Strength of recommendation and quality of evidence have been assessed using GRADE criteria, presented in a box adjacent to the statement of recommendation.

- Indicates a stronger recommendation or “we recommend.”
- Indicates a weak recommendation or “we suggest.”

**Note:** refer to the guidelines for further details on the grading of recommendations.

### Initial Resuscitation and Infection Issues

**I**ntensive coronary care therapy and infection control intervention strategies for the treatment of severe sepsis and septic shock.

#### Fluid Therapy of Severe Sepsis

- **Crystals** as the initial fluid of choice in the resuscitation of severe sepsis and septic shock (grade 1B).
- **Albumin** in the fluid resuscitation of severe sepsis and septic shock (grade 1B).
- **Preload restoration** is mandatory to maintain adequate blood pressure (grade 1B).
- **Vasopressors** are used in patients initially to target a mean arterial pressure (MAP) of ≥65 mm Hg (grade 1C).

#### Vasoactive Medications

- **Phenylephrine** is not recommended in the treatment of sepsis-induced hypotension and either based on dynamic (eg, change in pulse pressure, stroke volume variation) or static (eg, arterial pressure, heart rate) variables (UG).

#### Vasopressors

- **Vasopressin doses** higher than 0.03-0.04 units/minute should be reserved for salvage therapy (failure to achieve adequate MAP with lower doses) (grade 1C).

#### Vasopressor Strategy

- **Low dose vasopressor** is not recommended as the single initial vasopressor for treatment of sepsis-induced hypotension and should be added to norepinephrine (NE) with intent of either raising MAP or decreasing NE requirements which can be met safely delivered with low dose vasopressin (grade 2C versus three times daily UFH). If creatinine clearance is <30 mL/min, use dalteparin (grade 1A) or another form of LMWH (grade 1A).

### Other Supportive Therapy of Severe Sepsis

#### Nutritional Support

- **Protein** supplementation should be provided to patients in the ICU who are able to tolerate enteral nutrition (grade 1A).

#### Isotonic Therapy

- **A specific anti-septic-regimen** should be reassessed daily for potential de-escalation (grade 1B).

#### Corticosteroids

- **Not using corticosteroids** for the treatment of sepsis in the absence of shock (grade 1D).

#### Intravenous Fluids

- **Dextrose as the initial fluid** of choice in the resuscitation of severe sepsis and septic shock (grade 1B).

#### Blood Product Administration

- **Prothrombin complex concentrate** should be used in patients with severe sepsis and septic shock who require urgent surgery or are unable to receive adequate hemostasis with fresh frozen plasma (grade 1B).

#### Other Therapies

- **Hemodynamic Support and Adjunctive Therapy

### Hemodynamic Support and Adjunctive Therapy

- **Discontinue empirical therapy for neutropenic patients with severe sepsis** and for patients with difficult-to-treat, multidrug-resistant bacterial pathogens such as Pseudomonas aeruginosa (grade 1B).
- **Phenylephrine** is not recommended in the treatment of sepsis-induced hypotension and either based on dynamic (eg, change in pulse pressure, stroke volume variation) or static (eg, arterial pressure, heart rate) variables (UG).
- **Against the use of hydroxyethyl starches for fluid resuscitation** of severe sepsis and septic shock (grade 1B).
- **Crystalloids as the initial fluid of choice** in the resuscitation of severe sepsis and septic shock (grade 1B).
- **Not using a strategy to increase cardiac index to predetermined supranormal levels** (grade 1B).
- **Not using antithrombin for the treatment of severe sepsis and septic shock** (grade 1B).
- **Not using erythropoietin as a specific treatment** of anemia associated with severe sepsis (grade 1B).
- **Use continuous therapies to facilitate management of fluid balance in hemodynamically unstable septic patients** (grade 2D).
- **Selecting oral decontamination and selective digestive decontamination** should be introduced and investigated as a method of infection control (grade 2B).

#### Glucose Control

- **A specific anatomical diagnosis of infection requiring consideration for emergent source control** should be sought and diagnosed or confirmed or ABD infection requiring emergent source control when ABD infection is considered (grade 1C).
- **A short course of NMBA** of not greater than 48 hours for patients with early sepsis-induced ARDS and a PaO2/FiO2 < 300 mmHg (grade 2C).

#### Sedation, Analgesia, and Neuromuscular Blockade in Seeps

- **Intravenous propofol** is a reliable sedative agent for septic patients requiring specific titration endpoints (grade 1A).

#### Antimicrobial Therapy

- **Noninvasive strategies** should be avoided if possible in the septic patient without ARDS due to the risk of impaired neuromuscular blockade following discontinuation. IFN-β must be maintained, either intravenously or as a single dose given during the initial 24 hours after initiation of the ARDS protocol (grade 1A).
- **Against the routine use of the pulmonary artery catheter** for septic patients with severe sepsis (grade 1A).

#### Goal-directed therapy (GDT)

- **GDT** is not greater than 48 hours for patients with early sepsis-induced ARDS and a PaO2/FiO2 < 300 mmHg (grade 2C).

### Supportive Measures

- **Antimicrobial agents** (β-lactams) are provided in the septic patient without ARDS due to the risk of impaired neuromuscular blockade following discontinuation. IFN-β must be maintained, either intravenously or as a single dose given during the initial 24 hours after initiation of the ARDS protocol (grade 1A).
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