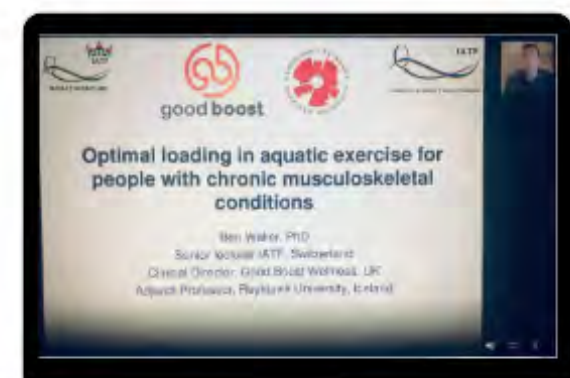
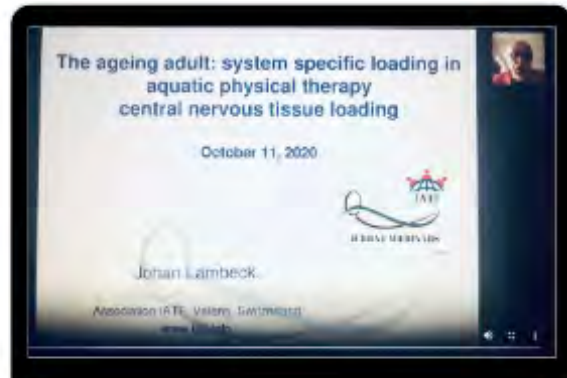


LOADING SYSTEMS IN AQUATIC PHYSICAL THERAPY



CLINICAL APPLICATION MESSAGES

GO TO WWW.HALLIWICKTHERAPY.ORG

Ask how you can rewatch it



- Cerebrovascular health needs aerobic levels: one should get tired.
- Play and make patients explore, memorize and solve problems.
- Neuromuscular training: small amplitude and high frequency movements with extra surface area maximize muscle activation.
- Steady paced movements will not produce sufficient external load to stimulate adaptations in the neuromuscular system. Intramuscular fascia training with very low load, 3 D activities.
- Extramuscular fascia training with flinging / catapult / yoyo movements

LOADING SYSTEMS IN AQUATIC PHYSICAL THERAPY

- Fascia is a body wide tensional network of fibrous collagen, soft connective tissue with different densities and regularities shaped by tensional strain.
- Fascia reacts to mechanical loading with cellular contractions and changes in fluid characteristics. This has consequences for the training of fascial tissue which should be trained in three dimensional ways with sufficient loading.
- Monitoring of the treatment dosage in aquatic therapy is difficult. A practicable method is to use the Borg RPE-scale, to evaluate the work load in each set.
- Intermuscular fascia training is slow and sinusoid with a long melting stretch at the end of ROM and intensity of 30% of 1RM. Extramuscular fascia training is characterised by yoyo type movements with activated loaded stretch and intensity of 60-70% of 1RM.

URS GAMPER



LOADING SYSTEMS IN AQUATIC PHYSICAL THERAPY

- The aquatic environment facilitates the loading of different systems in people with chronic MSK problems. However, the evidence suggests there is a tendency to under load this population in the pool. Results currently show only short-term pain relief with no improvement in objective measures of performance.
- Neuromuscular training has been shown to be effective in many populations with MSK problems. Passive or low muscle work exercises i.e steady speed exercises irrespective of velocity are insufficient to promote improvement in the neuromuscular control. Based on the evidence aquatic resistance training provides this stimulus with the results of 3 RCTs to support this claim.
- Immersion does not seem to affect the ability of a muscle to produce force. However, the ability to provide strength training i.e. 3 repetition max strength sets is challenging. External resistance from a therapist, such as BRRM or isometric conditions seem plausible methods to provide that external loading
- Only through loading at a high enough intensity and using correct training method can we optimize the training load and thus outcome in aquatic exercise for people with chronic MSK conditions

BEN WALLER



LOADING SYSTEMS IN AQUATIC PHYSICAL THERAPY

- Executive function training is imperative for adequate functional agility, to negotiate obstacles and fall prevention in general.
- Aquatic therapy is most effective when patients combine exercise, new sensory experience, cognitive challenge and social stimulation in an enriched environment.
- Motor learning of postural balance includes error making and unexpected perturbations. Aquatic therapy without these elements is less effective.
- It is evident that water-based exercise can confer specific advantages, as compared to land-based exercise: water-based exercise prescription should be a key consideration for all health care professionals.

JOHAN LAMBECK

