Situation

There were an estimated 1.7 million sepsis cases nationwide in 2014 and 270,000 deaths.\(^1\)

At Ascension, sepsis cases account for approximately 35,000 adult discharges per year.

While overall mortality at Ascension hospitals is less than 2%, sepsis mortality in adults with MSDRGs 870, 871 and 872 combined is approximately 10%.

Our Mission calls us to ensure that each person with sepsis receives the optimal care to survive and heal. Our Ascension leadership has elevated sepsis care to one of the highest priorities of our national health ministry. We are rising to this challenge by launching a coordinated, Ascension-wide effort to improve the process of preventing, identifying and managing sepsis for the persons we serve, grounded in key principles of the Ascension way.

Background

In 2016, new sepsis definitions and early warning signs were released in the Third International Consensus Definitions for Sepsis and Septic Shock (Sepsis-3).\(^2\) A task force with expertise in sepsis determined that healthcare practitioners required improved clinical prompts and diagnostic approaches to facilitate earlier identification.

The new Sepsis-3 definitions:

Sepsis is defined as life-threatening organ dysfunction due to a dysregulated host response to infection.

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

The terms "severe sepsis," "sepsis syndrome" and "septicemia" were deemed redundant or overly narrow and are not included in the new definitions.\(^2\)

The elevated risk of mortality and the urgency of taking immediate action when treating all stages of sepsis drove the development of sepsis care bundles.\(^3\) In 2015, the Centers for Medicare & Medicaid Services (CMS) introduced the Core Measure SEP-1: Early Management Bundle, Severe Sepsis/Septic Shock with the purpose of ensuring compliance with adopting timely delivery of high-quality sepsis care. The Surviving Sepsis Campaign (SSC) recently released a revised Hour-1 Surviving Sepsis Campaign Bundle of Care, which places even more emphasis than previous versions on the need to begin resuscitation and treatment immediately.\(^4\)

Assessment

Sepsis mortality decreases with early recognition and early, aggressive care. If you detect signs of clinical deterioration in persons with a new or suspected infection, be ready to consider sepsis as a possible cause. Even a one-hour delay in treatment of sepsis decreases a person’s chance of survival.\(^5\)
Optimizing Adult Sepsis Management

Step 1: Be alert to signs of clinical deterioration

<table>
<thead>
<tr>
<th>Altered mental status</th>
<th>Abnormal temperature</th>
<th>Elevated heart rate</th>
<th>Decrease in systolic blood pressure</th>
<th>Increased respiratory rate</th>
<th>Abnormal white blood cell count</th>
</tr>
</thead>
</table>

Family members are the experts when it comes to knowing what is normal for their loved one. Encourage family members to speak up if something just doesn’t seem right. Listen to their concerns and take action.

Step 2: Assess for evidence of organ dysfunction

Meets one or more organ dysfunction criteria within three days of new infection:

| Encephalopathy: Somnolence, confusion, delirium | Lung: Arterial hypoxemia PaO2/FiO2 < 300 |
| Acidosis: Lactate level > 2mmol/L | Circulation: Hypotension with systolic blood pressure < 90 mmHg OR mean arterial pressure < 65 mmHg |
| Coagulation: Platelet count < 100,000 µL | Liver: Bilirubin ≥ 2 mg/dL and ≤ 10 mg/dL |
| Renal: Urine output < 0.5 ml/kg/hour for at least 2 hours despite fluid resuscitation OR creatinine increase of ≥ 0.5 mg/dL in the last 72 hours |

Step 3: If infection is suspected and the person is showing signs of organ dysfunction, do not delay treatment.

Initiate sepsis bundle within first hour of time zero (time of triage in the ED or earliest chart documentation of elements of sepsis):

1. Measure lactate level. If initial lactate > 2mmol/L, remeasure within 2-4 hours.
2. Obtain blood cultures before giving antibiotics.
3. Administer appropriate antibiotics.
4. Begin rapid administration of 30 ml/kg crystalloid, preferably normal saline or lactated ringers, for hypotension or lactate ≥ 4 mmol/L.
5. Apply vasopressors, preferably norepinephrine, if hypotensive during or after fluid resuscitation to maintain mean arterial pressure ≥ 65 mmHg.

Recommendations

Every Ascension facility should have a protocol to identify, manage and prevent sepsis, implemented by a multidisciplinary team.

The guidance within this SBAR was created with the input of several multidisciplinary committees, including the Sepsis Advisory Committee, Ascension Antimicrobial Stewardship Committee and the Therapeutic Affinity Group.

References


2 • Care Excellence • August 2018