



April 2013 Up2Date

Sepsis Alert

In HEMS and EMS we treat a number of septic patients, here is a quick review and what some area EMS and Hospitals are doing with sepsis alerts. Sepsis alerts are organized similarly to cardiac and stroke alerts.

Sepsis is caused by the immune system's response to a serious infection, most commonly bacteria, but also fungi, viruses, and parasites in the blood, urinary tract, lungs, skin, or other tissues. Sepsis can be thought of as falling within a continuum from infection to multiple organ dysfunction syndrome.

Common symptoms of sepsis include those related to a specific infection, but usually accompanied by high fevers, hot, flushed skin, elevated heart rate, hyperventilation, altered mental status, swelling, and low blood pressure. In the very young and elderly, or in people with weakened immune systems, the pattern of symptoms may be atypical, with hypothermia and without an easily localizable infection. Sepsis causes millions of deaths globally each year.

THE DENVER SEPSIS PROTOCOL

For a sepsis alert to be activated, patients need to meet three general criteria:

- 1) Physical signs of SIRS;
- 2) History consistent with infection;
- 3) Signs of hypoperfusion or hypotension.

Specific Objective Findings

1. Initiate sepsis alert for the following patients:

- a. 18 years old and NOT pregnant
- b. At least two of the SIRS criteria and:
 - i. Temperature greater than 38°C (100.4°F) or lower than 36°C (96°F)
 - ii. Pulse greater than 90
 - iii. Respiratory rate greater than 20
- c. Suspected or documented infection
- d. Hypoperfusion as manifest by one of the following:
 - i. Systolic BP less than 90
 - I i. MAP less than 65
 - iii. Lactate level greater than 4 mmol/L

Things to key in on for a sepsis patient:

- 1. Recognize high-risk patients**
- 2. Look for a source of infection**
- 3. Pay attention to the patient's body temperature**
- 4. Look for changes in vital signs**
- 5. Check lactate levels**

First treatment is follow Medevac guidelines.

1. Administer high-flow oxygen
2. Establish IV access with two large-bore peripheral IV's or a central line and draw blood samples
 - a. Baseline blood values and a lactate level
 - b. Administer IV fluid boluses (20 cc/kg), rapid infusion/ pressors/ABX
3. Reassess patient on a regular basis.
 - a. Vital signs
 - b. Breath sounds
 - c. Capnography
 - d. Pulse oximetry
 - e. Blood sugar
 - f. Monitor cardiac rhythm.
 - i.stat

This is just a starting point for treatment of a septic patient, but with early recognition and aggressive treatment you can have a profound impact on patient outcomes.

