

Team Name: Critical Care and Medicine Team	Reference Number: CLI.4510.SG.005
Team Lead: Regional Director – Acute Care	Program Area: Across Hospital Units
Approved by: Executive Director - Mid	Policy Section: General
Issue Date: September 26, 2013	Subject: Adult Sepsis and Septic Shock
Review Date: Revision Date: September 5, 2018	

# **STANDARD GUIDELINE SUBJECT:**

Adult Sepsis and Septic Shock

## PURPOSE:

To provide evidence-informed guidelines for early recognition, assessment, and management of sepsis in the emergency departments and inpatient care units.

## **DEFINITIONS:**

**Sepsis:** not a specific illness but a syndrome with life-threatening organ dysfunction caused by dysregulated host response to infection. That is, this condition arises when the body's response to an infection injures its own tissues and organs, creating a non-homeostatic host response.

**Septic Shock:** a subset of sepsis in which underlying circulatory and cellular/metabolic abnormalities are profound enough to substantially increase mortality.

#### **IMPORTANT POINTS TO CONSIDER:**

What differentiates sepsis from infection is an aberrant or dysregulated host response and the presence of organ dysfunction. Any unexplained organ dysfunction should raise the possibility of underlying infection.

Sepsis is a medical emergency. Early identification and prompt initiation of treatment, especially antimicrobials, fluid resuscitation, and use of vasopressor when mean arterial pressure (MAP) does not respond to fluid bolus are critical to patient outcome. Consider early consultation.

There are no current clinical measures that reflect the concept of a dysregulated host response. Many tests are indicative of inflammation or organ dysfunction, thus lack specificity. Tools that have been used to help identify sepsis early have included systemic inflammatory response syndrome (SIRS), sepsis-related organ failure assessment/quick sepsis-related organ failure assessment (SOFA/qSOFA), and national early warning score (NEWS). NEWS was the most accurate tool for predicting adverse outcomes in both emergency department (ED) and inpatient units.

## PROCEDURE:

- 1. Assess all patients with the suspicion of infection and/or signs and symptoms of sepsis.
  - 1.1. Implement *Adult: Sepsis and Septic Shock Standard Orders* (CLI.4510.SG.005.FORM.01), which includes NEWS criteria. If NEWS score is equal to or greater than 5:
    - In the emergency department (ED): prioritize patient to treatment area and inform ED physician/alternate of this patient requiring immediate assessment and intervention.
    - On inpatient units: access physician/alternate immediately. If no physician/alternate present, call Code 25 (CLI.4510.PL.003).
  - 1.2. The Adult: Sepsis and Septic Shock Standard Orders defines care needs for the first 180 minutes (3 hours). If applicable, request additional prescriber orders for care needs after the initial 3-hour period. However, unless the prescriber discontinues them, all medication orders continue as ordered on these standard orders.
- 2. Documentation:
  - 2.1. Document all medications administered on the applicable *Medication Administration Records (MARs).*
  - 2.2. In the ED: document all assessments and interventions in *Emergency Department Information System* (EDIS) or the *Triage and Emergency Department Record* (CLI.4510.PL.005.FORM.01), and the *Frequent Monitoring Record* if applicable.
  - 2.3. On inpatient units: document all assessments and interventions on the *Frequent Monitoring Record (FMR).*
- 3. Determine disposition:
  - 3.1. In the ED: admit or transfer to a centre able to provide a higher level of care.
  - 3.2. On inpatient units: consider transferring to another unit or facility able to provide a higher level of care.
- 4. Notify Infection Control Practitioner (ICP) of all cases of sepsis using current processes.
- 5. Evaluation:
  - 5.1. Complete 10 chart audits annually at the regional centres and 5 at non-regional centres.
  - 5.2. Report results and recommendations for improvement to facility managers and at Critical Care and Medicine Team.

## **SUPPORTING DOCUMENTS:**

CLI.4510.SG.005.FORM.01	Adult Sepsis and Septic Shock Standard Orders
CLI.4510.SG.005.FORM.02	Adult Sepsis and Septic Shock Chart Audit

## **REFERENCES:**

CLI.4510.PL.003	Code 25
CLI.5110.PL.005.FORM.01	Triage and Emergency Department Record

- Albur, M., Hamilton, F., & MacGowan, A. P. (2016). Early warning score: A dynamic marker of severity and prognosis in patients with gram-negative bacteraemia and sepsis. Annals of Clinical Microbiology and Antimicrobials, 15(23), 1-10. doi:10.1186/s12941-016-0139-z
- Bilben, B., Grandal, L., & Søvik, S. (2016). National Early Warning Score (NEWS) as an emergency department predictor of disease severity and 90-day survival in the acutely dyspneic patient a prospective observational study. *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine, 24*, 80. http://doi.org/10.1186/s13049-016-0273-9. Retrieved from <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4890514/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4890514/</a>
- Churpek, M. M., Snyder, A., Han, X., Sokol, S., Pettit, N., Howell, M. D., & Edelson, D. P. (2017). Quick sepsis-related organ failure assessment, systemic inflammatory response syndrome, and early warning scores for detecting clinical deterioration in infected patients outside the intensive care unit. *American Journal of Respiratory and Critical Care Medicine*, 195(7), 906–911. http://doi.org/10.1164/rccm.201604-0854OC. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5387705/
- Haydar, S., Spanier, M., Weems, P. (2017). Comparison of QSOFA score and SIRS criteria as screening mechanisms for emergency department sepsis. *American Journal of Emergency Medicine*, *35*, 1730-1733.
- McLymont, N., & Glover, G. W. (2016). Scoring systems for the characterization of sepsis and associated outcomes. Annals of Translational Medicine, 4(24), 527. http://doi.org/10.21037/atm.2016.12.53. Retrieved from <u>https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5233540/</u>
- Neviere, R. (2018) Sepsis syndromes in adults: Epidemiology, definitions, clinical presentation, diagnosis, and prognosis. *UpToDate*. Retrieved from <u>https://www.uptodate.com/contents/sepsis-syndromes-in-adults-epidemiology-</u> <u>definitions-clinical-presentation-diagnosis-and-</u> <u>prognosis?search=sepsis&source=search\_result&selectedTitle=1~150&usage\_type=defa</u> <u>ult&display\_rank=11</u>
- Rhodes, A., Evans, L. E., Alhazani, W., Levy, M. M., Antonelli, M., Ferrer, R., ... Dellinger, R. P. (2017). Surviving sepsis campaign: international guidelines for management of sepsis and septic shock. *Intensive Care Medicine*, 43(3), 304-377. doi: 10.1007/s00134-017-4683-6.
- Schorr, C. A., & Barnes-Daly, M. A. (2017). Nurses: Screen for sepsis Every patient, every shift. *Medscape*, 1-5.
- Seckel, M. (2017). Updating your practice: The 2017 sepsis guidelines [AACN critical care webinar series, power point presentation]. American Association of Critical Care Nurses. Retrieved from <u>https://www.aacn.org/education/webinar-series/wb0037/updating-your-practice-the-2017-sepsis-guidelines</u>
- Singer, M., Deutschman, C. S., Seymour, C. W., Shankar-Hari, M., Annane, D., Bauer, M., ... Angus, D. C. (2016). The third international consensus definitions for sepsis and septic shock (Sepsis-3). JAMA, 315(8), 801-810. doi:10.1001/jama.2016.0287