

MEDICAL SHOCK

See "Red 21" Cardiogenic Shock if appropriate

See "Green 13" Hypovolemic Shock if appropriate

See "Gold 1" Allergy and Anaphylaxis if appropriate

See "Blue 3" Adult Airway Algorithm if appropriate

Definition of Severe Inflammatory Response Syndrome (SIRS), Sepsis, Severe Sepsis and Septic Shock		
Variable	Definition	
SIRS	Greater than or equal to 2 of the following	Temp > 38.3°C or < 36°C HR > 90 bpm Respiratory rate > 20 bpm Hyperglycemia > 120 mg/dl ¹ Altered Level of Consciousness Decreased capillary refill Lactate > 2 mmol/L
Sepsis	SIRS + a presumed or identified source of infection	
Severe Sepsis	Sepsis + one or more organ dysfunction ² , hypotension before fluid challenge, or Lactate > 4 mmol/L	
Septic Shock	Severe sepsis + hypotension ³ despite fluid challenge	
Table adopted from 2001 SCCM/ESICM/ACCP/ATS/SIS International Sepsis Definitions Conference. ¹ <i>Hyperglycemia without history of diabetes, Hypoglycemia, without diabetes, in an immunocompromised patient increases suspicion of infection.</i> ² <i>Organ dysfunction can be defined as: respiratory failure, acute renal failure, acute liver failure, coagulopathy, or thrombocytopenia. Laboratories that will suggest organ dysfunction include: PaO₂ (mmHg)/FiO₂ <300, Creatinine >2.0 mg/dl OR Creatinine Increase >0.5 mg/dL, INR >1.5, PTT >60 sec, Platelets < 100,000/uL. Total bilirubin >4 mg/dL</i> ³ <i>Systolic Blood Pressure < 90 mmHg or Mean Arterial Pressure < 65 mmHg</i>		

BASIC

1. Attempt to identify cause (i.e. allergic reaction)
2. Manage airway as appropriate
3. Request ALS intercept
4. Transport

INTERMEDIATE/CRITICAL CARE/PARAMEDIC

5. Consider causes

- a. Massive GI bleed, vaginal bleeding, vomiting, diarrhea, ruptured aneurysm - Treat per "Green 13" Hypovolemic Shock
 - b. Cardiogenic shock - Treat per "Red 21"
 - c. Anaphylaxis - Treat per "Gold 1"
 - d. Severe Sepsis
 - i. Assess for acute pulmonary edema. If present, refer to cardiogenic shock "Red 21"
 - ii. If available and trained perform point of care lactate:
 - A. If POC lactate > 4 and no evidence of pulmonary edema, administer 1000 ml NS bolus
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- iii. If POC lactate not available and no evidence of pulmonary edema
 - A. Contact OLMC for OPTION of 500 ml NS bolus
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- iv. Notify receiving hospital that the patient is a "Code Sepsis"



CRITICAL CARE / PARAMEDIC

- 6. For anaphylactic or presumed septic shock
 - a. If no response to initial treatment
 - i. Contact medical control to discuss additional fluid bolus versus initiating dopamine infusion. Dopamine infusions in pediatrics must be administered via a Maine EMS approved medication pump. Consider using a pump in adult infusions.
 - A. Dose 5-20 mcg / kg / min (2-9 mcg / pound / min)
 - B. Titrate to maintain SBP greater than 90 mm Hg



7. Additionally, if the patient is found to have Adrenal Insufficiency (via medic alert bracelet, patient records, or family/staff reports), administer methylprednisolone (Solu-Medrol) as follows:

- a. Adults – methylprednisolone (Solu-Medrol) 125 mg IV, IM, or IO x 1 dose
- b. Pediatrics - methylprednisolone (Solu-Medrol) 2mg/kg IV, IM, or IO x 1 dose

Weight Based Dopamine Dosing Chart

Weight (lbs)	90	110	130	150	175	200	225	250	300
Weight (kg)	40	50	60	70	80	90	100	115	135
Gtts / min (60 gtt set)	8-30	9-38	11-45	13-53	15-60	17-68	19-75	22-86	25-101