

Scientific/Educational Workshop

Workshop information

Workshop responsible :

Glen M Davis

Workshop title :

FES Exercise for Health and Fitness Benefits: The State of the Art

Workshop goals :

1. Communicate physiological adaptations underlying cardiorespiratory fitness, muscle strength, humoral metabolic changes and alterations of bone/skin quality after FES exercise in neurological populations
2. Discuss concepts of minimum/optimum "dose-potency" of FES exercise for health and fitness
3. Clarify how physiological adaptations lead to positive changes in health and reduced disease risk
4. Relate how better health and reduced disease risk leads to enhanced functional outcomes

Abstract :

Functional Electrical stimulation (FES) elicited exercise has long been proposed to improve health, fitness and functional outcomes in neurological populations. Yet, high-quality scientific evidence or systematic reviews supporting such claims is sparse. This Symposium will synthesize current scientific evidence (with emphasis on recent studies and research of high quality) around changes to four key components of health and lowering cardiovascular disease risk in neurological populations, particularly spinal cord injury. Four components of health focus will include:

- Cardiorespiratory Fitness
- Muscle strength and endurance
- Humoral and intramuscular changes of metabolism, and
- Bone and skin quality

The speakers, who comprise experts in their respective fields, will take a "state of the art" approach to clarifying important issues of "minimum dose-potency" and optimum "dose-potency" of FES exercise. The concept of "dose-potency" will emphasise what are the probable minimum levels of volume, frequency and intensity of FES-exercise in this population. The speakers also will link how the physiological adaptations that each will address, underpin changes to health and disease risk, and how both physiological adaptations and improved health leads to improved functional outcomes, enhanced activities of daily living and community re-engagement.

Speakers:

1. Professor Glen Davis – *"Alterations of aerobic fitness and cardiovascular responses after FES training"*
2. Dr Ashraf Gorgey – *"Humoral and intramuscular changes of metabolism after FES exercise"*
3. Dr Ines Bersch-Porada – *"Bone and skin quality after FES exercise"*
4. A/Prof Nazirah Hasnan – *"Clinical and functional outcomes after FES training"*