Management of Sepsis and Septic Shock
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Guideline Summary
About the Guideline

- The guideline panel consisted of 55 international experts representing 25 international organizations.

- The panel provides 93 statements on early management and resuscitation of patients with sepsis or septic shock, including 32 strong recommendations, 39 weak recommendations, and 18 best-practice statements.

- Patients with sepsis should be viewed as having a medical emergency, necessitating urgent assessment and treatment.
Key Clinical Considerations

Become familiar with the recommendations and best practice statements provided in the most recent guidelines, especially if you work in an acute care setting.

Recommendations and best practice statements can be found in Appendix 1: https://goo.gl/uiHbhF
Resuscitation

• Fluids
• Vasoactive medications
Fluids

• Begin early effective fluid resuscitation, with a recommendation of at least 30 mL/kg of IV crystalloid fluid within the first 3 hours.

• Use invasive and non-invasive measures to guide further fluid administration, including heart rate, blood pressure, arterial oxygen saturation, respiratory rate, temperature, and urine output.

• Evaluate fluid responsiveness using dynamic variables, such as passive leg raise and pulse or stroke volume variations induced by mechanical ventilation, and lactate clearance.
Vasoactive Medications

- An initial target mean arterial pressure (MAP) of 65 mmHg is recommended in patients with septic shock requiring vasopressors.

- Norepinephrine is recommended as the first-choice vasopressor.

- The addition of vasopressin (at 0.03 units/min) or epinephrine to reach target MAP or to decrease the dose of norepinephrine may be considered.
Diagnosis

- At least two sets of blood cultures should be obtained before initiation of antibiotics.

- Identify or exclude anatomic source; remove intravascular access if possible source of infection.
Antibiotics

- Begin antimicrobials as soon as possible after recognition and within 1 hour.

- Evaluate daily for potential de-escalation/narrowing of antibiotics based on pathogen identification and clinical improvement.

- Recommendation of antibiotic treatment is seven to ten days.

- Consider procalcitonin measurement to support de-escalation of antibiotics in patients with sepsis and to support discontinuation of antibiotics in those who ultimately have limited clinical evidence of bacterial infection.
Supportive Care

- Blood Products
- Mechanical Ventilation
- Glucose Control
- Nutrition
Blood Products

- Limit red blood cell transfusions to those patients with hemoglobin concentration < 7 g/dL.

- Consider higher threshold in select clinical populations (i.e. acute hemorrhage/ongoing active bleeding, acute coronary syndrome with ischemia, symptomatic anemia).
Mechanical Ventilation

- In all mechanically ventilated patients with sepsis, use lower tidal volume strategy using predicted body weight, keep the head of bed elevated 30-45 degrees, perform spontaneous breathing trials in those ready for weaning, and minimize sedation and set targets for titration end points.

- In patients with sepsis-induced acute respiratory distress syndrome (ARDS), the recommended target tidal volume is 6 mL/kg and the upper limit goal for plateau pressures is 30 cm H2O. Consider a higher PEEP strategy and recruitment maneuvers (such as prone positioning) for those with sepsis-induced severe-ARDS and refractory hypoxemia.
Glucose Control

• Begin an insulin administration protocol for patients with sepsis and two consecutive blood glucose readings > 180 mg/dL.

• Target glucose ≤ 180 mg/dL, rather than upper limit ≤ 110 mg/dL.
Nutrition

• Begin early enteral nutrition. If not possible, begin IV dextrose and advance enteral feeds as tolerated rather than initiating parenteral nutrition during the first seven days.

• Routinely checking gastric residual volumes is not recommended. This should only be considered when there is enteral feeding intolerance or high risk of aspiration.
Prevent Complications

- For stress ulcer prophylaxis, a proton pump inhibitor or histamine-2 blocker is recommended for patients with sepsis/septic shock and risk factors for gastrointestinal bleeding.

- For VTE prophylaxis, low molecular weight heparin is recommended in combination with mechanical prophylaxis, unless contraindications exist.
Communication

- Discuss goals of care and prognosis with patients and family as early as feasible, incorporating end-of-life planning and palliative care principles, when appropriate.
Reference

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Access the full practice guideline @
http://journals.lww.com/ccmjournal/Fulltext/2017/03000/Surviving_Sepsis_Campaign__International:15.aspx
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