



Exercise Physiology • Hydrotherapy • Injury Rehabilitation

What is Autism?

Autism spectrum disorders (ASD) include autism, aspergers syndrome and persasive developmental disorder not otherwise specified. ASD is a neuro-developmental disability which is currently thought to derive from neurological or genetic causes. Individuals on the ASD spectrum have difficuly with communication, social interaction and/or restricted or repetitive behaviours. ASD not only affects behaviour, it also causes Delays in both large movement skills, difficulty imitating movement, lack of coordination, balance, difficulty repeating or performing orderly movements, gait instability, poor postural control, reduced hand-eye co-ordination and difficulty using sensory information for movement.

BENEFITS OF EXERCISE

More than half of all children with ASD are either overweight or at risk of obesity. Being overweight can put children at increased risk for comorbidities, both in childhood and as adults, including diabetes, cardiovascular disease, bone and joint problems and depression. Regularly scheduled exercise has been shown to reduce aggression, self-injurious behaviour, repetitive behaviours and frequency of negative, self-stimulating behaviours that are common among individuals with autism, while not decreasing other positive behaviours. Behaviours such as body rocking, spinning, head nodding, hand flapping, object tapping, and light gazing, that have been shown to interfere with positive social behaviour and learning, can thus be controlled by the use of exercise.

Besides improving fitness, motor function, and behaviour in individuals with autism, among the most important advantages of physical activity are the social implications of participating in sports and exercise. Physical activity can promote self-esteem, increase general levels of happiness, and can lead to positive social outcomes, all highly beneficial outcomes for individuals with autism.

Exercise Prescription

Exercise prescription is aimed at acquiring new motor skills, development of coordination, postural stability, hand eye coordination, increase in fitness/stamina, play skills, body awareness, functional mobility, global strength and skill acquisition. This is accomplished through structured play and short burst exercise activities to avoid loss of concentration. For older populations, lifestyle education and structured exercise programs or classes assist in individuals weight management, health understanding and comorbidity risk.

Contraindication/precautions

Team sports would have to be carefully considered due to complexities of team work and communication that may overwhelm a child on the autism spectrum. Care must be taken to observe the individual and make sure the movement is not over stimulating. Back and forth movement appears less stimulating than side-to-side movement. The most stimulating movement tends to be rotational (spinning) and should be used carefully while rocking motions will usually act to calm the individual. Ideally activities will provide a variety of these movements.

Treatment Goals

Recreational exercise and sports have many health benefits and can be an enjoyable leisure activity for individuals with Autism Spectrum Disorder, and, in some cases, may help prevent further health comorbidities. Treatment goals may include some of the following:

- Improved ADL function and participation
- Increased cardiovascular fitness and metabolic profile
- Improved fine and gross motor skills
- Improved coordination, balance and falls risk
- Management of aggressive behaviours
- Reduction in risk of comorbidities

References

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GOT A QUESTION?
admin@mkmovement.com.au

60 Central Park Ave, **Craigieburn** VIC 3064 - Splash Leisure Centre 0413 159 727
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