SEVERE SEPSIS CLINICAL PATHWAY

Please complete the following:

- **Severe sepsis or septic shock** diagnosis: Date: __________________________ Time: __________________
- Patient transferred from (ER, unit or hospital): ☐ ED ☐ Floor ☐ ICU Admission ☐ During ICU Stay
- Decision to move to comfort care in first 24 hours after diagnosis: Yes No
- Discharge: Date: __________________________ Time: __________________
- Discharge status: Alive Expired

<table>
<thead>
<tr>
<th>Date: __________________________ to __________________________</th>
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<tbody>
<tr>
<td><strong>Sepsis Daily Goals</strong></td>
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<td>0-1 Hours</td>
<td>1-6 Hours</td>
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<td>7-72 Hours</td>
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<td>Yes No</td>
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<tr>
<td>Patient on mechanical ventilator</td>
<td>Is tidal volume 6ml/kg of ideal body weight in first 24 hours?</td>
<td>Are the static or plateau inspiratory pressures less than 30cmH2O in first 24 Hours?</td>
<td>PaO2 / FiO2 ratio</td>
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**Refer to Severe Sepsis Resuscitation Protocol on next page**

*Sepsic Shock defined as:
SBP less than 90mmHg or 40mmHg decrease from baseline or MAP less than 65mmHg after 20ml/kg fluid bolus over 20 min

**Severe sepsis defined as:
Lactate > or = 4mmol/L

**Notes:**
- Confirm Infectious Source
- Re-assess need for broad spectrum antibiotics based on Culture reports.
- Discontinue Vancomycin if Appropriate
- D/C or taper steroids if vasopressors off
- Consider dual therapy (vancomycin and another antibiotic for gram-negative organisms)
- Consider Nutrition Therapy if on ventilator the pt. have
- the vent bundle ordered:
  - HOB 30-45%
  - Oral Care 6 x/day
  - GI ulcer prophylaxis
  - DVT prophylaxis
  - Daily sedation

**Daily sedation is contraindicated if:**
- Hypothermia
- Vasopressor use
- Sepsis
- Delirium
- ARDS
- Pain

**DISPOSITION:**
- Patients should get ICU consultation. If not an ICU candidate, should go to
- Periodically recheck patient Q 1 hr (ICU) or Q 6 hrs (on floor) for MAP > 65, SBP > 90, good mental status, and good urine output
- Consider trending lactate Q 2-4 hours. If it starts rising again, restart protocol
- Consider or SV02 saturation every 2-4 hours and if <70%, restart invasive protocol
Please complete the following:

• Severe sepsis or septic shock* diagnosis: Date: ___________________ Time: ___________________

• Patient transferred from (ER, unit or hospital): ______________________________________________________

• 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

• Discharge: Date: ________________ Time: ____________

• Discharge status: Alive Expired

*Septic Shock defined as:
SBP less than 90mmHg or 40mmHg
decrease from baseline or MAP less than
65mmHg after 20ml/kg fluid bolus over 20 min

*Severe sepsis defined as:
Lactate > or = 4mmol/L

Sepsis Daily Goals

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<th>Date: ___________________ to ____________</th>
<th>1-6 Hours</th>
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1. Goals of therapy to achieve increased O2 delivery:
- MAP greater than 65mmHg
- SBP > or = 90 mmHg

NON-INVASIVE
- REPEAT Lactate decreased by
  > or = 10% (Clearance)

INVASIVE
- SvO2 Saturation > or = 70%
- CVP 8-12mmHg
- On ventilator 12-15 mmHg

2. Blood Glucose 100-140 mg/dl

3. Urine output > or = to 0.5 ml/kg/hour

4. In patients with acute lung injury or ARDS:
   - Yes No Patient on Mechanical ventilator
   - _____ PaO2 / FiO2 ratio
   - Yes No Is tidal volume 6ml/kg of ideal body
   - Weight in first 24 hours?

   If patient’s O2 saturation is < 90% on high flO2 supplemental oxygen (non-rebreathe mask), consider intubation.

FLUIDS
- Consider
  - Dynamic IVC Ultrasound-Keep giving 500-1000 ml boluses of isotonic crystalloid until there is < 30% change in IVC size with inspiration.
  - Empiric Fluid Loading-Patients with severe sepsis/septic shock may require at least 6 liters of fluid during their acute resuscitation (first 6 hrs. of care).

RE-CHECKING MAP and SBP
- If MAP is < 65 of SBP <90 after “adequate” fluid loading:
  - Consider placing a full sterile central line in the IJ or SC vein (femoral site only if neck line not feasible);
  - Start vasopressors (Levophed, Vasopressin, Dopamine in that order); titrate to a MAP >= 65 or SBP >= 90

TISSUE OXYGENATION
- Send repeat lactate
- If lactate has cleared by >= 10 %, go to disposition
- If lactate is rising or has cleared by < 10%, consider:
  - If Hb < 7: transfuse 1 unit of PRBC
  - Additional Fluids: if patient had empiric fluid loading, give an additional liter of crystalloid
  - Inotropes: especially if heart appears hypo dynamic on echo. If calcium is low, replete that first. If not, administer Dobutamine 5-20 mcg/kg/min.
  - If Hb < 9 : consider transfusion. If the pt. is elderly patients or has coronary artery disease
  - Send repeat lactate, if it still has not cleared by >=10%, continue with the above, trending lactates every 1-2 hours until these two goals are met or switch to invasive strategy.

If using the invasive strategy:
- Aim for CVP 8-12mmHg, On ventilator 12-15 mmHg, MAP greater than 65mmHg SBP > or = 90 mmHg and OU >0.5 ml/kg/hr

If the SvO2 Saturation < 70% consider:
- If Hb < 7: transfuse 1 unit of PRBC
- Additional Fluids: if patient had empiric fluid loading, give an additional liter of crystalloid
- Inotropes: especially if heart appears hypodynamic on echo. If calcium is low, replete that first. If not, administer dobutamine 5-20 mcg/kg/min.
- If Hb <9: consider transfusion. If the pt. is elderly patients or has coronary artery disease
- Repeat SvO2 sat as needed to goal of >or = to 70%
REFERENCES:

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   Jama.2010; 739-746.

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   R. Philip Dellinger MD, Mitchell Levey MD, Jean Carlet MD, Julian Brown MD, Margaret M. Parker MD, Roman Jaeschke MD, Konrad Reinhart MD, Derek C. Angus MD, MPH, et al.