Sepsis Core Measure Process Changes

CMS has introduced a new measure to assess the quality of sepsis care in hospitals. The purpose of the severe sepsis and septic shock early management bundle measure is to facilitate “efficient, effective, and timely delivery of high quality sepsis care in support of the IOM’s aims for quality improvement.” CMS has adopted the measure for discharges beginning October 1, 2015; consequently our need for compliance begins immediately. Remember, Sepsis is a Medical Emergency!

Why a new process? We have missed early recognition of sepsis and escalation of treatment for severe sepsis using current evaluation methods. The “purple” sheet has been revised to enhance the RN’s ability to identify severe sepsis.

NEW ED Process

Each patient admitted via the ED will have an “RN Sepsis Screen – Daily Assessment/Reassessment Tool” (newly revised purple sheet) initiated by the ED nurse. The ED will screen all patients with ESI-1, 2, or 3. The screening tool follows the patient if admitted or remains with the medical record if discharged.

- New 2-sided purple nursing worksheet has been developed to assist with the RN assessment
- Side 1: RN Sepsis Screen – Daily Assessment/Reassessment Tool
  - Side 2: Sepsis Core Measure Checklist
    - Documentation on this worksheet is required* and serves as a communication tool to the next provider
    - RN documentation in the patient’s medical record is still required
    - At discharge or admission → place in patient’s chart.
- Sepsis Screen – Daily RN Assessment/Reassessment Tool – side 1
  - Section A: only place ✓ in row(s) where your assessment is “yes, the patient has…”
    - If no ✓s in any row for your assessment time, place your initials in row “Screen for SIRS is negative – STOP and initial here”
    - If 2 or more ✓s are present in Section A, CONTINUE screening in Section B
  - Section B: only place ✓ in row(s) where your response to the statement is “yes”
    - If no ✓s in Section B, place your initials in row “If the answer to both questions in Section B…”
    - If one or both rows in Section B are checked, it is a positive screen!
    - The primary RN will move onto Section C and initiate side 2 of the worksheet to outline and track timing of interventions (Nursing – Sepsis Core Measure Checklist)
    - Orders are required for interventions
    - RN initials the first column when documenting in the time column (signifying completion of the required activity)
    - RN notifies provider that the patient meets criteria. The physician documents their findings and assessment on the Patient Progress Note - Sepsis Core Measure Documentation form #17413. The physician form also outlines REASSESSMENT requirements and timeline. The physician progress note remains with the chart.
    - Treatment/intervention orders are to be entered into HEO using the sepsis i-form (except Warren)
NEW Inpatient Process (including OBS)

RN:

- New 2-sided purple nursing worksheet has been developed to assist with the daily RN assessment/re-assessment
- Continue worksheet initiated in ED or begin worksheet for ALL direct admits, transfers, and ED patients with missing sheets
- Side 1: RN Sepsis Screen – Daily Assessment/Reassessment Tool
  - Side 2: Sepsis Core Measure Checklist
    - Documentation on this worksheet is required*
    - Keep worksheet with SBAR until patient discharged, transfer or worksheet full.
      - At discharge, transfer, and/or full worksheet ➔ place in patient’s chart.
    - RN documentation in the patient’s medical record is still required.
- Daily at 0900 and 2100, the primary RN will assess/reassess criteria for sepsis for each patient:
  - Sepsis Screen – Daily RN Assessment/Reassessment Tool – side 1
    - Section A: only place ✓ in row(s) where your assessment is “yes, the patient has…”
      - If no ✓s in any row for your assessment time, place your initials in row “Screen for SIRS is negative – STOP and initial here”
      - If 2 or more ✓s are present in Section A, CONTINUE screening in Section B
    - Section B: only place ✓ in row(s) where your response to the statement is “yes”
      - If no ✓s in Section B, place your initials in row “If the answer to both questions in Section B…”
      - If one or both rows in Section B are checked, it is a positive screen!
  - The primary RN will move onto Section C and initiate side 2 of the worksheet for tracking timing (Sepsis Core Measure Checklist)
    - Side 2 of the checklist was developed to guide the primary RN with meeting time requirements (Core Measures) and outlining interventions expected
    - Orders are required for interventions
    - RN initials the first column when documenting in the time column (signifying completion of the required activity)
    - If the physician/AP does not return call within 10-15 minutes, the RN initiates a Rapid Response.
      - If the physician/AP does not suspect sepsis, print the full name of the physician/AP notified
    - RN notifies charge nurse or CC when initiating Section C
    - The RN gives the Patient Progress Note - Sepsis Core Measure Documentation form #17413 to the physician/AP/Rapid Responder for their documentation purposes which is then placed in the Progress Notes on the chart. The physician form also outlines REASSESSMENT requirements and timeline
    - Treatment/intervention orders are to be entered into HEO using the sepsis I-form (except Warren)
Unit Clerk:

- The unit clerk will place the purple 2-sided **RN Sepsis Screen – Daily Assessment/Reassessment Tool - Sepsis Core Measure Checklist** in each Admission packet.
- At discharge, transfer, or when a “full” worksheet is returned, the UC places the purple worksheet in the chart where it remains. Medical Records will pull the purple worksheets and forward to Quality Resources.

Charge Nurses (inpatient):

- Twice daily, 0930 and 2130, the charge nurse will “double check” the I-drive Sepsis report to ensure compliance and provide appropriate follow-up for fall-outs

The next few pages include the worksheet and forms discussed above. Implementation of the new process should begin immediately.

Following the worksheets and forms you will find the educational program, **Sepsis Update September 2015** will provide you with additional background information about sepsis and the new CMS standards (and award 0.25 CE). Completion will enhance the nurse’s understanding of the importance of sepsis screening and required interventions to meet the Core Measure.

Look for additional education via My E-Learning in the near future which will offer 1.0 CE.
# RN Sepsis Screen-Daily Assessment/Reassessment Tool

**Instructions:** Use this tool to screen patients ≥ 18 years of age for potential severe sepsis in the Emergency Department, ICU or Acute Care areas.

## Section A

**Systemic Inflammatory Response (SIRS) Criteria**  
(Only "check" if answer yes)

<table>
<thead>
<tr>
<th>Criteria</th>
<th>ED</th>
<th>900</th>
<th>2100</th>
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</thead>
<tbody>
<tr>
<td>Hyperthermia (&gt;38.3 °C [101.0 °F])</td>
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<tr>
<td>Hypothermia (&lt;36.0°C [96.8°F])</td>
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<td>Tachycardia (&gt;90 bpm)</td>
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<td>Tachypnea (&gt;20 bpm)</td>
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<td>Leukocytosis (WBC count &gt; 12,000/µL)</td>
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<tr>
<td>Leukopenia (WBC count &lt; 4000/µL)</td>
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<tr>
<td>Screen for SIRS is negative - STOP and Initial here</td>
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</tbody>
</table>

If two or more SIRS criteria present, proceed to the next section →

## Section B

**Infection**  
(Only "check" if answer yes)

<table>
<thead>
<tr>
<th>Question</th>
<th>ED</th>
<th>900</th>
<th>2100</th>
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</thead>
<tbody>
<tr>
<td>Is there suspected or known infection (CLABS, CAUTI, etc)</td>
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<td>Antibiotic therapy (not prophylaxis)</td>
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</table>

If the answer to both questions in section B are No, STOP and Initial here →

If one or both answers in section B are Yes - Proceed to next section →

## Section C

**Organ Dysfunction (change from baseline)**

Assess patient immediately for the following AND notify the physician/advanced practitioner AND initiate (Nursing) Sepsis Core Measure Checklist. (on back)

<table>
<thead>
<tr>
<th>Criteria</th>
<th>ED</th>
<th>900</th>
<th>2100</th>
<th>900</th>
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</thead>
<tbody>
<tr>
<td>SBP &lt; 90 mmHg or MAP &lt; 65 mmHg</td>
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<td>SBP decrease &gt; 40 mmHg from baseline</td>
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<td>Creatinine &gt; 2.0 mg/dL (176.8 mmol/L)</td>
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<tr>
<td>Urine Output &lt; 0.5 mL/kg/hour for &gt; 2 hours</td>
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<tr>
<td>Bilirubin &gt; 2 mg/dL (34.2 mmol/L)</td>
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<tr>
<td>Platelet count &lt; 100,000</td>
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<tr>
<td>Coagulopathy (INR &gt; 1.5 or aPTT &gt; 60 secs)</td>
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<tr>
<td>Lactate &gt; 2 mmol/L</td>
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</table>

Initials: Signature:                                                      Initials: Signature:  
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St. Luke’s University Hospital

Sepsis Core Measure Checklist

**Time Severe Sepsis Identified:**

*If suspicion of infection is present AND organ dysfunction is present (section C), the patient meets the criteria for SEVERE SEPSIS*

<table>
<thead>
<tr>
<th>Initial</th>
<th>TIME</th>
<th>ITEM TO BE COMPLETED <strong>within 3 hours of identification of Severe Sepsis</strong></th>
<th>TIME REQUIREMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Physician notified of positive sepsis screen</td>
<td>Immediate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ Physician/AP suspects sepsis, obtain orders for STAT labs listed below</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ Physician/AP does not suspect sepsis, document in medical record and do not proceed Notified:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ensure physician is utilizing SEPSIS I form</td>
<td>Immediately</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Obtain STAT: lactic acid, blood cultures, CBC with differential, basic chemistry labs, bilirubin</td>
<td>Immediately if not already done</td>
</tr>
<tr>
<td></td>
<td></td>
<td>At the physicians discretion obtain: UA, chest x-ray, amylase, lipase, ABG, CRP, CT scan</td>
<td>Immediately if not already done</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Notify pharmacy of antibiotic order and call sepsis alert</td>
<td>Immediately</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Antibiotic must be <strong>INFUSED</strong> within 1 hour</td>
<td>1 hour</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ Patient is already receiving antibiotics</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ensure initial physician “Sepsis Core Measure Progress Note” is completed after Severe Sepsis identification</td>
<td>1 hour after identification of Severe Sepsis</td>
</tr>
</tbody>
</table>

*If patient is hypotensive or has a Lactate ≥ 4, patient meets criteria for Septic Shock*

<table>
<thead>
<tr>
<th>Initial</th>
<th>Time</th>
<th>ITEM TO BE COMPLETED <strong>within 3 hours after identification of Septic Shock (hypotension or Lactate ≥ 4)</strong></th>
<th>TIME REQUIREMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>30ml/kg fluid resuscitation <strong>INFUSED</strong> within 3 hours after identification of Septic Shock (hypotension or Lactate ≥ 4). Must document start and stop times for fluids. Patient weight _____kg x 30ml/kg= _____ml</td>
<td>3 hours</td>
</tr>
</tbody>
</table>

*If hypotension persists after fluid resuscitation, complete the following:

<table>
<thead>
<tr>
<th>Initial</th>
<th>Time</th>
<th>ITEM TO BE COMPLETED <strong>within 6 hours of identification of Severe Sepsis</strong></th>
<th>TIME REQUIREMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Initiate vasopressors (with physician order)</td>
<td>After fluid resuscitation if still hypotensive</td>
</tr>
</tbody>
</table>

*AND Only if hypotension persists after fluid resuscitation or Lactate ≥ 4, complete the following:

<table>
<thead>
<tr>
<th>Initial</th>
<th>Time</th>
<th>ITEM TO BE COMPLETED <strong>within 6 hours of identification of Severe Sepsis</strong></th>
<th>TIME REQUIREMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Ensure physician “Sepsis Core Measure Progress Note” reassessment is completed within 6 hours from time of identification.</td>
<td>Not to exceed 6 hours</td>
</tr>
</tbody>
</table>

* At discharge, transfer, and/or full worksheet → place in patient’s chart.
# SEVERE SEPSIS Documentation

All three of the following criteria must be met within 6 hours of each other to identify Severe Sepsis:

1. **Documentation of suspected source of infection.**
2. **Two or more SIRS criteria:**
   - Temperature > 38.3°C/101°F or < 36.0°C/96.8°F _________ °F
   - Heart Rate > 90 BPM _________ BPM
   - Respiration > 20 per minute _________ per minute
   - WBC > 12,000 or WBC < 4,000 or > 10% bands _________
3. **New Organ dysfunction, evidence by any one of the following:**
   - SBP < 90 mmHg _________ mmHg
   - or MAP < 65 _________ mmHg
   - SBP decrease of > 40 points mmHg _________ mmHg
   - Creatinine > 2.0 mg/dl _________ mg/dl
   - Urine output < 0.5 mL/kg/hour for 2 hours _________ mL
   - Bilirubin > 2 mg/dl (34.2 mmol/L) _________ mg/dl
   - Platelet count < 100,000 _________
   - INR > 1.5 _________
   - PTT > 60 sec _________
   - Lactate > 2 mmol/dl (18.0 mg/dl) _________ mmol/dl
   - Specific organ of failure _________ if known

☐ Severe Sepsis is present

# SEPTIC SHOCK Documentation

The criteria for Septic Shock are:

1. **Documentation of severe sepsis present.**
   - Source: _________

   **AND**

2. **Tissue hypoperfusion persists in the hour after crystalloid fluid administration, evidenced, by either:**
   - SBP < 90 mmHg _________ mmHg
   - Mean arterial pressure < 65 mmHg _________ mmHg
   - Decrease in SBP by > 40 points mmHg _________

   **OR**

   - Lactate level is ≥ 4 mmol/dl _________ mmol/dl

☐ Septic Shock is present

---

## TREATMENTS

**Receive within 3 hours of presentation of Severe Sepsis:**
- Initial lactate level measurement (repeat every 2 hours if < 4 mmol/dL, but > 2 mmol/dL)
- Stat CBC, CMP, coagulation profile, blood cultures x 2, UA C&S or other appropriate cultures
- Broad spectrum or other antibiotics (blood cultures drawn prior to antibiotics)

**Receive within 3 hours of presentation of Septic Shock:**
- Resuscitation with 30 mL/kg crystalloid fluids *(MUST be Ordered, Infused and Documented)*:
  - Patient weight _________ kg x 30 mL/kg = _________ mL volume to be infused for resuscitation.

**AND only if hypotension persists after fluid resuscitation (SBP < 90 mmHg or MAP < 65 or a decrease in SBP > 40 points)**
- Initiate vasopressors recommended norepinephrine
- **AND ONLY IF** hypotension persists after fluid administration or initial lactate ≥ 4mmol/dl

**Received within 6 hours of presentation of Septic Shock:**
- Documentation of Repeat volume status and tissue perfusion assessment (see page 2)
**Required Reassessment Documentation:**

A focused volume status and tissue perfusion exam post fluid resuscitation  
*Must be documented by physician/APN/PA including ALL of the following:

- **Vital signs review:** BP _________ mmHg, HR _________ BPM, RR _________, TEMP _________ °F

- **Cardiopulmonary Exam** (Assess status of heart and lungs):
  - Cardiac:
    - Normal S1/S2
    - Regular rate and rhythm
    - No murmur
    - No rub or gallop
    - Other/Abnormal: _______________________________
  - Pulmonary:
    - Normal effort
    - Clear to auscultation
    - Other/Abnormal: _______________________________
  - Capillary Refill Evaluation:
    - Brisk
    - Sluggish
    - Other: __________________

- **Peripheral Pulse Evaluation:**
  - Radial
  - Dorsalis Pedis
  - Posterior Tibialis

  - 1+ 2+ 3+ 4+ 1+ 2+ 3+ 4+ 1+ 2+ 3+ 4+

- **Skin Examination:**
  - Warm
  - Cool
  - Dry
  - Diaphoretic
  - Flushed
  - Pale
  - Mottled
  - Normal
  - Other/Abnormal: _______________________________

**OR** *(Only if patient is in a setting conducive to intensive monitoring)*

**Any Two of the Following Four:**

*Must be documented by physician/APN/PA*

- Central venous pressure measurement (via CVP or RAP/right atrial pressure): _________ mmHg
- Central venous oxygen measurement (SVO2, ScvO2 or oxygen saturation via central catheter): _________ %
- Beside Cardiovascular Ultrasound in IVC diameter and % collapse (ECHO, trans-thoracic ECHO, TTE, TEE, IVC ultrasound, 2D ECHO, Doppler ECHO, Echocardiogram with Doppler): CO _________ L/min  EF _________ %  IVC Diameter _________ %  % Collapse _________ %
- Passive Leg raise exam Or Crystalloid fluid challenge (*MUST be Ordered, Infused and Documented):
  - Passive Leg Exam:  Positive  Negative
  - Crystalloid Fluid Challenge completed:  500ml in 15 minutes  1000ml in 30 minutes

---

**Physician’s Signature**

**Date**

**Time**

**Printed Name**

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**Form No. 17413  Page 2 of 2  Rev. 09/16**

**SEPSIS CORE MEASURE DOCUMENTATION**

**White - Chart Copy**
CMS has introduced a new measure to assess the quality of sepsis care in hospitals. The purpose of the severe sepsis and septic shock early management bundle measure is to facilitate “efficient, effective, and timely delivery of high quality sepsis care in support of the IOM’s aims for quality improvement.” CMS has adopted the composite measure for discharges beginning October 1, 2015.

**Sepsis is a Medical Emergency! ... Just like AMI or stroke.**

**Population:** Adults ages 18 and older with a diagnosis of severe sepsis or septic shock.

**Purpose:** decrease morbidity and mortality (improve patient outcomes!)

Consistent with the guidelines of the Surviving Sepsis Campaign, it assesses the:

**3-Hour Bundle**
1. Measurement of lactate levels,
2. Obtaining of blood cultures,
3. Administration of broad spectrum antibiotics,
4. Fluid resuscitation (for septic shock -- hypotension or lactate ≥4),

**6-Hour Bundle**
1. Vasopressor administration,
2. Reassessment of volume status and tissue perfusion, and
3. Repeat lactate measurement (if initial lactate ≥2).

- Measuring lactate, obtaining blood cultures, and administering broad spectrum antibiotics should occur within three hours of presentation of severe sepsis.
- Fluid resuscitation should occur within three hours of septic shock presentation.
- Vasopressor administration, reassessment of volume status and tissue perfusion, and repeat lactate measurement are to occur within six hours of presentation of septic shock.
- Performed collectively the elements of the bundle have a greater impact on outcomes.

**What’s New/Different? The Sepsis Core Measure Progress Note!**

There are specific required physician/advanced practitioner orders and documentation. This may be physician driven, but we are a team and we work together to obtain the best outcomes for the patient. This is the best care for the patient! We have i-forms already in place and have created a new Sepsis Core Measure sheet (see attached) to capture the required documentation in one consistent place. Once the patient is identified as meeting criteria for severe sepsis or septic shock, the Sepsis Core Measure sheet is to be completed. There are two sides that need to be completed at different times. Complete page one upon identification and page 2 with reassessment. It must be completed and signed by the physician or advanced practitioner.

**Expectations, Roles and Responsibilities:**
- **ED Nursing** will screen every patient that enters the ED and with any change in patient condition.
- **Inpatient Nursing** will screen their patients twice a day and with any change in patient condition.
- A physician or advanced practitioner may also screen a patient at any time.
- **Physicians and advanced practitioners** will respond to nursing requests for evaluation of patients who meet criteria and determine if severe sepsis or septic shock is present.
- If present, the physician or advanced practitioner will complete the Sepsis Core Measure Progress Note to capture required documentation and reassessment.
- As before, a Rapid Response may be called if patient condition warrants or there is a delayed physician response.
Sepsis Review:
We have an effective screening tool and process in place when utilized appropriately. We have an opportunity to improve our bundle compliance to provide the best evidence based care to our patients. Sepsis has become one of the top reasons for admission and readmission in our Network. Sepsis survivors frequently develop new physical and cognitive impairments that result in repeat hospitalizations.

Sepsis has resulted in:
- Aggregate healthcare cost of $20.3 billion
- 5.2% of national costs for all hospitalizations and 6.9% of all Medicare costs
- 1.1 million discharges
- More people are hospitalized for sepsis than for heart attack

The Sepsis diagnosis is often delayed or there is a failure to act. Sepsis arises when the body’s response to an infection injures its own tissues and organs. Unrecognized, untreated sepsis often progresses to shock, multisystem organ failure and death. We need to change the way we view sepsis. Sepsis is a medical emergency! ...like a stroke or Acute MI
- US sepsis mortality rate is estimated between 25% and 50%
- One of the leading causes of death in ICUs and accounts for 1 in 5 deaths in US hospitals
- The challenge is that signs and symptoms of sepsis can easily be misattributed to other conditions
- 40% of patients with severe sepsis do not survive partly due to late presentation or missed diagnosis
- Early recognition means early intervention and lives saved

Who is at risk?
- The very young and very old
- Those with a weakened or compromised immune system
- Those with underlying comorbidities (CHF, COPD, renal failure, etc)
- Have wounds or injuries (post op wounds, burns, etc.)
- Are receiving invasive treatment (IV access, urinary catheters, drains, etc.)

Most common sources of infection
- Lungs-usually associated with pneumonia
- Urinary tract- particularly patients needing a urinary catheter or resulting from use of urinary catheters
- Abdomen - appendicitis, gallbladder, peritonitis
- Skin- wounds, pressure ulcers, burns, skin inflammation
- Bones- Inflammation or infections in bones, sinuses, bone marrow
- Central Nervous system- Meningitis, encephalitis, spinal cord abscess
- In 20% of cases – the source of infection cannot be found

Keys to Survival: Awareness and Early Recognition!
- Early recognition of sepsis can lead to a higher likelihood of survival and prevent progression along the sepsis continuum. Fluids and antibiotics can turn a patient around and prevent an ICU admit or transfer.
Summary of the CMS Measure: SEP-1 – Severe Sepsis/Septic Shock

DEFINITIONS

**Severe Sepsis Present:** Date/time documentation the last criterion was met to establish presence of severe sepsis

Three criteria, **all three must be met within 6 hours of each other**

1. Documented suspected source of infection
2. Two or more SIRS criteria
   - Temp>38.3C or<36.0C
   - HR >90
   - Resp> 20
   - WBC >12,000 or <4,000 or >10% bands
3. Organ dysfunction
   - SBP <90 or MAP< 65 or↓SBP by>40 points
   - Creatinine >2.0 or urine output < 0.5ml/kg/hr for 2 hours
   - Bilirubin > 2mg/dL (34.2 mmol/L)
   - Platelet count < 100,000
   - INR> 1.5 or aPTT> 60 seconds
   - **Lactate >2mmol/L** (18.0 mg/dl)

**NOTES:**
- Any single BP reading in the 1\textsuperscript{st} hr after presentation will meet organ dysfunction criteria
- Lab values must have been reported within the six hours preceding onset of severe sepsis

**Septic Shock Present:** Date/time last criterion was met to establish presence of septic shock

**There must be documentation of severe sepsis present**

**AND**

**Tissue hypoperfusion persists** after crystalloid fluid administration (SBP<90, MAP<65, ↓SBP by>40 points)

**OR**

**Lactate level >4 mmol/ L**

- Excludes patients without severe sepsis present
- Excludes patients who did not receive 30ml/kg fluid
- Includes patients without criteria, but septic shock is documented
- ED patients (if septic shock is present) defaults to date/triage time
- If there are multiple episodes, only abstract the first one
**Numerator Statement:** Patients who received ALL of the following:

Received **within three hours of presentation of Severe Sepsis**:
- Initial lactate level measurement
- Broad spectrum or other antibiotics administered
- Blood cultures drawn prior to antibiotics

AND received **within six hours** of presentation of severe sepsis:
- Repeat lactate level measurement only if initial lactate level is elevated

AND **ONLY if Septic Shock present:**
Received **within three hours** of presentation of septic shock:
- Resuscitation with 30 ml/kg crystalloid fluids

AND **ONLY IF hypotension persists** after fluid administration (30ml/kg), received **within six hours** of presentation of septic shock:
- Vasopressors

AND **ONLY if hypotension persists after fluid administration or initial lactate ≥ 4 mmol/L**, received within six hours of presentation of septic shock:
- Repeat volume status and tissue perfusion assessment **consisting of either**
- A focused exam including:
  - Vital signs, AND
  - Cardiopulmonary exam, AND
  - Capillary refill evaluation, AND
  - Peripheral pulse evaluation, AND
  - Skin examination

OR...
- Any two of the following four:
  - Central venous pressure measurement
  - Central venous oxygen measurement
  - Bedside Cardiovascular Ultrasound
  - Passive Leg Raise or Fluid Challenge

**EXCLUSIONS:** IV antibiotics >24 hours prior to presentation of severe sepsis

**Denominator Statement:** Inpatients age 18 and over with an ICD-10-CM **Principal or Other Diagnosis Code** of Sepsis, Severe Sepsis, or Septic Shock.

Excluded Populations:
- Directive for Comfort Care within 3 hours of presentation of severe sepsis
- Directive for Comfort Care within 6 hours of presentation of septic shock
- Administrative contraindication to care: documentation of refusal of blood draw, fluid administration, or antibiotic administration
- Length of Stay >120 days
- **Transfer in from another acute care facility**
- Patients with severe sepsis who expire within 3 hours of presentation
- Patients with septic shock who expire within 6 hours of presentation
DATA DICTIONARY

Administrative contraindication to care: documentation of refusal of blood draw, fluid administration, or antibiotic administration

Bedside Cardiovascular US: time window beginning at the crystalloid fluid administration date and time and ending six hours after the presentation of septic shock date and time

Blood Culture Collection: collected 48 hours prior to and three hours following the presentation of severe sepsis

Broad Spectrum or Other Antibiotic Administration: administered in the time window 24 hours prior to and 3 hours following the presentation of severe sepsis

Broad Spectrum or Other Antibiotic Administration Selection: the selection of IV antibiotic administered within 3 hours following presentation of severe sepsis. Was it consistent with antibiotic selection guidelines detailed in the Notes for abstraction

Capillary Refill Examination: documentation of performance of a capillary refill exam by a physician or advanced practitioner in the time window beginning at the crystalloid fluid administration date/time and ending six hours after the presentation of septic shock date/time

Cardiopulmonary Evaluation: date/time of performance of a cardiopulmonary evaluation by a physician or advanced practitioner in the time window beginning at the crystalloid fluid administration date/time and ending 6 hours after the presentation of septic shock date/time. Documentation of performance of a cardiopulmonary evaluation to assess the status of heart and lungs.

Central Venous Oxygen Measurement: obtained after the presentation of septic shock and documented (SvO2 or ScvO2). There must be indication that the oxygen reading was obtained via central venous catheter.

Central Venous Pressure Measurement: documentation of CVP (or RAP- right arterial pressure) within 6 hours after the presentation of septic shock

Crystalloid Fluid Administration: documentation of administration of crystalloid fluids after the presentation of septic shock
Crystalloid fluids were administered after the presentation of septic shock, or crystalloid fluids were being administered at the time of presentation of septic shock AND the volume ordered was 30ml/kg.
Crystalloid fluids: NSS 0.9% or LR
Physician order does not = fluids given.
Abstract the time the unit of fluid was started or hung

Directive for Comfort Care, Severe Sepsis/Septic Shock: documentation of comfort measures only prior to or within 6 hours of the presentation of septic shock
Not the same as a DNR

Fluid Challenge: in the time window beginning at the crystalloid fluid administration date and time and ending 6 hours after presentation of septic shock date/time. Done to assess responsiveness to fluids. Done after crystalloid fluid administration if patient remains hypotensive. NSS or LR. Typically 500ml in 15 minutes or 1000ml in 30 minutes. Hypotension: documentation of the presence of hypotension in septic shock. In the one hour following administration of crystalloids, one single BP reading < 90 or MAP <65 or a decrease in SBP by >40 points.
Was hypotension present within one hour of the conclusion of crystalloid fluid administration.
**Initial Lactate Level Collection:** documentation (date/time) of an initial lactate level between 6 hours prior to and 3 hours following the presentation of severe sepsis

**Passive Leg Raise Exam:** documentation by physician or advanced practitioner in the time window beginning at the crystalloid fluid administration date/time and ending 6 hours after the presentation of septic shock date/time. With the patient in a semi-recumbent position, both legs are raised to a 45 degree angle to evaluate the VS response to additional fluid load. Other terms: PLR or leg raise, commonly noted to be positive or negative.

**Peripheral Pulse Evaluation:** To assess circulatory status, documentation by physician or advanced practitioner in the time window beginning at the crystalloid fluid administration date/time and ending 6 hours after the presentation of septic shock date/time. Documentation (date/time) may include reference to either radial pulse, dorsalis pedis (DP) pulse or posterior tibialis (PT) pulse.

**Repeat Lactate Level Collection:** repeat level in the time window beginning at severe sepsis presentation date/time and ending 6 hours thereafter

**Skin Examination:** date/time documentation in the time window beginning at the crystalloid fluid administration date/time and ending six hours after the presentation of septic shock date/time. To assess superficial circulatory status. Must include reference to both skin color and circulatory status.
Ex. Flushed, mottled, pale, pallor, pink or similar terminology
Ex. Nail beds pink with good capillary refill or skin over knee caps purple and mottled.

**Vasopressor Administration:** documentation of IV vasopressor after the presentation of septic shock
Levophed or Dobutrex
Can abstract times prior to arrival

**Vital Signs Review:** date/time documentation by physician/advanced practitioner in the time window beginning at the crystalloid fluid administration date/time and ending six hours after the presentation of septic shock date/time. All four VS must be documented at the same time

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