



**TITLE: Injectable Non-Opioid Pain Relievers for Acute Pain in the Pre-Hospital Setting: Clinical Effectiveness and Guidelines**

**DATE:** 01 December 2016

**RESEARCH QUESTIONS**

1. What is the clinical effectiveness of injectable non-opioid pain relievers for the management of acute pain in the pre-hospital setting?
2. What are the evidence-based guidelines regarding the use of injectable non-opioid pain relievers for the management of acute pain in the pre-hospital setting?

**KEY FINDINGS**

One systematic review was identified regarding the clinical effectiveness of injectable non-opioid pain relievers for the management of acute pain in the pre-hospital setting.

**METHODS**

A limited literature search was conducted on key resources including PubMed, The Cochrane Library, University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. No filters were applied to limit the retrieval by study type. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2011 AND November 21, 2016. Internet links were provided, where available.

The summary of findings was prepared from the abstracts of the relevant information. Please note that data contained in abstracts may not always be an accurate reflection of the data contained within the full article.

**SELECTION CRITERIA**

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

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**Table 1: Selection Criteria**

<b>Population</b>	Any patient receiving care in the pre-hospital setting
<b>Intervention</b>	Injectable non-opioid pain relievers (e.g., Toradol [ketorolac])
<b>Comparator</b>	Other injectable pain relievers (e.g., injectable opioids), oral pain relievers (e.g., acetaminophen, ibuprofen, etc.)
<b>Outcomes</b>	Clinical effectiveness (pain relief), safety, guidelines
<b>Study Designs</b>	Health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, evidence-based guidelines

## RESULTS

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, non-randomized studies, and evidence-based guidelines.

One systematic review was identified regarding the clinical effectiveness of injectable non-opioid pain relievers for the management of acute pain in the pre-hospital setting. No relevant health technology assessments, randomized controlled trials, non-randomized studies, or evidence-based guidelines were identified.

Additional references of potential interest are provided in the appendix.

## OVERALL SUMMARY OF FINDINGS

One systematic review<sup>1</sup> was identified that examined pharmacological pain management methods used for trauma patients in the pre-hospital setting in the Netherlands. The authors determined that intravenous paracetamol (acetaminophen) was effective for pain management in trauma patients. The results regarding non-steroidal anti-inflammatory drugs were mixed and the authors did not recommend their use in the pre-hospital setting.<sup>1</sup>

## REFERENCES SUMMARIZED

### Health Technology Assessments

No literature identified.

### Systematic Reviews and Meta-analyses

1. Dijkstra BM, Berben SA, van Dongen RT, Schoonhoven L. Review on pharmacological pain management in trauma patients in (pre-hospital) emergency medicine in the Netherlands. *Eur J Pain*. 2014 Jan;18(1):3-19.  
[PubMed: PM23737462](#)

### Randomized Controlled Trials

No literature identified.

### Non-Randomized Studies

No literature identified.

### Guidelines and Recommendations

No literature identified.

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**APPENDIX – FURTHER INFORMATION:**

**Previous CADTH Reports**

2. Ketamine for adult patients who have suffered painful and traumatic injuries: a review of clinical effectiveness, cost-effectiveness, safety and guidelines [Internet]. Ottawa (ON): CADTH; 2014 Mar 6. [cited 2016 Dec 1]. (Rapid response report: summary with critical appraisal). Available from: <https://www.cadth.ca/sites/default/files/pdf/htis/apr-2014/RC0528%20Ketamine%20Intraocular%20Pressure%20draft%20Final.pdf>

**Additional References**

3. FDA approves non-opioid painkiller injection [Internet]. New York (NY): Partnership for Drug-Free Kids; 2015 Jan 6. [cited 2016 Dec 1]. Available from: <http://www.drugfree.org/news-service/fda-approves-non-opioid-painkiller-injection/>