
- UOP / FENa
- Response to fluid challenge (500 mL)

Assess Cardiac Function

- Point of care ultrasound - chamber size
- Point of care ultrasound - wall motion
- Cardiac Output/Index from FloTrac if in use

Hypovolemic

- * Hemorrhagic shock
- * Dehydration
- * Massive fluid loss (GI, burns)

Cardiogenic Shock

- * Acute MI / valve failure
- * Heart failure exacerbation
- * Blunt cardiac injury

Distributive Shock

- * Sepsis
- * Neurogenic
- * Anaphylactic

Obstructive Shock

- * Tension pneumothorax
- * Cardiac tamponade
- * Abdominal compartment syndrome
- * Pulmonary embolism

Increase Preload (Volume)

1. Restoration of circulating volume; no role for vasopressors or inotropes

Hemorrhagic shock:

- Blood products prioritized over crystalloid
- Stop the bleeding (surgery or embolization)
- Correct TEG

Dehydration / massive fluid loss:

- NS for UGI losses vs. LR for LGI, cutaneous, or insensible losses

Support the heart (Improve contractility)

1. IVF bolus if evaluation suggests fluid responsiveness
2. Inotropes for decreased contractility*
3. Rate optimization or cardioversion* when appropriate (Afib, SVT)
4. Diuretics for extreme cases of volume overload
5. Consider ECMO consult*

*with Chief/Fellow involvement

Support patient (Improve SVR)

1. Crystalloid resuscitation
2. Begin vasopressors when patient not fluid responsive

If sepsis in differential:

- Send cultures & lactate
- Start antibiotics
- Consider steroids if refractory shock

Relieve the obstruction

Tension pneumothorax:

- Chest decompression / tube

Cardiac tamponade:

- IVF bolus
- Pericardiocentesis

Abdominal compartment syndrome:

- Surgical decompression vs. drain decompression

Pulmonary embolism:

- Consult to vascular center for thrombolytics or embolectomy

Continue monitoring, periodic assessment of response

- Lactate & Base deficit
- Consider arterial line for BP monitoring

Not Improving

Improving

End Points:

- Normal hemodynamics
- Improved base deficit & lactate