

ETM/378 - The Water Project: Which Aquatic Exercises Work Best? Identifying Muscle Recruitment For Aquatic Exercises Used In Interventions For Core Strengthening And Rehabilitation From Musculoskeletal Disorders

People suffering from musculoskeletal disorders and populations susceptible to back pain, such as pregnant women, the obese and elderly, often use aquatic exercise for rehabilitation and strengthening purposes. Aquatic exercise reduces spine and joint loads, and is beneficial in reducing pain, disability, and absence from work, increasing muscle function and improving quality of life. However, information on the appropriateness of aquatic exercises targeting trunk supporting muscles is lacking. This project combines electromyography and three-dimensional videography to evaluate aquatic exercises used for strengthening and rehabilitation. The aim is to assess which exercises are most effective in activating trunk supporting muscles, and to quantify and compare the perceived exertion and physical effort demands of different exercises. The findings would provide an evidence base to inform clinical practice and improve quality, efficiency and effectiveness of aquatic interventions. This would positively affect patients' health and wellbeing, and reduce the economic cost of health care.