



**TITLE:** Thermal Stability of Urgent-Care Medications: Guidelines

**DATE:** 15 July 2010

**RESEARCH QUESTION:**

What are the temperature guidelines for ensuring the thermal stability of urgent-care medications in a pre-hospital setting?

**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 January 1, 2005 and July 9, 2010. No filters were applied to limit the retrieval. Internet links were provided, where available.

**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.

The literature search identified one non-randomized study on the thermal stability of urgent-care medications in a pre-hospital setting. No health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, or guidelines were identified. Additional articles of potential interest are provided in the appendix.

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**Health technology assessments**

No literature identified

**Systematic reviews and meta-analyses**

No literature identified

**Randomized controlled trials**

No literature identified

**Non-randomized studies**

1. Gammon DL, Su S, Jordan J, Patterson R, Finley PJ, Lowe C, et al. Alteration in prehospital drug concentration after thermal exposure. Am J Emerg Med [Internet]. 2008 Jun [cited 2010 Jul 13]; 26(5):566-73. [PubMed: PM18534286](#) Available from: <http://www.mediflight.com.au/media/files/2039.pdf>

**Guidelines and recommendations**

No literature identified

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**APPENDIX – FURTHER INFORMATION:**

**Non-randomized studies**

2. Brown LH, Wojcik SM, Bailey LC, Tran CD. Can stock rotation effectively mitigate EMS medication exposure to excessive heat and cold? *Am J Emerg Med*. 2006 Jan;24(1):14-8. [PubMed: PM16338503](#)

**Review articles**

3. Küpper TE, Schraut B, Rieke B. Drugs and drug administration in extreme environments. *J Travel Med* [Internet]. 2006 Jan [cited 2010 July 13];13(1):35-47. [PubMed: PM16412107](#)  
Available from: <http://www3.interscience.wiley.com/cgi-bin/fulltext/118566181/PDFSTART>

**Additional references**

4. Parenteral Drug Association. Guidance for temperature-controlled medicinal products: maintaining the quality of temperature-sensitive medicinal products through the transportation environment. *PDA J Pharm Sci Technol*. 2007;61(2 Suppl TR 39):2-19. [PubMed: PM17953229](#)
5. Brown LH, Campagna JD. Medication storage in the EMS environment: understanding the science and meeting the standards [see table 1 at end of article]. *Emerg Med Serv* [Internet]. 2005 Mar; [cited 2010 Jul 13]; 34(3):71, 73-7, 90. [PubMed: PM15839540](#)  
Available from: <http://www.emsresponder.com/article/article.jsp?id=1885&siteSection=18>
6. Parenteral Drug Association. Technical report # 39: cold chain guidance for medicinal products: maintaining the quality of temperature-sensitive medicinal products through the transportation environment. *PDA J Pharm Sci Technol*. 2005 Sep;59(3 Suppl TR39):1-12. [PubMed: PM16313059](#)