Managing Sepsis Conditions: A Sample Protocol

The Surviving Sepsis Campaign (SSC), the world’s leading authority on identifying and treating sepsis, recommends having a protocol-based process for early recognition and intervention for sepsis states. This Sample Protocol provides one approach to developing such a process and standing orders.

Definitions:
Protocols are evidence-based guides intended to improve patient safety and the quality of care. They are frequently used to optimize compliance with current clinical guidelines and standards of practice. In most organizations, medical staff committees, including the medical executive committee, must review protocols. An example of a commonly used protocol is the administration of vaccines without a physician’s order, if the patient meets the criteria.

Standardized order sets are preprinted and designed as tools to assist qualified practitioners as they write orders. The medical staff must approve order sets.

Protocol:

<table>
<thead>
<tr>
<th>Early Identification</th>
<th>Interventions</th>
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</thead>
<tbody>
<tr>
<td><strong>Goals (prioritized)</strong></td>
<td><strong>Interventions</strong></td>
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</table>
| 1: Identify sepsis | • Obtain lactate level STAT and every 6 hours x three  
| Any two SIRS criteria plus actual or suspected infection | • Increase sepsis screening to at least twice per shift.  
| | • Consider initiating antibiotics. |
| 2: Identify severe sepsis | • Initiate 3-hour sepsis bundle. |
| Positive for sepsis plus evidence of organ dysfunction | |

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| 3: Initiate 3-hour sepsis bundle | • Obtain lactate level STAT.  
| | • Administer 1 L normal saline IV bolus over 30 minutes STAT.  
| | • Obtain blood cultures x two. Draw at least one via percutaneous stick.  
| | **If possible, obtain cultures before administering antibiotics.**  
| | • Start antibiotics IV STAT (within 1 hour of identifying severe sepsis). **Do not delay administering antibiotics to obtain cultures.**  
| | • Obtain other cultures (eg, urine, sputum, wound, etc) as indicated. |

4: Manage CVP and fluid During the first 6 hours:
- CVP: 8-12 mm Hg (12-15 mm Hg, if patient is mechanically ventilated)*

Monitor: CVP every 30 minutes for 6 hours, then hourly.

Treatment:
- For CVP: <8 mm Hg (<12 mm Hg if patient is mechanically ventilated), administer 500 mL normal saline over 15 minutes.
- Repeat normal saline bolus until CVP goal is achieved.
### Patient Management (cont’d)

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<thead>
<tr>
<th>Goals (prioritized)</th>
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<tr>
<td>■ Urine output:</td>
<td>If CVP remains &lt;8 mm Hg, notify the physician and proceed to the next step.</td>
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<tr>
<td>&gt;0.5 mL/kg/hr</td>
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<td>■ Minimum of 30 mL/kg</td>
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<tr>
<td>of crystalloid**</td>
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<tr>
<td>■ ScvO₂: &gt;70% or SvO₂: &gt;65%*</td>
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#### 5: Manage MAP and vasopressor

| ■ MAP: >65 mm Hg within the first 6 hours of diagnosis* |

**Monitor:** Continuous arterial pressure and MAP.

**Treatment:**

**For MAP: <65 mm Hg**

- Norepinephrine (first-line drug) 8 mg/250 mL normal saline continuous IV infusion, titrate to maintain MAP >65 mm Hg.
  - Begin at 5 mcg/min, and increase to no more than 30 mcg/min.
  - Infuse via central line.
- If norepinephrine dose >30 mcg/min, add vasopressin 60 units/100 mL continuous IV infusion at 0.03 units/min.
  - Do not titrate.

#### 6: Manage ScvO₂

| ■ ScvO₂: >70% within the first 6 hours of diagnosis
| ■ SvO₂: >65% within the first 6 hours of diagnosis |

**Monitor:** ScvO₂ or SvO₂ either continuously or blood draw every 6 hours.

**Treatment:**

- If hematocrit (HCT) is >30%, begin dobutamine 500 mg/250 mL continuous IV infusion.
  - Start at 2.5 mcg/kg/min.
  - Titrate up to a maximum dose of 20 mcg/kg/min to achieve ScvO₂ >70% or SvO₂ >65%.
- If HCT <30% within first 6 hours, transfuse 2 units of PRBCs.
- Begin hydrocortisone 200 mg IV daily only if patient:
  - Remains in septic shock despite adequate fluid resuscitation.
  - Remains hemodynamically unstable despite vasopressor and inotropic support.

#### 7: Control glucose

| ■ Maintain 120-180 mg/dL |

**Monitor:** Glucose every 6 hours.

**Treatment:**

- If 2 consecutive blood glucose levels >180 mg/dL, begin continuous IV insulin protocol.
- Monitor blood glucose levels hourly, once insulin infusion is started, until within target.

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*A component of the 6-hour bundle.

**A component of the 3-hour bundle.

This document is for informational purposes only. Please review with your institution before using clinically.