

ENHANCING BIO-MOTOR ABILITIES

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There are numerous beneficial adaptations of the human body that can occur in response to exercise and training. Therefore there are an equal number of reasons to exercise and a host of goals to strive for when training. Increasing strength, endurance, speed and power are some of the most common attributes sought when exercising, but there are other Bio-Motor Abilities less known but equally important and are actual prerequisites for developing any of the physical attributes you may be seeking. In fact, whether you are a recreational golfer, touring professional, a fitness enthusiast or a competitive athlete in any sport, there is a definitive hierarchy of needs that must be addressed before other training goals can ever be fully accomplished. When the proper sequencing of training is not followed, performance is always compromised, and worse yet, the athlete or person is also exposed to a higher risk of injury.

There several traits that are critical to possess in order to be successful in a given sport or achieve a specific fitness goal. These traits are also associated with numerous descriptive words we often use to describe the way in which we would like our bodies to move and perform. However, speaking physiologically, metabolically and neurologically, there are a limited amount of actual adaptations the human body can derive from exercise training.

Many experts have designed their own lists of words to describe and categorize training adaptations, but research has identified seven primary “Bio-Motor Abilities” that are distinct and definitive. Each Bio-Motor Ability is a unique way in which we can express body movement and demonstrate motor skills. Although each Bio-Motor Ability can be viewed as a separate trait, they are also very interdependent upon each other at deeper levels and have variable yet critical relationships. Bio-Motor abilities can be divided into two categories, “Base Abilities” and “Performance Abilities”.

The Base Abilities are strength, endurance, stability and mobility. And as the name implies, are those abilities that we are dependent upon to create a base for which all other movement abilities can be built upon. (As pictured above) The base abilities are also considered as health needs and important for everyone to develop at some level simply to be fit and achieve general wellness. It is important to understand that the base abilities must be developed first at least at an appropriate level before other abilities can ever be significantly improved. It is also critical to understand that if acceptable levels of endurance, the specific type and necessary amount of strength, as well as the proportional levels of joint stability and mobility all are not achieved, performance will be never reach optimal levels and risk of repetitive injury is much more likely.

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However we should also stress that not everyone needs to possess every Base Ability at a maximum level in order to then develop their Performance Abilities. In fact, in certain cases, some of the Base Abilities may only be desirable to obtain at minimal standards while others may need to be disproportionately developed. An example would be the relatively low need for endurance a competitive shot-putter would need compared to the high levels of strength and power they must obtain to be successful within their sport. In contrast, a competitive distance runner would have almost the opposite needs and blend of Bio-Motor Abilities. A golfer, much like the shot-putter, also has little demand for endurance for their sport but also has far less need for maximal strength. However, the golfer does have a far greater need for increased mobility (more commonly viewed as flexibility) that must also be combined with the appropriate levels of stability in order to produce the club head speed they desire and demonstrate the specific type of power needed for their sport.

The next seven articles in this series will examine briefly and summarize the most critical components necessary to recognize the characteristics of each Bio-Motor Ability and better understand its integrated role in overall performance. This should help readers how to better see the science behind designing productive training routines and realize the steps necessary to develop effective overall exercise programs. We would also like to offer the opportunity to have professional assistance with designing your personalized training program. We would like to provide you the experience of working with one of our lead Ortho-KineticR Trainer / Therapists who will begin by taking you through the TELOS A.I.M.TM. (Advanced Integrated Movement) assessment. This will allow them to best design the exercise program and design and provide the specific treatments necessary to start developing your specific mix of Bio-Motor Abilities helping you to move better, be stronger and unlock the power potential you may have never yet experienced. Simply call our Member Experience desk at 972-386-2580 and mention this article to get set up with your complimentary A.I.M. assessment today!

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