Implementation of a Clinical Decision Support System for the Identification of Child Maltreatment in the Pediatric Emergency Department

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Objectives

- **Evaluate** the implementation of an automated clinical decision-support system in a pediatric emergency department (PED).
- **Examine** feasibility, acceptability, and impact on clinical assessment and decision-making for children under age 3.

Methods

1 Automatic Triage Screening Tool
Activated for every child under the age of 3

2 Physician Alert
If the screening tool indicates potential risk, alert is sent to the treating physician

Potential risk identified
A full physical examination and consultation with a senior physician are required.

3 Clinical Examination and Consultation Decision
Physicians document the full physical examination and the consultation.

Clinical Decision (select one)
- No Concern for Maltreatment
- Referral for Social Work (SW) Evaluation
- Referral to the Child Protection Committee (CPC)

Finding

Triage Screening Tool in the PED

Children ≤3 years old who visited the PED, Shaare Zedek Medical Center

April 2, 2025 – April 2, 2026

Total PED Visits
16,500

Screening Tool NEGATIVE
15,997 (97.0%)

=No Further Evaluation	=Referral for SW Evaluation	=Referral for CPC
15,987 (99.9%)	1 (0.006%)	9 (0.056%)

Screening Tool POSITIVE
290 (1.8%)

Physicians' Habitual Practice 158 (54.5%)			Physicians' Examination and Consultation Practice 132 (45.5%)		
=No Further Evaluation	=Referral for SW Evaluation	=Referral for CPC	=No Further Evaluation	=Referral for SW Evaluation	=Referral for CPC
154 (97.5%)	0 (0.0%)	4 (2.5%)	103 (78.0%)	26 (19.7%)	3 (2.3%)

Positive Reference Outcome Rate Among Screening Tool Positives
11.4%
(33 / 290)

Odds Ratio (OR) for Positive Screen
205
(Approx.)

Post Implementation Survey Results

PHYSICIAN SURVEY (n = 18)

- 100% Increases awareness and improves identification of children at risk
- 89% Alerts do NOT add significant workload
- 100% Willing to continue using the system

NURSE SURVEY (n = 33)

- 89% Increases awareness of possible child abuse
- 100% Helps with documentation of suspected abuse/neglect
- 97% Improves quality of care related to child protection
- 96% Willing to continue using the survey

Conclusions

- Automated CDSS screening was feasible within routine pediatric emergency department workflow.
- Positive alerts identified by the Triage Screening Tool were strongly associated with safeguarding-related outcomes (OR ≈ 205).
- Negative screens were rarely followed by child protection involvement.
- Physicians and nurses reported high acceptability, clinical usefulness, and minimal impact on workload.
- Findings support the potential of automated decision-support tools to enhance awareness, documentation, and earlier identification of children at risk for maltreatment.

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