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## Surviving the Sepsis Campaign

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Scenario: A 20-month-old male presents to your emergency department with a two day history of fever, nasal congestion and cough. Parents are concerned about the fever. He is well-appearing, fully immunized and is taking fluids in the emergency department (ED). The child screens positive for systemic inflammatory response syndrome (SIRS) on your hospital's required sepsis screening forms in triage due to a fever of 38.5°C and tachycardia. The nurse requests you document the child does not need a lactate and blood cultures drawn as part of a sepsis protocol.

This case is an increasing familiar situation for a lot of emergency physicians leading to frustration and wondering why you went to medical school in the first place. Words like "protocol" and "bundle" makes the average naturally independent thinking emergency physician want to make a bonfire out of all the sepsis screening documents in your hospital. We are strong clinicians who take ownership of our patients and feel the need to protect them from unnecessary testing.

Sometimes it is time to take a step back and an objective look – what has led up to the scenario described above? What makes sense and how can we advocate for our patients? Protocols and/or bundles in medicine are not going away and will likely become even more prevalent with healthcare reform legislation undergoing implementation over the next several years. Physicians have a high level of medical training for a reason and need to be involved in when they should be used and what items they contain.

### Surviving Sepsis Campaign Background

The "surviving sepsis" campaign started with an international survey of 1,050 physicians regarding sepsis, which was conducted by the European Society of Critical Care Medicine and the Society of Critical Care<sup>1</sup>. Generally, physicians were frustrated at the lack of a common medical definition of sepsis and eager for breakthroughs making it easier to differentiate sepsis from other conditions which may present in a similar manner. In the same year, the Rivers et al.<sup>2</sup> paper regarding early goal-directed therapy in the ED for sepsis was published further pushing sepsis into the spotlight<sup>2</sup>.

The campaign founders acknowledged physicians were generally managing severe sepsis well but improvements could be made. A goal was set of reducing mortality from sepsis by 25% over a five year period. ACEP has been involved as a sponsor of the campaign helping to provide guidelines and appropriate implementation for the ED setting.<sup>3-6</sup> Since the

implementation of the campaign, there have been many articles assessing the clinical effectiveness of a more standardized approach to defining and treating the septic patient.<sup>7-13</sup> There have also been questions concerning costs, pharmaceutical involvement and a one size fits all approach.<sup>14-17</sup> As part of the campaign, guidelines were developed by evaluating this research with a GRADE approach, a structured system for rating quality of evidence that also takes into account an assessment of the balance between benefits versus risks, burden, and cost.<sup>18</sup>

### The Bundle Defined

The campaign also advocates for sepsis bundles for patients with severe sepsis/septic shock. A bundle attempts to match our everyday practice with current research.<sup>19-21</sup> Bundles are defined as a "group of therapies for a given disease that, when implemented together, may result in better outcomes than if implemented individually" and "science supporting the individual treatment strategies in a bundle is sufficiently mature such that implementation of the approach should be considered either best practice or a reasonable and generally accepted practice"<sup>22</sup>.

As an example, the recommended sepsis bundle elements are:

- Measure serum lactate
- Obtain blood cultures prior to antibiotic administration
- Administer broad-spectrum antibiotic within 3 hours of ED admission and within 1 hour of non-ED admission
- Treat hypotension and/or elevated lactate with fluids, apply vasopressors for ongoing hypotension
- Maintain adequate central venous pressure and central venous oxygen saturation

Arguments can be made about each specific item above for the case of sepsis but at the end of the day two principles are true which must be followed for success. First, placing items in protocols and/or bundles have potential to assist in patient care and we need to be open minded to this possibility. Second, standardized approaches must always allow room for clinical decisions and the art of medicine to be practiced. Clinical decision making is one of the issues many physicians feel are being lost in the rapidly changing healthcare environment and without this element patient care can be compromised by a robotic approach.

### Application of Protocols and Bundles in the ED

Enormous amounts of time and research effort can be spent developing protocols and bundles but if they are not applied

properly in every day clinical practice they can become useless and potentially harmful to patients. A current example of this is determining an elevated lactate in patients meeting SIRS criteria means a patient is septic independent of the remaining clinical picture. Not only are there only many reasons for an elevated lactate other than sepsis but this is not how it was meant to be used in the current sepsis guidelines developed by both emergency medicine and critical care physicians.

How did we get from helping physicians obtain tools to better evaluate and treat their septic patients to having to sign off paperwork stating a young child with a common upper respiratory infection is not septic? The reality is our job has become much more than showing up to work and caring for patients. Attempts at using evidence-based medicine to determine how we practice medicine in an era of healthcare reform can easily turn into a frustrating disaster if it is not physician led and implemented which starts with knowing our own definitions and literature.

We cannot wait for legislators and hospitals to ask us for our opinion in a time when healthcare is being actively discussed at state and federal levels because clearly that is not happening. Get involved and let your expertise be known - take some time to write an email or call your legislator about issues concerning to you as an emergency physician, become or stay involved in organized medicine, serve on hospital committees, develop relationships with your administration and seek out leadership roles within your group. We are the authority on how to best care for emergency department patients. Whether invited or not we need to participate for our own sanity and for the sake of our patients.

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