

**DIFFERENT SPEEDS
AND DIFFERENT NEEDS**
**HOW TO TEACH
SPORTS TO EVERY KID**

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About the Author

Gary Barber, B.H., P.G.C.E., M.A., is a physical education teacher with over 30 years' experience teaching students of all ages, abilities, and varying needs. He was an international-level middle-distance runner and uses his knowledge as the head coach of Islanders Running Club, a running program especially designed for students who have experienced difficulties in other sports. Gary is also the head of SportWrite Education. This is a company that provides parents, teachers, and educators with resources to support all students in finding success and acceptance in sports and physical education.

A sought-after keynote speaker, Gary Barber offers presentations that combine his experiences as a father of two sons with autism with his knowledge of sports, physical education, and the very latest research from the field of special education.

Preface

This book is about people with differences. We all look different, behave in different ways, have different interests; yet despite our evolved sensibilities, we have never been very good at accepting people who are different from us. Throughout history we have condemned people with nonconforming views as heretics and perhaps even burned them at the stake. We have enslaved people who look different from us, and we have fought wars with people who have different customs than ours. We have declared many of our most brilliant thinkers to be either eccentrics or misfits. We have dismissed generations of children who did not learn at the speed or did not have interests that the education system deemed appropriate.

You would think in our modern society we should have made some progress on this issue. Today, we seem to be focused on categorizing and labeling different people with neat scientific descriptors. We have created a vast range of nomenclature to describe behaviors that we consider to be “disorders.” We seldom look at the many positive features that accompany some of the challenges that people experience; in fact, we seem to focus more on what people cannot do.

This book is about young athletes with different needs.

These young athletes may have visible challenges (a wheelchair athlete or a person with Down syndrome), or less obvious difficulties (perhaps it is a sensory impairment or a learning disability). They may be children who just need a bit of support to help them become confident. This book aims to educate teachers, coaches, and parents about the needs of these “different” children who are seeking to find acceptance in sports, and in a broader context acceptance in life. These children are not really different, for what I hope to convey is the idea that there is a part of all of us in this book. We all, at some point in our sporting lives, have had a struggle or a setback, have been marginalized, have been bullied, or felt emotionally insecure. If you truly value sports and all that they have to offer, I urge you to reflect on your own experiences and consider the following: “Is this how I want my child, or the children that I coach, to be treated? As a coach, how can I make my sport enjoyable and accessible for all athletes who want to participate?” I ask you to start by accepting the differences of these children; consider all of them to be capable of making meaningful contributions while honoring their personal potential.

We are all different. Let’s accept and celebrate that simple fact!

If a man does not
keep pace with his
companions, perhaps
it is because he hears
a different drummer.

—Henry David
Thoreau

Sports for Young Athletes with Physical Difficulties and Coordination and Mobility Challenges

The movement patterns that accompany many sports require the athlete to utilize speed, skill, strength, flexibility, balance, and coordination. Difficulties in any one of these areas can compromise the efficiency of movement and present a challenge to the athlete to overcome this issue. This chapter discusses some of these challenges and makes recommendations to coaches and teachers for supporting these athletes' participation.

Coordination Difficulties

A lack of coordination in movement has been a source of frustration for many children and teenagers. Most of the activities that form the core of traditional sports programs require some degree of coordination; indeed, success in any skill ranging from a simple forward roll to a basketball lay-up needs the synchronizing of voluntary movements in an efficient manner. Sadly, 6% of school-age children will likely be diagnosed with a developmental coordination disorder (Missiuna, 1995; Smyth, Anderson, & Church, 2001). Students with movement difficulties were reported to have lower perceptions of athletic competence than students without such difficulties (Skinner & Piek, 2001). The term *ataxia* has also been used to characterize clumsiness and an unsteady gait. It is not uncommon for clumsiness to also be symptomatic of learning difficulties such as dyslexia.

Catch Me if You Can!

I couldn't catch! I was always getting hurt in PE. I broke my arm once, wrist twice, and suffered countless abrasions from falling on the playground. It became a bit of a standing joke in our family: "What's he going to hurt today?"

What Characterizes Good Coordination?

Good coordination can be observed in athletes demonstrating most of the following skill sets:

- Balance in both static activities (being still) and in movement
- Speed of reaction—starting, turning, stopping, and accelerating
- Spatial orientation—awareness of the changing environment in relation to one's own movements or position
- The ability to differentiate movements by feeling and applying the correct amount of tension or speed
- Precision, fluency, and control of rhythm and important elements in coordinated movement

Poor coordination can be observed in a child who has problems in gross motor coordination (e.g., jumping, hopping, running, walking) and fine motor coordination (e.g., tying shoelaces, manipulating pencils, and so forth). A young athlete with poor coordination is usually quite easy to identify. This is the child who often falls over in games of tag or who fails to successfully execute a simple sequence of skills. If the soccer task is to control a bouncing ball, then dribble and shoot at the goal, this young athlete will be the one who completely misses the ball or shoots so wide of the goal it becomes a throw-in. This may seem funny to teammates, but it is a source of embarrassment to the athlete and could be the result of a legitimate disorder. It should be noted that children with difficulties in coordinated movement report lower levels of perceived social support and have greater levels of anxiety than peers without movement difficulties (Skinner & Piek, 2001).

A sports coach needs to identify whether the young athlete has general (i.e., overall) coordination difficulties or sport-specific difficulties. A developmentally appropriate sports program should incorporate skills that develop the general coordination of movement before working on sports-specific skills.

When working with a young athlete with coordination challenges, it may be helpful to do the following:

- Introduce the skill that will be practiced. Discuss it verbally and demonstrate it visually by using different media, such as Boardmaker images or film clips.
- Practice the skill in a stable environment. A stable environment is one that is safe for the participant. For example, a stable environment would be a place where the student will not be ridiculed by peers and will not have time restrictions.

- Practice the skill with emphasis on increased fluency and precision (if possible).
- Practice the skill in different situations. Learning new skills in a constantly changing environment challenges the body to make adaptations (and thus improvements).
- Provide lots of praise and positive feedback at each stage. Give information that can help the athlete improve the skill, but provide practical tips as well.

There are no quick fixes when dealing with coordination challenges. Lots of practice, encouragement, sound goal setting, and mentoring will help these athletes improve. Coaching the child with poor coordination can be challenging; despite your best instructional efforts, this child may repeatedly fail to successfully complete the task. It can be frustrating, but the child who is giving his or her best effort can find it demoralizing to perceive the coach's frustrations; thus it is important to be positive and supportive. Finally, children with coordination difficulties (beyond that which is typical for a young child) should not be rushed into competitive sports; repeated failure may undermine the child's motives for participation.

Cerebral Palsy

Cerebral palsy is a permanent condition caused by damage to the area of the brain that controls movement and posture. It is often characterized by difficulties with muscle control, poor balance, muscular weakness, plus challenges with speech and the control of facial movements. Cerebral palsy can be caused by difficulties during fetal development (possibly from substance abuse), during birth (oxygen deprivation), or maybe as a result of serious head injury during infancy or infection (meningitis) (Geralis, 1991; Murphy, Yeargin-Allsopp, Decoufle, & Drews, 1993).

Children with cerebral palsy can have a broad range of intellectual abilities. A coach should not assume anything about a child's abilities until reviewing his or her records and getting to know the student as an individual. Some children with cerebral palsy can have very well-developed intellectual abilities and are capable of significant academic achievements.

There are essentially three different types of cerebral palsy: spastic, athetoid, and ataxic. The degree of muscle tone determines the movement and control the individual has. In spastic cerebral palsy tension in the major muscle groups creates erratic, jerky movements. Muscles with very little tension create limp athetoid movement. Ataxic movement patterns are a mix of tense and limp muscle control and are characterized by poor coordination. Cerebral palsy does not necessarily affect all major muscle groups. Hemiplegic palsy affects the limbs on one side of the body. A quadriplegic condition affects all limbs, and paraplegic affects the lower limbs. Some people with cerebral palsy may also exhibit dystonia, characterized by repetitive, twisting

movement patterns, or hypotonia, characterized by extremely poor muscle tone, poor reflexes, and difficulties with breathing.

How to Design a Sports Program for Students with Cerebral Palsy

As with all the conditions discussed in this book, the starting point is always gathering information. Build a picture of your student's needs; try to understand his or her interests and physical capabilities. For students with this particular physical challenge a coach needs to assess how mobile the child is, which will determine the choice of activity. About 70% of people with cerebral palsy (Morrell, Pearson, & Sauser, 2002) experience chronic pain in their joints, spine, hip, and so forth. Thus, activity choice may not necessarily be guided by the athlete's interests, but by a more pragmatic desire to limit or control pain. The stereotypical assumption might be that if exercise is difficult and even painful for children with cerebral palsy, they would not want to participate. The social benefits of inclusion have already been discussed, but there is much research that supports the strength benefits of participation in exercise programs for children with cerebral palsy (Damiano & Abel, 1998; Darrah, Wessel, Nearingburg, & O'Connor, 1999).

Important Considerations When Coaching a Student with Cerebral Palsy

Sports participants with cerebral palsy often have to expend significant levels of energy to create movement. Research has shown that children with cerebral palsy can use up to 3 times the amount of energy when walking as children without this condition (Norman, Bossman, Gardner, & Moen, 2004). The coach should recognize this effort by structuring adequate rest periods based on each child's abilities.

One of the ways a human body responds to stress is by increasing muscular tension. This can compound the source of the disability for children with cerebral palsy. It is essential that this child feels comfortable and accepted in the sports environment. If not, the resulting tension can increase the spasticity of the muscles and make the movement pattern even more challenging.

Poor muscular control can also limit a child's speed of reaction to sports implements (e.g., balls, shuttles). This can make manipulative skills (throwing, catching, kicking) difficult; however, these challenges can be overcome by modifying the activity and the equipment. Tactile objects that do not easily roll away, such as beanbags, scarves, or Koosh balls, are excellent in helping this child learn to catch. Covering balls and a large paddle (table tennis bat, tennis racquet) with Velcro is a useful way of helping children with cerebral palsy learn to catch and manipulate objects.

Swimming and Cerebral Palsy

Swimming conveys significant benefits to a child with cerebral palsy, because the buoyancy helps to relieve pressure on the joints. Strength building can also be achieved by utilizing ankle and wrist weights while in the water.

There is a curious paradox that coaches should note when it comes to swimming. Water temperature brings different responses from children with cerebral palsy. Shivering in cold water usually makes muscles tense, whereas warm water relaxes them and allows them to function at optimal efficiency (irrespective of the individual's abilities). When a child with cerebral palsy becomes cold, this may increase muscle tension and, thus, the spasticity. Those with spastic palsy perform better in a warmer swimming pool. Ironically, the poor muscle tension associated with athetoid cerebral palsy means that a swimming pool with cooler temperatures is better suited to this child. The cool water may create some increased muscle tension and improved movement control. An excellent web site for resources on cerebral palsy can be located at <http://www.ucp.org>.

The Wheelchair Sports Movement

People who have paralysis have many opportunities to participate in sports. The *wheelchair sports movement* is impressively developed, provides many competitions (e.g., the Paralympics), and conducts research and development to help increase access to sports (and its enjoyment). These organizations are powerful advocates for participants and help to both increase public awareness of the challenges facing participants and, more important, celebrating their capabilities and successes. Coaches and teachers requiring information and resources in this area can visit <http://www.paralympic.org>.

The choice of sport best suited to a young athlete with paralysis should consider the degree of physical challenge. Some wheelchair sports can be operated under the power of the athlete, and endurance events such as basketball or rugby are all viable options. Some young athletes may require a motorized wheelchair to propel them, but they still have the chance to play in team sports. Static sports such as archery, lawn bowling, or cue sports (pool or snooker) are also options for athletes who are not suited to kinetic sports. Winter sports offer some intriguing possibilities; specially designed skis and wheelchairs have given some athletes who use wheelchairs the chance to participate in skiing and ice hockey.

There may be a need for athlete advocacy or some accommodations or modifications to the program, but essentially the teaching techniques and coaching strategies for athletes who use wheelchairs are really no different from the coaching of athletes without disabilities.

Sports for Students without Limbs

It is not common for a coach to encounter a young athlete who has lost a limb. Amputations in children are usually the result of disease (usually diabetes) and have an occurrence rate of 46 per 100,000 people compared with 5 per 100,000 due to trauma (Dillingham, 2002). Thus children are too young to have accumulated the long-term damaging effects of disease. Being born without a limb is termed *limb difference* and has an incidence of 25 per 100,000. Again, it is not a common occurrence. But for the few children who are without limbs, sports can still be a meaningful and desirable part of their overall development.

What Issues Does the Coach of a Student with an Amputation Need to Consider?

An athlete moving an amputated limb uses a lot more energy than someone who is able bodied. People who have an above-the-knee amputation use 65% more energy to walk at a casual pace than someone with healthy limbs. A person who has two above-the-knee amputations expends almost three times as much energy to match the pace of a friend without this challenge (Gaily, Gailey, & Sendelbach, 1995). Thus, these young athletes tire much sooner than their peers. It makes the achievement of Terry Fox, who ran one marathon (26 miles) every day for 143 days, so remarkable (see the introduction to Section II). Although his attempt to run across Canada to raise funds for a cure for cancer was sadly curtailed by lung cancer, the Terry Fox Foundation has raised over \$400 million.

Prosthetic limbs give the athlete a range of options that can allow for full participation. The mechanics of movement and the design of the prosthesis is an advanced science; the coach does not need to understand how such devices work, but encourage information sharing with the athlete and parent to design appropriate activities. Once a few modifications or accommodations are made (which are specifically designed for the athlete), there is very little difference between a child with a prosthesis and typical young athletes. What is most important is that students feel included with their classmates and encouraged to participate fully whenever possible.

A Checklist to Help Students with Physical Challenges to Participate in Sports

Assessment

- Determine the motives for this child's participation in this sport or activity.
- Identify the child's strengths and interests.

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- Determine what activities work well with this child.
- When the child encounters difficulty in physical activity, how does he or she respond? Does the child experience fatigue or frustration, or does the child display a sense of resignation?
- What medical conditions threaten this child's safe participation in sports?

Example: Atlantoaxial joint (neck joint) instability in children with Down syndrome can make gymnastics (forward rolls) potentially life threatening.

Designing a Safe Learning Environment

- Is the sports playing surface safe and appropriate for this child?
- Can the activities be presented in a manner that is challenging, safe, and gives the child a sense of control?

Example: Modify the activity by skill complexity, time allowed to complete the event, the way the equipment is used, and so forth.

Coaching Techniques

- Use the assessment information to mold your coaching style around the child's physical capabilities.
- Challenge and support the whole child. If the student cannot physically execute a particular skill or task, challenge him or her intellectually or provide responsibilities that signify importance and belonging.
- Role model compassion, understanding, and acceptance.

Differentiation Strategies

- What are the child's interests?
- Is there a particular style identified in the multiple intelligence nomenclature that best describes the way this child learns?
- Will the coach's predominate style of teaching meet the needs of this student?
- What is the child's readiness for increased challenge? Does this child need more time to develop core fundamental skills? If those skills are in place, can this child work with his or her peers on complex tasks?
- How will the coach present the content of the program in a manner that best suits this child? Consider the flexible groupings, choice boards, and so forth.

Final Thoughts

Athletes with physical challenges can have a highly visible presence in a sports environment. To promote the inclusion and full acceptance of athletes with these challenges, coaches and peers need to understand and be sensitive to the difficulty this person may be experiencing.