

Graduated compression stockings for the prevention of deep-vein thrombosis in postoperative surgical patients: a systematic review and economic model with a value of information analysis

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Declared competing interests of authors: none

Published November 2015

DOI: 10.3310/hta19980

Plain English summary

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Health Technology Assessment 2015; Vol. 19: No. 98

DOI: 10.3310/hta19980

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Deep-vein thrombosis (DVT) is a condition in which a blood clot forms in a vein and causes a blockage. Patients who have had surgery are at greater risk of DVT. Medication, such as heparin, and wearing graduated compression stockings (GCSs) decrease the risk of DVT. GCSs are available as knee-length or thigh-length stockings.

The aim of this project was to assess the need for further research into which length of GCSs is best when used in addition to heparin for prevention of DVT in surgical patients.

Studies of thigh- or knee-length GCSs in surgical patients were systematically reviewed, and systematic reviews and guidelines were assessed to estimate surgical patients' baseline risk of DVT and the clinical consequences of DVT. The findings were incorporated into an analysis to establish the value of further research.

Twenty-three randomised controlled trials were included in the systematic review. The results suggest that thigh-length stockings (used alongside medication) are the most effective method of preventing DVT, although this result was not conclusive. Patients preferred knee-length stockings and were more likely to wear them correctly.

Cost-effectiveness analyses suggested that using thigh-length GCSs as well as heparin was the cost-effective option for patients at a higher risk of DVT, although differences were relatively small.

Further research around the relative effect of thigh- versus knee-length GCSs may be most valuable in high-risk patients. However, whether or not further research is worthwhile depends on GCSs price, expected treatment adherence and trial design.

ISSN 1366-5278 (Print)

ISSN 2046-4924 (Online)

Impact factor: 5.116

Health Technology Assessment is indexed in MEDLINE, CINAHL, EMBASE, The Cochrane Library and the ISI Science Citation Index.

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This report

The research reported in this issue of the journal was funded by the HTA programme as project number 13/72/01. The contractual start date was in January 2014. The draft report began editorial review in August 2014 and was accepted for publication in May 2015. The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The HTA editors and publisher have tried to ensure the accuracy of the authors' report and would like to thank the reviewers for their constructive comments on the draft document. However, they do not accept liability for damages or losses arising from material published in this report.

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