Compression stockings in addition to low-molecular-weight heparin to prevent venous thromboembolism in surgical inpatients requiring pharmacoprophylaxis: the GAPS non-inferiority RCT

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Plain English summary

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Plain English summary

Why did we conduct this research?

People undergoing operations are at risk of developing blood clots in their legs, which is known as a deep-vein thrombosis. Blood clots occur for several reasons, such as not being able to move around after an operation, changes in the blood or damage to the veins in which blood travels.

To decrease the risk of getting deep-vein thrombosis, patients having operations are given tight elastic socks to wear called graduated compression stockings. They are also given blood thinning medicine to prevent clotting.

There is little evidence that wearing elastic socks in hospital will reduce the risk of blood clots if blood thinners are also given. Many patients say that the socks can hurt or cause bruising and can be difficult to put on.

The graduated compression as an adjunct to thromboprophylaxis in surgery (GAPS) trial investigated whether or not patients having an operation would benefit from wearing elastic socks as well as getting blood thinners, or if blood thinners on their own prevented blood clots.

What did we do?

A total of 1905 patients who were having operations at seven hospitals in England agreed to take part. They were randomly assigned to different treatments by a computer program. Half of the patients were given elastic socks plus blood thinners, and the other half were given the blood thinners alone.

What did we find?

There was no significant difference in the number of people who had a blood clot in either study group. This could mean that blood thinners are as good at stopping blood clots as blood thinners and elastic socks for patients having operations.

What could be carried out next?

The NHS spends around £63M per year across England on elastic stockings. This research indicates that patients might not get extra benefit from wearing them if they have taken blood thinners.
Criteria for inclusion in the Health Technology Assessment journal

Reports are published in Health Technology Assessment (HTA) if (1) they have resulted from work for the HTA programme, and (2) they are of a sufficiently high scientific quality as assessed by the reviewers and editors.

Reviews in Health Technology Assessment are termed ‘systematic’ when the account of the search appraisal and synthesis methods (to minimise biases and random errors) would, in theory, permit the replication of the review by others.

HTA programme

Health Technology Assessment (HTA) research is undertaken where some evidence already exists to show that a technology can be effective and this needs to be compared to the current standard intervention to see which works best. Research can evaluate any intervention used in the treatment, prevention or diagnosis of disease, provided the study outcomes lead to findings that have the potential to be of direct benefit to NHS patients. Technologies in this context mean any method used to promote health; prevent and treat disease; and improve rehabilitation or long-term care. They are not confined to new drugs and include any intervention used in the treatment, prevention or diagnosis of disease.

The journal is indexed in NHS Evidence via its abstracts included in MEDLINE and its Technology Assessment Reports inform National Institute for Health and Care Excellence (NICE) guidance. HTA research is also an important source of evidence for National Screening Committee (NSC) policy decisions.

This report

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