ICU Severe Sepsis Screening Tool
Severe Sepsis = Infection + SIRS + Organ Dysfunction

Directions: The screening tool is for use in identifying patients with severe sepsis. Screen each patient upon admission, once per shift and PRN with change in condition.

I. SIRS-Systemic Inflammatory Response Syndrome (two or more of the following):
- Temperature greater than or equal to 101°F or less than or equal to 96.8°F
- Heart Rate greater than 90 beats/minute
- Respiratory Rate greater than 20 breaths per minute
- WBC greater than or equal to 12,000/mm³ or less than or equal to 4,000/mm³ or greater than 0.5 K/uL bands
- Blood glucose greater than 140 ml/dL in non-diabetic patient
- Negative screen for severe sepsis (Please initial)

If check two of the above, move to II

II. Infection (one or more of following):
- Suspected or documented infection
- Antibiotic Therapy (not prophylaxis)

If check none of above – Negative screen for severe sepsis (Please initial) – answer infection question NO in I-View

If check one of the above – answer infection question YES in I-View, call physician for serum lactic acid order and move to III

III. Organ Dysfunction (change from baseline) (one or more of the following within 3 days of new infection)
- Respiratory: SaO₂ less than 90% OR increasing O₂ requirements
- Cardiovascular: SBP less than 90mmHg OR 40mmHg less than baseline OR MAP less than 65mmHg
- Renal: urine output less than 0.5ml/kg/hr; creatinine increase of greater than 0.5mg/dl from baseline
- CNS: altered consciousness (unrelated to primary neuro pathology)
- Glasgow Coma Score less than or equal to 12
- Hematologic: platelets less than 100,000; INR greater than 1.5
- Hepatic: Serum total bilirubin greater than or equal to 4mg/dl
- Metabolic: Serum lactic acid greater than or equal to 2mEq/L

Negative screen for severe sepsis (Please initial)

If check one in section III or a severe sepsis alert fires, patient has screened positive for severe sepsis

1. Call rapid response team
2. Call physician, physician assistant or nurse practitioner and implement urgent measures protocol.
3. Initiate or ensure IV access (2 large bore IV’s if no central access)
4. Obtain a venous blood gas (peripheral draw), serum lactic acid, CBC (if it has been greater than 12 hrs since last test), two sets of blood cultures (if greater than 24 hours since last set)
5. If patient is hypotensive: Give crystalloid (NS) fluid bolus – 30ml/kg over one hour or as fast as possible until hypotension resolved, unless known EF is less than 35% or active treatment for heart failure.

SEPsis INDuced HYPOPerfusion?
(Clinical picture of severe sepsis plus one or both of the following criteria)
1. hypotension AFTER initial fluid bolus (30 ml/kg) OR
2. Lactate greater than or equal to 4 mEq/L with any BP

YES
Activate CODE SEPSIS
Initiate transfer to ICU
Initiate the Septic Shock Clinical Pathway on back and complete interventions

For Lactate 2-2.9
NO
Initiate General Care Severe Sepsis Bundle on back and complete interventions

For Lactate 3-3.9 or initial hypotension that responded to the 30 ml/kg fluid bolus, initiate transfer to IMC
Initiate Intermediate Care Severe Sepsis Bundle on back and complete interventions.

RN Signature, Initial Date & Time:
# SEPTIC SHOCK CLINICAL PATHWAY

**Room # ___________  ICU admission Date: ___________   Time: ___________**

*Please complete the following:*

- **ED Triage** Date: ___________  Time: ___________
- **Septic Shock** diagnosis (Time Zero) Date: ___________  Time: ___________
- **Patient transferred from (unit or hospital):** _______________________________________________________________________
- **Septic Shock** diagnosis (Time Zero):  Date: ___________  Time: ___________
- **Patient was identified as having severe sepsis or septic shock:**
  - [ ] ED
  - [ ] Floor
  - [ ] ICU Admission
  - [ ] During ICU Stay
- **Decision to move to comfort care in first 24 hours after diagnosis**
  - Yes
  - No
- **ICU discharge**
  - Date: ________________
  - Time: ________________
- **Discharge status:**
  - Alive
  - Expired
- **Attending physician at time of diagnosis:**
  - ED ________________
  - ICU ________________

## Decision Grid

<table>
<thead>
<tr>
<th>Time</th>
<th>Decision</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1 Hours</td>
<td>Yes No</td>
<td>Is patient hypotensive after initial fluid bolus?</td>
</tr>
<tr>
<td>Time 1: ___________</td>
<td>Yes No</td>
<td>Did patient require vasopressor(s)?</td>
</tr>
<tr>
<td>If YES to either, continue to next column (Septic Shock Bundle)</td>
<td>Yes No</td>
<td>Is lactic acid greater or equal to 4 mEq/L?</td>
</tr>
<tr>
<td>If YES to lactic acid &amp; additional organ dysfunction, please continue below:</td>
<td>Yes No</td>
<td>Is there evidence of additional organ dysfunction besides elevated lactic acid?</td>
</tr>
<tr>
<td>Time initial fluid bolus completed to resolve hypotension</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes No</td>
<td>Is a new antibiotic initiated for this episode of septic shock?</td>
<td></td>
</tr>
<tr>
<td>Time antibiotic hung</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes No</td>
<td>Source Control</td>
<td></td>
</tr>
</tbody>
</table>

## Septic Shock Bundle Resuscitation Goals

- **CVP 8-12 mmHg on vent 12-15 mmHg**
- **MAP greater than or equal to 65 mmHg**
- **SCVO, greater than 70%**
- **Optimized stroke volume (optional)**
- **Assess for risk factors for abdominal compartment syndrome**

### 1-6 Hours

- **Record the FIRST TIME the following is achieved:**
  - CVP 8-12 mmHg on vent 12-15 mmHg
  - MAP greater than or equal to 65 mmHg
  - SCVO, greater than 70%
  - Optimized stroke volume (optional)
  - Tidal volume 6ml/kg

### 6-24 Hours

- **Patient on mechanical ventilator**
- **PaO2 / FiO2 ratio**
- **Assess for risk factors for abdominal compartment syndrome**
- **Fluid resuscitation greater than 5 L in 24 hours or less**
- **Repeat lactic acid every 4-6 hours**

## Other Cultures:

- [ ] Blood Cultures X 2
- [ ] Other Cultures:
- [ ] Establish IV access
- [ ] Volume resuscitate: initial 30ml/kg over 1 hour or as fast as possible then additional boluses as needed per order
- [ ] Time initial fluid bolus completed to resolve hypotension
- [ ] Broad Spectrum Antibiotic-start after obtain blood culture (see Infornt under Pharmacy Guide to Antimicrobial Therapy)  
- [ ] Was a new antibiotic initiated for this episode of septic shock?  
- [ ] Time antibiotic hung

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<td>Time</td>
<td>Maintenance MAP greater than or equal to 65 mmHg</td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>Maintain U/O of 0.5 ml/kgour</td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>Consider arterial line insertion</td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>Monitor Stroke Volume &amp; Stroke Volume Variation to guide fluid resuscitation</td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>Ensure decrease in lactic acid x3 or normalization x2 within 12 hours</td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>Repeat lactic acid every 4-6 hours</td>
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## Septic Shock Bundle

- **Confirm Infectious Source**
- **Re-assess need for broad spectrum antibiotics based on culture reports.**
- **Was there an organism identified?**
- **If YES, was the organism sensitive to the initial antibiotic?**
- **Discontinue Vancomycin if appropriate**
- **Re-evaluate need for invasive lines and tubes**
- **Nutrition Therapy**
- **Progress Mobility**

**Signature, Date & Time**