Supplementary Materials

Appendix A: PRISMA Scr-Checklist

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	1
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	1
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	2
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	2
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	2
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	3
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	4
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	Appendix B
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	4
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	4
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	4 Appendix D
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	4

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	5-6
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	5
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	5
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	Not applicable
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	5-9
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	5-9
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	9-12
Limitations	20	Discuss the limitations of the scoping review process.	11
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	12
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	13

Appendix B: Search strategy (MEDLINE)

ABCDE[tiab] OR airway breathing circulation disability exposure OR airway breathing circulation disability environment OR ((Airway[tiab] OR airway management[mesh] OR airway obstruction[mesh] OR Breathing[tiab] OR dyspnea[mesh] OR dyspnea[tiab] OR dyspnoea[tiab] OR respiratory insufficiency[mesh] OR respiratory insufficien*[tiab] OR respiratory rate[mesh] OR respiratory rate[tiab] OR oxygen saturation[tiab]) AND (Circulation[Text Word] OR flow, regional blood[mesh] OR blood pressure[mesh] OR blood pressure[tiab] OR heart rate[mesh] OR heart rate[tiab] OR capillary refill[tiab]) AND (Disability[tiab] OR neurological examination[mesh] OR neurological examination[tiab] OR neurologic examination[tiab] OR glasgow coma scale[tiab] OR GCS[tiab] OR AVPU[tiab] OR alert verbal pain unresponsive OR blood glucose[mesh] OR glucose[tiab]) AND (Exposure[tiab] OR environment[tiab] OR body temperature[mesh] or temperature[tiab]))

OR

(Primary survey[tiab] OR primary assessment[tiab] OR initial assessment[tiab]) AND (Care, Life support[mesh] OR life support[tiab] OR Resuscitation[mesh] OR resuscitation[tiab] OR care, critical[mesh] OR critical care[tiab] OR critical illness[mesh] OR critical illness OR emergency treatment[mesh] OR emergency medicine[mesh] OR emergency hospital[mesh] OR emergency medical service[mesh] OR emergency[tiab] OR emergencies[tiab])

Appendix C: Studies excluded following full-text review

	First author (year)	Title	Reason for exclusion
1	Abu-Zidan (2014)	Factors Affecting Success Rate of Advanced Trauma Life Support (ATLS) Courses	Wrong concept
2	Ahmad (2022)	The effect of implementing adult trauma clinical practice guidelines on outcomes of trauma patients and health care providers	Wrong concept
3	Allana (2020)	Delivery of a primary trauma care course in a developing country	Full text not available (conference abstract)
4	Ali (1999)	Comparison of Performance of Interns Completing the Old (1993) and New Interactive (1997) Advanced Trauma Life Support Courses	Wrong concept
5	Allorto (2012)	An audit of the quality of initial trauma resuscitation in a regional hospital	Full text not available (conference abstract)
6	Amiri (2013)	Two-day primary trauma care workshop: early and late evaluation of knowledge and practice	Wrong concept
7	Anderson (2018)	Development of a Comprehensive Trauma Training Curriculum for the Resource-Limited Environment	Wrong concept
8	Angotti (2020)	Electronic trauma resuscitation documentation and decision support using T6 Health Systems Mobile Application: A combat trauma center pilot program	Wrong concept
9	Babu (2020)	Participants' perception of the AIIMS Trauma Assessment and Management (ATAM) course for management of polytrauma: A multi-institutional experience from India	Wrong concept
10	Baer (2017)	Improving interdepartmental trauma evaluation and resuscitation through mock in situ trauma review and debriefing	Full text not available (conference abstract)
11	Becher (1983)	The initial assessment and care of the patient with multiple trauma	Full text not available
12	Betlehem (2009)	The characteristics of ambulance officer students' performance in ALS examination	Full text in Hungary
13	Berg (2023)	Developing a virtual reality (VR) application for practicing the ABCDE approach for systematic clinical observation	Wrong concept
14	Biban (2014	Management of red codes in the paediatric emergency room	Full text not available (conference abstract)
15	Bidhendi (2021)	Evaluating implementation of WHO Trauma Care Checklist vs. modified WHO checklist in improving trauma patient clinical outcomes and satisfaction	Wrong concept
16	Birkebaek (2021)	Implementation of ABC-team at regional hospital West Jutland	Full text not available (conference abstract)
17	Boeck (2018)	The development and implementation of a layperson trauma first responder course in La Paz, Bolivia: A pilot study	Wrong population
18	Bradley (2017)	Quality of communication during transfer to definitive care in a provincial trauma system: A review of 100 transfers	Wrong concept
19	Briggs (2015)	The Role of Nontechnical Skills in Simulated Trauma Resuscitation	Wrong concept
20	Brigham (2022)	Pediatric trauma care: Strengths and weaknesses at a level one pediatric trauma center	Full text not available (conference abstract)
21	Brown (2023)	Maximizing the golden hour in critically ill patients: assessment gaps at the time of admission	Full text not available
22	Bruno (2015)	Simulation as a tool for improving acquisition of neonatal resuscitation skills for obstetric residents	Wrong concept
23	Campbell (2021)	Use of simulation to develop leadership	Full text not available (conference abstract)
24	Carbery (2016)	'Predict, assess, treat': Developing clinical skills in recognizing and responding to clinical deterioration: Outcomes of a scenario based clinical skills program for clinical staff in a tertiary referral acute hospital setting	Full text not available (conference abstract)

25	Carling (2010)	Are graduate doctors adequately prepared to manage acutely unwell patients?	Wrong concept
26	Carrington (2009)	Recognition and assessment of critical illness	Background article
27	Celso (2006)	A Systematic Review and Meta-Analysis Comparing Outcome of Severely Injured Patients Treated in Trauma Centers Following the Establishment of Trauma Systems	Wrong concept
28	Chamberlain (2022)	Pediatric code blue event analysis: performance of non-acute health-care providers	Wrong concept
29	Chowdhury (2022)	Trauma resuscitation training: An evaluation of nurses' knowledge	Wrong concept
30	Chung (2018)	The educational impact of web-based and face-to-face patient deterioration simulation programs: An interventional trial	Wrong concept
31	Cleaver (2021)	Evaluation of a new rapid assessment and treatment (RAT) tablet app for Emergency Department (ED) nurses: Is earlier identification of investigations and treatments feasible?	Wrong concept
32	Cleugh (2017)	Management of the multiply injured child	Background article
33	Connell (2016)	The effectiveness of education in the recognition and management of deteriorating patients: A systematic review	Wrong concept
34	Cooper (2010)	Managing the deteriorating patient in a simulated environment: nursing students' knowledge, skill and situation awareness	Wrong concept
35	Danioth (2023)	Resuscitation room interventions in non-traumatological patients and their evidence	Wrong concept
36	Djärv (2023)	Reversible causes: After three decades with 4H4Ts, might we be ready for the generic ABCDE approach?	Letter to the editor
37	Douglas (2010)	Improving trauma care in India: a recommendation for the implementation of ATLS training for emergency department medical officers	Wrong concept
38	Driscoll (1992)	Variation in trauma resuscitation and its effect on patient outcome	Wrong concept
39	Fernández (2017)	The Validity of the Pediatric Assessment Triangle as the First Step in the Triage Process in a Pediatric Emergency Department	Wrong concept
40	Farahmand (2016)	Distance Learning Can Be as Effective as Traditional Learning for Medical Students in the Initial Assessment of Trauma Patients	Wrong concept
41	Fern (2019)	ABCDE approach to victims by lifeguards: How do they manage a critical patient? A cross sectional simulation study	Wrong population
42	Gascon (2022)	Mixed methods approach to understanding the influence of changes in successive versions of the advanced trauma life support training program on student performance	Wrong concept
43	Granström (2019)	Patient experiences of initial trauma care	Background article
44	Gyedu (2023)	Care of Injured Children Compared to Adults at District and Regional Hospitals in Ghana and the Impact of a Trauma Intake Form: A Stepped-Wedge Cluster Randomized Trial	Wrong concept
45	Gyedu (2023)	Standardized trauma intake form with clinical decision support prompts improves care and reduces mortality for seriously injured patients in non-tertiary hospitals in Ghana: stepped-wedge cluster randomized trial	Wrong concept
46	Halbert (2015)	Improving patient care through paediatric simulation and multi-disciplinary resuscitation training based upon previous serious incidents at a district general hospital	Full text not available (conference abstract)
47	Hart (2018)	Simulation for Assessment of Milestones in Emergency Medicine Residents	Wrong concept
48	Haske (2017)	Subjective safety and self-confidence in prehospital trauma care and learning progress after trauma-courses: part of the prospective longitudinal mixed-methods EPPTC trials	Wrong context
49	Hardenberg (2020)	Evaluating Impact of Repeated Exposure to High Fidelity Simulation: Skills Acquisition and Stress Levels in Postgraduate Critical Care Nursing Students	Wrong concept

50	Herron (2019)	Effect of case study versus video simulation on nursing students' satisfaction, self-confidence, and knowledge: a quasi-experimental study	Wrong concept
51	Hogg (2016)	The effects of an enhanced simulation programme on medical students' confidence responding to clinical deterioration	Wrong concept
52	Hovenkamp (2018)	The satisfaction regarding handovers between ambulance and emergency department nurses: an observational study	Wrong concept
53	Jafri (2021)	A Microdebriefing Crisis Resource Management Program for Simulated Pediatric Resuscitation in a Community Hospital	Wrong concept
54	Jansen (2023)	Indications and measures of medical emergency teams: a retrospective evaluation of in-hospital emergency operations of the German Resuscitation Register	Full text not available
55	Jensen (2015)	Emergency team calls for critically ill non-trauma patients in the emergency department: an observational study	Wrong concept
56	Jessel (2022)	Major Obstetric Trauma Simulation -Learning from Experience	Full text not available (conference abstract)
57	Jevon (2010)	ABCDE: The assessment of the critically ill patient	Background article
58	Kantonen (2015)	Impact of an ABCDE team triage process combined with public guidance on the division of work in an emergency department	Wrong concept
59	Katzenschlager (2022)	Implementation of hyperspectral imaging in a trauma resuscitation room: a randomized controlled trial	Wrong concept
60	Keilman (2021)	Enhancing paediatric resuscitation team performance: targeted simulation-based team leader training	Wrong concept
61	Kelleher (2013)	Factors associated with patient exposure and environmental control during pediatric trauma resuscitation	Wrong concept
62	Kelley (2021)	Excellence in Communication and Emergency Leadership (ExCEL): Pediatric Primary and Secondary Survey in Trauma Workshop for Residents	Wrong concept
63	Kennedy (2001)	The ATLS course, a survey of 228 ATLS providers	Wrong concept
64	Lampi (2013)	Triage performance of Swedish physicians usingthe ATLS algorithm in a simulated mass casualtyincident: a prospective cross-sectional survey	Wrong concept
65	Lansink (2007)	Do designated trauma systems improve outcome	Wrong concept
66	Large (2021)	National evaluation of trauma teaching for students (NETTS)	Wrong concept
67	Lashoher (2017)	Implementation of the World Health Organization Trauma Care Checklist Program in 11 Centers Across Multiple Economic Strata: Effect on Care Process Measures	Wrong concept
68	Lekoudis (2015)	A multidisciplinary in situ simulation program in obstetric emergencies: 'Working and learning together'	Full text not available (conference abstract)
69	Levison (1982)	Initial assessment and resuscitation	Full text not available
70	Lewis (1984)	Initial assessment and resuscitation	Full text not available
71	Liaw (2015)	Designing and Evaluating an Interactive Multimedia Web-Based Simulation for Developing Nurses' Competencies in Acute Nursing Care: Randomized Controlled Trial	Wrong concept
72	Lima (2019)	Multiple victims incident simulation: training professionals and university teaching	Wrong context
73	Linders (2020)	Factors influencing healthcare professionals' adherence to the systematic ABCDE approach: A qualitative mixed-method study	Full text not available (conference abstract)
74	Lo (2014)	Evaluation of an advanced Trauma life support course in Taiwan	Wrong concept
75	Lodemann (2022)	Process Modelling of ABCDE Primary Survey in Trauma Resuscitations: A Crucial First Step for Agent-Based Simulation Modelling of Complex Team-Based Clinical Processes	Wrong concept
76	Logarajah (2014)	An integrated ABCDE approach to managing medical emergencies using CRM principles	Wrong concept
77	Marikar (2017)	Graphics in sim training (GIST): A technology aid for performance assessment in paediatric emergency department in-situ simulation	Full text not available (conference abstract)

78	Martinho (2024)	Observational Study About the Impact of Simulation Training of Non-Technical Skills on Teamwork: Towards a Paradigm Shift in Undergraduate Medical Training	Wrong concept
79	Mayo (2017)	Undertaking an accurate and comprehensive assessment of the acutely ill adult	Full text not available
80	McCarthy (2015)	A feasible, acceptable and effective way to teach health care workers in low- and middle-income countries a method to manage acutely ill obstetric women	Wrong concept
81	Mehra (2018)	Common Pediatric Medical Emergencies in Office Practice	Wrong context
82	Mohammad (2013)	Educational and Clinical Impact of Advanced Trauma Life Support (ATLS) Courses: A Systematic Review	Wrong concept
83	Mould-Millman (2015)	Assessing trauma care knowledge, attitudes, and skills in African prehospital providers	Wrong concept, wrong context
84	Munroe (2016)	A structured framework improves clinical patient assessment and nontechnical skills of early career emergency nurses: a pre–post study using full immersion simulation	Wrong concept
85	Nguyen (2021)	Assessment of Emergency Medicine Resident Performance in a Pediatric In Situ Simulation Using Multi-Source Feedback	Wrong concept
86	Nussberger (2022)	Pediatric emergency room training: A novel, low-threshold approach	Full text not available (conference abstract)
87	Ologunde (2017)	Do trauma courses change practice? A qualitative review of 20 courses in East, Central and Southern Africa	Background article
88	Parker (2017)	The Upstart ABC project-low fidelity simulation training in Cambodia	Full text not available (conference abstract)
89	Piquette (2021)	Compétences des résidents avant et après de courts stages à l'unité de soins intensifs : une étude pilote observationnelle multicentriqu	Wrong concept
90	Preston (2009)	Assessing advanced life support (ALS) competence: Victorian practices	Wrong concept
91	Ruesseler (2010)	Increased authenticity in practical assessment using emergency case OSCE stations	Wrong concept
92	Rybinski (2019)	The impact of "pause and debrief" simulation training on acquisition of knowledge in pre-clinical medical education	Full text not available (conference abstract)
93	Rybinski (2019)	Understanding how a new debriefing model enhances learning in novice learners	Full text not available (conference abstract)
94	See (2014)	Effectiveness of a Patient Education Intervention in Enhancing Patients' Self-efficacy to Recognise and Report Acute Deterioration: a Pilot Randomised Controlled Trial	Wrong concept
95	Shrestha (2018)	Improving knowledge, skill and confidence of novice medical doctors in trauma management with principles of ABCDE	Wrong concept
96	Siebers (2009)	Emergency room management of severely injured patients	Wrong concept
97	Simoes (2014)	Trauma leagues: an alternative way to teach trauma surgery to medical students	Wrong concept
98	Simpson (2012)	Quality care in pediatric trauma	Wrong concept
99	Sluiter (2018)	ABCDE, what can you do with it?	Background article
100	Sokol (2015)	Prehospital interventions in severely injured pediatric patients: Rethinking the ABCs	Wrong context
101	Solevag (2012)	The effect of quality improvement initiatives as measured by nurses' perceptions in a department of children and adolescents	Full text not available (conference abstract)
102	Steadman (2006)	Simulation-based training is superior to problem-based learning for the acquisition of critical assessment and management skills	Wrong concept
103	Stuart (2015)	Can simulation based introduction for new employees improve patient safety?	Full text not available (conference abstract)
104	Suda (2022)	Delayed diagnosed trauma in severely injured patients despite guidelines-oriented emergency room treatment: there is still a risk	Wrong concept
105	Sumritrin (2021)	Implementation of clinical nursing practice guideline for treatment of multiple injury patients admitted to Emergency Department	Wrong concept

106	Tarradas (2017)	Analysis of the implantation of an immediate life support program	Full text not available (conference abstract)
107	Thilakasiri (2019)	Implementing near-peer learning: a resuscitation skills development module for medical students in middle income countries	Full text not available (conference abstract)
108	Thim (2012)	Initial assessment and treatment with the Airway, Breathing, Circulation, Disability, Exposure (ABCDE) approach	Background article
109	Turner (2006)	The effect of the Advanced Paediatric Life Support course on perceived self-efficacy and use of resuscitation skills	Wrong concept
110	Turner (2009)	The effect of the APLS-course on self-efficacy and its relationship to behavioural decisions in paediatric resuscitation	Wrong concept
111	Van Maarseveen (2020)	Effects of the application of a checklist during trauma resuscitations on ATLS adherence, team performance, and patient-related outcomes: a systematic review	Individual studies were assessed and one study (Kelleher 2013) was included
112	Van Olden (2003)	Trauma resuscitation time	Wrong concept
113	Viggers (2013)	Improving self-perceived competence in medical students using simulation	Full text not available (conference abstract)
114	Von Atzingen (2008)	Elaboration and application of an evaluation instrument in the immediate postoperative period, based on the Advanced Trauma Life Support protocol	Wrong concept
115	Walsh (1989)	The effectiveness of the Advanced Trauma Life Support system in a mass casualty situation by non-trauma-experienced physicians: Grenada 1983	Background article
116	Wiggins (2020)	Using Simulation to Train Medical Units for Deployment	Wrong concept
117	Wilson (2011)	Trauma and burns in children	Background article
118	Wing (2020)	Excellence in Communication and Emergency Leadership (ExCEL): Pediatric First 5 Minutes Workshop for Residents	Wrong concept
119	Wood (1995)	Use of video recorders in auditing initial assessment times	Wrong concept
120	Woollard (2004)	The ABC of community emergency care: 5 assessment and identification of paediatric primary survey positive patients	Background article
121	Wu (2018)	Development of an ABLS (advanced burn life support) course-based training program for nurses in China	Full text not available (conference abstract)
122	Yurt (1992)	Triage, initial assessment, and early treatment of the pediatric trauma patient	Background article

Appendix D: Data extraction instrument

Evidence source details and characteristics	
Author	
Title	
Year of Publication	
Year of Data	
Journal	
Country	
Aim of study	
Outcomes (primary and secondary)	
Study design	
Inclusion/Exclusion criteria	
Population/Participants	
Concept	
Context - Discipline	
Results extracted from source of evidence	
Key findings	
Adherence	
Professional outcomes	
Team outcomes	
Patient outcomes	
Other outcomes	

ABCDE algorithm / assessment tool:
   -   Number of items
   -   Video and/or live observation
   -   Assessment or action items
   - Validation evidence	

References	