Rancho Los Amigos National Rehabilitation Center

ADMINISTRATIVE POLICY AND PROCEDURE

SUBJECT: EARLY IDENTIFICATION AND MANAGEMENT OF SEPSIS

Policy No.: B875
Supersedes: April 22, 2019
Revision Date: March 2022

PURPOSE:

- To provide guidelines for early identification of the patient with sepsis, severe sepsis/septic shock
- To initiate the management bundles of care as soon as possible
- To assign clear responsibilities to each member of the team for the initiation and implementation of the guidelines and bundles of care for the management of patients with severe sepsis/septic shock.

POLICY:

Severe Sepsis and Septic Shock are common clinical conditions associated with high mortality. Evidence-based guidelines grouped in bundles of care have been shown to decrease absolute mortality rates in patients with severe sepsis and septic shock when implemented early after the patient is "declared" to be in severe sepsis and/or septic shock.
These guidelines represent the core recommendations from multiple professional societies and CMS.

SCOPE:

This Policy applies to the following areas:

a. Outpatient
b. All In-Patient Care Areas
c. Laboratory
d. Diagnostic Imaging
e. Pharmacy
f. Respiratory Therapy

DEFINITIONS:

a. Infection: is the presence of microorganisms in an organ or sterile tissue
b. SIRS (Systemic Inflammatory Response Syndrome): A syndrome associated with 2 or more of the following:
   - Temperature more than 38.3°C or less than 36°C
   - Heart rate more than 90/min
   - Respiratory rate greater than 20/min
   - WBC greater than 12,000 or less than 4,000
   - Bands greater than 10% in the differential
c. Sepsis: Suspected or confirmed infection and SIRS
d. Severe Sepsis: Sepsis and Organ Dysfunction

- Organ dysfunction:
  - Hypotension (SBP less than 90 mmHg) or more than 40mmHg below baseline, or Mean Arterial Pressure (MAP) less than 65 responsive to IV fluid fluids
  - Elevated Lactate more than 2 mmol/L
  - Creatinine more than 2.0 mg/dL
  - Oliguria: urine output less than 0.5mL/kg/hr for at least 2 hours
  - Platelets less than 100,000
  - INR more than 1.5 or aPTT more than 60 seconds
  - Bilirubin above 2 mg/dL
  - Acute respiratory failure requiring non-invasive or invasive ventilation

e. Septic Shock: Severe Sepsis and one or more of the following:
- Persistent hypotension (SBP less than 90 mmHg or more than 40 mmHg below baseline) or Mean Arterial Pressure (MAP) less than 65 unresponsive to IV fluid bolus
- Lactate 4mmol/L or higher

PROCEDURE:

a. Nursing will screen all patients' vital signs for SIRS (Systemic Inflammatory Response Syndrome) criteria.
b. When the patient meets SIRS criteria the nurse will notify the provider and initiate treatment as ordered
c. The nurse will notify the provider immediately when the patient meets the criteria for severe sepsis or septic shock.
d. The provider then initiates the order-set for severe sepsis/septic shock.
e. The four bundle elements must be initiated within three hours:
   a. Infuse IV fluids: Normal Saline 30ml/Kg bolus if the patient is hypotensive
   b. Draw blood Lactic acid level, and blood cultures, and obtain other cultures as appropriate.
f. Administer antibiotics after blood cultures. The patient may need to be transferred to an ICU/PCU bed if severe sepsis/septic shock criteria are met.
g. Patient's primary provider will be contacted by the nurse during normal business hours and the intensivist after hours and on weekends.
h. Rapid Response may be called at any time based on patient condition (Refer to policy B812)
i. **Initial Management: 6-hour bundle will be completed as ordered:**
   1. Monitor cardiac rhythm and pulse oximetry. Start supplemental oxygen to keep SpO2 greater than 92%. In case of respiratory distress, the physician will be notified immediately.
   2. Start two peripheral IVs (recommended: two 18 Ga)
   3. Give NS IV bolus as ordered.
   4. Draw Sepsis panel (CBC with differential, CMP, urinalysis, and reflex Urine C&S) and Lactate.
   5. Obtain a portable Chest X-ray to rule out pneumonia when indicated
   6. Administer antibiotics as ordered. DO NOT START ANTIBIOTICS BEFORE BLOOD CULTURES ARE DRAWN.
   7. Consider repeating IV NS per Physician order
   8. Repeat Lactate within 3 hours as ordered if 2 or higher

9. Physician to complete a clinical exam for patients with Septic Shock.
10. Start vasopressors (Norepinephrine is recommended) to keep SBP greater than 90 or MAP greater than 65 mmHg as ordered
11. Call the Intensivist to place a central venous catheter (subclavian, internal jugular veins, or PICC) and optimize intravascular volume keeping CVP 8 – 12 cm H2O. A continuous oximetry catheter is recommended.
12. Send blood gases from central venous catheter.
13. If the patient is requiring Norepinephrine at 4 or more mcg/kg/min; placing an arterial line is recommended. Consider using a Vigileo catheter to monitor pulse pressure variation for volume responsiveness.

j. **Follow-up Management: 24-hour bundle.**
   1. Consider steroids (hydrocortisone 100 mg IV every 8 hours)
   2. Maintain blood glucose level 120 – 160 mg/dl
   3. For intubated patients on mechanical ventilation, keep inspiratory plateau airway pressure less than 30 cm of water
   4. Start VTE prophylaxis
   5. Start Gastrointestinal bleed prophylaxis

FAMILY SUPPORT AND EDUCATION:

The treating physician(s) will provide information to the patient, family members or patient surrogate regarding Sepsis.

REFERENCES:

CMS. (2022). *CMS Quality Net.* Retrieved from Hospital Inpatient Specifications Manuals: https://qualitynet.cms.gov/inpatient/specifications-manuals

Evans, L., Rhodes, A., Antonelli, M., Alhazzani, W., Coopersmith, C. M., French, C., . . . Burry, L. (2021). Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock 2021. *Critical Care Medicine*, e1063-e1143. Retrieved from file:///C:/Users/e458248/OneDrive%20-%20County%20of%20Los%20Angeles/Home%20Directory/Downloads/Surviving_Sepsis_Campaign__International.21.pdf

Created by: R. Wong, MD
Approved by: MEC, September 2012; EC, October 2012
June 2016
April 2019
April 2022