

TOP 8 EXERCISES FOR AUTISM FITNESS



By Eric Chessen

Top 8 Exercises for Autism Fitness

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About Fitness

Fitness is an integral part of optimal development for everybody. When we learn how to move correctly and to engage in new or novel physical activities, our bodies and brains reap the benefits of new experiences and new skills. Many of the physical skills we develop as infants and toddlers cross over or “generalize” to daily life activities when we are older. For the autism population, a unique challenge exists due to several crucial issues:

- 1) A large proportion of children on the autism spectrum have gross motor imbalances that affect gait, posture, and the ability to correctly perform “big” movements (pushing, pulling, running, climbing, etc.)
- 2) Few, if any, fitness programs exist that focus on long-term fitness development for children, adolescents, and young adults with autism. As a result, the movement deficits or imbalances that occur in infancy continue to persist into later stages of life.

Physical imbalances and weaknesses do not typically correct themselves. The human body is, if nothing else, an amazingly adaptive structure. If we “tell” our body to do something (jump over a hurdle, kick a ball, climb a ladder) our muscles respond, though not always in the most efficient way. Specific muscles evolved to perform specific functions. When the wrong muscles are compensating or “taking over” for the muscles that *should* be performing the activity, there is a higher likelihood of poor movement, imbalance, and possible injury.

The good, rather, great news is that many exercises, particularly those in the Autism Fitness Top 8, are corrective in nature, especially when introduced to young populations. Rather than spending hours, money, and time with corrective

therapies, many movement patterns can be relearned, and optimized through simply including some exercise time every day. In addition to the physical benefits of exercise, research has demonstrated a strong connection between cognitive and emotional functioning and regular exercise. It is not an issue of brains vs. brawn, it is all about movement and mental ability!

Teaching Exercise to children and teens with Autism

Not all children on the autism spectrum enjoy new activities. In fact, as you probably know, that's kind of a theme among kids with ASD. Movement, particularly vigorous play (think playground, gymnastic area, fitness facility) is often a non-preferred or outright aversive activity. Borrowing from strategies used in Applied Behavior Analysis (ABA), we can pair exercise with known reinforcing activities (playing with a favorite toy, free time, listening to a favorite CD/MP3/whatever the next form of music delivery is, etc.)

Suppose 9-year-old Gregory is not too big on learning to do a bear walk, but *loves* bouncing the big stability ball. If we make access to the ball contingent on performing the bear walk, Gregory will perform the bear walk (non-preferred) to get the ball. A very interesting (and important) process occurs over time. Exercise, having been paired with other reinforcers, can become reinforcing/preferred by itself. When exercise is inherently reinforcing, parents and instructors do not need to worry about providing new items/activities as rewards. Instead, the exercises and equipment, along with plenty of behavior-specific verbal praise is all you need. Behavior-specific verbal praise is effective in telling someone exactly what they

did well, rather than generalize, for example: “Awesome job looking at me and throwing the ball” is more specific than “Great job.” In the first instance, the child is being praised on the specific action they performed correctly.

Prompting and fading are two other ABA concepts that are critical to the success of an exercise program. A child may have initial difficulty with a movement due to current physical or cognitive complications. Guiding the athlete through the exercise while they discover it for themselves can be an extremely helpful tool. Fading is the second half of the equation. If a parent/instructor has to hold their hands over the hands of the athlete for him to catch a ball, gradually decrease the prompt. For example, a parent/instructor may begin to fade the prompt from the hands to the wrists, and then perhaps a tap on the shoulder to remind the athlete to catch the ball. The goal is to have the individual performing the activity *independently*.

The Exercises

Compound movements refer to activities that require several muscle groups to perform. These are “big” movements that have great generalization to other life skills including walking, carrying, balancing, cleaning, and engaging in novel play. I’ve chosen these exercises in particular because they include all the major movement patterns (pushing, pulling, rotation, bending, and locomotion), are fun, and relatively easy to teach. Any one of these movements can be broken down or made simpler in order to meet the needs of an individual or group. As the young athlete progresses, he/she can begin performing the movements in new sequences or with additional activities (hopping, throwing a ball after performing the exercise).

1) Grab Ball Complex (GBC):

- The athlete stands in front of the instructor/parent. Spot markers can be used to aid in spacial awareness.
- Instructor/parent holds a ball or Sandbell at arms length in various positions in front of the athlete. The athlete should have to bend, rotate, and reach to grab the object. One or two hands can be used, and the sequence (up, down, right left) can be in a specific order or random.



2) Ball Tap Complex (BTC):

- Similar to the GBC, in the Ball Tap Complex the athlete holds the ball or Sandbell while the instructor/parent holds out a hand or other object. The athlete taps the hand with the ball/Sandbell. The target can be held in a variety of positions and presented in a particular sequence or random order.

3) Hurdle Step-overs:

- Using low (6"-1') hurdles, the athlete steps over each hurdle in order. The knees should be raised high and the head should be looking forward. If knees turn inward or outward, the instructor/parent can prompt the athlete with both a physical cue (such as tapping the knee or holding a hand next to the foot) and behavior-specific praise ("You're doing a great job picking that foot up high!")
- Hurdles can be placed in any order, and can be performed walking forwards or backwards, and laterally (sideways) as well. For more advanced athletes, jumping over hurdles with both or one foot and changing up directions (backwards, forwards) can be a great challenge.



Prompting the athlete to step correctly with good form and eventual independent mastery

4) Bear Crawls

- Bear crawls are fantastic for *any* population. With particular regard for individuals with ASD, bear crawls develop kinesthetic or body awareness, trunk strength, shoulder stability, and motor planning.
- Begin in quadruped position (knees and hands on floor).
- Extend legs until slightly bent, and walk using feet and hands to move across an area. Palms should make contact with floor and fingers should be spread wide.
- Bear crawl can be assisted by prompting or guiding from the hips.
- Bear crawl can be performed forwards, backwards, laterally (right or left), and with varying speeds.



1) Bear Crawl Start



2) Kicking legs back while performing Bear Crawl



3) Walking with both hands and feet



4) Completing a bear walk

5) Med ball/Sandbell overhead throws and slams

- Throwing and slamming weighted objects increases core strength, balance, and has some implications in stimulating brain centers responsible for short-term memory. It is also a skill that has great carryover to daily life skills and social play.

- Beginning in a standing position (spot markers can be used), the athlete raises the ball overhead and throws to partner. For the slam, the ball/Sandbell is raised overhead and thrown onto the floor (or onto a specific target) with as much force as possible (don't worry, it's good for them).

- Throwing progressions can include jumping and throwing, or scoop throws (holding the ball between the legs and scooping it forward to throw).



An awesome scoop throw with the Sandbell

6) Scramble

- An awesome interactive activity made popular by IYCA Founder Brian Grasso. The Scramble can include many different movements beyond those listed here. It is a superb warm-up game that can be used with individuals or groups. It requires and develops listening skills, discrimination between movements and cues, and balance.
- Athlete begins prone (lying on stomach) on soft surface (an exercise or yoga mat works great). This is the 1st position. Position 2 is knees and hands on floor (quadruped), position 3 is quickly standing/bending knees, and position 4 is jumping up. Instructor can use specific verbal cues “Stomach, knees and hands, jump up” or other, more abstract cues such as one clap for *stomach*, two claps for *knees and hands*, three claps for *standing*, and four claps for *jump up*.



Position 1: Lying on stomach



Position 2: Knees and Hands (quadruped)



Position 3: Standing up/bending knees



Position 4: Jumping up

7) Resistance Band Rotations

- Rotation is important for spine and back health and is a particularly challenging movement pattern for young individuals with autism. Rotational movements strengthen the muscles around the spine as well as the core musculature. Rotation should not be a “let’s see how far we can turn” movement. It is safest when turning to less-than-parallel with our hip bone.

- For the band rotation, a resistance band is placed in a doorway jamb securely fastened with a strap, or held by the instructor. The athlete grabs the band with both hands (one over the other) and rotates right and left. The movement should be controlled and the head should be positioned neutrally, not turning right or left with the upper body. Rotations can also be performed with a Sandbell or med ball.



Rotating with Sandbell



Rotating to the LEFT with resistance band (secured to tree)



Rotating to the RIGHT with resistance band

8) Star Jumps

- Star Jumps can be performed singularly or in multiple repetitions. They can also be done jumping forward, backwards, or laterally by more advanced athletes. The athlete begins in a squatting position with feet flat on the floor and arms tucked in so that the elbows touch the knees. On the instructor's cue, the athlete jumps up with arms and legs out, returning to squatting position with arms and legs tucked in. Repeat for up to 20 repetitions (or until fatigue is evident).



When an athlete/group becomes proficient in these exercises, feel free to challenge them with any of the progressions listed above or create your own. You can develop a “circuit” using all of the mastered activities. Many of these exercises and more can be found in the Beyond Boundaries: Fitness for the Young Autism Population DVD series at: <http://bbfitdvd.com>

For more information visit:

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