

# Teaching Trauma in Austere Settings: A Scoping Review of pediatric trauma courses in resource-limited settings

Laura Pinkham, Minahil Khan, Fabio Botelho,  
Elena Guadagno, Dan Poenaru

## Background

- Injury remains an important cause of death and disability globally, with 95% of all childhood injury deaths occurring in low and lower-middle-income countries (LMICs).
- Pediatric trauma training, tailored to the resources and settings in LMICs, represents an opportunity to improve such outcomes.
- We explored the nature of course offerings in pediatric trauma in resource-limited settings.

## Aim

- Identify the course content and training modalities of existing pediatric trauma courses to serve as a foundation for the development of a future internationally recognized pediatric trauma training course.

## Methods

- Seven databases (Africa-Wide Information, Cochrane, Embase, Global Health, Global Index Medicus, Medline, and Web of Science) were interrogated up to June 12, 2020 to retrieve articles examining pediatric trauma training in LMICs, as defined by the World Bank, without language restrictions.
- Three independent authors selected abstracts given set criteria.
- Data from included studies was extracted, analyzed, and summarized.

This review identifies the **course content** and **training modalities** of existing pediatric trauma courses to serve as a scaffold for an **internationally recognized pediatric trauma course**.

## Results

- 17 articles were included for the final analysis after screening 3960 for eligibility.
- 12 studies detailed course content:
  - 9 were based on the WHO Emergency Triage, Assessment and Treatment model, which is not a specific trauma course.
  - 3 introduced locally developed pediatric trauma-focused training courses.
- Shared course content for the 3 pediatric trauma-focused training courses included: airway management, head trauma and cervical spin management, thoracic and abdominal trauma, orthopedic trauma, burn and wound management, and shock.

Table 1: Pedagogical Methods in Courses

Pedagogical Method	n
Simulation*	11
Didactic	10
ETAT course, delivery not specified	6
Assessment and feedback	3
Small group discussions	2
Clinical mentorship	2
Audit/quality improvement	2
Think, PairShare	1
Not specified	1

\*includes case scenarios using manikins and practical sessions

Table 2: Course Assessment Tools

Course Assessment	n
Pre or post knowledge test	10
Clinical skills assessment*	6
Self-assessment questionnaire	5
Other (feedback, outcomes)	5
Retrospective case reporting	1
Direct Observation	1
Not specified	1

\*evaluated by post-test, structured interview

## Discussion

- Locally-developed initiatives in Jamaica, Kenya, and Guatemala outlined key curriculum components for a pediatric trauma courses. Learning outcomes from these courses have not been formally assessed.

## Conclusion

- This review identifies the pedagogical methods, course assessment tools, and subjects of a pediatric trauma course.
- Given the burden of trauma in LMICs, the development of a validated, pediatric trauma training course adapted to resource-limited settings is a promising area for future research.