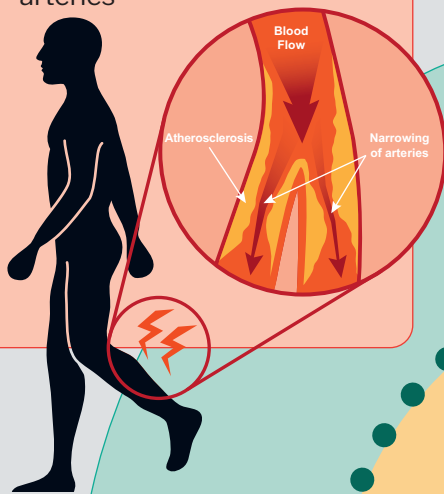


# Exercise for Intermittent Claudication

## What is intermittent claudication?

- Leg muscle pain or discomfort during walking
- Usually caused by narrowed arteries



**NICE** National Institute for Health and Care Excellence

## RECOMMENDS EXERCISE

Supervised exercise classes produce the greatest benefits - ask your doctor or specialist if these are available locally

## Benefits of exercise



Reduces pain



Reduces the need for vascular procedures



Improves heart and vascular health



Improves mood



Improves sleep



Maintains healthy weight

Walk at a speed that you can maintain for 3-10 minutes

to reduce pain and improve fitness

## Walk regularly for exercise

some is good, more is better, make it a habit

Rest until the pain subsides then walk again

Continue until moderate-to-strong leg pain develops

## Key recommendations

- Aim to complete 30-60 minutes of walking per session
- Follow the walk-rest-walk pattern (central diagram)
- 3-5 sessions per week

## Further guidance

- Do not fear walking with leg pain – it will not harm you
- Build up gradually – your walking speed and time
- Be patient – it usually takes several weeks of exercise to improve symptoms

## General tips

- Wear comfortable clothing, keep hydrated
- Choose routes with resting places
- Build in variety, involve others, keep it fun
- Do not exercise if you are unwell
- Seek medical advice if you experience chest pain, dizziness or sickness

## Do strengthening and balance activities as well



Gym



Carry heavy bags



Yoga



Dance



Tai Chi



Bowls

... on at least 2 days per week

... to stay strong and reduce the risk of falling

Where can I find out more information about this condition?

The Circulation Foundation: [www.circulationfoundation.org.uk](http://www.circulationfoundation.org.uk)

### Source:

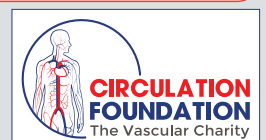
Based on the BASES Expert Statement by Tew, Harwood, Ingle, et al. in The Sport and Exercise Scientist, Issue 57 (Autumn 2018), [https://www.bases.org.uk/imgs/autumn\\_2018\\_7601\\_bas\\_expert\\_statement\\_v2\\_569.pdf](https://www.bases.org.uk/imgs/autumn_2018_7601_bas_expert_statement_v2_569.pdf)

### Disclaimer:

This infographic is not a validated clinical decision aid. Any reliance placed on this information is strictly at the user's own risk.

### Thanks:

To the reviewers who helped to produce this infographic, which was co-funded by The Circulation Foundation and Northumbria University.



## **Infographic: Exercise for Intermittent Claudication**

Garry A Tew,<sup>1,2</sup> Louise Allen,<sup>3</sup> Christopher D Askew,<sup>4,5</sup> Ian Chetter,<sup>6</sup> Gabriel Cucato,<sup>1</sup> Patrick Doherty,<sup>2</sup> Andrew Garnham,<sup>7</sup> Amy Harwood,<sup>8,9</sup> Lee Ingle,<sup>9</sup> Michael Jenkins,<sup>3</sup> Jonathan Michaels,<sup>10</sup> Sara Pittack,<sup>11</sup> Chris Seenan,<sup>12</sup> Hazel Trender<sup>13</sup>

<sup>1</sup>Department of Sport, Exercise and Rehabilitation, Northumbria University, Newcastle-upon-Tyne, UK

<sup>2</sup>Department of Health Sciences, University of York, York, UK

<sup>3</sup>Imperial College Healthcare NHS Trust, London, UK

<sup>4</sup>School of Health and Sport Sciences, University of the Sunshine Coast, Queensland, Australia

<sup>5</sup>Sunshine Coast Health Institute, Sunshine Coast University Hospital, Queensland, Australia

<sup>6</sup>Hull York Medical School, Hull, UK

<sup>7</sup>Royal Wolverhampton Hospitals NHS Trust, Wolverhampton, UK

<sup>8</sup>Thermal Ergonomics Laboratory, Discipline of Exercise and Sport Science, The University of Sydney, Sydney, Australia

<sup>9</sup>Department of Sport, Health & Exercise Science, University of Hull, Hull, UK

<sup>10</sup>School of Health and Related Research, The University of Sheffield, Sheffield, UK

<sup>11</sup>Your Thinking Ltd, London, UK

<sup>12</sup>Department of Physiotherapy and Paramedicine, Glasgow Caledonian University, Glasgow, UK

<sup>13</sup>Sheffield Teaching Hospitals NHS Foundation Trust, Sheffield, UK

Correspondence to Dr Garry A Tew, Department of Sport, Exercise and Rehabilitation, Northumbria University, Newcastle-upon-Tyne, UK. Email: [garry.tew@northumbria.ac.uk](mailto:garry.tew@northumbria.ac.uk)

Intermittent claudication (IC) is pain or discomfort in the muscles of the calf, thigh or buttock that occurs during walking and is relieved by rest. It affects 4% of people over 60 years of age and is the most common symptom of peripheral arterial disease (PAD). For people with IC, the goals of treatment are two-fold: (1) secondary prevention of cardiovascular disease through management of risk factors (e.g., tobacco use, dyslipidaemia, diabetes, hypertension, physical inactivity); (2) improving functional status, with treatment options including exercise training, revascularisation and vasodilator therapy.<sup>1</sup>

In 2012, the United Kingdom's National Institute for Health and Care Excellence (NICE) published a clinical guideline on the diagnosis and management of PAD.<sup>1</sup> This guideline recommended that a 3-month supervised exercise programme (SEP) should be offered as a first-line therapy for IC, and that revascularisation and vasodilator therapy should only be considered if exercise provides insufficient symptom relief. Although research studies have shown unsupervised exercise to be generally less effective at improving functional status than a SEP, it can still be effective, and should be recommended if a SEP is not available.<sup>1,2</sup>

The evidence supporting the efficacy of exercise for people with IC dates back to 1966 when a study reported that 6 months of interval walking exercise improved patients' pain-free and maximum walking distances.<sup>3</sup> Over the following 50+ years, numerous randomised trials and meta-analyses have been published supporting the efficacy of exercise in improving functional status in this population.<sup>4</sup> Despite this evidence and the clinical guideline recommendations, the provision of SEPs is variable, with one study reporting that only 38.5% of vascular units in the United Kingdom had access to a SEP.<sup>5</sup> Potential barriers include a lack of funding, facilities and patient motivation.

The benefits of exercise for people with IC are too great to be ignored. Therefore, to support the provision and uptake of exercise we have developed two new resources. Firstly, a statement for healthcare professionals that summarises the evidence and provides exercise prescription guidelines.<sup>2</sup> Secondly, an infographic of key messages aimed primarily at patients. This infographic, which may be shared digitally or used as a poster or handout in clinics, aims to encourage patients to make exercising a regular habit by highlighting potential benefits and providing clear guidelines and safety messages. We hope that readers will share this infographic widely to enhance awareness of this debilitating condition and the important role that exercise can play in its management.

## References

<sup>1</sup> National Institute for Health and Care Excellence (2012). Peripheral arterial disease: diagnosis and management (clinical guideline CG147). Available: [www.nice.org.uk/guidance/cg147](http://www.nice.org.uk/guidance/cg147)

<sup>2</sup> Tew GA, Harwood A, Ingle L, *et al.* The BASES Expert Statement on Exercise Training for People with Intermittent Claudication due to Peripheral Arterial Disease. *The Sport and Exercise Scientist*. 2018;57. Available: [https://www.bases.org.uk/imgs/autumn\\_2018\\_7601\\_bas\\_expert\\_statement\\_v2\\_569.pdf](https://www.bases.org.uk/imgs/autumn_2018_7601_bas_expert_statement_v2_569.pdf)

<sup>3</sup> Larsen OA, Lassen NA. Effect of daily muscular exercise in patients with intermittent claudication. *Lancet*. 1966;2:1093-6.

<sup>4</sup> Lane R, Harwood A, Watson L, Leng GC. Exercise for intermittent claudication. *Cochrane Database of Systematic Reviews*. 2017:12.

<sup>5</sup> Harwood AE, Smith GE, Broadbent E, *et al.* Access to supervised exercise services for peripheral vascular disease patients. *The Bulletin of the Royal College of Surgeons of England*. 2017;99:207-11.