

Compression stockings might not be needed to prevent blood clots after surgery

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Compression stockings might be unnecessary to prevent blood clots in most patients undergoing non-emergency (elective) surgery, finds a clinical trial published by *The BMJ* today.

The results suggest that giving anti-clotting drugs alone is just as effective and, as such, the researchers say current guidelines based on historical data should be revised.

Graduated compression stockings are special stockings that help promote circulation in your legs to prevent serious [blood clots](#) (known as venous thromboembolism or VTE).

Current guidelines recommend using a combination of graduated compression stockings and anti-clotting drugs for patients undergoing elective surgery who are at moderate or high risk of VTE. However, in recent years, rates of VTE after surgery have fallen significantly due to improved care and [drug therapy](#), leading some doctors to suggest that this combination might no longer be necessary.

So a team of UK researchers set out to investigate whether the use of graduated compression stockings offers any additional benefit to anti-clotting drugs to prevent VTE in patients undergoing elective surgery.

Their findings are based on 1,858 [adult patients](#) at moderate or high risk of VTE who underwent non-emergency surgery at seven NHS hospitals across the UK between May 2016 and January 2019.

Patients were randomly split into two groups. A total of 937 patients were only given anti-clotting drugs (low-molecular-weight heparin or LMWH) during their hospital stay and were asked not to wear any kind of compression stocking for 90 days after surgery.

The remaining 921 patients were given the same anti-clotting drugs and were asked to wear graduated compression stockings during their [hospital stay](#).

The main outcome was a scan showing a blood clot in the lower leg (deep vein thrombosis) or in the lung (pulmonary embolism) within 90 days of surgery. Other measures included quality of life, [adverse reactions](#) to anti-clotting drugs, and death from any cause.

The researchers found that VTE occurred in 16 out of 937 (1.7%) patients in the drugs only group compared with 13 out of 921 (1.4%) patients in the drugs plus stockings group.

Both [deep vein thrombosis](#) and pulmonary embolism occurred in 2 out of 937 (0.2%) patients in the drugs only group compared with 1 out of 921 (0.1%) in the drugs plus stockings group.

Little or no differences between groups were found for other measures including quality of life up to 90 days after surgery, adverse drug reactions or deaths.

The researchers point to some limitations, such as the possibility of missed scans, but say this would probably not have influenced the overall findings. Results were also similar after further analyses, suggesting that the findings withstand scrutiny.

As such, they say that in patients who have elective surgical procedures and are at moderate or high risk of [venous thromboembolism](#), preventive

drug treatment alone is "non-inferior" to a combination of [drug](#) treatment and graduated compression stockings.

"These findings indicate that graduated [compression stockings](#) might be unnecessary in most patients undergoing elective surgery, and current guidelines based on historical data should be revised," they conclude.

More information: Graduated compression stockings as adjuvant to pharmaco-thromboprophylaxis in elective surgical patients (GAPS study): randomised controlled trial, *BMJ* (2020). [DOI: 10.1136/bmj.m1309](#)

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