

	COUNTY OF SACRAMENTO EMERGENCY MEDICAL SERVICES AGENCY	Document #	8067.01
	PROGRAM DOCUMENT: Sepsis/Septic Shock	Initial Date:	07/26/16
		Last Approved Date:	05/01/17
		Effective Date:	11/01/17
		Next Review Date:	09/01/18

 EMS Medical Director

 EMS Administrator

Purpose:

- A. To serve as the treatment standard for EMT's and Paramedics in treating patients who meet pre-hospital sepsis criteria and to facilitate:
 - 1. Initiation of pre-hospital fluid resuscitation.
 - 2. "Sepsis Alert" pre-arrival notification for receiving hospitals to expedite patient care upon arrival to the Emergency Department (ED).

Authority:

- A. California Health and Safety Code, Division 2.5
- B. California Code of Regulations, Title 22, Division 9

Definitions:

- A. **Systemic Inflammatory Response Syndrome (SIRS):**
 A generalized inflammatory response to a non-specific injury and includes at least 2 of the following criteria;
 - 1. Body temperature of >38 C (100.4 F) or <36 C (96.8F).
 - 2. Respiratory rate >20 breaths per minute.
 - 3. Heart rate >90 bpm.
- B. **Sepsis:**
 A life threatening condition that typically progresses rapidly due to severe infection of possibly multiple organ systems leading to shock, organ failure and death if not promptly recognized and treated. Simply, sepsis is SIRS with a known infection.
- C. **Severe Sepsis:**
 Sepsis with organ dysfunction, hypoxia, decreased organ perfusion, hypotension, elevated serum lactate levels (metabolic acidosis) and consequently low EtCO2 levels.
- D. **Septic Shock:**
 Sepsis-induced hypotension despite fluid resuscitation and evidence of hypoperfusion.

Policy:

- A. Treatment interventions below and pre-arrival notification shall occur for patients meeting the following pre-hospital sepsis criteria:
 - 1. Confirmed or suspected presence of infection:
 - a. By history from patient, family or care home.
 - b. By signs or symptoms of urinary tract infection, respiratory infection, or skin infection.
 - c. Older Adults or immune compromised patients with otherwise unexplained ALOC and no findings to suggest acute STROKE (see stroke protocol), and;

2. Any two of the following SIRS criteria:
 - a. Temperature of $>38^{\circ}\text{C}$ (100.4°F) or $<36^{\circ}\text{C}$ (96.8°F) (Acquired by EMS or if reported by patient, family, or care home).
 - b. Respiratory rate >20 breaths per minute.
 - c. Heart rate >90 bpm.
 - d. SBP <90 mmHg

If a patient does not meet Sepsis Criteria, continue assessment, care and transport appropriate for presenting complaint and assessment.

Protocol:

BLS TREATMENT

Supplemental O₂ as necessary to maintain SpO₂ $\geq 94\%$. Use the lowest concentration and flow rate of O₂ as possible.

Notify receiving facility. "Sepsis Alert" pre-arrival notification.

Transport.

ALS TREATMENT

Initiate large bore IV or IO.

- Administer a 500 ml bolus of NS to all patients, then repeat as needed until SBP >90 mmHg. Total amount of fluid should not exceed 2000 ml. Recheck vital signs and lung sounds after every 500 ml bolus.
- Given boluses in rapid succession if SBP remains <90 mmHg

Early Sepsis Notification to receiving ED. "Sepsis Alert" pre-arrival notification.

If SBP remains <90 mmHg after four (4) fluid boluses.

Base Hospital Order Only:

~~**Dopamine** at 10 mcg/Kg/min if SBP < 90 mmHg.~~

~~**If Dopamine is unavailable:**~~

~~**Push Dose Epinephrine** – 0.01 mg/ml (10mcg/ml)-0.5-2 ml (5-20mcg) IV/IO every 2-5 minutes. Titrate to SBP > 90 .~~

~~**NOTE:** Monitor SBP while administering/titrating.~~

Cross Reference: Shock, PD# 8038
Decreased Sensorium PD# 8061