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# Improving the identification and treatment of sepsis through a pediatric sepsis screening tool

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## Purpose

It is critical for sepsis screening to be implemented and studied to identify possible sepsis in the pediatric population. Currently many acute care settings use an adult based screening tool for all populations. This study proposed that a new pediatric specific sepsis screen should be utilized in comparison with the previous tool to address the need for improving identification of sepsis. Therefore, the specific purpose of this study is to determine if the implementation of an evidence-based, pediatric specific sepsis screening tool improved the identification of sepsis in pediatric emergency department patients.

## Methods

Data was collected retrospectively from sample of 0-17 years old, receiving a diagnosis of sepsis, and treated within Baptist Health South Florida between Oct. 2014-Oct.2015. The electronic medical record screen and the Pediatric Sepsis ACT tool were used to determine positive and negative values of sepsis. Time of antibiotic administration along with IVF bolus with type was collected. Laboratory studies, including blood cultures, procalcitonin, lactic acid, WBC, and CRP were collected.



## Findings

There were a total of 520 pediatric patients with a discharge diagnosis of Sepsis in the three hospitals studied. The age ranged from 12 days to 17 years old. In total, at least one screening method used for 417 of the 520 (80.2%) sepsis patients and 26.6% of those 417 patients had a positive result indicating a low sensitivity of the screening process. Only 40% of patients receiving antibiotics had blood cultures collected prior to medication administration with 27% receiving intravenous fluids. 50% of the patients had white blood cells measured. Furthermore, the ACT part 1 screening tool revealed 26% of those screened having a positive result. This is in comparison to only 24% of the patients screened with the t-system tool.

## Discussion

Our findings suggest that many of the pediatric patients diagnosed with sepsis do not fall into a category of severe sepsis in need of aggressive lab and fluid treatment. This may be the cause for less than half of patients receiving blood cultures prior to administration of antibiotics and minimal collection of lab values. Findings also demonstrated compliance issues from nurses with about 1 of 5 patients not receiving screening.



## Implications for Practice

Nurses must be vigilant in screening the pediatric population for sepsis. No significant difference found between two screening tools, however, it is recommended for improvements to ensure proper compliance of screening for at-risk pediatric patients.