TITLE: Pre-Hospital Orthopedic Pain Management: Clinical Effectiveness and Guidelines

DATE: 15 July 2010

RESEARCH QUESTIONS:

1. What is the clinical effectiveness of over-the-counter oral analgesics for pain management of long-bone fractures or orthopedic injuries in pediatric patients in the pre-hospital setting?

2. What are the evidence-based guidelines for pre-hospital pain management of long-bone fractures or orthopedic injuries in pediatric patients?

METHODS:

A limited literature search was conducted on key health technology assessment resources, including PubMed, the Cochrane Library (Issue 6, 2010), University of York Centre for Reviews and Dissemination (CRD) databases, ECRI (Health Devices Gold), EuroScan, international health technology agencies, and a focused Internet search. The search was limited to English language articles published between Jan 1, 2005 and Jun 7, 2010. No filters were applied to limit the retrieval by study type. 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.

RESULTS:

HTIS 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.

No relevant health technology assessment reports, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, or evidence-based guidelines were identified pertaining to the use of over-the-counter oral analgesics for pain management of long-bone fractures or orthopedic injuries in pediatric patients in the pre-hospital setting. Additional information that may be of interest has been provided in the appendix.

OVERALL SUMMARY OF FINDINGS:

No relevant literature was identified; therefore no summary can be presented pertaining to the clinical effectiveness or guidelines for use of over-the-counter oral analgesics for pain management of long-bone fractures or orthopedic injuries in pediatric patients in the pre-hospital setting.

REFERENCES SUMMARIZED:

Health technology assessments
No literature identified.

Systematic reviews and meta-analyses
No literature identified.

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:

Protocol- not specific to a pre-hospital setting

1. Le May S, Fortin C, Johnston C, Choiniere M, Gouin S, Paquette G, Ranger M. Interventions used in Emergency Departments (ED) for pain management of simple fractures in children (Protocol). Cochrane Database of Syst Rev. 2009;1:CD007538.

Randomized controlled trials- not specific to a pre-hospital setting

2. Friday JH, Kanegaye JT, McCaslin I, Zheng A, Harley JR. Ibuprofen provides analgesia equivalent to acetaminophen-codeine in the treatment of acute pain in children with extremity injuries: a randomized clinical trial. Acad Emerg Med. 2009 Aug;16(8):711-6. PubMed: PM19624576

3. Clark E, Plint AC, Correll R, Gaboury I, Passi B. A randomized, controlled trial of acetaminophen, ibuprofen, and codeine for acute pain relief in children with musculoskeletal trauma. Pediatrics [Internet]. 2007 Mar [cited 2010 Jun 7];119(3):460-7. Available from: http://pediatrics.aappublications.org/cgi/reprint/119/3/460 PubMed: PM17332198

4. Koller DM, Myers AB, Lorenz D, Godambe SA. Effectiveness of oxycodone, ibuprofen, or the combination in the initial management of orthopedic injury-related pain in children. Pediatr Emerg Care. 2007 Sep;23(9):627-33. PubMed: PM17876251

Non-randomized studies

5. Rogovik AL, Goldman RD. Prehospital use of analgesics at home or en route to the hospital in children with extremity injuries. Am J Emerg Med. 2007 May;25(4):400-5. PubMed: PM17499657

Additional references

6. Keany JE. Fracture, Femur: Treatment & Medication [Internet]. Omaha: WedMD LLC; 2009 [cited 2010 Jun 7]. Available from: http://emedicine.medscape.com/article/824856-treatment