

THE SUBTLE SIGNS OF SEPSIS



DEFINITIONS:

SEPSIS:

The body's overwhelming and life-threatening response to an infection, which can lead to tissue damage, organ failure and death.

SEPTIC SHOCK:

A subset of sepsis associated with a higher risk of mortality; defined as refractory hypotension despite adequate fluid resuscitation requiring vasoactive medications to maintain MAP > 65 mmHg and lactate > 2 mmol/L.



qSOFA CRITERIA:

Quick Sequential Organ Failure Assessment Score

ASSESS ADULTS FOR

- Respiratory rate \geq 22 breaths/min
- Altered mental status
- Systolic blood pressure (SBP) \leq 100 mmHg

The presence of any two of these criteria in a patient with known infection should prompt further evaluation for organ dysfunction.



CLINICAL PRESENTATION:

Symptoms may be specific to an infectious source

Altered mental status

Tachycardia
(heart rate > 90 beats/min)

Arterial hypotension
(SBP < 90 mmHG, MAP < 70 mmHG, or an SBP decrease > 40 mmHG)

Cough, dyspnea, tachypnea,
RR > 22 breaths/min

Temperature > 38.3°C or < 36°C

Decreased capillary refill, cyanosis,
or mottling (may indicate shock)



SEPSIS MANAGEMENT BUNDLES:



WITHIN 3 HOURS OF SUSPECTED SEPSIS:

1. Measure lactate level
2. Obtain blood cultures prior to administration of antibiotics
3. Administer broad spectrum antibiotics [in septic shock, the risk of dying increases by approximately 10% for every hour of delay in receiving antibiotics]
4. Fluid resuscitation: administer 30 mL/kg crystalloid for hypotension or lactate \geq 4mmol/L.



WITHIN 6 HOURS OF SUSPECTED SEPSIS:

5. Administer vasopressors (for hypotension that does not respond to initial fluid resuscitation) to maintain a MAP \geq 65 mmHg
6. For persistent arterial hypotension despite volume resuscitation (septic shock) or initial lactate \geq 4 mmol/L (36 mg/dL), reassess volume status and tissue perfusion and document findings:

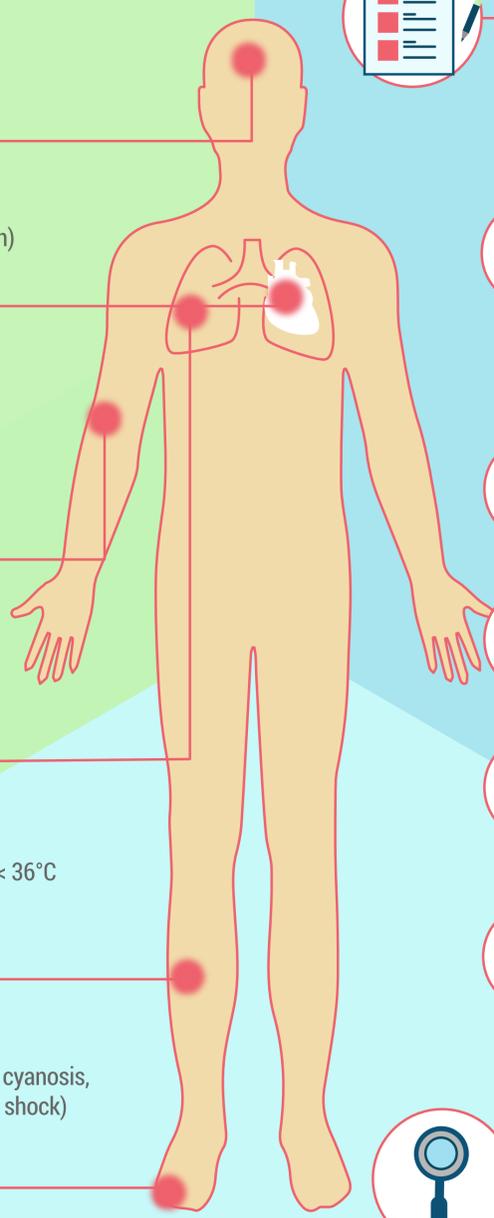
EITHER:

After initial fluid resuscitation, repeat focused exam, including vital signs, cardiopulmonary assessment, capillary refill, pulses, and skin.

OR TWO OF THE FOLLOWING³:

- Measure central venous pressure (CVP)
- Measure central venous oxygen saturation (SCVO₂)
- Perform bedside cardiovascular ultrasound
- Assess fluid responsiveness using passive leg raise or fluid challenge

7. Monitor lactate if initial lactate was elevated, and target lactate to normal level



SEPSIS IS A MEDICAL EMERGENCY²
AND CAN BE DEADLY
when not quickly
RECOGNIZED AND TREATED.

REFERENCES

1. Martin, G. S. (2012, June). Sepsis, severe sepsis and septic shock: Changes in incidence, pathogens and outcomes. *Expert Review of Anti-infective Therapy*, 10(6), 701-706.
2. What is Sepsis? (2016, August). Retrieved September 30, 2016, from http://www.cdc.gov/sepsis/pdfs/sepsis_infographic_final.pdf
3. Singer, M., Deutschman, C.S., Warren Seymour, C., et al; (2016, February). The Third International Consensus Definitions for Sepsis and Septic Shock (Sepsis-3). *Journal of the American Medical Association (JAMA)*, 315(8), 801-810.
4. Surviving Sepsis Campaign Bundles, revised April, 2015 (2016). Society of Critical Care Medicine. Retrieved from <http://www.survivingsepsis.org/Bundles/Pages/default.aspx>