

Aquatic Therapy

with WSC Physiotherapist Natalie Murphy

There are a variety of benefits of exercising in the water following injury, or to prevent injury. These include:

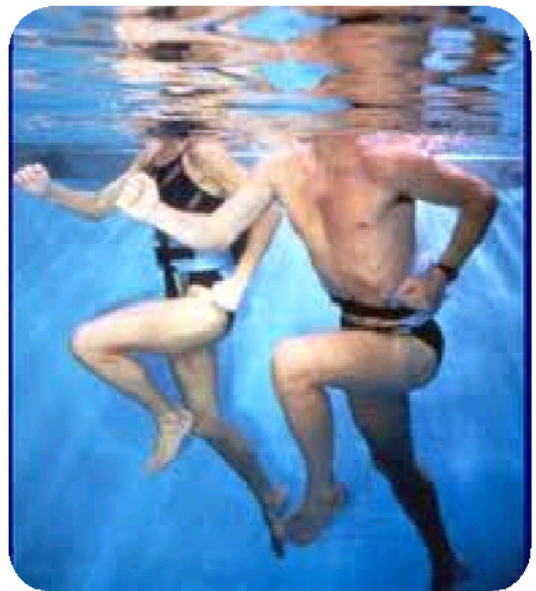


- Decreased forces on weight bearing joints
- Buoyancy acts to support weak joints and to slowly add resistance
- Increased circulation improves the condition of the skin affected by surgery or immobilization
- Earlier movement and increased range of movement
- Reduced muscle wasting
- Reduced scar formation
- Increased tolerance to exercise for the overweight or elderly. Flotation devices can be used to increase buoyancy to increase comfort
- Hydrostatic pressure relieves oedema in the lower extremities
- Warmer water temperature decrease muscle guarding and pain
- Cooler temperatures are better for aerobic exercise
- May help alleviate depression and feelings of isolation following injury

Deep Water Running

Deep Water Running (DWR) is performed in the deep end of a swimming pool as the individual attempts to run 'on the spot', reproducing movements used when running on land (Rankin, 2010). Typically a flotation vest is worn allowing the head to remain above water and to help maintain an upright posture. DWR:

- Provides for decreased stress and weight bearing to injured tissue and joints
- Allows for maintenance of cardiovascular fitness and a training effect



Deep water running was initially employed for, and continues to be employed for rehabilitation following injuries. However, it is increasingly used as a form of supplementary training for cardiovascular fitness. DWR is a means of reducing loading on muscles and joints while maintaining a training stimulus thereby reducing the likelihood of injuries due to overtraining for example running on land.

Shallow water walking

Benefits include increased metabolism and strength, improved balance and coordination, recreation and socialization, and stress relief and relaxation. It also requires no swimming ability. It makes exercise possible for arthritis sufferers

Shallow water running

This may be better for sports specificity due to the similarity to land based running. As weight bearing status is being introduced following an injury, shallow water running may be an appropriate preparation for return to land based running.

References

Becker, B. (1994). The Biologic Aspects of Hydrotherapy. *J Back Musc Rehab*, 4, 255-64.

Davidson, K., & McNaughton, L.(2000). Deepwater running and road running training improve VO2max in untrained women. *Journal of Strength and Conditioning Research*, 14, 191-195.

Koury, J. (1996). Aquatic therapy programming: guidelines for orthopaedic rehabilitation. Human Kinetics, USA

Lauder, T., & Burns, A. (2001). Deep Water Running: An Effective Non-Weightbearing Exercise for the Maintenance of Land-Based Running Performance. *Military Medicine*, 166(3), 253-258.

Michaud, T., Rodriguez, J., Andres, F., Flynn, M., & Lambert, C. (1995). Comparative exercise responses of deepwater and treadmill running. *Journal of Strength and Conditioning Research*. 9, 104-109.

Rankin, R. (2010). Deep water running and water based exercise in the management of athletes and patients. Lecture: Griffith University.

Reilly, T., Cable, N., & Dowzer, C.N. (2002). The efficacy of deep water running. In P.T. McCabe (Ed.), *Contemporary Ergonomic 2002*, pp. 162-166. London: Taylor and Francis.

