

CADTH RAPID RESPONSE REPORT: SUMMARY OF ABSTRACTS

Advanced Life Support Services in Outpatient Settings: Guidelines

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Authors: Shannon Hill, Carolyn Spry

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Research Questions

What are the evidence-based guidelines regarding the use of advanced life support services (ALS) in prehospital care or community setting?

Key Findings

Three evidence-based guidelines were identified regarding the use of ALS in pre-hospital care or community settings.

Methods

A limited literature search was conducted by an information specialist on key resources including PubMed, the Cochrane Library, the University of York Centre for Reviews and Dissemination (CRD) databases, the websites of Canadian and major international health technology agencies, as well as a focused Internet search. The search strategy was comprised of both controlled vocabulary, such as the National Library of Medicine's MeSH (Medical Subject Headings), and keywords. The main search concept was advanced life support. Search filters were applied to limit retrieval to health technology assessments, systematic reviews, meta-analyses, or network meta-analyses and guidelines. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2009 and February 5, 2020. Internet links were provided, where available.

Selection Criteria

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

Table 1: Selection Criteria

Population	Patients requiring urgent medical care in a prehospital care or community setting
Intervention	Advanced Life Support (ALS) services (e.g., able to administer certain medications, arterial line monitoring, intubating)
Comparator	No comparator or basic life support (BLS) services
Outcomes	Recommendations regarding when it is appropriate to use ALS services in a community setting for specific patients (e.g., pediatric patients, cardiac patients etc.)
Study Designs	Health technology assessments, systematic reviews and evidence-based guidelines.

Results

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports and systematic reviews of evidence-based guidelines are presented first, followed by just evidence-based guidelines.

Three evidence-based guidelines¹⁻³ regarding the use of ALS in prehospital care or community setting.

Overall Summary of Findings

Three evidence-based guidelines¹⁻³ were identified regarding the use of ALS in prehospital care or community settings. The authors of the first identified guideline provided an update to the American Heart Association pediatric advanced life support guidelines.¹ For the purpose of airway management, the authors recommend to continue bag-mask ventilation in patients with out-of-hospital cardiac arrest.¹ The authors also recommend to use targeted temperature management for pediatric patients who remain comatose after resuscitation from out-of-hospital cardiac arrests.¹ The second identified guideline was developed by the International Liaison Committee on Resuscitation Advanced Life Support Task Force and focused on targeted temperature management.² The task force recommends targeted temperature management for adults with out-of-hospital cardiac arrest at a constant temperature between 32°C and 36°C for at least 24 hours.² Additionally, the task force recommends against prehospital cooling with cold intravenous fluid for cardiac arrest patients.² The authors of the third identified guideline focused on the management of acute traumatic pain in adults and children by ALS providers in the prehospital setting.³ The authors recommend that all patients be considered candidates for analgesia and that opioid medications be considered for patients in moderate to severe pain.³ Furthermore, the authors recommend that all patients should be reassessed at frequent intervals using pain scales that are standardized and age-appropriate.³

References Summarized

Health Technology Assessments

No literature identified.

Systematic Reviews and Meta-analyses

No literature identified.

Guidelines and Recommendations

1. Duff JP, Topjian AA, Berg MD, et al. 2019 American Heart Association focused update on pediatric advanced life support: an update to the American Heart Association guidelines for cardiopulmonary resuscitation and emergency cardiovascular care. *Pediatrics*. 2020;145(1):e20191361. [PubMed: PM31727859](#)

2. Donnino MW, Andersen LW, Berg KM, et al. Temperature management after cardiac arrest: an advisory statement by the Advanced Life Support Task Force of the International Liaison Committee on Resuscitation and the American Heart Association Emergency Cardiovascular Care Committee and the Council on Cardiopulmonary, Critical Care, Perioperative and Resuscitation. *Circulation*. 2015;132(25):2448-2456. [PubMed: PM26434495](#)
3. Gausche-Hill M, Brown KM, Oliver ZJ, et al. An evidence-based guideline for prehospital analgesia in trauma. *Prehosp Emerg Care*. 2014;18 Suppl 1:25-34. [PubMed: PM24279813](#)