

Coordination and Motor Skill Development: The Key to Long Term Success by Brian Grasso

The key ingredient to working with pre-adolescent and early adolescent athletes is providing global stimulation from a movement perspective. Younger athletes must experience and eventually perfect a variety of motor skills in order to ensure both future athletic success and injury prevention. Developing basic coordination through movement stimulus is a must, with the eventual goal of developing sport-specific coordination in the teenage years. Coordination itself, however, is a global system made up of several synergistic elements and not necessarily a singularly defined ability.

Balance, rhythm, spatial orientation and the ability to react to both auditory and visual stimulus have all been identified as elements of coordination. In fact, the development of good coordination is a multi-tiered sequence that progresses from skills performed with good spatial awareness but without speed to skills performed at increased speeds and in a constantly changing environment. As Joseph Drabik points out, coordination is best developed between the ages of 7 – 14, with the most crucial period being between 10 – 13 years of age.

As with anything else, an important issue with respect to coordination development is to provide stimulus that is specific (and therefore appropriate) for the individual. Prescribing drills that are either too easy or too difficult for the young athlete will have a less than optimal result.

An interesting note, as I have suggested in past articles, is that there appears to be a cap with respect to coordination development and ability. Younger athletes who learn to master the elements associated with good coordination (balance, rhythm, spatial awareness, reaction etc), are far better off than athletes who are not exposed to this kind of exercise stimulation until advanced ages. The ability to optimally develop coordination ends at around the age of 16. This validates the claim that global, early exposure is the key from an athletic development standpoint. Again, global coordination will serve as the basis to develop specific coordination in the teenage years.

Once again, it is important to mention that coordination development is a process that encompasses years of exposure and is based on DIVERSITY and VERSATILITY. Young athletes cannot be pigeonholed into sport specific stimulus at a young age and expected to vault into the ranks of elite athletics. As the motto of my company says, "You Can't Become a Champion Until You Become An Athlete."

Furthermore, it is important to understand that coordination-based exercises must be introduced during the preadolescent ages. Adolescence is not an appropriate time during which to begin elements of coordination training. As strength, speed, height and body mass change significantly during these years, it is much more prudent to reinforce already known movements rather than teach new ones. Herein lies the art and understanding of developing a young athlete. Coaches, trainers and parents must accept the fact that developing a healthy and successful athlete is a journey or process that encompasses several varying degrees of stimulus, all of which build on top of the other.

Coordination training, for example, is introduced during the pre-adolescent ages while nervous system plasticity is high and movement habits have not yet been ingrained as permanent. The scope of coordination training changes during the adolescent ages, during which physical growth alters the young athlete's previously mastered movement habits. At this time, refinement of

movement should take precedent over learning new movement-based skills. In post-adolescence, coordination training can once again be taken to new heights.

One point to consider about coordination is that genetic pre-disposition plays a significant role. Less coordinated children will likely never exhibit the tendencies of naturally coordinated children regardless of training. That is not to say that improvements cannot be made, however – quite the opposite.

Here are three basic principals of coordination training:

- 1. Start young** – coordination improves as a result of learning and mastering new movements. Start young athletes off early with coordination-based exercises that challenge their abilities (within reason). The more coordination a young athlete has, the more ability he or she will display at any perspective sport.
- 2. Challenge young athletes on an individual and appropriate level** – Some youngsters have good balance while others display good rhythm. The key to successful coaching is to uncover what elements of coordination each athlete requires and develop drills/exercises that most suitably target the weaknesses.
- 3. Change exercises frequently** – young athletes learn quickly in most cases. Be sure to challenge them physically and intellectually with new exercises often.

The following list provides some basic exercises that you can use with your young athletes to help develop elements of coordination:

- Multi-directional forms of running, jumping and skipping
- Single leg balancing games
- Mirror games (mirroring each other's movements)
- Known exercises starting or finishing in new positions (start sprints from belly or one knee; end with hands up or on all fours)
- Opposite arm circles (right hand circles forward, left backwards)
- Simultaneous arm and leg circles
- Jump in place with 180 or 360 turns while in flight
- Balance exercises on a low balance beam
- Cross step-over running or carioca
- Somersault to balance (somersault to standing one legged balance)
- Skipping A, B and C's
- Obstacle running (place hurdles directly on floor and have athlete run over them)

Remember, coordination includes elements of balance, spatial orientation, rhythm and various other traits. This list reflects exercises to improve several of those elements.