Severe Sepsis/Septic Shock
CMS Core Measure

Begins October 1, 2015
Includes

- All inpatients age 18 and over
  - All floors- OB, OR, AC, MS, SCU, ER

- Presentation of severe sepsis or septic shock could occur at *any time* during a patient’s stay
Exclusions

- DNR-CC on arrival or comfort measures only within 3 hours of presentation of severe sepsis
- Pt may also refuse blood draw, fluid administration or IV antibiotic administration, **BUT** there must be either:
  - Physician documentation of patient refusal
  - Witnessed consent for refusal in the medical record (Form ED1034) – please specify what patient is refusing (labwork, IV fluids, etc)
Severe Sepsis

**Two or more manifestations of SIRS**
- Temp >100.9 or <96.8
- Heart Rate > 90
- Respirations > 20
- WBC >12,000 or <4,000 OR >10% bands

**Organ dysfunction, evidenced by any one of the following:**
- Systolic BP< 90 or decrease of more than 40 mmHg from last recorded SBP considered “normal” for that patient
- Creatinine >2.0 or urine output < 0.5mL/kg/hour for 2 hours
- Bilirubin > 2 mg/dL
- Platelet count < 100,000
- INR > 1.5 or aPTT > 60 sec
- Lactate > 18.0 mg/dl
# Severe Sepsis Guidelines

<table>
<thead>
<tr>
<th>Within 3 hours of presentation</th>
<th>Within 6 hours of presentation</th>
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<tbody>
<tr>
<td>• Initial lactate measurement</td>
<td>• Repeat lactate level ONLY if</td>
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<tr>
<td>• Blood cultures drawn (prior to</td>
<td>initial lactate if &gt;18mg/dL</td>
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<tr>
<td>IV antibiotic administration)</td>
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<tr>
<td>• Broad spectrum IV antibiotic</td>
<td></td>
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<td>administration</td>
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IV Antibiotics

- IV antibiotic(s) must be initiated within 3 hours of presentation of severe sepsis.
- There are two ‘sets’ of approved IV antibiotics for the Sepsis core measure
  - Monotherapy
  - Combination therapy
- A list of the approved IV antibiotics for the Sepsis core measure will be posted on all units
Monotherapy

- One IV antibiotic from this list initiated within 3 hours of severe sepsis presentation will pass this part of the measure.
  - Fortaz
  - Invanz
  - Levaquin
  - Primaxin (Imipenem/Cilastatin)
  - Rocephin
  - Unasyn
  - Zosyn
Combination (A plus B)

- Column A
  - Aminoglycosides (**Gentamycin**) OR Aztreonam (**Azactam**) OR Ciprofloxacin (**Cipro**)
  - +

- Column B
  - Cephalosporin (**Ancef**) or Clindamycin (**Cleocin**) or Glycopeptides (**Vancomycin**) or Macrolides (**Azithromycin**) or Penicillins

*Both* antibiotics (1 from column A and 1 from column B) must be initiated within *3* hours of presentation of severe sepsis or septic shock to “pass” the core measure.
Fluids

• Resuscitation with 30mL/kg of crystalloid fluids
  ▫ Crystalloids= *Lactated Ringers or 0.9% NS only*

• A 150 lb. person is going to need over 2 Liters of fluids within 3 hours of presentation
  ▫ $150\text{lbs} \times 30\text{mL} = 4500 \text{ mLs}$ of fluids needed
Septic Shock

- Severe Sepsis is present
- Tissue hypoperfusion after administration of crystalloid fluid (LR or NS) as evidenced by:
  - Systolic BP <90 or
  - Mean arterial pressure <65 or
  - A decrease in systolic BP by >40mmHg from the last recorded SBP or
  - Lactate level ≥ 36 mg/dL
Septic Shock Guidelines

Within 3 hours of presentation

• Initial lactate measurement
• Blood cultures drawn (prior to antibiotics)
• Broad spectrum IV antibiotics initiated
• Resuscitation with 30ml/kg crystalloid fluids
  ▪ Normal Saline or LR

Within 6 hours of presentation

• Vasopressors
• Repeat volume status and tissue perfusion assessment by physician
• Repeat lactate level if initial level was > 18 mg/dL
WE NEED YOU!!!
Nurses

- Close monitoring of vitals, labs on patients with infection/suspected infection/sepsis - NOTIFY physician if patient develops signs and symptoms of possible sepsis using your Pocket Card
- Assure that blood cultures are drawn before initiating IV antibiotics
- If calling Pharmacy for IV antibiotics for possible sepsis patient, make sure to notify Pharmacy “possible sepsis/septic patient” during call
- Assure that IV antibiotics are initiated and documented within 3 hours of presentation of severe sepsis, initiating any monotherapy IV antibiotic FIRST
- Precise documentation of amount of IV fluids given, start/stop times and vital signs will be very important in order to pass this core measure
- Document when/if any labwork draw is unsuccessful
Remember......

• 3 in 3
  ▫ Lactate level drawn and repeat if >18mg/dL
  ▫ Blood cultures prior to antibiotics
  ▫ Appropriate IV antibiotics
PASS OR FAIL?

- 0814 Arrived in ED: HR 92, R 22, T 98.2, WBC 5.4
- Other labs: Platelets 81, creatinine 1.3, no lactate drawn
- 0850 Blood Culture collected
- 1045 2\textsuperscript{nd} Blood Culture collected
- 1055 Rocephin IV and Azithromycin IV ordered
- 1122 Physician documents in chart: Pneumonia, UTI -Presentation of severe sepsis time begins
- 1155 IV Rocephin and Azithromycin arrived from Pharmacy to ED just as patient was being transferred to floor. Pt is transferred to floor with IV antibiotics sent up to floor with patient for Med-Surg nurse to initiate.
- 1336 Azithromycin IV is initiated; IV Rocephin is discontinued and IV Unasyn is ordered
- 1529 Unasyn is initiated
This case would.....

FAIL!!!!
PASS OR FAIL?

- 0940 pt arrives in ED, BP 139/64, pulse 42, resp 20, temp 103.1 (SIRS?)
- 1000 blood cultures collected x2
- 1032 lactate results=22
- 1141 Zosyn IV given
- 1430- repeat lactate=16
This case would....... PASS!
PASS OR FAIL?

1300 - Pt admitted to med/surg with pneumonia, vitals 132/82, pulse 72, temp 100.0, resp 18, labs normal, pt had blood cultures and started on Ancef in ED

1830 - vitals 88/52, pulse 97, temp 101, resp 20
What would you do?
How could you ensure best treatment?

- Phone physician; update on pt status, sepsis?
- Ensure lactate level drawn
- Blood cultures? - (done in ED prior in day)
- Ensure correct antibiotics given within 3 hours (pt currently on Ancef) - is this appropriate for Sepsis?
- THIS CASE WOULD PASS IF ALL OF ABOVE PERFORMED!
Questions??

- Quality Department can be reached at Ext 4137