Your guide to FES

(Functional Electrical Stimulation)

NHS
Salisbury
NHS Foundation Trust

www.odstockmedical.com

OML
Leading FES Rehabilitation

What our FES users say...

"I have been using a single channel stimulator for dropped foot, due to MS, for 5 years. I wear it every day and it has allowed me to carry on working full-time. It is the single most helpful thing in this journey as a patient, and has allowed me to remain as active as possible. I can't praise the Odstock Medical staff enough!"

MADE IN BRITAIN

What is Functional Electrical Stimulation (FES)?

Functional Electrical Stimulation (FES) is the production of functional movement in weak or paralysed muscles by using small pulses of electrical current to stimulate the nerve.

Its most common use is to improve walking, especially for dropped foot, but it can also aid upper limb (hand, arm, shoulder) movement and allow other muscle groups to improve function in daily life. It can be used for adults and children.

How does FES help?

Depending on the application, FES can have the following clinically proven benefits:

- Increases safety due to reduced tripping and increased stability in stance
- Increases walking speed and range
- Reduces effort of walking
- More likely to be able to do daily tasks with hand, arm and shoulder
- Less reliant on a carer/partner
- Reduces pain
- Less fatigue
- Improves quality of life
- Greater confidence and independence

National guidelines

Supported by extensive clinical research and guidelines

NICE guidelines
https://www.nice.org.uk/guidance/ipg278
https://www.nice.org.uk/guidance/ng236
https://www.nice.org.uk/guidance/ng252

ACPIN guidelines
https://www.acpin.net/guidelines.aspx

Royal College of Physicians
https://www.strokeguideline.org/

Who does FES help?

It can help people who have reduced movement when walking, especially dropped foot and in upper limb function (hand, arm, shoulder) due to a condition or injury which has affected their brain or spinal cord, for example:

- Stroke
- Multiple sclerosis
- Spinal cord injury above T12
- Cerebral palsy
- Hereditary spastic paraplegia
- Traumatic head injury
- Parkinson's
- Any other neurological condition or injury that affects the brain or spinal cord above T12.

Please note: FES is not always suitable as a treatment for every patient with a condition listed above.

Who does FES not help?

FES is usually not suitable for those with the following conditions:

- Peripheral nerve lesions
- Poliomyelitis (polio)
- Motor neurone disease
- Guillain-Barre syndrome
- Spinal cord injury below T12 (lumbar or sacral injuries including slipped disks)
- Any other lower motor neuron condition

Why choose OML devices?

- Ability to treat lower and upper limb
- Digital pocket-sized devices
- Flexibility and accuracy of electrode placement
- Discreet fitting – no limitation on clothing which can be worn.
- High standard of service – in-house highly experienced clinicians and technicians to support healthcare professionals and FES users
- Long-term clinical and technical support for FES users
- Access to FES treatment with OML and partner clinics across the UK

An introduction to lower limb FES devices

Odstock Dropped Foot Stimulator (ODFS®) Pace

The ODFS® Pace is used to help improve walking (particularly with dropped foot) and exercising muscles.

The ODFS® Pace stimulates the common peroneal nerve using self-adhesive skin electrodes mounted on the lower leg. Stimulation is precisely timed to the walking cycle by using a pressure switch placed in the shoe under the heel. Stimulation begins when the heel is lifted from the ground and ends just after heel strike. Stimulation causes the foot to lift and clear the ground and also stabilises the ankle when the foot is returned to the ground.

For most users stimulation feels like mild pins and needles, which they quickly become used to. The device can be worn on the waist in a pouch, carried in a pocket or worn in a Pace sleeve.

Odstock Dropped Foot Stimulator (ODFS®) Pace XL

The ODFS® Pace XL works the same way as the ODFS® Pace, however, this device allows a wireless connection (using a Linq™ transmitter) between the stimulator and footswitch making it more discreet and giving you more freedom and flexibility.

What our FES users say...

"It gives me the confidence to leave my wheelchair. I cut the grass yesterday!"

What our FES users say...

"FES has enabled me to get my life back. I have done things and gone places I could only dream of a few years ago."

Requirements for using FES to assist walking

A FES user will need to have some independent walking ability to use FES, with a minimum distance of about 5-10 metres. This can be with aids such as ankle foot orthosis (AFO), sticks, frame or crutches if required. FES is an aid to help people with limited mobility to improve their walking. If the FES user is unable to walk at all, it is unlikely that FES will help. In supervised walking training, less mobility may be acceptable.

FES is primarily used as an assistive aid, making walking easier and safer when it is used. Some FES users choose to use it whenever they walk, wearing the device throughout the day. Others choose to use the device when walking outside or when walking longer distances. In this way, device use can be matched to the individual needs of each person.

FES can also have a training effect, improving walking without FES, after it has been used for some time. The training effect is more common for some neurological conditions than others, for example, in stroke, Parkinson's and spinal cord injury, but less so in multiple sclerosis.

What our FES users say...

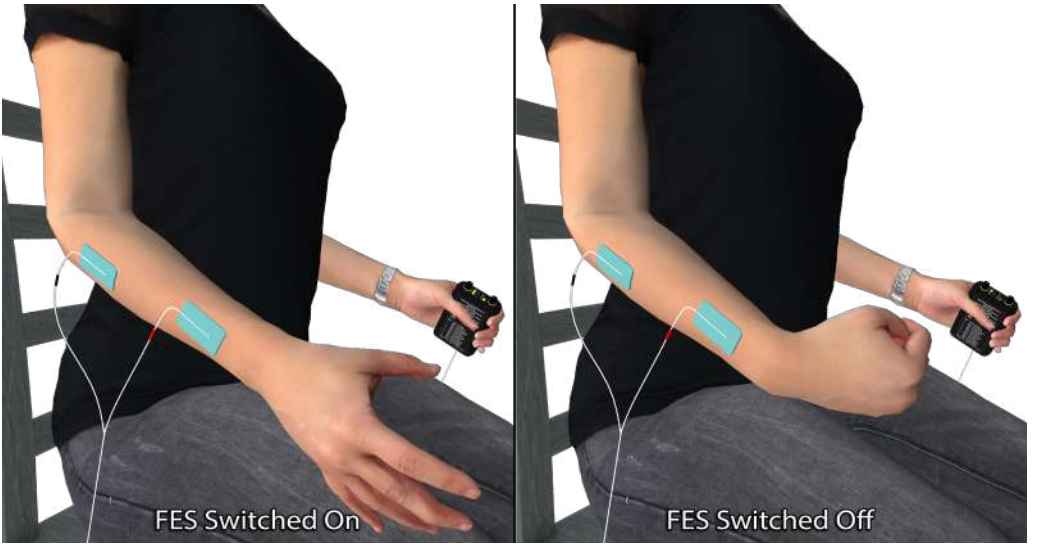
"I find it a great help and I've experienced no problems with it at all. The people up at the clinic are excellent. I wear it everyday."

An introduction to exercise devices

Microstim 2V2

The Microstim 2v2 is used to exercise weak or paralysed muscles. This two- channel device has ten easy to use modes and can be used to practise activities such as hand opening and closing or reaching forward with hand opening. The device can also be used to strengthen muscles used for walking.

It is commonly used to train shoulder muscles to treat painful subluxation and also hand and arm muscles following stroke, spinal cord injury or cerebral palsy. It's ideal for using at home for regular exercise.



What our FES users say...

"FES is a wonderful pain relief, and it helps to breathe life back into old muscles. It lifts my shoulder muscles, so it starts to support my arm again thereby taking the strain away from the trapezius muscle and removing the pain."

"Doctor, let me shake your hand"
An extract from The Independent by Julie Newing

"Terry Inglis greets friends and acquaintances with an unusually vigorous handshake. "I can't help showing off," he says proudly. Until recently his right hand was almost useless: a stroke seven years ago has left him partly paralysed, with a rigid, claw-like grip. He recalls being reduced to tears of frustration at his inability to perform the simplest tasks.

Yet after three months' treatment with a gadget the size of a television remote control, Mr Inglis can use his hand again. He can stir a cup of coffee once more, and drive his car. The device, a neuromuscular stimulator, works by artificially powering muscles that have grown weak after years of disuse. It can be used regularly at home by the patient."

Microstim 2V2 Orthopaedic Stimulator "Orthostim"

The Microstim 2v2 Orthopaedic is designed to be used in non-neurological applications such as retraining of muscles prior to and after orthopaedic procedures.
It has programs for muscle strengthening, improving endurance, prevention of deep vein thrombosis and TENS pain relief.

Why Odstock Medical Ltd?

- Odstock Medical Limited (OML) is the leading provider of Functional Electrical Stimulation (FES) devices to the UK NHS. It is estimated that over 20,000 patients have used OML stimulators
- Our aim is to provide and develop FES as a rehabilitation treatment for patients with neurological conditions to improve independence and function
- Our devices and treatment pathways have been designed through collaborative effort since 1988 by clinical engineers, clinicians and patients at the National Clinical FES Centre, Salisbury District Hospital
- OML is not only a provider of innovative FES devices and treatment, but committed to advancing FES techniques through development of the device and clinical research
- We are the UK's leader in FES training for clinicians
- OML is continuously investing in new applications for FES including treatment for constipation, assistance in walking with Parkinson's and tetraplegic hand function

What our FES users say...

"It changed my life. One minute I was struggling around with a walking stick and the next I could walk without it. It gave me confidence and I'm no longer dependent on other people – I can just go."

Additional information available from OML

Supplement	Description
Access to FES treatment	guide for patients on how to start their FES treatment
FES referral criteria	details who FES is most suitable for
FES referral	guide for healthcare professionals on how to refer a patient for FES treatment
Adult treatment pathway	step by step treatment plan for an adult
Child and young person treatment pathway	step by step treatment plan for a child and young person
Funding for FES (England)	information on NHS and privately funded treatment
FES & Shoulder Subluxation	focus on how FES works and can benefit people affected by shoulder subluxation
MS & FES	focus on how FES works and can benefit people with multiple sclerosis
Stroke & FES	focus on how FES works and can benefit people affected by a stroke
Spinal Cord Injury & FES	focus on how FES works and can benefit people affected by a spinal cord injury
Odstock Microstim 2V2 (MS2V2)	information on device for muscle training (shoulder, arm, hand and leg) and control of constipation
Odstock Dropped Foot Stimulator (ODFS®) Pace	information on device to help improve walking including dropped foot
Upgrades & Accessories	a range of FES device upgrades and accessories
FES evidence	a summary of FES treatment evidence and research
FES training courses	information on our lower and upper limb training courses for healthcare professionals to be able to practise FES treatments

Your guide to FES

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How to contact OML

We are here to help with further advice and support.
We look forward to hearing from you.

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Email: enquiries@odstockmedical.com
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