TITLE: Non-pharmaceutical Interventions for Orthostatic Hypotension in Geriatric Patients: Clinical Effectiveness and Guidelines

DATE: 13 January 2015

RESEARCH QUESTIONS

1. What is the clinical effectiveness of compression stockings for the treatment of orthostatic hypotension (OH) in geriatric patients?

2. What is the clinical effectiveness of abdominal binders for the treatment of OH in geriatric patients?

3. What are the evidence-based guidelines regarding the use of non-pharmaceutical interventions for the treatment of OH in geriatric patients?

KEY FINDINGS

No relevant literature was identified regarding the clinical effectiveness of compression stockings and abdominal binders for the treatment of orthostatic hypertension (OH) in geriatric patients. In addition, no relevant evidence-based guidelines were identified regarding the use of non-pharmaceutical interventions for the treatment of OH in geriatric patients.

METHODS

A limited literature search was conducted on key resources including PubMed, The Cochrane Library (2014, Issue 12), University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. Methodological filters were applied to limit retrieval to health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies 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 December 24, 2014. Internet links were provided, where available.

Disclaimer: The Rapid Response Service is an information service for those involved in planning and providing health care in Canada. Rapid responses are based on a limited literature search and are not comprehensive, systematic reviews. The intent is to provide a list of sources of the best evidence on the topic that CADTH could identify using all reasonable efforts within the time allowed. Rapid responses should be considered along with other types of information and health care considerations. The information included in this response is not intended to replace professional medical advice, nor should it be construed as a recommendation for or against the use of a particular health technology. Readers are also cautioned that a lack of good quality evidence does not necessarily mean a lack of effectiveness particularly in the case of new and emerging health technologies, for which little information can be found, but which may in future prove to be effective. While CADTH has taken care in the preparation of the report to ensure that its contents are accurate, complete and up to date, CADTH does not make any guarantee to that effect. CADTH is not liable for any loss or damages resulting from use of the information in the report.

Copyright: This report contains CADTH copyright material and may contain material in which a third party owns copyright. This report may be used for the purposes of research or private study only. It may not be copied, posted on a web site, redistributed by email or stored on an electronic system without the prior written permission of CADTH or applicable copyright owner.

Links: This report may contain links to other information available on the websites of third parties on the Internet. CADTH does not have control over the content of such sites. Use of third party sites is governed by the owners’ own terms and conditions.
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.

<table>
<thead>
<tr>
<th>Table 1: Selection Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Population</strong></td>
</tr>
</tbody>
</table>
| **Intervention** | Q1: Compression stockings  
Q2: Abdominal binders  
Q3: Non-pharmaceutical interventions |
| **Comparator** | • Other non-pharmaceutical interventions  
• None |
| **Outcomes** | Q1-2: Clinical benefits (blood pressure readings, decrease in dizziness and other symptoms)  
Q3: Guidelines and recommendations |
| **Study Designs** | Health technology assessment reports, 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.

No relevant literature was identified regarding the clinical effectiveness of compression stockings and abdominal binders for the treatment of OH in geriatric patients. In addition, no relevant evidence-based guidelines were identified regarding the use of non-pharmaceutical interventions for the treatment of OH in geriatric patients.

References of potential interest are provided in the appendix.

**OVERALL SUMMARY OF FINDINGS**

No relevant literature was identified regarding the clinical effectiveness of compression stockings and abdominal binders for the treatment of OH in geriatric patients. In addition, no relevant evidence-based guidelines were identified regarding the use of non-pharmaceutical interventions for the treatment of OH in geriatric patients. 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.

PREPARED BY:
Canadian Agency for Drugs and Technologies in Health
Tel: 1-866-898-8439
www.cadth.ca
APPENDIX – FURTHER INFORMATION:

Systematic Reviews and Meta-Analyses – Unclear Populations

1. Smeenk HE, Koster MJ, Faaij RA, de Geer DB, Hamaker ME. Compression therapy in
Feb;72(2):80-5. PubMed: PM24659590

2. Logan IC, Witham MD. Efficacy of treatments for orthostatic hypotension: a systematic

Randomized Controlled Trials – Unclear Populations

3. Aishwarya, Vijayakumar K, Karthikbabu S, Suresh BV, Misri ZK; Chakrapani M. Effects of
pneumatic abdominal binder and calf compression versus elastic compression bandaging
on orthostatic hypotension patients with acute stroke: a randomized controlled trial.
International Journal of Neurology & Neurosurgery. 2013 Jan; 5(1); 31-38.

4. Protheroe CL, Dikareva A, Menon C, Calydon VE. Are compression stockings an effective
treatment for orthostatic presyncope? PLoS one [Internet]. 2011 Dec 16 [cited 2015 Jan

Non-Randomized Studies – Alternate Intervention

5. Galizia G, Abete P, Testa G, Vecchio A, Corra T, Nardone A. Counteracting effect of
supine leg resistance exercise on systolic orthostatic hypotension in older adults. J Am

Guidelines and Recommendations – Unclear Populations

Hypotension [Internet]. 2nd. In: Gilhus NE, Barnes MR, Brainin M, editors. European
469-75. Chapter 33 [cited 2015 Jan 8]. (Volume 2). Available from:
Note: Not specific to geriatric patients.
See: Non-pharmacological treatment, page 471.
Summary, page 473.
Position Statements

   See: Table I. Effective Interventions to Treat Orthostatic Hypertension, page 150.
   Physiological Countermeasures, page 150.

Review Articles

   PubMed: PM23100472