IMPLEMENTATION OF EMERGENCY DEPARTMENT NURSE TRIAGE SEPSIS SCREENING PROTOCOL

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PUPROSE

Sepsis is a life-threatening condition associated with high morbidity and mortality rates resulting in the death of 270,000 Americans annually (CDC, 2018). Several patients diagnosed with sepsis are admitted through the ED. Unlike many other emergency conditions, the signs and symptoms of sepsis along with variances in patient presentations are often vague and subtle, making early identification and treatment a challenge. (Filbin et al., 2018) The purpose of this study was to evaluate the implementation of an ED nurse-led triage sepsis protocol.

DESIGN & SETTING

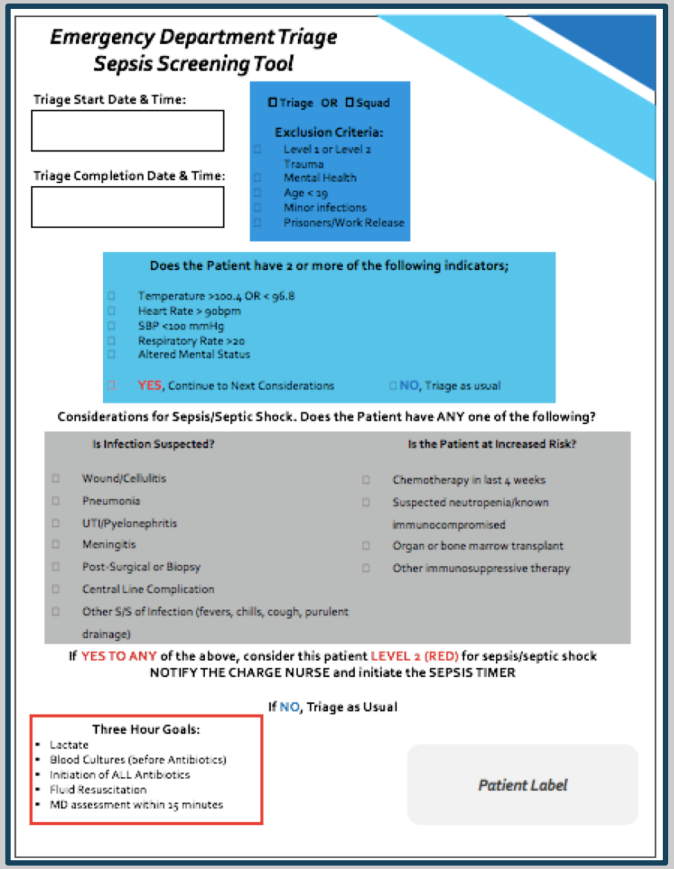
This prospective, feasibility research study used a Hybrid III implementation effectiveness study design.
The study was conducted in the ED at a large, urban tertiary hospital located in the Midwest. This ED is a 27 bed, level 2 trauma center. The average monthly census is 3,200 patients per month.

PARTICIPANTS

In this study, patients presenting to the study site ED by personal vehicle or by squad during the 30 day study period were screened for eligibility by the triage nurse. Exclusion criteria included: age < 19 years, level 1 or level 2 trauma; chief complaint related to mental health or minor infection (e.g., sinusitis, pharyngitis) and prisoners. Only de-identified patient data was obtained for use in this study for human subject protection.

METHODS

The ED triage nurse used the protocol screening assessment for sepsis risk. Criteria were adapted from the Systemic Inflammatory Response Syndrome (SIRS) and the Quick Sequential Organ Failure (qSOFA) score. In addition, existing conditions or illnesses putting patients at risk for sepsis were reviewed by the triage nurse. Based on the outcome of the screening, the triage nurse followed the protocol algorithm to determine potential sepsis and initiated early intervention for the patient. (McColl et al., 2017)



Emergency Department Triage Sepsis Screening Tool

Triage Start Date & Time:

Triage Completion Date & Time:

☐ Triage OR ☐ Squad

Exclusion Criteria:
- Level 1 or Level 2 Trauma
- Mental Health
- Age < 19
- Minor infections
- Prisoners/Work Release

Does the Patient have 2 or more of the following indicators;
- Temperature >100.4 OR < 96.8
- Heart Rate > 90bpm
- SBP <100 mmHg
- Respiratory Rate >20
- Altered Mental Status

☐ YES, Continue to Next Considerations ☐ NO, Triage as usual

Considerations for Sepsis/Septic Shock. Does the Patient have ANY one of the following?

Is Infection Suspected?
- Wound/Cellulitis
- Pneumonia
- UTI/Pyelonephritis
- Meningitis
- Post-Surgical or Biopsy
- Central Line Complication
- Other S/S of Infection (fevers, chills, cough, purulent drainage)

Is the Patient at Increased Risk?
- Chemotherapy in last 4 weeks
- Suspected neutropenia/known immunocompromised
- Organ or bone marrow transplant
- Other immunosuppressive therapy

If YES TO ANY of the above, consider this patient LEVEL 2 (RED) for sepsis/septic shock
NOTIFY THE CHARGE NURSE and initiate the SEPSIS TIMER

If NO, Triage as Usual

Three Hour Goals:
- Lactate
- Blood Cultures (before Antibiotics)
- Initiation of ALL Antibiotics
- Fluid Resuscitation
- MD assessment within 15 minutes

Patient Label

RESULTS/OUTCOMES

A total of 3,648 patients were seen in the ED. There were 2,094 patients screened using the protocol. There were 630 patients screened who did not meet inclusion criteria, with a total of 1,464 patients who met inclusion criteria. Of these 1, 464 patents, 1,410 patients screened negative; and 44 patients screened positive. There were 10 patients with missing data. The use of the protocol for ED patients demonstrated a sensitivity of 39% and specificity of 98%. The positive predictive value was 25% while the negative predictive value was 99%. Other implementation outcomes included staff perceptions of feasibility of using the protocol using a Likert scale (1 to 5 rating, with 5 being strongly agree). Ratings for feasibility ranged from 3.8-4.3 for the following: perceived usefulness of the protocol for potential sepsis recognition, perceived ease of use and quick to complete. There were no significant differences in perceptions overtime during the study.

INDICATIONS

The ED Nurse-led triage sepsis protocol was perceived as feasible and useful, and able to be implemented in the ED setting.

AUTHOR INFORMATION

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