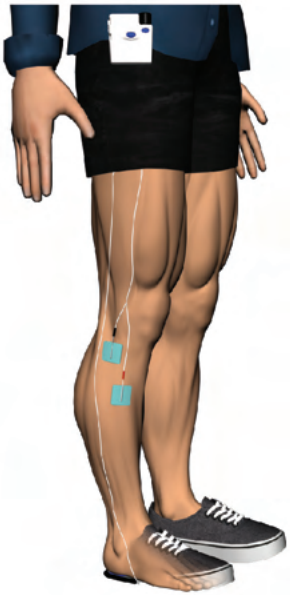
FES & Multiple Sclerosis

OML | Leading FES Rehabilitation



Functional Electrical Stimulation (FES) to improve walking for people with MS

Dropped foot is the reduced ability to lift the foot as it is brought forward while walking. Dropped foot also affects the position of the foot in weight bearing, increasing the risk of 'turning your ankle'. It is a common problem for people who have MS and can significantly reduce the safety, confidence and efficiency of walking.

A dropped foot may be present all the time or may only become a problem when the person is tired after walking a distance. People with MS may also experience weakness in other muscles, for example, the muscles which bend or straighten the knee or extend and flex the hip.

What our FES users say...

"I find it a great help and I've experienced no problems with it at all. The people up at the clinic are excellent, I wear it everyday."

What is Functional Electrical Stimulation (FES)?

FES is a non-invasive treatment which uses small electrical impulses to activate weak or paralysed muscles by stimulating the nerve.

Self–adhesive patches (electrodes) are placed on the skin close to the nerve supplying the muscle. Leads connect the electrodes to a stimulator which produces the impulses.

Stimulation causes dorsflexion (foot lift) and eversion (ankle stabilisation). By choosing electrode positions and stimulation parameters, knee and hip flexion can be improved, further assisting gait. For most users stimulation feels like mild pins and needles, which they quickly become used to.

For correction of dropped foot, the common peroneal nerve is stimulated on the side of the lower leg. This causes the foot to lift. Stimulation is timed to walking using a pressure sensitive switch in the shoe, turning the stimulation on and off at the correct time. In the same way, muscles that control the hip and knee can be stimulated to assist walking.

What our FES users say...

"I no longer need to dread going for a walk, shopping, or simply doing things healthy people do but it opens up a lot more options to live a full life."

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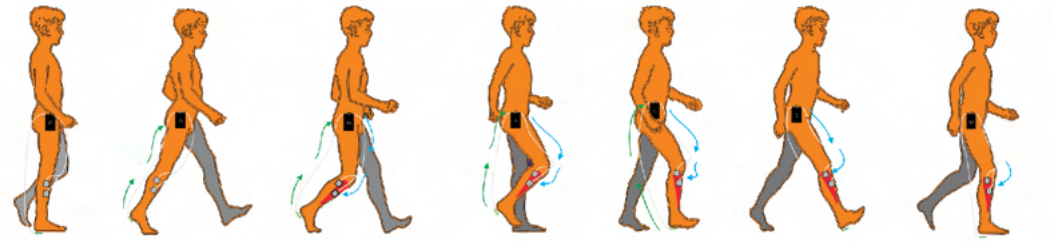
FES has been shown to have the following effects:

- Walking is safer and falls are reduced by an average of 72%
- Walking is faster
- Walking is more efficient, requiring less effort
- Walking is more automatic, requiring less concentration
- FES users report they are more confident while walking



How do I access treatment?

A referral is required from a GP or healthcare professional.
Self-referrals can be made for self-funded treatment.

Inclusion criteria summary

- Dropped foot or other muscle weakness in walking due to MS
- Able to walk at least 5 metres with appropriate assistive devices (sticks, splints, etc). There is no upper limit to walking range
- Able to obtain standing from sitting without assistance from another person

Exclusion criteria summary

- Dropped foot or muscle weakness due to peripheral nerve damage
- Epilepsy not controlled by medication
- Pregnancy or planned pregnancy
- Cancer in the area of the body that is being stimulated

What are the possible disadvantages and risks of FES?

There are no known serious side effects from using FES and most people find it comfortable to use. Rarely, some people may experience minor skin irritation which can usually be easily resolved.

Is FES to assist walking funded by the NHS?

FES is a NICE recommended treatment and funded in many but not all parts of the UK. Treatment can also be privately funded.
Please contact OML for information about your area or request our funding information sheet.

11-005-0027 v2

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