Surviving Sepsis Campaign Statement Regarding Hemodynamic and Oximetric Monitoring in Response to ProCESS and ARISE Trials
October 1, 2014

The preliminary results of the Australasian Resuscitation in Sepsis Evaluation (ARISE) trial were released this week at the European Society of Intensive Care Medicine (ESICM) annual meeting in Barcelona. The trial failed to show benefit from early goal-directed therapy[1] versus controls. The results of this trial come less than a year after the Protocolized Care for Early Septic Shock (ProCESS) trial[2] released similar findings. The Surviving Sepsis Campaign (SSC) has long believed that both the SSC guidelines[3] and the SSC performance improvement indicators will evolve as new evidence that improves our understanding of how best to care for patients with severe sepsis and septic shock is made available. Based on the release of the ProCESS and ARISE trials, the SSC Executive Committee states:

- Required monitoring of central venous pressure (CVP) and central venous oxygen saturation ($ScvO_2$) via a central venous catheter as part of an early resuscitation strategy does not confer survival benefit in all patients with septic shock who have received timely antibiotics and fluid resuscitation compared with controls.
- Requiring measurement of CVP and $ScvO_2$ in all patients who have lactate results >4 mmol/L and/or persistent hypotension after initial fluid challenge and who have received timely antibiotics is not supported by the available scientific evidence.
- The results of the ProCESS and ARISE trials have not demonstrated any adverse outcomes in the groups that utilized CVP and $ScvO_2$ as end points for resuscitation. Therefore, no harm exists in keeping the current SSC bundles intact until a thorough appraisal of all available data has been performed.
- Newly published data from the SSC (http://journals.lww.com/ccmjournal/Abstract/publishahead/Surviving_Sepsis_Campaign__Association_Between.97431.aspx; http://link.springer.com/article/10.1007/s00134-014-3496-0) confirm that adherence to quality improvement measures in severe sepsis and septic shock is associated with mortality decline.
- In light of the evidence from the ProCESS and ARISE trials, the SSC guidelines committee will immediately review the evidence and assess whether the guidelines need to be updated now. If that is the case, the committee will develop a focused update.
- The SSC bundles will also be reviewed and revised as needed based on the recommendations.

Effect on SSC Bundles: Until the work group completes its evaluation of the recommendations and corresponding bundle elements, the current SSC bundles will not change. No suggestion of harm was indicated with the protocol utilizing the bundles in either trial, and recent published evidence shows significant mortality reduction using the existing SSC bundles. When revised bundles become available, they will be posted on the SSC website and the SSC data collection tool will be modified appropriately. Of note, the 3-hour SSC bundle will not be affected by this process.

References:

1. Rivers E, Nguyen B, Havstad S, et al. Early goal-directed therapy in the treatment of severe sepsis and septic shock. *N Engl J Med.* 2001;345:1368-1377.

2. Yealy DM, Kellum JA, Juang DT, et al. A randomized trial of protocol-based care for early septic shock. *N Engl J Med*. 2014;370:1683-1693.

3. Dellinger RP, Levy MM, Rhodes A, et al. Surviving Sepsis Campaign: International guidelines for management of severe sepsis and septic shock: 2012. *Crit Care Med*. 2013;41:580–637.