# Salisbury FES Newsletter
## Autumn 2004

## Editorial

The FES (Functional Electrical Stimulation) Newsletter is a biannual publication with the purpose of promoting the clinical use of FES. It is distributed chiefly to clinicians who have attended the Salisbury introductory FES course but also those who have an interest in the field or those we hope may be interested. FES is a means of producing functional movement in paralysed muscles by the application of electrical impulses to the nerves of those muscles. FES is increasingly used in neurological rehabilitation to improve mobility and upper limb function. The most common use is for the correction of dropped foot in hemiplegic gait, an intervention now recommended by the Royal College of Physicians in their publication "National clinical guidelines on stroke".

It is now over a month since the IFESS conference took place in Bournemouth and life is slowly returning to normal. This event has dominated everything in the department for the last 18 months, involving almost every one. Despite early fears that the event would make a big loss, eventually around 260 people attended with delegates from 6 continents. 96 people attended FES courses before the conference began. The sun shone all week and everyone agreed the conference was a success. Included in this edition of the FES newsletter are reviews of the conference and also an article on the use of the Canadian Occupational Performance Measure for assessing the use of the ODFS in MS, also presented at the conference. We also have an article about a unique art exhibition presented at the conference, which gave an insight to the lives of people with MS.

On 26th November 2004 we will be holding our annual FES user day. This year the event is being hosted by the Astley Ainslie Hospital, Edinburgh and is open to anyone who has an interest in clinical FES. As usual there will be reports on the latest developments in clinical FES, case studies and a problem solving workshop. These meetings are a good opportunity to swap experience and meet up with others working in the field. We welcome presentations on any aspect of clinical FES. Please return the form at the end of this newsletter. While you do not have to offer a presentation to come we particularly welcome case studies and reports of clinical experience with FES from all practitioners in the field.

Increasingly we are contacted by people seeking FES treatment and asking if they can obtain it in their area. The Data Protection Act dose not allow us to give out details of the clinicians on our database who have done the FES course and in any case many clinicians may not be in a position to offer treatment. For this reason we are trying to compile a list of clinicians or centres who are able to provide a service (either NHS or private). We would be most grateful if you could complete and return the form at the back of the newsletter.

Thanks to all who have contributed to this newsletter. As always we welcome your feedback and we are pleased to hand on any "good ideas", reports, meeting reviews or adverts that you have through this newsletter. Next addition will be put together in March so please send copy by then. This and all back issues of the Salisbury FES Newsletter are on our web page www.salisburyfes.com

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Karen Hitchlock

## Face to Face

Face to Face is a collaborative project between the Department of Medical Physics and Biomedical Engineering (MPBE) at Salisbury District Hospital, Art Care (Salisbury and District Hospital Arts Service) and photographer Karen Hitchlock. The project has taken place in conjunction with the MPBE's randomised controlled trial, on the use of the Odstock Dropped Foot Stimulator (ODFS), with people who have Multiple Sclerosis (MS). The outcome of the projects was an exhibition held at the IFESS conference consisting of 30 black and white photographic portraits of the research volunteers who took part in the trial and printed text, describing in their own words their experience of MS and of being a research volunteer. Many of the stories raised issues regarding how people with MS are treated in the Health Service, in particular around the time they are first diagnosed. The exhibition gave a powerful insight into life with MS, valuable not only to the many researchers and engineers who attended the conference who may not have direct involvement with MS but to clinicians working with MS. Several of the research volunteers who attended the exhibition commented that they had not realised that other PWMS experienced the same problems and concerns as they had and it was good to know they were not alone.

The exhibition has a second showing at the MS Trust conference in Harrogate in November and may visit other venues if funding becomes available. The exhibition will also be made into a book. Copies will be available from the end of November. For your copy please send a cheque for £8.95 (plus P&P £1.50 in the UK, £2.50 in Europe and £4.50 rest of the world) made out to Face to

Face, to Art Care, Salisbury District Hospital, Salisbury, Wiltshire, SP2 8BJ. All profits go to the MS Trust.

**Artist's Statement**

*"There is a well-known expression that 'science knows no boundaries', but in fact scientists are very good at setting boundaries, obeying protocols and focusing on results. It is this type of knowledge that is seen to matter in the scientific community, it is impersonal, public, productive and verifiable. But there is a weakness in this scientific approach as it allows scientists and clinicians to become more and more abstracted from their clients and their client's reality. It also encourages a dispassionate and detached approach, which continuously is in conflict with the clinicians dual role as the objective researcher and the caring clinician.*

*This project seeks to break down the traditional boundaries set by scientists, producing a shift of values which empowers the research volunteer, as it draws away from the analytical and impersonal method and further towards the subjective personal experience of the volunteer. Through the media of photography and narrative, 'Face to Face' gives people with MS an opportunity to express their own unique experience of living with MS and being a research volunteer. The project also investigates their relationship between the scientists and clinicians involved in the trial and the technology the Salisbury team, have developed.*

*The project aims to empower the person with MS, by giving them an opportunity to criticise and raise issues that are important to them. To find common ground and a mutual understanding of the impact of MS on their lives, the limitations, disabilities and effect on relationships, work, hopes and aspirations. By presenting the trial volunteers, in conjunction with the science, this study aims to present a balanced view, encouraging a reappraisal of the research scientist's relationship with their research volunteers and encouraging new standards of behaviour in research, treatment and monitoring."*

Funded by the Wellcome Trust People Awards & Supported by Salisbury Health Care and the MS Trust

# IFESS Reviews

Reports on the 9th Annual IFESS Conference "Getting FES into clinical practice", 6-9 September 2004, Bournemouth International Centre, Bournemouth, UK

# The Engineer's Perspective

Once 'landed' in Bournemouth the sunny weather was everywhere, the seaside view was magnificent and everyone asked, where is the rainy English weather? The temptation to leave the conference and to join the people having a swim or relaxing on the beach was counteracted only by the interesting oral presentations within the conference meetings.

The conference entailed invited lectures from distinguished members of the FES community: David Rushton, John Rothwell, John Chae and Garth Johnson. Combining engineers, physicians, physiotherapists and others from clinical, industrial and educational sectors the conference accomplished its goal to present the best ways to get FES into clinical practice as well as to inform on the new top research within the FES field.

The sessions, both oral and poster, focused on subjects such as: Neuromodulation, Upper extremities, Physiology of FES, Gait assist and posture, Paediatrics, Bladder and bowel, Stimulator and sensor technology, Control techniques, Cycling and rowing. It was easy to follow each oral presentation, as the number within a session had been limited to 5-6 papers. The comments and ideas exchange that followed each presentation proved the grown interest of all participants for the discussed topics. As everyone stayed more or less in the same place, it permitted a lot of conversation, which inevitably led to exchange of information regarding studies and thereby a flow of information was created.

The posters were shown within a large hall that had been used as a meeting room during all the coffee breaks and therefore the opportunity to visit all the posters and to get authors' opinions at any time was created. It is difficult to remark on one paper or another due to the high scientific level of all presented papers or exhibited posters. It was impressive how many applications FES supports and how broadly it has been implemented within the clinical practice. Anyway, we have to remark on Michael Russold's work, a young NeuralPRO researcher, that experimentally proved on pigs that a stomal sphincter can be configured from the rectus abdominis muscle. His paper "A stomal sphincter configured from the rectus abdomonis muscle in pigs. First results." was awarded with Vodovnik's prize for best student paper.

The attendees enjoyed the cycle race and rowing exercises that took place within a large hall at Bournemouth International Centre. Cycling and rowing with FES brings the impaired persons one step forward in performing most efficient exercises and having a lot of fun. A pleasant surprise has been

offered by Karen Hitchlock who's "Face to Face" photographic arts project gave us a visual and textual insight into MS persons lives.
Overall, the conference was excellent, lectures were interesting and useful, as was communication with others, in the same field of work. The relaxed atmosphere and the location was highly praised, as well as the truly great social program. Many voices pleaded for the conference to be chosen as a reference for the others to come, due to the way that it was organised and the pleasant time that we have had as an FES 'family'.

Dr. Marian Poboroniuc
Technical University of Iasi
Romania

## The Therapist's Perspective

The 9th annual IFESS conference was held in Bournemouth this year. Over 260 delegates from 28 countries attended the conference. This year one-third of the delegates were clinicians, perhaps attracted by the theme of 'Getting FES into Clinical Practice'. The conference commenced on Sunday evening with a reception hosted by the Mayor of Bournemouth.

On Monday morning in bright sunshine, the presentations began. Invited lectures included a thought provoking presentation by John Rothwell regarding the physiology of movement disorders. Other invited lectures of interest were Garth Johnson's discussion about spasticity and neuroprosthetic developments by John Chae. The oral presentations were grouped under headings including neuromodulation, gait assist and posture, bladder and bowel, physiology of FES and many more.

One speaker was convinced that FES was the only treatment for upper limb recovery and it should begin in the acute phase and continue even after the patient is discharged home. However the results were not convincing as subject numbers were small and there were equal improvements in both study and control groups. This was balanced by other studies, which concluded that further research is necessary to ensure a place for FES in stroke rehabilitation. The use of intramuscular electrodes in some research was interesting and may indicate the way forward for FES. I was particularly interested in the FES systems for improving function post spinal cord injury.

The conference was stimulating but as a clinician I didn't think the theme of 'getting FES into clinical practice' was advanced. There are huge gaps between the different professions regarding what is needed to enhance recovery following a neurological event. An example of this is the simplistic view of spasticity and movement patterning that was presented and discussed in a few papers.

This was the second IFESS conference that I have attended and I plan to attend future conferences. I believe that the clinician is a vital part of IFESS and should be integrated further in future conferences.

Mary O Mahoney
Physiotherapist
Naas General Hospital, Ireland

# The Patient's Perspective

## Giving and Taking!

I am 41 years old and was diagnosed with the rare neurological condition; FSP (Familial Spastic Paraplegia) at the end of 1999. Since February 2002 I have been a patient at Salisbury District hospital, where I have been fortunate enough to be treated with Functional Electrical Stimulation, by as good a medical team as I have ever encountered. Initially my treatment involved a single channel system stimulating my peroneal nerve on my right leg, in a successful attempt to overcome the problem of dropped foot. After familiarising myself with this equipment I changed to a two channel unit, which was used to stimulate both peroneal nerves. By March 2004 I had progressed to a more complicated three channel system. This consisted of a two channel unit stimulating my right peroneal nerve and right glutes, with a single channel unit linked with the two channel unit, to stimulate my left peroneal nerve. It was noticeable and consequently greatly appreciated that this set up enabled me to walk with more stability and much less tripping.

I happily volunteered to donate my body to be stimulated at the FES annual convention on Saturday 4th and Sunday 5th September by delegates who had been learning about the two channel unit. Presumably they had just completed the theory, and this was their first opportunity to put it into practise.

On arriving at Salisbury hospital for the Saturday afternoon session, whilst pinning on my name badge, I was advised by a course tutor that when introduced to course delegates, I should not disclose what my current FES treatment involved.

I was initially placed with three physiotherapists, who had been instructed to watch my walk and then attempt to administer some beneficial stimulation. Initially the three aforementioned physio's stimulated my hamstrings, which was a first. I was very apprehensive while the electrodes were being located accordingly, and the stimulator settings were being adjusted. However, when I tried walking I had to admit that their treatment was of some benefit in as much as it prevented me from hyper extending.

Over the course of the weekend, I was placed with three further groups of delegates, comprising of both physiotherapists and biomedical engineers. I never realised that I could be stimulated in so many places! Without exception, each group administered treatment with varying degrees of benefit.

It was the first group of delegates to whom I was assigned on the Sunday, comprising of a biomedical engineer and a physiotherapist, who administered treatment that very surprisingly seems to be of greater benefit than any FES

treatment I have had in the past. After observing my walk, it was decided to stimulate my glutes, but the electrodes were placed in a higher location than I had previously experienced. They set the stimulator in such a way that my right gluteal muscles were stimulated on right heel rise and vice versa. On taking my first step in the gymnasium, I don't think I was alone in my astonishment with the benefit of this particular set up. The Salisbury team who were present, clearly witnessed the improvement in my walking and the look of amazement on my face, and kindly let me take the relevant two channel unit home for further trials.

On my first subsequent trip down to my local town I felt like I was striding around with a new body. It's almost as if there's someone very gently pushing me along and taking most of the effort out of walking. In fact this new treatment is so beneficial that I now set myself up every day, and not as I did in the past, on only the days when I knew I was going to be doing some significant walking.

I can't thank the Salisbury FES team enough for their enthusiastic support over the past 2½ years and the huge contribution they have made in improving my mobility with the use of FES.

Ian Bennett
Membership Secretary,
The Familial Spastic Paraplegia Support Group
www.fspgroup.org

## Note about this stimulation pattern

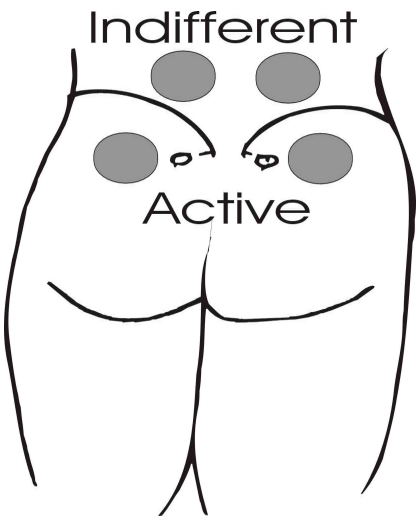



**Figure 1**

**What is the algorithm?**
Gluteal stimulation with alternative electrode position, shown above, triggered by heel rise to stimulate during swing phase.

**Stance phase gluteal stimulation is more usual for improving hip instability, why does this seem to work?**
Not sure… but we think it is stimulating erector spinea improving posture by giving some lumber extension and increased pelvic stability. Ian has previously used bilateral common peroneal stimulation and may have had some training effect so that now poor posture is the bigger problem.

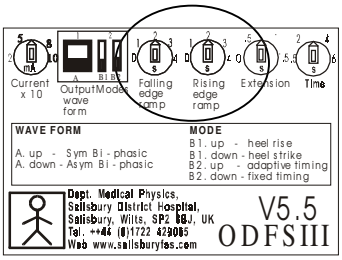
# Equipment news

After 5 years without changes in our stimulator prices it is now necessary for a small increase. Most prices have been increased by 5% except for the micriostim 2V2, which remains at it's old price. The cost of electrodes have been reviewed and some have increased while others have decreased. We have also introduced a P&P charge for UK orders under £100 in value of £2.50. The price increases are due to the increased overhead costs.

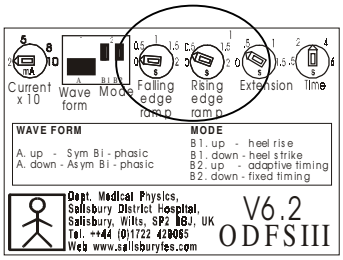
# Features of the new ODFSIII (V6.2)

Towards the end of 2004 all ODFSIII will be version 6.2. A few improvements have been made:

1/ **<u>Improved ramps.</u>** Existing up and down ramps can be changed from 0 to 4 seconds. Users were finding that this never exceeds 2 seconds and the blue ramp dials were never positioned beyond 10 or 11 o'clock. For the new version of ODFSIII, the ramps will range from 0 – 2 seconds allowing more control over the range of the blue dial. Please note the change on the instructions on the reverse cover of the battery panel:

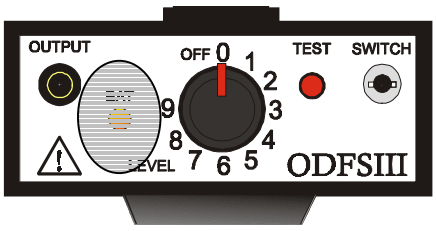


V5.5



V6.2

2/ **<u>Low Battery Detection.</u>** Version 6.2 will warn the user that the battery is nearly flat. The yellow light that indicates an output from the stimulator (labelled BAT) will flash red in stead of yellow when battery power is low and there is an output from the stimulator. If the battery is near exhaustion the stimulator will still work for a short time, giving the user time to replace the battery.




3/ **<u>More Stable Output.</u>** As the battery power starts to drop many users found they had to slowly increase the output of the stimulator. We have improved the electronics inside to box to provide a more stable output as the battery looses power.

4/ **Front Panel Orientation.** By popular demand from our patients, we have changed the front panel so that it can read by the user when worn on the belt.

5/ **Pause switch.** The stimulator now bleeps when it is turned off as well as when it is turned on.

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## Splinting and Functional Electrical Stimulation

Electrical stimulation of the upper limb can be a valid and useful adjunct to therapy. However clinicians often find it a more complicated process and at times less successful, in part due to the lack of functional triggers which make goal directed activity more difficult. Other problems include a higher incidence of fixed contracture, an increased need for accurate electrode positioning, the importance of appropriate positioning of the limb for activity and the influence of antagonist hypertonus on small unstable joints in the wrist and hand.

Intrinsic instability in the hand is an integral problem. Lumbrical/interossei control may be poor and ligaments weak. Muscle imbalance and tonal variations may exist between the long flexors and extensors passing over several joints in the forearm and hand. This will have different effects on joints depending on their individual stability. For example, when forearm and wrist extensors are stimulated, highly mobile joints such as the wrist joint, the thumb CMC joint and the finger MCPs are prone to hyper-extension. As a result PIPs and DIPs are pulled into flexion when length in the long flexors is limited. Patients can find stimulation impossible because of consequent pain or co-existing degenerative joint disease.

A solution to these problems is to provide external support at the hypermobile joints to control excessive motion from FES through splinting. Joint protection and pain control can be achieved. Stimulation is targeted more specifically to produce movement at required joints. Tension on long flexor tendons is released allowing greater movement more distally. The limb can be more easily placed in a functional position for stimulation and reactive spasm can be better controlled. By resting the limb in the splint for a period of time after


stimulation, carry-over for range of motion and tone control can be improved. Casts can be serialised as muscles lengthen and range of movement improves.

At Salisbury a block of funding was set aside to purchase materials and time to splint 13 FES patients over 6 months this year. The majority of splints were made for the hand although elbow drop-out casts were also found useful to combine with triceps stimulation. Soft-cast/ scotch–cast materials were used as we lack facilities for thermoplastic splinting although these would have been useful splints to use.

Over the coming months we hope to review outcome measures and produce a series of case reports. A business case will be presented to establish a combined FES and splinting service at Salisbury for those patients who are unable to have their needs met locally. Guidelines for co-ordinating with BOTOX treatment need to be developed and there may be a role in treatment of the lower limb. Further reports will be made in due course.

I would very much appreciate anyone's comments, thoughts, questions or experiences about combining splinting and FES. I can be contacted via the department by telephone or email.

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# Scientific paper

## Does the Canadian Occupational Performance Measure determine if the Odstock Drop Foot Stimulator improves Activities of Daily Living for people with Multiple Sclerosis?

Presented at the 9th IFESS conference, Bournemouth September 2004

**Abstract**
*The Canadian Occupational Performance Measure (COPM) was used as a supplementary measurement tool during the recent trial conducted at The Medical Physics Department for the Multiple Sclerosis Odstock Dropped Foot Stimulator Trial. (MSODFS Trial) The COPM is an individualised client centred outcome measure designed to detect self- perceived change in performance problems over time. Results of 34 subjects are reported, 16 ODFS and 18 control. At this point in the study it appears that people with Multiple Sclerosis using the Odstock Drop Foot Stimulator are more satisfied and their performance of their identified problems of Activities of Daily Living have improved more than the control group.*

### 1 Introduction

" The client is the most important component of any intervention"[1]

### 1.1 Background

The health professions have been encouraged to use a client centred approach for many years. Since the 1980s health promotion emerged as an important concept, defining health promotion as "the process of enabling people to increase control over and to improve their health" [2]. The Patients' Charter, published in 1995 by the Department of Health is an example of a document that supports the principles of client centred practice and more recently The Commission for Health (2001) [3]. Very few Functional Electrical Stimulation (FES) projects have used client centred outcome measures and it was identified at the 2nd FESnet workshop (2002) [4] that they should be encouraged.

### 1.2 ODFS

The Odstock Dropped Foot Stimulator (ODFS) is a single channel foot switch controlled external FES device, used for the correction of dropped foot following upper motor neurone lesions. [5] Use of the device by people with secondary progressive MS is the subject of a randomised controlled trial. [6] This paper reports on the preliminary results of the impact of ODFS on Activities of Daily Living (ADL) individually chosen by the subjects, assessed by COPM.

### 1.3 COPM

The Canadian Occupational Performance Measure (COPM) is an individualised client centred outcome measure designed for the use by Occupational Therapists to detect SELF-PERCEIVED change in occupational performance problems over time. It uses a semi-structured interview format

and structured scoring method. The COPM is a standardised instrument and previously well validated. The COPM is internationally recognised and culturally non-specific. It can be used for all client groups, across all developmental stages [7]

**2 Method**

Subjects were first assessed to determine their suitability for the trial by the research physiotherapist or clinical engineer.

Inclusion Criteria:
Diagnosis of secondary progressive MS, determined from the clinical history
A rating of 4-7 on the Kurtzke Expanded Disability Status Scale [8] Table 1.

Table 1

| Kurtzke EDSS scale score | Walking ability: able to walk… |
|---|---|
| 4 | 500m without aid or rest |
| 4.5 | 300m without aid or rest |
| 5 | 200m without aid or rest |
| 5.5 | 100m without aid or rest |
| 6 | 100m with stick, crutch or brace |
| 6.5 | 20m with stick, crutch or brace |
| 7 | 5m with stick, crutch or brace |

At the commencement of each subjects' involvement in the MSODFS trial and before randomisation took place, each subject was interviewed using the COPM structure. The subjects had to identify occupational performance problems, issues or concerns, which they encountered during a typical day.
Using the COPM scoring card the client was asked to rate on a scale of 1-10, the importance of each chosen activity (1 not important at all, 10 extremely important). The top five highest scored, self- perceived problems were confirmed with the client and were then individually scored for performance and satisfaction. These were also rated on a scale of 1-10. The total performance scores were added together and divided by 5(the number of problems). This was repeated with the satisfaction scores. The COPM re-assessment was undertaken 18 weeks later at the end of the trial, the client scores each problem again for performance and satisfaction. The reassessment score was taken away from the pre trial score to give the change in score. A change of 2 or more is considered clinically significant [7] the volunteers received the ODFS or physiotherapy exercises according to the randomisation; no Occupational Therapy intervention took place during the 18 weeks regarding the problems highlighted.

**Table 2**

| | ODFS | Control |
|---|---|---|
| Re-Assessments completed | 16 | 18 |
| Male | 6 | 5 |
| Female | 10 | 13 |
| Average age | 53yrs | 58yrs |
| Average time since diagnosis | 11yrs* | 19yrs* |
| Kurtzke Score 4 | 1 | 0 |
| 5 | 2 | 2 |
| 5.5 | 0 | 1 |
| 6 | 7 | 9 |
| 6.5 | 6 | 5 |
| 7 | 0 | 1 |
| Average COPM change in performance | 1.4** | 0.5 |
| Average COPM change in satisfaction | 2** | 0.5 |
| Average number of activities that improved by scoring 2 or more on the COPM scale; Performance for each individual:<br>Satisfaction for each individual: | 2.1*<br>2.6* | 0.9<br>1 |
| Average number of activities that were reported to be worse by scoring 2 or more on the COPM scale,<br>Performance for each individual:<br>Satisfaction for each individual: | 0.44<br>0.31 | 0.33<br>0.33 |

*Significant difference using Mann Whitney U Test
**Significant score using Wilcoxon Test

**3 Results**

58 COPM initial interviews have been completed. The most common problems highlighted by the subjects were; walking on paving slabs and uneven ground (22), going upstairs (17), balance (12), tripping (11), tiring quickly whilst walking (11), walking on grass (9), lacking confidence to go out alone (7), steps and kerbs (7), general fatigue (6), and lower half dressing (6). Re-assessment data is shown in Table 2.

Examples of significant improvement of ADL with a change in COPM scale of 2 or more in both performance and satisfaction in the ODFS group are walking on gravel, stumbling and tripping, walking to the toilet when urgent, stiffness when walking, collecting own darts from board during a game, tiredness and foot dragging. Negative significant change has been identified in only three activities. One person felt they could not walk on paving slabs as well while using the ODFS and two people were not so satisfied with their performance of going upstairs; this was because they had hoped the ODFS would have helped them more with stair climbing.

**4 Discussion and Conclusions**

Although the COPM is not an objective measure, in the present climate of client centred practice the COPM represents a very valid measure of intervention outcome. The ability of COPM to focus on relevant personal problems and concerns makes it unique in outcome measures. Because all of the subjects entered the trial with a view to improve their walking it is not

surprising that their problems focused on various aspects of walking such as tripping, balance, steps, kerbs and stairs and lacking the confidence to go out alone. Results suggest the ODFS is able to reduce tripping and improves MS sufferer's ability to walk on uneven surfaces, giving them more confidence to go out alone. The most improved change recorded in an individual problem (performance 6 and satisfaction 8 on COPM scale) is that of being able to walk to the toilet when urgent. So far results suggest ODFS has no impact on general fatigue.

At this point in the study it appears that people with MS using the ODFS have improved their performance of self selected ADL goals more than the control group. Their satisfaction with their performance has also improved more than the control group.

**References**

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# Top Tips!

## 1. Stimulator drowning

We regularly have stimulators returned that don't work after being dropped in the toilet! How can this be avoided?

One patient recently told me that they disconnect the box completely before pulling down clothing. To ensure the electrode and foot switch leads do not get displaced, they attach a safety pin to the inside of their trouser waistband holding the leads, ensuring the plugs cannot disappear down their trouser leg.

## 2. Uses of Microstim

This will probably be a reminder for many of you. If your patient has problems locating their electrode positions, is particularly sensitive to stimulation sensation, has high tone/clonus then using the Microstim regularly for a short period before setting up an ODFS can be very helpful. We often lend a Microstim for 6 weeks and find set up of an ODFS then becomes much more straight forward in these patient groups.

## 3. Big Muscles – use big electrodes

If you are stimulating larger muscles such as hamstrings, gluteal muscles or quadriceps, it is usually more effective if larger electrodes are used. This is more comfortable as well.

# Job advert

## Research Experience Opportunity

We are searching for a dynamic physiotherapist/occupational therapist who would like the challenge of being involved in a European project. The ALLADIN Project (www.alladin-ehealth.org) is natural language based decision support in neuro-rehabilitation and started in January 2004. The applicant should have some special interest in neuro-rehabilitation.

He/she will have the task of clinically describing stoke patients at different stages of their recovery in natural language. His/her workplace will be the Maria Middelares Hospital (http://www.azmmsj.be/default.html) in Gent, Belgium. This is a fast growing hospital close to the centre of Gent (http://www.gent.be/gent/english/index.htm).

The contract starts in January 2005 with a training period of one month and will last at least 12 months. If you are interested in joining our young team of researchers please contact me, details below.

Jo Van Vaerenbergh
Tel: 003224789291 Jo.vanvaerenbergh@cmat.be

**Service provision**

The Clinic in Salisbury receives enquiries every day from people who want to receive FES treatment in their home area. While we try and help them by providing what information we can are hands are tied by the Data Protection Act, preventing us from releasing the names of people who have received FES training. Additionally, many trained clinicians are not in a position to receive referrals. We therefore need to produce a directory of clinicians who are willing to receive referrals and for their details to be passes on. The information will be used for the sole purpose of connecting potential clients with FES trained clinicians. However, if desired, we can add information to our web page so clinicians can be contacted directly. We have also been asked to provide this information to FESnet so they can send you information about their meetings and other activities. Please fill out and return the form below.

Name: _____

Work Address:

_____

_____

_____

Tel: _____

Fax: _____

E-mail: _____

Web page: _____

| | |
|---|---|
| I provide a clinical FES service | Y / N |
| I am able to receive referrals for the Odstock Dropped Foot Stimulator | Y / N |
| The service is NHS funded | Y / N |
| The service is privately funded | Y / N |
| Please add my details to the directory | Y / N |
| Please add my details to the web page | Y / N |
| Please pass on may details to FESnet to be added to their data base of FES service providers | Y / N |

Signed _____

Date _____

Please send to: Paul Taylor, Department of Medical Physics and Biomedical Engineering, Salisbury District Hospital, Salisbury, Wiltshire, SP2 8BJ, UK or e-mail p.taylor@salisburyfes.com

# FES User Day
## Astley Ainslie Hospital, Edinburgh
## Friday 26th November
## 9.30am - 5pm

Please fill in the form below to reserve your place. We also invite 15 minute presentations on any aspect of the clinical application of electrical stimulation. Presentations may be of original research, clinical experience or of case studies. The aim of the meeting is to promote discussion and the exchange of ideas in an informal setting.

It is hoped to have sessions on the following areas:
Use of FES to improve mobility in stroke, MS, PD and spinal cord injury
- FES in Cerebral palsy
- FES in stroke upper limb
- Electrical stimulation in conjunction with Botulinum toxin.
- Facial palsy
- Stimulator technology update

Please provide a 300-500 approx. abstract, which we will be made available on the day and will also be included in the winter addition of the FES Newsletter. Power point, slides, OHP and video will be available for your use. If using power point, please bring your talk on disk, CDROM or Zip disk so a single computer can be used. This saves time between presentations.

The cost of the meeting is £40. Please make cheques payable to the Medical Physics Trust Fund.

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

Name _____

Address _____

_____

_____

Phone number_____

I will attend the FES User Day Meeting Y / N

I wish to present a presentation Y / N

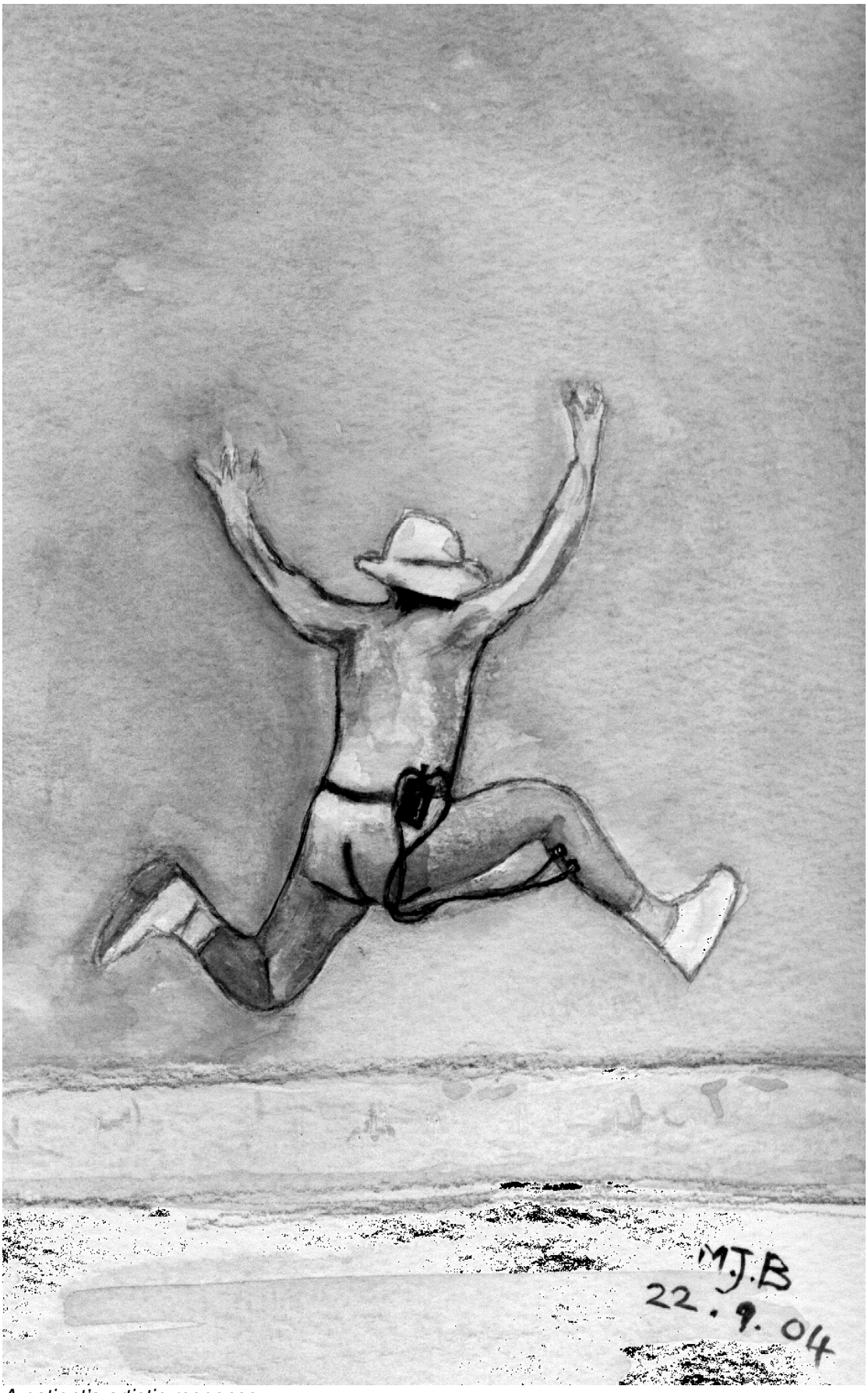
Tittle _____

_____

Please return this form to Nicki Smith, Department of Medical Physics and Biomedical Engineering, Salisbury District Hospital, Salisbury, Wiltshire, SP2 8BJ Tel. 01722 429065, Fax. 01722 425263. Abstracts may be e-mailed (p.taylor@salisburyfes.com) or sent on a disk to Paul Taylor at the above address.

# FES COURSES – note single channel prerequisite for 2-channel course

| Course Type | Date | Location | Host | Contact Details |
|---|---|---|---|---|
| **2004** | | | | |
| **Single** | 23/24 Oct 2004 (Sat/Sun) | Belfast | Siobhan Macauley | (0208) 9026 3851 |
| **2-Channel** | 19/20 Nov 2004 (Fri/Sat) | Salisbury | Paul Taylor | 01722 429063 |
| **Single** | 2/3 Dec 2004 (Thur/Fri) | Dublin | Jennifer Reilly | 00 353 1 2866 800 mseastcoastarea@eircom.net |
| **2005** | | | | |
| **Single** | 28/29 Jan 2005 (Fri/Sat) | Stockton-on-Tees | Claire Hoggarth | 01642 624654 claire.hoggarth@nth.nhs.uk |
| **2-Channel** | 17/18 Feb 2005 (Tues/Wed) | Cumbria | Tracey Mifflin | 01946 523636 |
| **Single/Upper** | 24/25/26 Feb 2005 (Tues/Wed/Thur) | Leeds | Moira Keith | 01946 523636 |
| **Single** | 23/24/25 Feb 2005 (Mon/Tues/Wed) | Romania | Details to follow | |
| **2-Channel** | 11/12 Mar 2005 (Fri/Sat) | Croydon – Surrey | Debbie Foster | 0208 401 3093 debra.foster@mayday.nhs.uk |
| **Single (Paediatrics)** | 21/22 Apr 2005 (Thur/Fri) | Swansea | Wendy Gadd | 01792 285371 www.swansea-tr.wales.nhs.uk |
| **Upper Limb** | 8 Apr 2005 (Fri) | Salisbury | Paul Taylor | 01722 429063 |
| **Single** | 7/8 May 2005 (Sat/Sun) | Salisbury | Paul Taylor | 01722 429063 |
| **Single** | June 2005 | Basingstoke | Juliet Bell | 01256 314764 |
| **Single** | July 2005 | Cheltenham | Nicola Smith | 08454 222107 |
| **Single** | Sept 2005 | Ireland | Patricia Lucey | Patricia@mscork.iol.ie |
| **2-Channel** | Oct 2005 | Salisbury | Paul Taylor | 01722 429063 |
| **Single** | Nov 2005 | Newcastle | Alex Haugh | 0190 219 5668 |
| **2006** | | | | |
| **Single** | Jan 2006 | Norwich | Alisa Jukes | 01603 711685 |
| **Single** | Feb 2006 | Eastbourne | Ann Canby | Physio Dept, Eastbourne District General Hospital, |
| **Single** | Mar 2006 | Inverness | Michaela Smith | Raigmore Hospital, Royal Northern Infirmary (course venue) 01463 242860 |




*A patient's artistic response*
*to initial assessment and set up with ODFS*