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Clinical application of microcurrent in musculoskeletal disorders

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The treatment of various musculoskeletal conditions including acute and chronic muscle, tendon, ligament and cartilage disorders, traditionally include the use of non-steroidal anti-inflammatory drugs (NSAIDs), therapeutic modalities such as thermal and manual therapies, and corticosteroids in conjunction with specific rehabilitation exercises. Although NSAIDs, and corticosteroids may be helpful for short-term pain reduction and early recovery of function as they do not typically reverse the structural changes associated with degenerative conditions and may contribute to even worse long-term outcomes by potentially interfering with tissue healing. The current practice of regenerative medicine encompasses prolotherapy, platelet-rich plasma (PRP) and mesenchymal stem cell therapy (chemical factors). Microcurrent is a sort of physical therapy modality delivering subsensory current to the tissues in the microampere (μA) range and thus mimics the electrical intensity found in the living tissues. Microcurrent has been used to increase the rate of healing in injured athletes to manage pain, increase the rate of fracture repair and to treat myofascial pain and dysfunction. However, there is yet no standard care protocol for patients with musculoskeletal disorders and pain considering the stimulus parameters such as the waveforms, amplitude, intensity, frequency, treatment duration, the treatment schedule, and where the electrodes are placed. Therefore, author would like to introduce the results of several studies related to the regeneration that we performed for musculoskeletal conditions using microcurrent therapy and physical factors.

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