

# Neuromuscular electrical stimulation as an adjunct to standard care in improving walking distances in intermittent claudication patients: the NESIC RCT

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**Full disclosure of interests:** Completed ICMJE forms for all authors, including all related interests, are available in the toolkit on the NIHR Journals Library report publication page at <https://doi.org/10.3310/WGRF4128>.

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## Plain language summary

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# Plain language summary

## Why did we conduct this research?

Patients with intermittent claudication present with pain in the lower limbs on exercising, relieved by rest. This negatively impacts on exercise tolerance and quality of life.

Initially, such patients should be offered best medical therapy, including exercise advice, and a supervised exercise therapy programme. Supervised exercise therapy involves leg and foot exercises supervised by health-care professionals and, despite evidence favouring supervised versus unsupervised exercise, are underutilised in the United Kingdom. Therefore, there remains a significant difference between recommended standard care (best medical therapy and supervised exercise therapy) and 'real-world' standard care (best medical therapy only).

Neuromuscular electrical stimulation devices have emerged as safe, portable and readily accessible, with some evidence suggesting they can improve outcomes, including pain-free walking distance and quality of life. This study investigated whether a neuromuscular electrical stimulation device improved the walking distance of patients with intermittent claudication compared to local standard care available (which may include supervised exercise therapy).

## What did we do?

Two hundred patients diagnosed with intermittent claudication at 11 hospitals in England took part. A computer program randomly assigned half the patients to local standard care only, while the other half were given a neuromuscular electrical stimulation device which delivers electrical stimulation to leg and foot muscles through foot-pads, plus local standard care.

## What did we find?

There was no clear difference in maximal walking distances between those who received a device and those who didn't. However, neuromuscular electrical stimulation improved walking distances in patients who attended a supervised exercise therapy programme (although not significant), and clearly improved walking distances in those patients with a good baseline upper walking limit. Supervised exercise therapy significantly improved walking distances.

## What could be done next?

Future research studies should further evaluate the effectiveness of neuromuscular electrical stimulation in combination with supervised exercise therapy, and in patients who have a good baseline walking distance in a larger sample of patients with intermittent claudication.



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