



Immersion Therapy: Active Recovery Plan

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Immersion Therapy is an underwater experience for people with complex injury and disability utilising scuba equipment in a pool environment. In an area with almost non-existent research, there was much to explore. Some of the overall research project formed Miss Karlee Naumann's Masters by Research and comprised of three separate studies.

1. Scoping Review
2. Systematic Review
3. Pilot Exploratory Case Study

The scoping review identified swimming and hydrotherapy as the most commonly researched water-based interventions, with the outcome measures used to evaluate these services varying. The systematic review determined that there is currently insufficient evidence to determine the physical effects of scuba interventions on participants. However, scuba interventions were identified as an enjoyable and positive experience, with the potential for participants to increase self-concept. Both of these studies ultimately helped to guide the pilot study on Immersion Therapy.



The pilot study of Immersion Therapy has shown that participants with a range of conditions are able to undertake activity using scuba equipment that increases their oxygen consumption in a manner consistent with their perceived exertion. This is a very important finding for some participants who are unable to engaging in health promoting physical activity out of the water. For some, wearing scuba and full body immersion allows freedom and an ability to exercise that they do not have on land.

The results confirm that sessions are individualised based on the participant's focus and desires, with the service following a person-centred biopsychosocial approach. Immersion Therapy appears to affect both physical (HR, FS, RPE) and psychosocial outcomes (experience and perceptions of the activity).

Three participants reported a decrease in pain post session. There were notable improvements in ROM in at least 1 of the following joints: knee, hip or shoulder, for all participants. Mood remained consistently positive for 5 of the 6 participants. Four out of 6 participants had an increase in VO_2 from rest to light exercise and another increased from light to heavy exercise.

This same trend of increased HR and RPE was observed for 4 out of 6 participants. Two participants, who experience spasticity, reported improvements after the session. Five out of 6 participants had a decrease in ankle circumference in at least one leg. Immersion Therapy is described as a positive, physically rewarding and socially supportive experience, with participants expressing they enjoy the freedom and experience of being in the water.

The case studies provided valuable information and insight on data collection methods in an underwater setting and potential directions for future research. The research is continuing through qualitative interviews on participants, their caregivers and staff of Determined2 to explore more fully these benefits and experiences.