



Assessment: Land/Water Connections

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Professionals in therapeutic treatment modalities are continually involved in the process of assessment. Assessment is performed to –

- Determine present status.
- Set future goals.
- Measure and evaluate progress.
- Document treatment.
- Generate more detailed information.
- Increase client self-awareness.
- Identify developmental gaps.
- Facilitate integration of equipment use.
- Align educational activities with curriculum.
- Compare performance to an established standard.
- Provide a road map for on-going treatment.

These uses of assessment apply equally to land, as well as in-water assessment. For assessments performed on land, there are a wide variety of assessment protocols. Kasser & Lytle (2005, p. 247-259) provide a detailed, annotated list of over 65 different motor assessment instruments. For assessments performed in-water, the selection of assessments is much more limited.

If one wishes to evaluate swim skills, any national organization can provide skill progressions and assessment criterion for swim strokes. Also related to swimming are the assessments provided by the National Association for Physical Education and Sport in their publication *Assessment of Swimming in Physical Education* (Grosse, 2005). This publication expands in-water assessment beyond swimming to also include cardiorespiratory fitness, with protocol and adult and teen norms for the *Ball State Water Run*. (Robbins, 1991, Grosse, et al, 2001).

Development of the *Ball State Water Run* was extremely significant. In addition to being a reliable and valid assessment of cardiorespiratory fitness (Kaminsky, et al, 1993), correlating very well with land measurements of cardiorespiratory fitness (Robbins, 1993), this assessment forged a valuable connection. That connection is a function based, land-water assessment bridge.

In-Water Assessments

While most therapeutic programs begin with a land-based assessment, if aquatic participation is to be part of the treatment protocol, having suitable in-water assessments available is extremely important. The closer these assessments relate to functional motor activities, the

better. Even more critical is the relationship between an in-water assessment and its land assessment counterpart.

For example, walking the balance beam is a standard land assessment. Walking the underwater balance beam, a task that can be performed in a variety of water depths, is an excellent in-water activity that can provide valuable progression to land assessment. Through adjustment of water depth, an appropriate performance base line can be established and progression toward the comparable functional land activity can be measured.

The same can be said for the one leg stand balance assessment. While land assessment is usually pass/fail, having the capability of adjusting water depth means it is possible to record gradations in balance attainment. The individual can be assessed several times in decreasing water depth as balance improved. This progression ends in very shallow water, where there is very close approximation to land assessment of the same skill.

However, such closely aligned test items are difficult to find. Salzman (2008) proposes a water variation of the *Berg Balance Test*. The *Ball State Water Run* has already been mentioned. Bellevue and colleagues have investigated the 300-yard water run. Sileres, Rutledge, & Dolny (2007) have researched comparisons between land and in-water treadmill assessments. These few studies do not in any way represent an appropriate body of knowledge regarding in-water assessments directly linked to established land assessments.

Tirosh and colleagues (2008) have, rather than investigating a single assessment task, developed a battery of tasks to measure functional in-water mobility. Using skills from the Halliwick method, Tirosh developed the *Aquatic Evaluation Forms* (2010), now used as standard practice not only in Israel, but also in Europe. This assessment protocol is extremely important, as it is first, research validated. Second, this protocol can be used with individuals who are not capable of following directions, as well as more competent individuals.

Bridging the Assessment Gap

With published in-water assessments being few in number, it falls to the individual professional in therapeutic aquatics to design in-water assessments appropriate to specific individual clients. These assessments, while not supported by research, can provide a wealth of information regarding functional motor skills.

Anyone can develop an informal assessment. In fact, most professionals already implement informal assessments in the course of daily treatment practice. Another name for informal assessment is “authentic” assessment, a term coined in the education profession to mean assessment directly related to curriculum (Kasser & Lytle, 2005, 84-85), rather than assessment related to standard test content already in existence. Authentic assessment is related to functional skills, rather than an established standard. It is authentic assessment that Block (2006) refers to in his discussion of assessment of students with severe disabilities, a population very difficult to evaluate in any medium.

A professional wishing to implement functional assessments needs to be familiar with how to accomplish the following tasks –

- Identifying the behavior to be measured.
- Identifying control factors.
- Designing a reporting form.
- Establishing a baseline of performance.
- Selecting goals based on the baseline of performance.
- Implementing therapeutic program.
- Re-establishing control factors.
- Re-testing selected behavior.
- Making comparisons of baseline and re-test results.
- Communicating the process to the client and/or client caregivers.

Learning how to design informal assessments can occur in a workshop format such as the Aquatic Therapy and Rehab Institute's *Assessment Specialty Certification* program. Gaining background in the standardized tests that are available broadens the repertoire of professional evaluation options. Learning the details of the design process and experimenting in a professional atmosphere with assessment design and implementation turns theory into practice.

Once familiar with the details of this process, authentic, in-water assessment can be used as a standard method of assessment in therapeutic aquatics, communicating valuable information to clients, caregivers, and other medical and treatment personnel. Standardized assessments should be used whenever possible. However, in-formal assessments are not only desired, but also necessary for a complete, quality treatment protocol in therapeutic aquatics.

Resources

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