

How to print your own Sepsis Quiz Cards:



Download this PDF and print it at home. You can use regular white paper, or heavy white cardstock.



The cards are in color, but don't worry if you don't have a color printer. They also work in black and white. You can print on both sides, but it's not a must, they work either way.



Cut the cards along the line, using scissors or whatever comes handy.



You're done and ready to test your knowledge.



1. The Surviving Sepsis Campaign guidelines suggest initial fluid resuscitation with:

- a. 30 mL / kg in 6 hours
- b. 30 mL / kg in 3 hours**
- c. 30 mL / kg per hour for 6 hours
- d. 30 mL / kg per hour for 3 hours

The correct option is B. The SSC guidelines recommend that initial fluid resuscitation begin with 30 mL / kg within the first 3 hours (not 30mL/kg/h).

Rhodes A et al. *Surviving Sepsis Campaign: International guidelines for management of sepsis and septic shock: 2016. Crit Care Med 2017; 45 (3): 492*

2. In relation to microbiological culture sampling, the recommendation of the SSC 2016 guidelines is:

- a. Pan-culture whenever possible
- b. Only take blood cultures before antibiotic administration
- c. Hold antibiotics until cultures have been obtained
- d. Take cultures from the site(s) of suspected infection**

The correct answer is D. Taking cultures directly from the site of suspected infection is strongly recommended, provided this does not delay the administration of antibiotics.

Rhodes A et al. *Surviving Sepsis Campaign: International guidelines for management of sepsis and septic shock: 2016. Crit Care Med 2017; 45 (3): 494*

3. What is the recommended time period between detection of a surgical site of infection and surgical resolution?

- a. No need for resolution, observation sufficient.
- b. No more than 6 to 12 hours**
- c. 12 to 24 hours
- d. More than 24 hours

The correct answer is B. The 2016 SSC guidelines suggest that control of the sepsis "focus" take place no more than 6 to 12 hours after the identification in most cases.

Rhodes A et al. *Surviving Sepsis Campaign: International guidelines for management of sepsis and septic shock: 2016. Crit Care Med 2017; 45 (3): 502*

4. Regarding puerperal sepsis, what are the most frequent etiological pathogens?

- a. Gram positive bacteria
- b. Gram negative rods**
- c. Escherichia coli, Klebsiella pneumoniae, Candida spp.
- d. Fungi and viruses

The correct answer is B. Although E. coli, Klebsiella pneumoniae, and Enterobacter spp. (Gram negative rods) are the most commonly isolated bacteria in this response, Candida spp. Are NOT (answer C is thus false). Overall, Gram negative bacilli are the causative pathogens in 30-80% of cases.

Bacterial Sepsis in Pregnancy. Green-top Guideline No. 64a. Royal College of Obstetricians and Gynaecologists. April 2012.

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5. The initial tool for the diagnosis of sepsis associated encephalopathy is:

- a. Electroencephalogram (EEG)
- b. CAM-ICU testing**
- c. Head CT scan
- d. Magnetic resonance imaging

The correct option is B. The evaluation of the mental state of the critically ill patient with sepsis should occur daily, supported by tools such as the CAM-ICU test, and only later supported by additional diagnostics such as an electroencephalogram and imaging studies.

Iacobone, Bailly-Salin, Polito et al. Sepsis-associated encephalopathy and its differential diagnosis. Crit Care Med 2009 Vol. 37

6. Beta-D-Glucan is useful in the diagnostic approach of sepsis secondary to:

- a. Fungi**
- b. Virus
- c. Bacteria
- d. Prions

The correct answer is A. Beta-D-Glucan is a cell wall polysaccharide, found in many fungal infections.

Theel ES, Doern CD. Beta-d-Glucan Testing Is Important for Diagnosis of Invasive Fungal Infections. Journal of Clinical Microbiology. 2013; 51 (11): 3478-3483.

7. What is the hemoglobin goal in patients with sepsis and septic shock?

- a. 10 g / dL
- b. 9 g / dL
- c. 7 g / dL**
- d. There is no goal set

The correct answer is C. The recommendation of the SSC 2016 guidelines is to consider transfusion when hemoglobin concentrations are below 7.0 g/ dL in adults, and to consider higher levels in selected circumstances (myocardial ischemia, severe hypoxia, acute hemorrhage).

Rhodes A et al. Surviving Sepsis Campaign: International guidelines for management of sepsis and septic shock: 2016. Crit Care Med 2017; 45 (3): 507.

8. When should platelets be transfused prophylactically in the patient with sepsis?

- a. <100,000/mm³
- b. <50,000/mm³
- c. <25,000/mm³
- d. <10,000/mm³**

The correct answer is D. The SSC 2016 guidelines recommend prophylactic platelet transfusion in patients with sepsis or septic shock and a platelet count <10,000/mm³.

Rhodes A et al. Surviving Sepsis Campaign: International guidelines for management of sepsis and septic shock: 2016. Crit Care Med 2017; 45 (3): 508.

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9. According to the WSES 2017 guidelines, what is the main cause of secondary peritonitis?

- a. Cholecystitis
- b. Cholangitis
- c. Appendicitis**
- d. Pancreatitis

The correct answer is C. Appendicitis is by far the leading cause of secondary peritonitis in the world, at almost double the frequency of the 2nd leading cause.

Sartelli M et al. The management of intra-abdominal infections from a global perspective: 2017 WSES guidelines for management of intra-abdominal infections. *World J Emerg Surg* 2017; 12 (29). DOI 10.1186 / s13017-017-0141-6.

10. What are the CDC criteria for determining that a bacterium is an "ESBL" (Extended Spectrum Beta-Lactamase producer)?

- a. Resistance to carbapenems
- b. Resistance to 3rd generation cephalosporins**
- c. Cefamycin resistance
- d. Monobactam sensitivity

The correct answer is B. The CDC criteria for determining that a bacterium is a producer of extended-spectrum beta-lactamases are the following: resistance to third-generation cephalosporins (e.g.: ceftazidime, cefotaxime, and ceftriaxone) and monobactams (e.g.: aztreonam), but not resistance to cefamycins (e.g.: cefoxitin and cefotetan) or carbapenems (e.g.: meropenem, imipenem).

Centers for Disease Control and Prevention (CDC). Laboratory detection of extended-spectrum B-lactamases. Taken from: https://www.cdc.gov/hai/settings/lab/lab_esbl.html (Last consulted July 2017).

11. At what procalcitonin value can the discontinuation of antibiotics be considered?

- a. 2 mcg / L
- b. 5 mcg / L
- c. 3.2 mcg / L
- d. <0.25 mcg / L**

The correct answer is D. The ProResp trial assigned patients to standardized vs PCT-guided antibiotic therapy. With values lower than 0.25mcg/L, antibiotics were discontinued, since with these values it is unlikely to have an active bacterial infection (<1%).

Long B, Koyfman A. Ready for Prime Time? Biomarkers in Sepsis. *Emerg Med Clin North Am* 2017; 35: 109-122.shock: 2016. *Crit Care Med* 2017; 45 (3): 508.

12. In which patients should a central venous catheter culture be taken?

- a. All feverish patients after 48 hours of antibiotics
- b. When the catheter is > 48 hours old and there is no apparent alternative clinical site**
- c. Patients with positive blood cultures
- d. Bacteremia patients

The correct answer is B. In patients whose catheter is more than 48 hours after installation and in whom an apparent clinical site of infection is not found or is directly suspected of infection associated with an intravascular catheter, a catheter set should be obtained and one simultaneous peripheral.

Rhodes A et al. Surviving Sepsis Campaign: International guidelines for management of sepsis and septic shock: 2016. *Crit Care Med* 2017; 45 (3): 494

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13. In which patients with inflammatory states of non-infectious origin should antimicrobial prophylaxis be used?

- a. In all patients with a systemic inflammatory response
- b. Only in patients with necrotizing pancreatitis
- c. Only in patients with burns
- d. In no patient with non-infectious inflammatory disease**

The correct answer is D. The 2016 SSC guidelines recommend against the use of antimicrobial prophylaxis in patients with severe inflammatory states of non-infectious origin.

Rhodes A et al. *Surviving Sepsis Campaign: International guidelines for management of sepsis and septic shock: 2016. Crit Care Med 2017; 45 (3): 497*

14. When should the de-escalation of antimicrobial therapy be evaluated?

- a. When the results of Gram stain tests are available
- b. When the results of microbiological cultures are available
- c. Daily**
- d. Whenever kidney function changes

The correct answer is C. The 2016 SSC guidelines recommend the daily evaluation of antimicrobial therapy de-escalation, graded as "good practice".

Rhodes A et al. *Surviving Sepsis Campaign: International guidelines for management of sepsis and septic shock: 2016. Crit Care Med 2017; 45 (3): 501*

15. What is the only justifiable physiological reason for giving a fluid bolus to a patient with sepsis?

- a. To increase urinary output
- b. To increase stroke volume**
- c. To improve mean arterial pressure
- d. To decrease extravascular pulmonary water

The correct answer is B. The only proper physiological reason to resuscitate a patient with fluids (i.e.: give a fluid bolus) is to generate a significant increase in stroke volume.

P. Marik and R. Bellomo. *A rational approach to fluid therapy in sepsis. British Journal of Anesthesia, 116 (3): 339-49 (2016).*

16. What are the criteria for determining that a bacterium is "multidrug resistant" (MDR)?

- a. Resistance to at least 1 drug in each of 2 or more antimicrobial categories
- b. Resistance to at least 2 drugs in each of 2 or more antimicrobial categories
- c. Resistance to at least 1 drug in each of 3 or more antimicrobial categories**
- d. Resistance to at least 3 drugs in each of 1 or more antimicrobial categories

The correct answer is C. For a microbiological isolate to be determined "MDR" it is required that it not present susceptibility - that is, positive resistance - to at least 1 antibiotic in 3 or more antimicrobial categories.

Magiorakos AP et al. *Multidrug-resistant, extensively drug-resistant and pandrug-resistant bacteria: an international expert proposal for interim standard definitions for acquired resistance. Clin Microbiol Infect 2012; 18: 268-281.*

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