



**Santa Cruz County  
Emergency Medical Services Program**

## **Core Principles For Managing Sepsis**

***Rule #1- Sepsis is a life threatening condition that can occur when a systemic reaction known as Systemic Inflammatory Response Syndrome (SIRS) develops in response to an infection.***

**SIRS** can occur in response to many insults to the body, including trauma, surgery, inflammatory diseases, and most commonly, infection. **Sepsis** occurs when this inflammatory response occurs in response to an infection in the body.

***Rule #2 – Sepsis is a disease that can present on a continuum from a relatively mild to a fatal condition, and is defined based on the following clinical findings:***

1. **A. Sepsis (Adult)** = presence of two or more of the following with a known or suspected infection:
  - a. Heart rate >90
  - b. Respiratory rate > 20
  - c. Temperature >100.4 or <96.0
2. **B. Sepsis (Pediatric)** = presence of two or more of the following with a known or suspected infection:
  - a. Heart rate:  
Newborns > 200  
Infants > 170  
Toddlers & School Aged (up to 18 yrs.) >130
  - b. Respiratory rate:  
Newborns >60  
Infants >40  
Toddlers & School Aged (up to 18 yrs.) >25
  - c. Temperature >100.4 or <96.0
3. **Severe Sepsis** = **known or suspected infectious process + abnormal vital signs as above + organ dysfunction**.
  - a. Altered level of consciousness
  - b. Hypoxia/respiratory distress
  - c. Presence of hyperglycemia (BG > 140mg/dl) in a non-diabetic patient
  - d. Hypoperfusion – as evidenced by altered skin perfusion, hypotension
  - e. End-tidal CO<sub>2</sub> (ETCO<sub>2</sub>) ≤ 25 mmHg

4. **Septic Shock** – severe sepsis that does not respond to fluid resuscitation, requiring vasopressor therapy to support perfusion.

**Rule #3 – Suspect sepsis is the following patients:**

- a. The elderly (age > 70)
- b. The very young with fever (Infants age < 3 months)
- c. Diabetics
- d. Recently hospitalized patients or those living in SNFs
- e. Patients who have recently had surgery or an invasive procedure
- f. Patients with:
  - Cancer
  - Renal disease
  - Malnutrition
  - Alcoholism
  - Diabetes
  - Other immune compromising diseases or conditions

**Rule #4 – Suspect sepsis in patients with the following symptoms:**

- a. Fever
- b. Respiratory symptoms such as shortness of breath, tachypnea, cough
- c. Abdominal symptoms such as vomiting, diarrhea, or abdominal pain
- d. Urinary symptoms such as urinary frequency, pain with urination, flank pain
- e. Skin infections
- f. General weakness, lethargy, ALOC, especially in the elderly.
- g. Hyperglycemia (BG >140 mg/dl in a patient with no known diabetes)
- h. End-tidal CO<sub>2</sub> readings that are abnormally low ( $\leq 25$ mmHg)

**Rule #5 – Field care of the septic patient focuses on early recognition of possible sepsis, initiating therapy to support the patient’s airway, breathing, and circulation, and early notification to the receiving hospital.**

- a. Provide airway management as needed
- b. Oxygenate to maintain SAO<sub>2</sub> of 95%
- c. NS fluid therapy to maintain adequate perfusion. Initial fluid therapy for severe sepsis/septic shock in adults is 30 ml/kg. Further fluid therapy should be administered by Base Hospital Physician order only.
- d. Initial fluid therapy for severe sepsis/septic shock in pediatric patients is up to three (3) 20 ml/kg fluid boluses. Reassess response to fluid therapy between boluses. Further fluid therapy should be administered by Base Hospital Physician order only.
- e. Vasopressors are rarely indicated in the field as they are administered to septic patients only after substantial IV fluid resuscitation.
- f. Hospital reports should indicate that you are transporting a patient with **“suspected sepsis.”**

**Rule #6 – Administer IV fluid cautiously to patients with impaired cardiac function.**

*Patients with a history of CHF, cardiomyopathy (abnormally enlarged heart), or other major heart defects are at greater risk for fluid overload with large volume IV fluid boluses. Administer IV fluid in 10ml/kg increments and reassess respiratory status and lung sounds before administering more fluid.*

**Rule #7 – The elderly and immune compromised patient may not present with a history of fever.**

*Septic patients may actually lose heat through vasodilatation and present with normothermic or even cool skin, and a normal or low temperature.*

**Rule #8 – Hypoglycemia is uncommon in non-diabetic septic patients, but can occur with overwhelming sepsis, and is associated with a high mortality rate.**

**Rule #9 – The most common sites of infection in septic patients include the following:**

- #1 – Lungs
- #2 – Abdomino-pelvic region
- #3 – Urinary Tract
- #4 – Soft tissue (primarily skin infections)

**Rule #10 – The single most important element of the prehospital management of sepsis is recognizing that a patient might be septic, and communicating this information to the ED as soon as possible.**