

## **Early Recognition of Pediatric Sepsis: Literature Review**

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### **Early Recognition of Pediatric Sepsis: Literature Review**

Pediatric sepsis is an emergent and life-threatening condition in children. It requires quick recognition and effective early treatment pathways to improve outcomes. This literature review aims to identify research on best practice triage systems and recognition of the early signs of pediatric sepsis. Triage interventions, including pediatric triangle assessment, febrile infant risk score screenings, and physician-in-triage will be evaluated to highlight the challenges of recognizing sepsis in children in its early stages. This review will emphasize the importance of education in the early recognition of pediatric sepsis and will aim to inform best practices that can be implemented in clinical settings to improve patient care.

### **The Accuracy of the Pediatric Assessment Triangle in Assessing Triage of Critically Ill Patients in Emergency Pediatric Department.**

Pediatric sepsis screenings in the Emergency room are essential for the timely assessment of critically ill pediatric patients. This study aimed to determine the effectiveness of the Pediatric Assessment Triangle (PAT) in triaging these critically ill patients and compare the effectiveness against the current Pediatric Early Warning Signs (PEWS) screening (Ma et al., 2021). This research article details research that was performed on 1608 children at a hospital in China. Of those, 74 children fit the criteria for critically ill (Ma et al., 2021). These children were assessed by the triage nurse using the PAT screening and PEWS screening at the same time, and the results were studied to determine which screening had a faster assessment time and sensitivity and better acceptance by the nurses (Ma et al., 2021).

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### **Key Points**

The researchers aimed to study how effective the Pediatric Assessment Triangle was against current methods of screening for pediatric sepsis (Ma et al., 2021). The PAT assesses the consciousness (lethargy, ability to interact, and ability to be consoled), breathing (presence of stridor, wheezes, or grunting), and color of the patient (cyanosis, paleness, or mottling), and triggers positive for a sepsis screening if any of these areas are abnormal (Ma et al., 2021). The screening was compared to the PEWS screening for assessment time, sensitivity of testing, and nurse acceptance (Ma et al., 2021). The PEWS score has a sensitivity of 97.0%, a specificity of 78.3%, and scored well in assessing respiratory, circulatory, and neurological disorders (Ma et al., 2021). They also evaluated the consciousness breath blood pressure pulse (CRBP) tool and pediatric critical illness score (PCIS) (Ma et al., 2021). They found that the CRBP varied too widely as the vital sign parameters changed based on the patient's age, the vital signs parameters were not consistent nationwide, and that the screening for triggers for sepsis inappropriately when the client was crying as crying would alter the vitals (Ma et al., 2021). The PCIS score was useful in assessing patients with electrolyte imbalance disorders but was ineffective in non-electrolyte imbalance conditions (Ma et al., 2021). Therefore, the PEWS score was used to be tested against the PAT (Ma et al., 2021). A nurse using the PAT and a nurse using the PEWS screening were present for the triage of the patients and timed their assessments (Ma et al., 2021). They then filled out the study form with the data (Ma et al., 2021). It was found that the PAT screening only took around 30-40 seconds to complete and had a sensitivity of 93.24% and specificity of 99.15% (Ma et al., 2021). It was found that the PAT was quicker than the PEWS, needed fewer tools, and did not rely on vital signs or laboratory testing making it easier to use

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and screen children rapidly (Ma et al., 2021). It was also found that the staff was more willing to use the PAT screening and that 84.9% of physicians preferred the PAT over PEWS (Ma et al., 2021).

### **Assumptions**

The researchers stated that PAT is a rapid sepsis assessment tool that is useful in identifying critically ill patients (Ma et al., 2021). Pediatric sepsis and critical illness are major concerns, and the current methods of assessment do not meet the needs of these patients (Ma et al., 2021). Current methods miss major factors such as how the patient is presenting and focus solely on vital signs or laboratory values for assessment, which can miss markers for sepsis and take extra time (Ma et al., 2021). Triage tools such as PAT that are quick, easy to use, and do not need extra tools or personnel may be better at assessing and catching critical illness and should be more widely accepted by medical staff (Ma et al., 2021).

### **Deficit/Conclusion**

The researchers' main line of reasoning for studying the PAT is acceptable as it was to determine if it was a better screening tool to screen for critically ill patients (Ma et al., 2021). Pediatric sepsis screenings are essential for assessing patients who need rapid care to prevent irreversible complications (Ma et al., 2021). Screening tools that can accurately assess for critical signs and can be used easily are necessary for nurses triaging patients (Ma et al., 2021). Nurses' acceptance of the screening tool and ease of use allow for better triaging and patient outcomes (Ma et al., 2021). Further research into the screening of pediatric sepsis is needed to determine

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what factors can key nurses and providers into critical changes a patient may be experiencing and allow for better tools for these assessments.

### References

Ma, X., Liu, Y., Du, M., Ojo, O., Huang, L., Feng, X., Gao, Q., & Wang, X. (2021). The accuracy of the Pediatric Assessment Triangle in assessing triage of critically ill patients in Emergency Pediatric Department. *International Emergency Nursing*, 58, 101041.  
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