Self - Referral criteria

Functional Electrical Stimulation (FES), for correction of dropped foot, associated mobility problems and upper limb.

Funding for FES treatment

Funding for FES is variable across the country. In some areas patients with specific conditions can obtain FES to help their dropped foot on the NHS. In other areas applications for treatment have to be made on a 'named patient' basis. In some areas FES is not funded at all. If in doubt about the situation in the area where you live please phone the number below.

01722 439 540 (Option 3) to speak to the Patient Support Team who may be able to help.

For NHS treatment we will need a letter from your GP or Consultant. By completing this Self-referral form you are agreeing to pay privately to be assessed to see if FES will be of benefit to you. We do not need a letter from your GP or Consultant for private treatment.

Can FES help you?

In order for FES to work the reason for your dropped foot needs to be due to a problem with your brain or to the upper part of your spinal cord, above waist level. This is known as an 'Upper motor neurone lesion'

Upper motor neurone lesion resulting in dropped foot occur in conditions such as but not limited to:

- stroke,
- multiple sclerosis,
- incomplete spinal cord injury at T12 or above,
- cerebral palsy,
- familial/hereditary spastic paraparesis,
- head injury,
- subarachnoid haemorrhage
- Parkinson's disease.

What is a dropped foot?

- Dropped foot defined as a deficit of dorsiflexion (foot lift) and/or eversion (ankle stability) of the ankle. While this will be frequently associated with lack of heel strike, FES can be successfully used to stabilise the ankle when weight is placed on the foot, even if the heel dose strike the ground before the rest of the foot. This improves the safety of gait.

- A dropped foot can be a single foot or both feet.

- In addition to drop foot, reduced control of the knee, hip and calf muscles can be improved. FES can be used to strengthen and/or control other muscles used in gait such as hamstrings, quadriceps, gluteal and calf muscles.

Functional ability:

- Able to passively achieve a neutral (or near neutral) angle of the ankle. A resistance due to spasticity of the calf muscles can be overcome by FES, but a fixed contracture cannot be improved with FES.

- Able to obtain standing from sitting unaided. Use of aids such as sticks, frame or crutches is acceptable. In physio supervised re-leaning of walking, less ability may be acceptable.

- Able to walk a minimum distance of about 5-10m. this can be with aids such as ankle foot orthosis (AFO), sticks, frame or crutches if required. FES is an aid to help people who walk badly walk better. If you are unable to walk at all, it is unlikely that FES will help. In supervised walking training, less mobility may be acceptable.

- There is no maximum walking distance limit. FES devices have been successfully used in cases where a dropped foot only becomes a significant problem when the device user is tired or when the deficit is relatively mild.

- A reasonable exercise tolerance is required for treatment sessions. However, FES often reduces the effort of walking therefore poor exercise tolerance is only an exclusion criteria in extreme cases.

Motivation, understanding and independence:

- Able to understand the aims of the treatment and be motivated to comply with treatment protocols. Where appropriate, carer support can assist in using the equipment.

- Where patients live alone and do not have carer assistance, they must be able to place electrodes and operate the equipment independently. If family or carer support is present, less independence is required.

- Patents must be able to attend the required follow-up sessions.

Precautions:

- Poor skin condition can prevent the use of FES as sores or irritation prevents the use of self-adhesive electrodes.

- Poorly controlled epilepsy. Where epilepsy is controlled by drugs or there has been no fits experienced for a reasonable period (approx. 3 months), FES can be used.

- A history of significant autonomic dysreflexia in incomplete spinal cord injury above T6.

- The effect of FES on the unborn child in pregnancy is not known.

- Active medical implants such as cardiac pacemakers or other devices must be treated with caution and information sought from the device supplier about the use of electrical stimulation in their presence. An additional clinical test may be required to determine the safety of FES. For some devices this can be arranged in Salisbury.

- Patients with a cancerous tumour in the area (same limb or body segment) of the electrical stimulation should not use FES as increased local blood flow may increase tumour growth.

- Patients with exposed orthopaedic metal work in the area of electrical stimulation should be avoided.

While the majority of our patients fit the above criteria, patients outside these criteria can be considered. Please contact the team for more information.

Clinical Procedure
The referral form will be reviewed by Prof. Taylor, or in his absence by experienced clinical staff at the National FES Centre. FES might be a suitable treatment an appointment is made for an initial assessment at the nearest OML clinic.

At the initial assessment clinic, the above referral criteria are checked. An additional acceptance criterion is the ability to tolerate the sensation of electrical stimulation. A FES device is tried and in most cases an improvement in gait is immediately apparent. Following discussion with the patient a decision whether to proceed with treatment is made. In some cases the Clinician may judge that a period of electrical stimulation training is required in order to strengthen muscles, reduce spasticity or to accustom the patient to the sensation of electrical stimulation before FES is used for walking. Stimulation exercises may be started at this appointment if time permits. Otherwise, exercises will be set up at another appointment.

The ODFS® Pace is fitted over two clinic sessions, usually within one week. On the first day the user is taught how to apply the device and on the second day their ability to do so is assessed and further training given if necessary. Use of the stimulator is increased gradually over 2 to 3 weeks until it can be used all day. Follow up is made at 6 weeks, 18 weeks and 44 weeks from first use and then every 6 months or yearly depending on the patient's condition, for as long as the device is used. If users experience problems they are encouraged to contact the clinic for advice or equipment repaired. Extra clinic sessions can be arranged if necessary.

In the case of more complex movement problems where more than one muscle group are stimulated, treatment is often started with a single channel ODFS® Pace and the

second channel introduced at the 6 or 18 week follow up assessment, once the user has become accustomed to FES.

Functional Electrical Stimulation (FES) for the upper limb rehabilitation
FES treatment is provided for upper limb neurological problems resulting from conditions such as stroke, brain injury, spinal cord injury or cerebral palsy. Referrals are accepted for three main categories of upper limb treatment

Subluxation of the shoulder

- The main aim is to reduce pain associated with shoulder subluxation.
- The three compartments of the deltoid muscle plus the supraspinatus muscle are stimulated causing the humerus to elevate into the glenoid humeral socket.
- The treatment may need to be continued long term to maintain reduction of pain unless functional movement improves.

FES Exercise to improve hand and arm function

Stroke and Cerebral Palsy:

- Patients should have some functional ability, typically being able to produce a grip but may not be able to release, or reduced ability to extend the elbow.
- Main treatment aim is to increase the strength of the extensor muscles while reducing the spasticity in the flexor muscles.
- Repetition of exercises may lead to neuroplastic changes resulting in improved function.

Spinal cord injury:

- Patients should have some functional ability, typically a weak tenodesis grasp in C6 tetraplegia or general weakness in incomplete C5/6/7 tetraplegia.
- The main treatment aim is to increase the strength and therefore function of the effected muscles.

Non-functional group:

- FES can be used to relieve spasticity with the aim of loosening an over tight grip or elbow flexion.
- The main treatment aim is to reduce pain associated with spasticity, assist with hygiene by enabling better hygiene or assist other activities of daily living such as dressing.

Motivation, understanding, independence and precautions:
Cardiac pacemaker users should not use FES in the hand arm or torso. The other precautions are the same requirements as for the lower limb applications of FES.

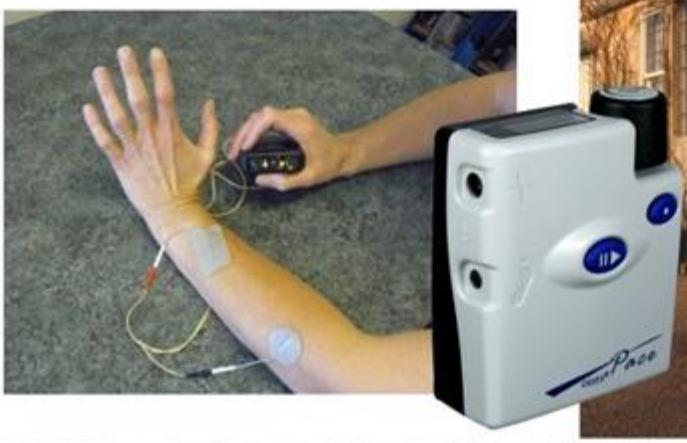
Clinical Procedure for Upper limb FES
The referral and assessment process is the same as for lower limb applications.

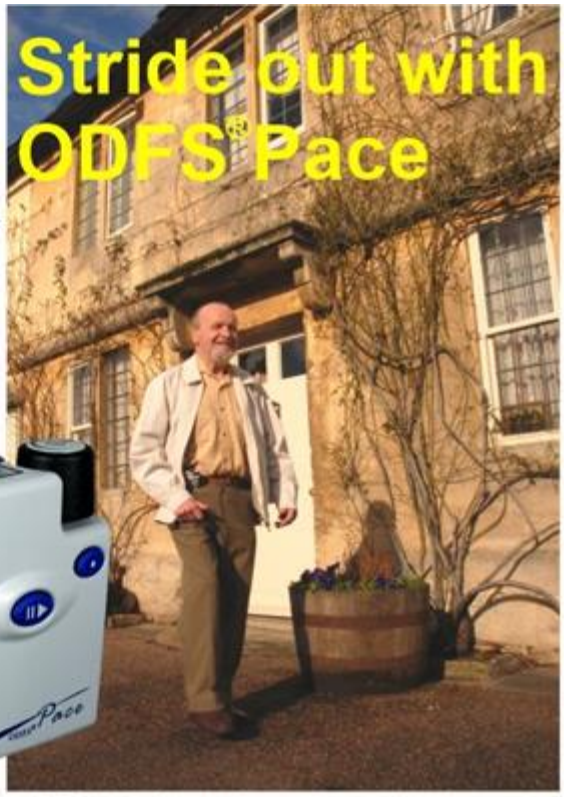
In most cases upper limb treatment is limited to a 6 month period. In that time the patient will be seen for five, 1 hour appointments. At the first appointment an electrical stimulation exercise programme for the patient to perform at home will be devised. Where appropriate, additional physiotherapy exercises may also be given. Follow up is provided at 2, 8, 16 and 24 weeks. At each session, the exercises are reviewed and progressed. Where appropriate, functional measures will be made to record progress.

In some cases it is beneficial to continue treatment over a longer period. This reviewed at the week 24 appointment and a recommendation made to the referring clinician.

"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."

Stride out with ODFS® Pace





The ODFS®Pace is a Functional Electrical Stimulation (FES) device used to improve walking for people who have neurological problems such as stroke. Dropped foot is the difficultly in lifting the foot and instability of the ankle while walking. By activating the muscles that control the foot, walking is made easer, safer and faster. Falls are reduced and FES users report that they walk with much greater confidence. FES helps to retrain muscles leading to improved walking after FES is used. FES can also be used to improve knee and hip movements.

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FES and the ODFS®Pace are recommended by NICE for use in the NHS*.

FES can also help hand and arm movements, help control spasticity and control the pain of subluxed shoulders.

OML provides FES at clinics across the UK. Referrals are accepted for NHS and privately funded treatment. Contact OML or visit our website for your nearest clinic. Ask your GP for a referral or fill in the self referral form from our web page.

For more information:
Web: www.odstockmedical.com
E-mail: referrals@odstockmedical.com
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FES is also available at other independent clinics. Contact OML for details.

*NICE IPG278 & MIB65

Ref SN001