Emergency Department Response to Sepsis Alerts

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FHA Hospital Improvement Innovation Network (HIIN)
The Question

• How do Emergency Departments respond to sepsis alerts from Skilled Nursing Facilities?

• It depends......................................
Established SNF sepsis screening process in place and a + screen triggers a 911 call.

911 responds with an ALS unit that follows an established sepsis protocol.

ED notified of Sepsis Alert while the patient is en route.

The receiving ED has an established sepsis protocol.
And the Survey Says.................
The Bundles

• Three-hour bundle (to be completed within 3 hours of patient's presentation):
  • Measure lactate level
  • Obtain blood cultures
  • Administer broad spectrum antibiotics (after blood cultures obtained)
  • Administer 30 milliliters per kilogram of crystalloid for hypotension or lactate greater than or equal to 4 millimoles per liter
The Bundles

• Six-hour bundle (to be completed within 6 hours):
  • Initiate vasopressors (for hypotension not responding to initial fluid resuscitation) to maintain a mean arterial pressure of at least 65 mmHg
  • In the event of persistent hypotension after initial fluid administration (mean arterial pressure of less than 65 mmHg) or if initial lactate was greater than 4 millimoles per liter, reassess volume status and tissue perfusion and document findings
  • Remeasure lactate if initial lactate was elevated
Best Practices

• Sepsis Response Teams
  • Most emergency departments handle sepsis alerts using a team made up exclusively of ED staff
    • Smaller hospitals may rely on the nursing supervisor to help respond to the initial alert and to then facilitate the transfer of the patient
    • Mayo Clinic Jacksonville Intensivists take over care and pull the patient to the ICU

• Designated Sepsis Coordinator
  • Improved documentation
  • Education for Patient/Family and Staff
The New Bundle

• One-hour bundle (to be completed within 1 hour):
  • Measure lactate level. Remeasure is initial level is >2mmol/L
  • Obtain blood cultures prior to the administration of antibiotics
  • Administer broad-spectrum antibiotics
  • Begin rapid administration of 30ml/kg crystalloid for hypotension or lactate ≥4 mmol/L
  • Apply vasopressors if patient is hypotensive during or after fluid resuscitation to maintain MAP ≥65 mm Hg

Time zero or time of presentation is defined as the time of triage in the Emergency Department or, if presenting from another care venue, from the earliest chart annotation consistent with all elements of sepsis or septic shock.

http://www.survivingsepsis.org/Bundles/Pages/default.aspx
Sepsis

Importance

Sepsis is diagnosed in over one million patients each year in the United States (Hall et al., 2011). Furthermore, sepsis treatment resulted in an estimated $20.3 billion or 5.2 percent of the total cost for all hospitalizations and was the most expensive condition treated in the year 2011 (Hall et al., 2011). Not only is sepsis expensive and prevalent, patients diagnosed with sepsis are estimated to have a mortality rate of 28 to 50 percent (Angus, 2001). Learn more from Carl Flatley who founded the Sepsis Alliance after the death of his daughter, Erin.

The risk of mortality and urgency when treating all stages of sepsis, from sepsis to septic shock, drove the development of the three and six-hour bundles, which are approved by the National Quality Forum as the first scientifically sound, valid and reliable elements for the care of the septic patient (Dellinger, 2013). These bundles prompt the completion of the indicated tasks within the first three to six hours after the identification of septic symptoms – 100 percent of the time.

20 percent reduction in Sepsis by 2019.
— Partnership for Patients (P3) Goal

Sepsis Resources

Documents

- Download the Sepsis and Septic Shock Change Package
- Download the Sepsis and Septic Shock Top Ten Checklist
- Download the Date of Last Septic Event Checklist Poster
- Download the Post Op Sepsis Discovery Tracking Tool
# Sepsis Change Package

## Drivers in This Change Package

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## 2017 Sepsis Mortality Reduction Top Ten Checklist

1. Collect and analyze sepsis mortality data.

2. Gather a program planning team, including organizational leaders, physician champions, sepsis advisors and multidisciplinary members from the, ED, ICU and med/surg, to develop a strategy for implementing improvement ideas.

3. Adopt a sepsis screening tool or system in the ED and/or in one inpatient department.

4. Screen every adult patient during initial evaluation in the ED and/or once a shift in one identified inpatient department.

5. Develop an alert mechanism to provide for prompt escalation and action from care providers with defined roles and responsibilities.

6. Develop standard order set or protocol linking blood cultures and lactate lab draws (blood culture = lactate level) and ensure lactate results are available within 45 minutes. Consider a lactate of > 4mmol/L, a CRITICAL result to prompt notification.

7. Place broad-spectrum antibiotics in the ED medication delivery system to allow for antibiotic administration within 1 hour (collaborate with Pharmacy and Infectious Disease for appropriate selection).

8. Develop an order-set or protocol for 3-hour resuscitation bundle and the 6-hour septic shock bundle that uses an "opt-out" process instead of an "opt-in" for all bundle elements, with the explicit end goals of therapy and assessment of volume status.


10. Utilize a "time zero" method that also displays visual cues for the health care team for timing of interventions for the sepsis.
HIIN and Readmissions

> Suggested Bundles and Toolkits

- ASPIRE — Designing and Delivering Whole Person Transitional Care, retrieved at: http://www.ahrq.gov/professionals/systems/hospital/medicaidreadmitguide/index.html
- Re-engineered Discharge (RED), retrieved at: http://www.bu.edu/fammed/projectred/index.html
- The Care Transitions Program®, retrieved at: http://caretransitions.org/
- Transitional Care Model, retrieved at: http://www.nursing.upenn.edu/ncth/transitional-care-model/
- INTERACT — Interventions to Reduce Acute Care Transfers, retrieved at: http://www.pathway-interact.com/
- The National Center for Complex Health and Social Needs, retrieved at https://www.complex.care/
HIIN Activities

• In-person events
  • Early Recognition and Treatment of Sepsis in the Emergency Department using TeamSTEPPS Methodology
  • Regional Readmission Forums

• Virtual Events
  • Ongoing Infection Prevention Training
  • Quality Hot Topics calls
We are here to help!
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