



PROVISION OF A CLINICAL FES SERVICE FOR THE CORRECTION OF FOOT DROP

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The Department's involvement in FES began 13 years ago when we began investigation into the development of a standing system for complete paraplegics. This work was funded by the Medical Devices Agency of the Department of Health. During the course of this work we perceived that there were a number of incomplete paraplegics whose mobility could be improved by the provision of simple FES systems to dorsiflex the foot, similar to those used by Liberson in New York and developed by Krajl and Bajd in Ljubljana. At that time there did not appear to be a reliable, commercially available device in the UK. The subsequent grant further developed the stimulator, the Odstock Drop Foot Stimulator, ODFS, and established treatment protocols to improve walking function for patients with a variety of different neurological conditions such as CVA, MS and cerebral palsy as well as incomplete SCI.

The transition from a research project to a full clinical service happened far faster than any of the team expected as a result of an article that appeared in The Independent in August 1992. Over the next few weeks we received over 300 letters from people from all over the United Kingdom leaving us little option other than to start a regular clinic. Initially we found that the further the away that the patient lived from Salisbury the easier it was to obtain funding. Local patients were seldom funded but we were able to see some under the MDA grant. After the completion of the randomised controlled trial we obtain the approval of the South and West Development and Evaluation Committee in early 1996 which has made funding easier in certain areas. This trial showed that in the treatment group walking speed was increased by 21%, the effort involved in walking measured by the Physiological Cost index, PCI, was reduced by 33%, that reduction in spasticity was more sustained and that patients anxiety and depression levels were reduced. All of these findings were statistically significant.

The service has now been running for four and a half years. We take referrals from both G.P.'s and Consultants and then apply to the patients local Health Authority or to the G.P. if they are a member of a fund holding practice. We then assess the patients suitability for FES at a weekly clinic. We see three new patients each week and each assessment takes approximately one hour. If suitable the patient commences treatment. They are usually seen five times in the first year. The first two appointments are on subsequent days during which the equipment is fitted and walking speed and PCI measured with and without stimulation. On the second day the patient returns to the clinic with the equipment already fitted. We have found this essential as previously many patients



experienced difficulty on returning home. We then see them after six weeks, after a further three months and then after a further six months. In subsequent years we see them twice a year for as long as they continue to use the stimulator. Therefore we see an FES service as far more of a treatment method rather than just the provision of equipment. In order to reinforce this approach we establish communication with the patient's physiotherapist if at all possible to ensure that we are trying to work towards the same objectives. Patients can also contact us directly if they are experiencing any problems and if anything breaks we send them new equipment by return of post. This accounts for our much higher compliance rate compared to many other centres where FES equipment has normally been provided as part of a University research programme. To date we have fitted over 350 ODFS's.

As well as the ODFS we have also provided therapeutic hand stimulation for a number of patients and following a grant from Action Research to develop a two channel system we have been fitting this to an increasing number of more severely disabled patients. We estimate that in the future we will be fitting the two channel system to approximately 25% of patients. As the demand for the ODFS has increased we have run courses to enable centres other than Salisbury to be established. Clinical services are now running at City Hospital in Birmingham and St. Michael's Hospital Hayle, with whom we have had clinical cooperation for a number of years. Physiotherapy departments in a number of other hospitals use the system with different levels of autonomy. Recent courses in London and Cornwall with enable other centres, particularly Jersey, to follow. We are planning to retain control of the supply of the ODFS so that the equipment is only used in accredited centres thereby ensuring that the technique is not discredited. This will also enable any advances made in the development of new equipment to be rapidly passed on to a greater number of patients. This will enable us in Salisbury to provide a local service and to be a referral centre for the non routine cases..

References

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