



Canadian Agency for
Drugs and Technologies
in Health

RAPID RESPONSE REPORT: SUMMARY OF ABSTRACTS



TITLE: Dehumidifiers for the Reduction of Humidity in Operating Rooms: Clinical Effectiveness and Guidelines

DATE: 20 May 2014

RESEARCH QUESTIONS

1. What is the clinical effectiveness of stand-alone dehumidifiers versus dehumidifiers installed within the HVAC system for patient safety in operating rooms?
2. What are the evidence-based guidelines for determining unsafe humidity conditions within operating rooms?
3. What are the evidence-based guidelines regarding the selection of a dehumidification system for operating rooms?

KEY MESSAGE

No relevant health technology assessment reports, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, or evidence-based guidelines were identified regarding humidifier types for patient safety in operating rooms or for determining unsafe humidity conditions within operating rooms.

METHODS

A limited literature search was conducted on key resources including PubMed, The Cochrane Library (2014, Issue 4), 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 2004 and May 5 2014. Internet links were provided, where available.

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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.

No relevant health technology assessment reports, systematic reviews, meta-analyses, randomized controlled trials, or non-randomized studies were identified regarding the clinical effectiveness of stand-alone dehumidifiers or HVAC dehumidifier systems for patient safety in operating rooms. In addition, no relevant evidence-based guidelines were identified regarding either the determination of unsafe humidity conditions within operating rooms or the selection of a dehumidification system for operating rooms.

References of potential interest are provided in the appendix.

OVERALL SUMMARY OF FINDINGS

No relevant literature was found regarding the clinical effectiveness of stand-alone dehumidifiers or HVAC dehumidifier systems for patient safety in operating rooms, for determining unsafe humidity conditions within operating rooms, or the selection of a dehumidification system for operating rooms; therefore, no summary can be provided.

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:

Additional References

1. Beebe C. ASHE urges lower OR humidity requirement. *Health Facil Manage*. 2013 May;26(5):34.
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2. HPAC Engineering [Internet]. Cleveland (OH): Heating/Piping/Air Conditioning Engineering. Health-care dehumidification; 2009 Jan 1 [cited 2014 May 12]. Available from: <http://hpac.com/humidity-control/health-care-dehumidification>
3. Nunnelly RM. Rain out. Getting operating room humidity under control. *Health Facil Manage*. 2007 Sep;20(9):41-6.
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4. Nunnelly RM. Designing for humidity control in the operating rooms: desiccant dehumidification case study of HEALTHSOUTH Medical Center [Internet]. Presented at: The Fourteenth Symposium on Improving Building Systems in Hot and Humid Climates; 2004 May; Richardson (TX). [cited 2014 May 12]. Available from: <http://repository.tamu.edu/bitstream/handle/1969.1/4603/ESL-HH-04-05-05.pdf>.

Standards

5. ASHRAE/ASHE Standard 170-2008: Ventilation of health care facilities [Internet]. Atlanta (GA): American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.; 2010. [cited 2014 May 12]. Available from: http://www.ashrae.org/File%20Library/docLib/Public/20100714_ad170_2008_d.pdf
See: Table 7-1 Design Parameters