Strategies for the Improving Treatment of Sepsis Patients  
Guest Speaker: Nathan Shapiro MD, Beth Israel Deaconess Medical Center

The sepsis bundle has become one of the highly selected areas of focus in the collaborative. In order to provide collaborative teams with expertise and resources needed to tackle this initiative, we hosted a sepsis workgroup call in May 2006. Nathan Shapiro, MD, an emergency physician at Beth Israel Deaconess Medical Center, was the guest speaker on the call. Dr. Shapiro’s research focuses on the early detection and treatment of Emergency Department patients with sepsis. Dr. Shapiro is also responsible for the creation of the Multiple Urgent Sepsis Therapies protocol, a comprehensive treatment algorithm designed to improve the care of Emergency Department patients with sepsis.

The table below summarizes the questions and responses that Dr Shapiro answered during the call.

<table>
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<tr>
<th>Questions</th>
<th>Information and Tips for Successful Implementation</th>
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| What are the major **planning components** of this initiative? | • Form a dedicated team  
• Define the patient flow process including specific aspects such as how to identify patients, who places the line in the ED, who makes the decision for steroids and activated protein C, etc.  
• Select a few specific measures for evaluation of progress (see below) |
| On which topics should **education** be focused? | • Educate staff on the definition and importance of sepsis, the theory behind goal directed therapy, specific interventions, and how to perform and measure CVP  
• Post the sepsis protocol in the ED and ICU |
| What mechanisms are available for **measuring lactate***? | • **Options for Measuring Lactate**  
– Venous draw in a green top; reading complete in 10 to 15 minutes; not the most accurate method (temperature change falsely elevates lactate reading)  
– Venous draw in a grey top on ice; analysis takes an hour; more accurate method  
– Bedside lactate machine; returns lactate in approximately 2 minutes  
• Broad screening of lactate – institute automatic ordering of lactate if patient is getting a blood culture |
| How do we standardize the selection of **antibiotics**? | • Work with infectious disease department to develop antibiotic guides that can be initiated without ID approval  
• Place antibiotics in the emergency department |
What is the process of **transitioning a patient** to the ICU?

- Develop a close working relationship with Intensivists
- “Code Sepsis” – Implement a sepsis call code to notify ICU resident and attending to come to the ED; also notifies the bed facilitator that a sepsis patient is being transferred to the floor
- Once patient meets the criteria, automatically transfer the patient to the ICU, bypassing a separate ICU evaluation
- ED initiates goal directed therapy and antibiotics, once a bed is ready, the patient is transferred to the ICU

What **data elements** should we be collecting?

- Compliance with the protocol
- Number of patients enrolled in the protocol
- Number of patients with elevated lactates
- Time to line insertion
- Antibiotic Timing
- Mortality rates
- Provider specific feedback using a sample of charts

Are there any **tools or resources** available to support us?

- Sepsis Flow Sheet (helps with data collection)
- Sepsis Handbook
- Sepsis Cart –SCO2 monitor, central line supplies, protocol supplies, folder with flow sheets and the guide
- Resource beeper to use as an information hotline

Additional information and resources can be located at: [http://sepsis.bidmc.harvard.edu/Content/startup.htm](http://sepsis.bidmc.harvard.edu/Content/startup.htm)

Contact ZeAmma Walker at 410-712-7426 or walkerz@dfmc.org to learn more about the progress of the sepsis workgroup in the Emergency Department Collaborative.