International certification

Mep®

PERCUTANEOUS
MICROELECTROLYSIS

SPORT + ECO

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Reviewed and updated

ABSTRACT

Tendinopathies is a common disease in the musculoskeletal system. Histopathological evidence indicates that tendinopathies are typically degenerative lesions, presenting collagen fiber separation and disorganization, mucoid substance increase, hyperplasia and presence of necrotic tissue. There is also an increase in fibroblasts, an absence of acute inflammatory cells, with presence of inflammatory mediators. Normally, an intratendinous nodule can be found by palpation or diagnostic ultrasound.

Physical therapy plays an important role in symptom reduction and in function recovery. In the last few years, new technologies have been proposed to treat tendinopathies. One of them is Percutaneous Microelectrolysis (MEP®). This technique employs a low intensity galvanic current (up to 990 microamperes), which is applied percutaneously with an acupuncture needle. This technique is the first one in the world that proposed the usage of low intensity electrolysis.

In recently published articles, MEP® produced a high acute inflammatory response with a large number of inflammatory cells (mainly neutrophils), edema and tissue injury. These effects are caused by the micro-galvanic current that MEP® uses. Tissue destruction occurs through alkalosis, promoting new tissue formation due to the stimulation of inflammatory and regeneration phases. This treatment also produces a H_2 gas release, which is a powerful free radical inhibitor that promotes an analgesia.

MEP can also be used in myofascial trigger points (MTrPs), delay onset muscle soreness, muscle injuries, sprains, among other conditions. Several published studies in MTrPs supports that the pain reduction (assessed by algometry and VAS) caused by MEP is greater than just using a static needle. It was also compared with other techniques such as Hong, achieving better results.

When the technique is used to treat tendinopathies and muscle injuries, it could be applied with ultrasound guide. The use of this modality is not mandatory but many PT around the world are including low cost diagnostic ultrasounds in their practice to “see” where to treat and to assess periodically the patient evolution.

MEP can also be used in the aesthetic area to treat wrinkles and stretch marks.

During the treatment, patients will feel a small pinprick and, depending on the pathology treated, they may also feel a burning sensation, a muscle ache and/or a muscle twitch. These are all normal sensations and mean that they will have a good response to treatment.

To apply MEP, Physical Therapist must be specifically trained. The therapist will choose a length and thickness needle appropriate for the condition and body size, and then insert it through the skin at the appropriate treatment site, with the proper current density.

At this moment, there are more than 3300 PT using this technique around the world. Are you prepared to be one of the firsts to get this certification in your country?

PROGRAM

- Bases in electro-physical agents and electrotherapy.
- MEP: History - Fundaments – Mechanism of electrolysis – Physiological effects – Chemical and cellular reactions caused by MEP – Treatment algorithm.
- Muscular lesion: Classification – Assessment – MEP treatment.
- Trigger points: Etiopathology - Classification – Assessment - MEP treatment.
- Tendinopathies: Tendon (structure, function) - Assessment - Etiopathology - Classification – Pain theories – Scores – Dynamometry – Algometry – Force plates – Diagnostic ultrasound - Electrophysical agents and other treatments – Exercises (eccentric / isometrics / load modulation) - MEP treatment.
- MEP practice in trigger point and lower and upper extremities tendinopathies such as: Insertional and mid-portion Achilles tendinopathies, plantar fascia, patellar tendinopathy, pubalgia, shoulder tendinopathies (supraestinatus, biceps, infraespinatus), elbow tendinopathies, Quervain tenosynovitis, trigger finger.
- Diagnostic ultrasound: Bases – Power Doppler – Color doppler – Elastography - Normal tissue - How to assess muscular injuries and tendinopathies. Ultrasound-guided MEP in muscular injuries and in tendinopathies such us: Achilles tendinopathies, plantar fascia, patellar tendinopathy, suprapatellar bursitis, shoulder tendinopathies (supraestinatus, biceps, infraespinatus), elbow tendinopathies, Quervain tenosynovitis.

ABOUT THE INSTRUCTOR

Oscar Ronzio trained as a PT in Argentina, qualifying in 2001. Since then, he has taught electrophysical agents in many Universities in Argentina and other countries. At present he is a Professor and researcher at Universidad Maimónides and at Universidad Nacional Arturo Jauretche, Argentina and DHSc (Doctor in Health Science, with a thesis in electrical stimulation). He researches in electrophysical agents and sport injuries such us tendinopathies and is one of the first to introduce the usage of ultrasound guided techniques in Latin America. He is on the Editorial Board of the journal “Fisioterapia e Pesquisa”, Universidade Sao Paulo (Brasil) and one of the founding members and part of the Board of ISEAPT (International Society of Electrophysical Agents in Physical Therapy, a WCPT Sub-group).

In the political area he represents Argentina as Primary contact for WCPT. In 2016 he was in the organization of WCPT-SAR Congress.

Ronzio has published more than 23 articles in Spanish, Portuguese and English and he is the author of the chapter “Radiofrequencia” in a Brazilian book and the author of the chapter “Magnetotherapy” in the book Electrotherapy – Evidence Based Practice (Tim Watson). He has presented more than 400 lectures, short courses and conference papers. In the last years he has taught how to assess and treat tendinopathies with low cost resources to more than 3300 professionals.

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