

# Autism and the role of Aquatic Therapy in Recreational Therapy Treatment Services

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Imagine a world where you did not see, hear, smell, feel and taste the way everyone else does. Imagine a world where lights and sounds bombard your senses and frighten you. This is often the world that children with autism live in.

Autism is a lifelong neurological and biological developmental disability that begins at birth or during the first three years of life. Current prevalence rates indicate an incidence of about 2 in 1000. Although the cause is still unknown, Autism appears to be associated with some hereditary factors. The risk of Autism is three times more likely in males and is not isolated to any one race, culture or socioeconomic group.

The Diagnostic Statistical Manual of Mental Disorders (DSM IV, 1994) places Autistic Disorder under the broader category of Pervasive Developmental Disorders, which includes Autistic Disorder, but also Rett's Disorder, Childhood Disintegrative Disorder, Asperger's Disorder, and PDD not otherwise specified.

Autism has numerous treatment implications for recreational therapy because of the significant impact on an individual's lifestyle. The main features of Autism include severe delays in language development, inconsistent pattern of sensory responses, uneven patterns of intellectual functioning with peak skills in some areas and significant deficits in others, and marked restriction of activity and interests. Beyond the public perception of Dustin Hoffman's performance in the movie Rain man, most people understand very little about this complex disorder that affects every aspect of an individual's life.

Socially, children with Autism may lack awareness of others, have severe anxiety around others, experience difficulties with reciprocity, and significant difficulties with socialization. A child with Autism will usually lack any kind of a social smile or eye contact. They lack 'normal' responses to people, they may laugh and giggle inappropriately or cry and tantrum easily. They usually have poor play skills, and spend time alone rather than with others. They show little interest in making friends and usually lack the ability to form personal attachments. Often children with Autism lack spontaneous or imaginative play. They do not imitate others' actions and they don't initiate pretend games like other children.

Autism involves many cognitive consequences including; problems with verbal commands, problems with verbal concepts and explanations, literal and concrete understanding, delayed processing, and problems with communicating. Children with Autism often focus on detail and have trouble with choices. They are unable to distinguish relevant from irrelevant information, which results in significant difficulty making decisions. They have trouble understanding cause and effect relationships and are usually not able to understand the concept of time.

Children with Autism have a strong need for sameness and they usually have a very hard time with any changes or transitions. These children have a strong need for rituals and routine and free time is very difficult for them to manage.

Children with Autism often have low muscle tone, self-injurious behavior, and unusual sleeping patterns. Autism is associated with various kinds of neurobiological symptoms, which may include unusual reflexes and high rates of seizure disorder. Children with Autism have significant sensory

and perceptual problems, including inconsistent response to sounds. They are very distractible and will over or under react to stimuli. They usually dislike certain textures. They may have a strong sensory need to smell or lick and they have a great deal of trouble screening sounds and processing words.

The lifestyle of children with Autism includes many challenges due to their organizational and sequencing problems. These children don't know where to start, what comes next, or when a task is finished. This creates significant difficulties with organizing their day or their activity involvements.

Recreational therapy interventions can help address many of these affected life areas. Recreational therapy can play a primary role in enhancing the quality of life and productivity of a child with Autism. According to the American Therapeutic Recreation Association, Recreational therapists offer individuals with disabilities the opportunity to resume normal life activities and to establish/re-establish skills for successful social integration.

Among the range of interventions that a recreational therapist might choose, one unique and very successful alternative for individuals with autism is aquatic therapy. Water activities provide autistic children with proprioceptive and tactile input. Children with Autism have significant sensory difficulties, and are very distractible. These children over or under react to stimuli in their environment and have very strong reactions to certain textures. The warm water provides a safe and supported environment, which not only supports the children, but also provides them with hydrostatic pressure that surrounds their body in the water. This pressure actually soothes and calms the children, providing the necessary sensory input they crave.

Aquatics activities are a fun and enjoyable experience that have many physical, psycho social, cognitive, and recreational benefits. Research continues to support the concept that water is the ideal medium in which to exercise or rehabilitate the body. Water provides an environment, which reduces body weight by 90%, decreasing stress or impact on the body. Warm water also reduces spasticity and relaxes muscles.

For children with Autism aquatic therapy can focus on therapeutic play-based functional movement, improving range of motion, helping to facilitate neurodevelopmental growth, improved body awareness, increased balance, sensory integration, mobility skills and most importantly, having fun. The Aquatic Therapy and Rehabilitation Institute defines Aquatic Therapy as "The use of water and specifically designed activity by qualified personnel to aid in the restoration, extension, maintenance and quality of function for persons with acute, transient, or chronic disabilities, syndromes or diseases". Clients with Autism present an interesting opportunity for recreational therapists to use aquatic therapy interventions as part of their overall treatment plan.

Due to their communication difficulties, children with Autism respond better to visual cues and specific tangible rewards. Often using picture cards to explain what you are requesting the child to do will work much better than verbal directions. In an aquatic environment these cards will need to be laminated or somehow waterproofed. Using a digital camera or simply using hand-drawn pictures, the aquatic recreational therapist can place these pictures in a sequence for the child. A simple strip of Velcro on a laminated card can greatly enhance the child's ability to be successful during aquatic therapy interventions. Another way to ensure a more positive response is to use the 'First, Then' concept. When asking the child to complete a task reinforce the concept of positive consequences using the phrase "first you need to \_\_\_\_, then you can \_\_\_\_". Using rewards is very effective when dealing with children and this also aids in understanding the concepts of time and

task completion that children with Autism may have difficulty with.

Children with Autism present significant safety risks when in the pool. Their lack of response to verbal commands, and their distractible nature can present great challenges for even the most careful therapists. It is essential to maintain intense supervision of these clients at all times, particularly in an aquatic environment. Another factor to consider when providing aquatic therapy is the high rate of seizure disorder that is common in children with Autism.

There are many important considerations when choosing aquatic therapy as an option for working with children with Autism. The therapist must evaluate the water temperature and the distractions in the aquatic environment. Because these children are very sensitive to sensory input, the water temperature must be warm and comfortable, or the child will not respond favorably. Lighting is another important factor. Children with Autism are very sensitive to light and have been known to react poorly to certain types of lighting, especially bright florescent lights. Noise can be an additional factor as most pool environments are noisy.

Recreational therapists who choose to add aquatic therapy as an intervention approach for their clients with Autism can realize a great many benefits, but proper planning is essential.

Resources for more information about Autism:

[www.autism-society.org](http://www.autism-society.org)

[www.autism.com](http://www.autism.com)

[www.ncbi.nlm.nih.gov](http://www.ncbi.nlm.nih.gov)

[www.nimh.nih.gov/publicat/autism.cfm](http://www.nimh.nih.gov/publicat/autism.cfm)

[www.patientcenters.com/autism](http://www.patientcenters.com/autism)

[www.cdc.gov/ncbddd/dd/](http://www.cdc.gov/ncbddd/dd/)

[www.autism.net](http://www.autism.net)

[www.asperger.org](http://www.asperger.org)

[www.icdl.com](http://www.icdl.com) (Interdisciplinary Council on Developmental Learning Disorders)

[www.canfoundation.org](http://www.canfoundation.org) (Cure Autism Now)

Resources for additional aquatic info:

[www.atra-tr.org](http://www.atra-tr.org) (ATRA's Aquatic Therapy Treatment Network)

[www.atri.org](http://www.atri.org) (Aquatic Therapy and Rehabilitation Institute)

[www.usswim.org](http://www.usswim.org) (click programs then click adapted, for info on adapting strokes for disabilities)

[www.aquaticnet.com](http://www.aquaticnet.com) (Aquatic Resources Network)