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Sepsis: Identification & Recognition

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Sepsis: Identification & Recognition

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- 4 Sutherland Unit Directors: Janet Franzen & Cheryl Powers
- 4 Sutherland Summer 2017 Nurse Residency Program Cohort
- KT Scholar: Stephanie Assad
- QIC: Andrea Raymond
- Children’s Mercy SIM lab educators
- Dr. Stephanie Burrus
A3 Overview

A3 for Problem Solving:

Title: Septic Shock Recognition and Early Treatment

A3 Team:
- Shiloh Chinchar
- Leitha Jones
- Juli Connor
- Victoria Reed
- Mirada Von Tilburg

Owner: Nursing Ancillary Program
Date: 1/17/2018
Approver: 1/17/2018

Diagnosis - Septic Shock
- Septic shock is a serious complication of infection that can affect the patient population.
- Literature review found that simulation and educational tools increase the early recognition of sepsis.
- In a study led by Dr. Young and colleagues, the survival rate of sepsis was decreased by 20% in patients who received education, while education and simulation on the signs, symptoms, and treatment of sepsis was significantly reduced.
- Only 2% of nurses recognized S. aureus and felt "very comfortable" identifying sepsis.

Breakdown the Problem:

- Lack of open communication with physicians
- Lack of confidence in knowing knowledge regarding sepsis
- Majority of sepsis cases were diagnosed in ED or ICU
- Lack of exposure to signs/symptoms of sepsis

Define the Target:

- Increase percentage of S. aureus finding "very comfortable" recognizing sepsis from 11% percent to 75% percent by January 25, 2019.

Identify Root Cause:

- Only 11% of S. aureus feel "very comfortable" identifying the signs/symptoms of sepsis
- Only 11% of nurses recognize the signs/symptoms of sepsis

Devise and Implement Countermeasures:

- Aim:
  - Increase the percentage of nurses who recognize the signs/symptoms of sepsis.
  - Increase the percentage of nurses who feel comfortable recognizing signs/symptoms of sepsis.
- Primary Drivers:
  - Increased education and simulation on signs, symptoms, and treatment of sepsis.
  - Improved communication between physicians and nurses.
- Secondary Drivers:
  - Increased awareness among nurses about sepsis.
  - Improved training and resources for sepsis recognition.

Check Results and Processes:

- Percentage of nurses who feel very comfortable recognizing signs/symptoms of sepsis.
- Variable:
  - Percentage of nurses who feel very comfortable recognizing signs/symptoms of sepsis.

Introduction and Follow-ups:

- All information on sepsis should be shared with all medical/surgical units to increase the comfort level in identifying sepsis.
- All nurses should be provided and encouraged to use a sepsis bundle timely to ensure identification and treatment of sepsis.
- All nurses will be given a sepsis case study during their orientation to increase their knowledge of signs/symptoms and treatment of sepsis.
- Future possibility of having a morning huddle for nurses for patients with triggers for sepsis.
Sepsis is a serious complication of infection that can affect the pediatric population.

Literature review found that simulation and additional educational tools improve the early recognition/treatment of sepsis.

On 4 Sutherland (a medical/surgical unit), the Summer 2017 Nurse Resident Cohort implemented an education bundle (including flyers, posters, huddle education, and simulation) on the signs, symptoms, and treatment of sepsis. They had significant results.

Only 15% of nurses surveyed on 5 Sutherland felt “very comfortable” identifying sepsis.
Breakdown the Problem

5S Nurse Comfort Level Recognizing Sepsis

- Very Comfortable
- Comfortable
- Somewhat comfortable
- Not Comfortable
Breakdown the Problem

Only 12 percent of these 75 patients with sepsis on general floors were seen on 5S.
Set a Target

To increase the percentage of 5S nurses feeling “very comfortable” recognizing sepsis from 15 percent to 75 percent by January 29, 2019.
Identify Root Cause

Only 15 percent of 5S nurses feel “very comfortable” identifying the signs/symptoms of sepsis

Lack of open communication with physicians

Lack of confidence in nursing knowledge regarding sepsis

Majority of sepsis cases seen/diagnosed in ED or ICU

Lack of education to 5S nurses on the signs/symptoms of sepsis

Lack of exposure to signs/symptoms of sepsis
Develop and Implement Countermeasures

Aim Statement
Increase the percentage of 5S nurses feeling "very comfortable" recognizing sepsis from 15% to 75% by February 27, 2019.

Primary Drivers
- RN comfort level & recognition of signs & symptoms of sepsis
- RN to physician communication

Secondary Drivers
- Simulation and/or case study
- Educational materials around the unit (flyers, huddle boards, emails, etc.)
- Charting prompts & flags within Cerner
- Practice communication scenarios with physicians

1/23/2019
11/18/2018
1/23/2019
Develop and Implement Countermeasures

SEPSIS

B- Blood cultures before antibiotics
L- Line placed within 15 minutes
A- Antibiotics completed within 1st hour
S- 1st Saline Bolus of 20 ml/kg given within 20 minutes (Saline bolus of 60 ml/kg completed within 1 hour)
T- Timely identification of patients at risk for severe sepsis

TREATMENT
Develop and Implement Countermeasures

Do you know the clinical signs in order to identify SEPSIS?

- Heart Rate
  - Bradycardia or Tachycardia

- Blood Pressure
  - Early Onset: Hypertension
  - Late Onset: Hypotension

- Inadequate Urine Output
  - GOAL: 
    - < 30 kg: > 1 ml/kg/hr
    - ≥ 30 kg: ≥ 30 ml/hr

- Mental Status
  - Lethargic, confusion, and/or agitation

- Capillary Refill
  - Flash capillary refill (warm shock) or delayed capillary refill (cold shock)
How you would communicate with a physician using SBAR

**Situation:** This is (introduce yourself) and I am the nurse taking care of Patty Joe Sue in room 8 on Sutherlands and I am concerned she is showing signs of Sepsis.

**Background:** She was admitted for 1 day of nausea and vomiting, severe abdominal pain and cloudy PD, and presenting signs of possible peritonitis.

**Assessment:** I am concerned for sepsis due to current signs and symptoms of: pt is mottled, cool to touch, altered mental status, hard to arouse, with a temp of 35.8, RR of 40 and a HR of 145, cap refill of 4.5.

**Recommendation:** I feel as though we should activate a situational awareness and should follow the guidelines of sepsis to treat in a timely manner by: BLAST

**Blast**
- Blood Cultures before antibiotics
- Line within 15 minutes
- Administer high flow O2 if indicated
- Antibiotics completed within the first hour
- Saline Bolus 60ml/kg completed within the 1st hour (must be given in 20 min increments)
- Timely identification of pts at risk for severe Sepsis

**How to recognize sepsis**
- Children suggestive of infection or inadequate tissue perfusion.
- Temp Abnormality: <36 or >38.5
- Heart rate abnormality: follow algorithm
- Plus one of the following:
  - Altered mental status, perfusion abnormality, high risk conditions (hypotension)
  - Puls: decreased, weak, or bounding
  - Cap refill: >3 seconds or <1 second
  - Skin: mottled, cool, flushed, ruddy
  - Mental status: decreased, irritability, confusion, inappropriate crying, drowsiness, poor interaction with parents, lethargy, decreased arousability

**Vitals**
- Temp: 35.8 degrees C
- BP: 90/65
- HR: 145
- RR: 40

**What signs and symptoms make you think it could possibly be sepsis?**
- A. Temp abnormality
- B. Heart Rate abnormality
- C. Altered Mental Status
- D. Perfusion abnormality
- E. All of the above

**Would you activate a situational awareness?**
- A. Yes
- B. No
Check Results and Process

5 Sutherland Comfort Level Recognizing Sepsis

<table>
<thead>
<tr>
<th>Education Timeframe</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-Case Study Education</td>
<td>95%</td>
</tr>
<tr>
<td>Post-Huddle Education</td>
<td>31%</td>
</tr>
<tr>
<td>Pre-Huddle Education</td>
<td>15%</td>
</tr>
</tbody>
</table>

Percentage of Nurses Who Felt "Very Comfortable" Recognizing Signs and Symptoms of Sepsis

**Variables**

(# of nurses who filled out the survey)

Pre-Huddle Education:

13 nurses

Post-Huddle Education:

16 nurses

Post-Case Study Education:

57 nurses
Standardize and Follow Up

- All information on sepsis should be shared with all Medical/Surgical units to increase the comfort level in identifying sepsis.

- All employees should be provided and encouraged to use a sepsis badge buddy to aid in identification and treatment of sepsis

- All new employees will be given a sepsis case study during their orientation to increase education and awareness of sepsis and increase their comfort level of identifying sepsis

- Future possibility of firing a nursing task list alert on Cerner for patients with triggers for sepsis
References


Questions?