

Scientific/Educational Workshop

Workshop title

Utility of Functional Electrical Stimulation (FES) in Rehabilitation Medicine's continuum of care

Workshop responsible

Gad Alon (University of Maryland, School of Medicine)

Speakers

Gad Alon, PhD, PT

Workshop goals

To inform the participant on the latest technological advancements of wearable wireless FES systems and offer a new clinical model of screening to determine who is a candidate that is likely to benefit clinically from using FES. Included in the workshop discussion is evidence-base data supporting the utilization of wearable wireless FES in the management of patients in intensive critical care units (ICU), patients with damage to the brain or spinal cord, patients with musculo-skeletal damage, patients with peripheral vascular disease and diabetic neuropathy.

Abstract

There are several dimensions to the complexity of the topic. First, is the prevailing and misleading terminology, inadequate evidence-based training of physicians and rehabilitation therapists, and the recognition that until recently most existing FES systems were not designed as wearable systems and are "not patient or therapist friendly". Most importantly is overlooking the well-known phenomenon that following damage to the musculo-skeletal system or brain, patients' profile of functional recovery and thus utilization FES as part of the recovery is highly variable, prolonged and largely unpredictable. As a result, legacy research and training methods that depend on interpretation of statistically significant and clinically meaningful findings are inherently limited addressing the needs of most patients. This is despite the fact that FES systems are portable and are being used throughout the continuum of care from intensive critical care units (ICU) to daily home use. This workshop will offer an advanced practice model guided by the latest trend in the medical field to focus on patient-centered, personalized intervention. If the advanced personalized approach to FES application is adopted, millions of patients world-wide are likely to benefit from proper utilization of wearable, wireless FES.