

Get Up, Stay Up, Don't Fall!

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Beth will be teaching Effective Balance and Mobility Protocols at the ATRI Washington DC conference on Thursday February 21, 2019 and at the ATRI Chicago conference on Saturday April 13, 2019.

The word balance in rehab means motor control. Functional mobility requires a person to maintain their center of mass over their base of support. For some it translates to get up, stay up and don't fall. For others balance is complex patterns of agility and coordination, maximizing their sports performance. Either way the aquatic environment with the unique properties of water is an ideal location to challenge balance, motor control restoring functional balance at all levels.

Research has demonstrated that balance activities in the water are as effective when compared to land. However much of the research performs the same exercise on land as in the water and therefore do not challenge the subject as much as this author believes possible. Here are ways to challenge clients balance with the goal of reducing fall risk and improving overall function.

Applying basic land- based progressions to water exercise is always an option. As a reminder this includes:

- Wide to narrow base of support
- Close eyes
- Add head turns
- Add dual tasks either mental or physical
- Stable to unstable surface
- Perturbations

In the water we can challenge balance with reduced fear and consequence of falling. This proactive environment allows individuals to safely test their limits of stability. Movement is slowed by the drag forces, providing increased time to recover. To maximize the benefits of the unique properties of water we can add the following challenges to enhance balance reactions.

- Work at different depths (water level above T 11 increases the rotational forces of buoyancy)
- Stop/ start/ change direction (utilizing inertia)
- Turbulence perturbations
 - Self (client moves arms or one leg creating instability and turbulence)
 - Push the water (therapist applies a directed force of turbulence to create instability in either random patterns or specific plane)
 - Scoop the water (therapist pulls water towards themselves creating a suction force, destabilizing the client in the direction of the therapist)
 - Run around (the therapist runs in a circle around the client creating a whirlpool effect drawing the client away from center.) This is very effective especially when the client is taller and or stronger than the therapist.
 - Use of jets to create turbulent force.

Ways to document balance activities in the water.

- Start with stance positions (narrow, tandem, single leg etc.) and depth of water
- Reps, duration, equipment used, etc.
- Does the client require assist (hand hold, min assist, hold onto wall etc.)?
- How much sculling is the client using to maintain stability (constant, moderate, minimal, none/ hands on hips or across chest)
- Willingness to perform. Those with fear of falling maybe more willing to challenge their balance in the pool. This helps with medical necessity for water therapeutic exercises.

Balance is the foundation for functional mobility. So challenging and improving balance with aquatic exercise this will lead to better land based outcomes and over function for your client.