TITLE: Graduated Compression Stockings in Adult Patients Recovering from Hip Fracture Surgery: Clinical Effectiveness and Guidelines

DATE: 13 April 2015

RESEARCH QUESTIONS

1. What is the clinical effectiveness of graduated compression stockings in adult patients recovering from hip fracture surgery?

2. What are the evidence-based guidelines regarding the use of graduated compression stockings in adult patients recovering from hip fracture surgery?

KEY FINDINGS

Two systematic reviews were identified regarding the clinical effectiveness of graduated compression stockings in adult patients recovering from hip fracture surgery. Two evidence-based guidelines were identified regarding the use of graduated compression stockings in adult patients recovering from hip fracture surgery.

METHODS

A limited literature search was conducted on key resources including PubMed, The Cochrane Library (2015, Issue 3), University of York Centre for Reviews and Dissemination (CRD), ECRI (Health Devices Gold), Joanna Briggs Institute databases, Canadian and major international health technology agencies, as well as a focused Internet search. No methodological filters were applied to limit 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, 2005 and March 27, 2015. 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.

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SELECTION CRITERIA

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

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<th>Table 1: Selection Criteria</th>
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<td>Population</td>
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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 (RCTs), non-randomized studies, and evidence-based guidelines.

Two systematic reviews were identified regarding the clinical effectiveness of graduated compression stockings (GCS) in adult patients recovering from hip fracture surgery. Two evidence-based guidelines were identified regarding the use of GCS in adult patients recovering from hip fracture surgery. No relevant health technology assessment reports, RCTs, or non-randomized studies were identified.

Additional references of potential interest are provided in the appendix.

OVERALL SUMMARY OF FINDINGS

Overall, the identified resources\textsuperscript{1-4} reported a paucity of evidence regarding the clinical effectiveness of GCS in adults recovering from hip fracture surgery.

Two systematic reviews\textsuperscript{1,2} were identified regarding the clinical effectiveness of GCS in adult patients recovering from hip fracture surgery. One systematic review,\textsuperscript{1} designed to evaluate the comparative efficacy and safety of combination pharmacologic and mechanical venous thromboembolism prophylaxis versus either method alone in major orthopedic surgery (including hip fracture surgery), did not identify any relevant evidence. The systematic review by the Agency for Healthcare Research and Quality\textsuperscript{2} evaluated the efficacy and safety of prophylaxis for venous thromboembolism in major orthopedic surgery, including hip fracture surgery. The strength of evidence and applicability of evidence from studies retrieved on hip fracture surgery was deemed insufficient. However, it was reported that for all major orthopedic
surgeries deep, vein thrombosis (DVT) risk was reduced using both pharmacologic and mechanical prophylaxis versus pharmacologic interventions alone. In addition, intermittent compression stockings were reported to reduce the risk of DVT versus GCS.

Two evidence-based guidelines were identified regarding the use of GCS in adult patients recovering from hip fracture. The National Institute for Health and Care Excellence guideline recommends starting mechanical VTE prophylaxis (including anti-embolism stockings) at admission for hip fracture surgery and continuing use until improvements in patient mobility are observed. The choice of mechanical prophylaxis device used should be based on individual patient factors. The National Health and Medical Research Council of Australia guideline reported identifying only one RCT comparing GCS and pharmacologic treatment with pharmacologic treatment alone. The RCT was not sufficiently rigorous to be considered as evidence for forming recommendations.
REFERENCES SUMMARIZED

Health Technology Assessments
No literature identified.

Systematic Reviews and Meta-analyses


Randomized Controlled Trials
No literature identified.

Non-Randomized Studies
No literature identified.

Guidelines and Recommendations

See: Hip Fracture, page 24 to 25.

See: Hip fracture surgery, pages 4 to 5.

Summary of availability of evidence for use of thromboprophylactic agents by clinical category, page 25.
Hip fracture surgery, pages 36 to 37.
APPENDIX – FURTHER INFORMATION:

**Hip Fracture Surgery or Unclear Population**

Randomized Controlled Trials - Unclear Population


Guidelines and Recommendations – Unclear Methodology


**Review Articles**


**Total Hip Replacement (Arthroplasty)**

**Systematic Reviews and Meta-Analyses**


**Non-Randomized Studies**


Review Articles