



Functional Electrical Stimulation: Applications in Rehabilitation

Sponsored as a Post Congress course by the World Congress of Physical Therapy (WCPT) & endorsed by the International Functional Electrical Stimulation Society (IFESS)



Course Outline

- Physiologic principles of electrical stimulation of the human nervous system with a focus on applications in stroke, spinal cord injury, multiple sclerosis, cerebral palsy, traumatic brain injury, Parkinson's disease, hereditary spastic paraplegia.
- Therapeutic FES applications for muscle strengthening, gait re-education, promotion of motor recovery & restoration of function in the upper & lower limb.
- Overview of methods & devices to enhance walking in neurological gait disorders. (Odstock, WalkAide, Acti-Gait, Stim-u-Step, NESS L 300, Neurostep).
- Overview of methods & devices to improve motor control in the upper extremity including the Complex Motion Stimulator, Freehand, Ness H 200, Bionic Glove.
- Controls & Sensors in FES technology-
- "A Bird's Eye View- what's happening in FES research & development: implications for physiotherapy practice."
- Outcome measures in FES: evaluation of treatment benefits; therapeutic versus functional aspects.
- Integration of FES with conventional physiotherapy treatments.
- Patient selection criteria for FES programs and interventions.
- "What the Future may hold: Implanted Technology - the advent of Neuroprosthetics in Rehabilitation."
- Question & answer sessions.
- Practical demonstrations of FES devices will be included where possible.

Dates & times

June 7, 2007 -8am -4.30pm
June 8, 2007 - 8am - noon

Location:

Paetzold Centre, Jimmy Patterson Pavilion (JPP), Vancouver Hospital
855 W 12th Avenue, Vancouver, B.C.

Course fee : \$200

For more information:

please contact Maura Whittaker at
gtwhittaker@hotmail.com
or phone: 604-737-6285

Register Online: www.wcpt.org
(follow the links to WCPT 2007 / pre & post congress courses)

Organizers/Presenters:

Maura Whitaker, BSc PT, MBA

Physiotherapist, Spinal Cord Injury Program, GF Strong Rehabilitation Centre, Vancouver.

Involved in FES research since 1994, initially with the Division of Neurosciences, University of Alberta, Edmonton, Investigating the WalkAide technology in stroke & incomplete SCI. Current research includes therapeutic FES for motor recovery in incomplete SCI and implanted FES technology for gait. Member of the American Spinal Injuries Association (ASIA) & IFESS.

Jenny Robertson, BScR

Physiotherapist, Stroke & Brain Injury Program
G.F. Strong Rehabilitation Centre; Vancouver.

Involved in FES clinical research since 2001 with a focus on the effects of the WalkAide technology on hemiplegic gait, balance and fall risk in stroke and brain injury. Pending research project includes neuroprosthetic FES to improve reach & grasp in stroke subjects. Member of the Canadian Physiotherapy Association & IFESS.

Christine Singleton MSc., MCSP, OCPP

Clinical Specialist (FES), West Midlands Rehabilitation Centre, Birmingham, UK.

Since 1996 involved in the delivery of public & private FES programs for stroke, MS, CP, TBI and SCI patients including setting up 2 FES clinics for the British National Health Service and training physiotherapists on the Odstock foot-drop stimulator.

Current research includes investigating the barriers to FES implementation. Member of IFESS & founding member of Therapists in Multiple Sclerosis (TiMS).

Geraldine Mann, MSc. HPC MCSP

Consultant Physiotherapist National Clinical FES Centre, Salisbury, UK.

Researcher & clinical educator on FES applications with a focus on the Odstock range of stimulators at the Salisbury National Health Service Foundation Trust. Current research includes FES application to improve gait in MS

& Parkinson's disease; surface & implanted stimulation for the recovery of upper limb function following stroke. Member of IFESS and the Association of European Physiotherapists in Parkinson's disease.

About FESAiR

FESAiR was founded in July, 2005 during the 10th Annual Conference of the International Functional Electrical Stimulation Society (IFESS). After scientific presentations on a wide variety of FES topics, four like-minded physiotherapists (the organizers of this course) identified a need to publicize the worldwide developments in FES technology & related research and to create a forum for the exchange of information, knowledge and expertise related to FES applications in physiotherapy and rehabilitation.

The goals of FESAiR are therefore:

- 1) to foster communication, co-operation and collaboration between physiotherapists and scientists/engineers involved in FES technology development;
- 2) to promote the adoption and application of proven FES techniques in physiotherapy clinical practice;
- 3) to highlight new FES devices in the marketplace and current research related to these devices;
- 4) to respond to enquiries from physiotherapists, researchers and consumers seeking information on FES treatments and initiatives;
- 5) to support the efforts of the International FES Society in its mission to "promote research, application and understanding of electrical stimulation as it is utilized in the field of medicine".