


# Chapter 10


## Stroke by Stroke: Combining Kinesiology and ABA to Teach Freestyle Swimming to Children with Autism

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### ABSTRACT

*Social communication deficits, sensory sensitivities, and motor impairments mark Autism Spectrum Disorder (ASD). Children with ASD can struggle with gross motor coordination, balance, and proprioception, which can hinder both physical and social development. Swimming emerges as a promising intervention, offering sensory benefits, structured routines, and opportunities for social interaction. Integrating Applied Behavior Analysis (ABA) with kinesiology-based approaches allows for individualized, systematic motor interventions. By combining behavioral techniques with movement science, swimming programs can significantly enhance the physical, emotional, and social well-being of children with autism, fostering independence*

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*and improved quality of life.*

## **INTRODUCTION**

Autism spectrum disorder is primarily characterized by persistent deficits in social communication and social interaction across multiple contexts (American Psychiatric Association, 2013). In addition, individuals may face issues with restricted and repetitive behavior patterns (Lung et al., 2024). Furthermore, children with autism may also experience problems with gross motor skills and motor disturbances (Wang et al., 2022). Some children displaying inattentiveness symptoms can have coordination problems (Miller et al., 2024).

Another issue that can be faced is sensory in nature (Sibeoni et al., 2022). Children with autism may experience sensory sensitivities, and water can provide gentle pressure to soothe them (Murphy & Hennebach, 2021). The consistent and even pressure of pool water can create a calming, hug-like sensation that enables them to be calm and improves focus (Palmer, 2024).

Given these concerns, intervention is imperative to address the issues. Swimming, a proven healthy outlet for a child's excess energy, holds the potential to bring about significant positive change (Harbach et al., 2022). The physical demands of swimming, such as staying afloat or moving through the water, can be tiring but also create a sense of calmness for some children (Musiyenko et al., 2020).

Swimming can help develop gross motor skills such as balance, coordination, and muscle strength (Koumenidou, 2023). Strokes and kicking while swimming enhance physical abilities and body awareness, impacting overall movement skills (Gandotra, 2020).

Swimming also provides a structured routine for children with autism (Romero, 2024). It involves learning strokes through repetition, which can be comforting for them (Carter & Koch, 2023). The predictability of swimming sessions helps them feel more secure and engaged (Musiyenko et al., 2020). For children with autism who have hyperactivity issues, swimming can be a perfect way to expend excess energy (Hosokawa, 2024). It can serve as a healthy outlet that enables them to be calmer (Wróblewski et al., 2024). Additionally, swimming teaches essential life skills to all children (Tucker & Ingvarsson, 2021). It can save them from drowning. Swimming lessons focused on water safety can help children with autism float and manage themselves if they accidentally fall into the water (Munn et al., 2021).

Lastly, swimming lessons in small groups or one-on-one training allow children to practice social skills. It can enable them to work with other children and make friends. It can also help them to gain self-confidence.

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