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Integration of Halliwick Principles into WST: Combining Elements of the Halliwick Ten-Point-Programme with WST to Enhance Postural Control and Functional Activities in Aquatic Therapy



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I had the pleasure to learn Halliwick from James McMillan. I learned, organized courses and later also was allowed to co-teach with him during some 30 courses in Netherlands and Switzerland between 1982 and 1994.

After 2 regular Halliwick courses, participants wanted to continue learning from him and he suggested to organize a course on “The logic of approach to exercise in water”. The basis was a decision tree (Mac mentioned the word algorithm). Elements in this tree were e.g. choice of water depth, form of exercise (inhibition, facilitation, dynamic), objective of the exercise, see below.

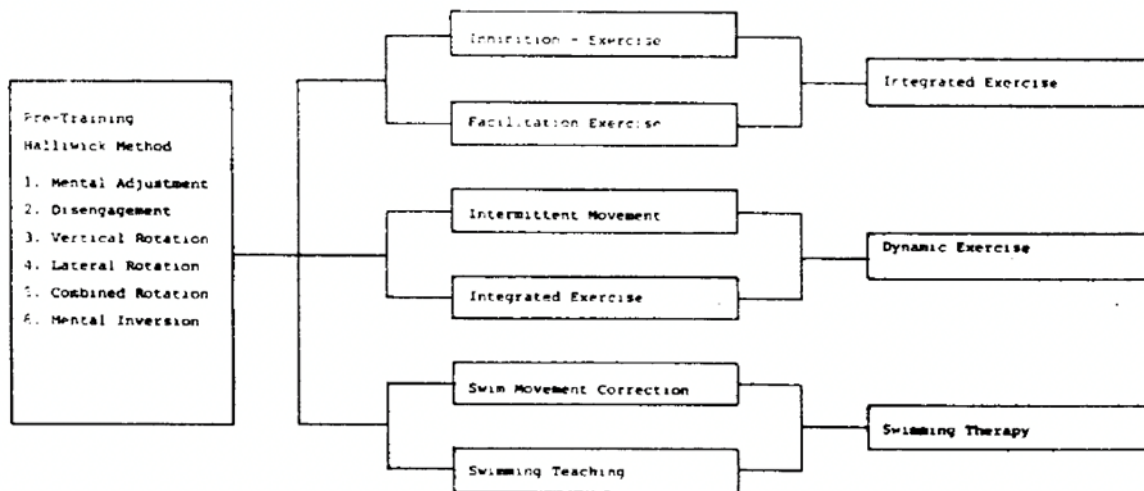
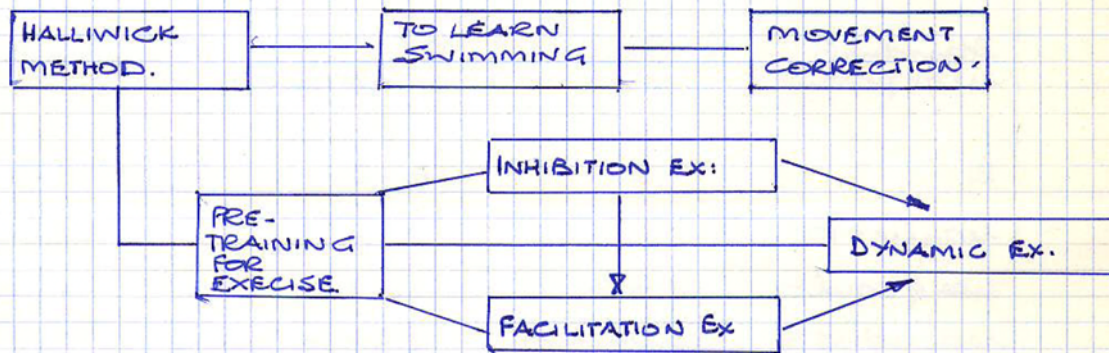


Figure 2. Forms of Exercise in water.

This figure comes from "The role of Water in Rehabilitation. *Fysioterapeuten* 1977; 45: 43-46, 87-90, 236-240" by McMillan (his only publication as a single author).

One can see in this schedule that he regarded Halliwick as pretraining, which can also read in the unpublished and undated manuscript below:

SCHEMATIC PRINCIPLES FOR EXERCISE PROGRAMMES



Any pathway can be planned and carried out according to the requirements:

- Pre-train - Inhibition - Facilitation - Dynamic
- Pre-train - Inhibition dynamic
- Pre-train - Facilitation dynamic
- Pre-train - Dynamic.

DEFINITIONS.

PRE-TRAINING Halliwick Method Points 1-6 definitely possibly 1-7

Pretraining basically means daring to fall and being able to stand up. This is necessary when dynamic exercise challenges balance (going to the limits of the basis of support, walking fast to train agility).

One of the points in pretraining is Transversal Rotation Control (TRC), which in itself can be a therapeutic exercise as well, e.g. to activate the ventral myofascial chain in an eccentric or concentric way. But TRC in the sense of pretraining is just about being able to stand up after a loss of balance in which quality of moment is not important, only quantity.

The figure underneath also shows the objectives of the exercise or treatment goals. Nowadays we classify the goals according to the International Classification of Functioning, Disability and Health (ICF).

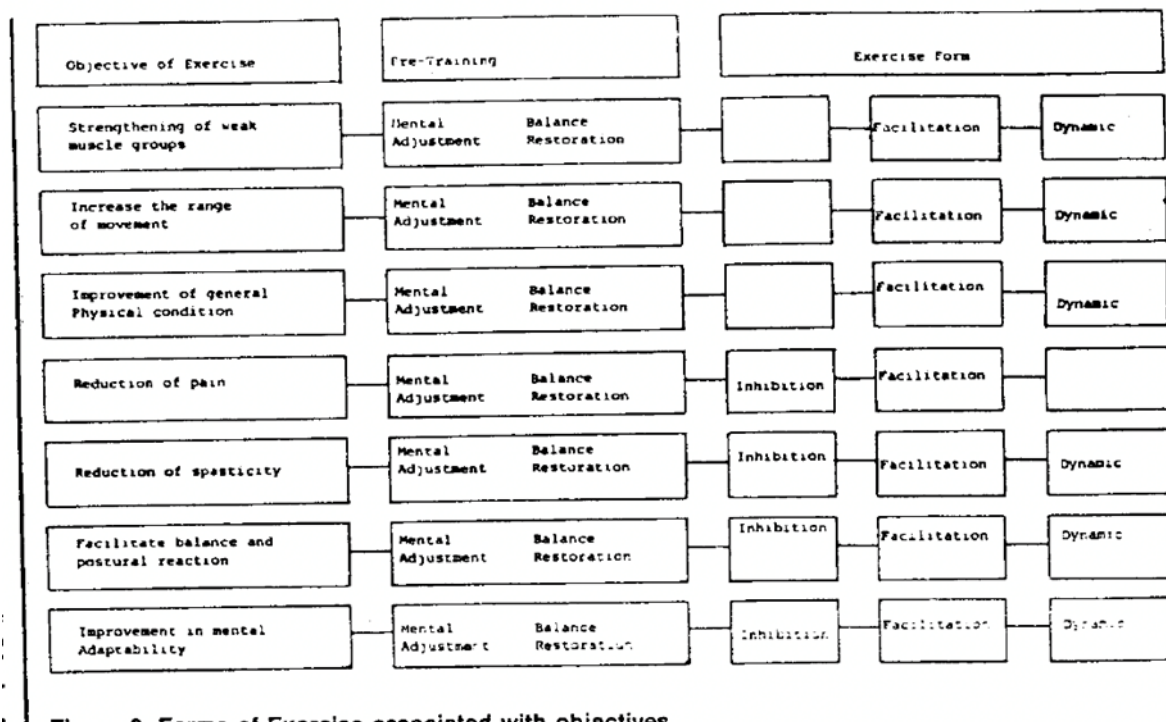


Figure 2. Forms of Exercise associated with objectives

McMillan changed wording from “The logic of approach to exercise in water” to “Water specific exercise”, which became ‘Water Specific Therapy”, as used by Urs Gamper in his German book *Wasserspezifische Bewegungstherapie und Training*” by (1995). Urs Gamper is a Swiss physical therapist who worked in the thermal center in Bad Ragaz (and later in the rehab center in the neighboring Valens). Gamper was appointed to McMillan, who was in charge of a group of therapists, developing therapy from the Halliwick swimming method. McMillan started teaching Halliwick courses in Bad Ragaz in 1963 and was asked to work there and head the group in 1974. This group lasted till 1979 when McMillan chose to travel the world to teach.

Water Specific Therapy (WST) is defined by Gamper as a therapeutically functional treatment, adapted to the biomechanics of the human body and based on the specific characteristics of water: the buoyancy-gravity relationship, flow conditions and waves.

The specific characteristics are:

1. The buoyancy-gravity relationship: applied in the metacentric effect construct. Both forces are almost equal, but opposite and with their centers at different places. This makes it easy to create stabilizing or destabilizing torques by changing the relationship. Stabilizing torques are mostly seen as various postural reactions (righting, equilibrium etc)
2. Flow conditions: in general, used as turbulent drag, not only providing resistance against active movement by the client, but also used to by the therapist’s hands to influence balance
3. Waves can be transversal or longitudinal. In both cases containing (kinetic) energy influencing balance of a client, e.g. during agility training

These characteristics allow to easily create:

- situations in which patients work actively with their own changes of body shape and/or added torques in stabilizing or mobilizing ways
- reactive exercises (by – unexpected – perturbations)
- changes of the punctum fixum and punctum mobile
- all variations between closed – and open kinetic chains
- movements with a very low level of force or power
- high torques on the trunk without additional weights (as on land)

Halliwick originally was meant to be motor learning in water to be used in water (swimming). Possible effects on land, like increased head control, were not the primary goals.

WST can be regarded as motor learning in water to be used on land on purpose (see the figures): based on clinical reasoning, evidence based clinical practice, ICF in contemporary topics in neuromusculoskeletal therapy.

These contents will be addressed in WST courses in Sun City (AZ) in, see https://www.inertiatherapy.com/?page_id=1631

