

# Movement Training vs. Muscle Training

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Worldwide Baseball Prospects

Sports performance skills such as running, throwing, striking, catching, jumping, landing, and stop and turn activities require coordinated muscle recruitments of multiple joints and planes of movement. During the developmental period of infancy, we learn how to recruit various muscle groups in order to stabilize and balance our bodies (raise the head → rollover → sit up → stand). As we continue to grow and mature, we learn basic loco motor skills such as scooting, crawling, and walking. Still later in our development, we progress to more fundamental movements such as traveling skills (climbing, galloping, jumping, running), object controls skills (kicking, throwing, striking), and balance movements (dodging, rolling). All the while, the brain is programming and saving these movement patterns for future use. With practice the patterns are fine-tuned and enhanced.

The body is a sophisticated and marvelous machine. The joints of the body are connected to each other much like the links of a chain or an engineering system. Action at one joint in the chain (i.e. movements, forces, dysfunction, etc.) directly affects the next joint above and below in the sequence and indirectly influences the rest of the body. Activities can be divided into two types:

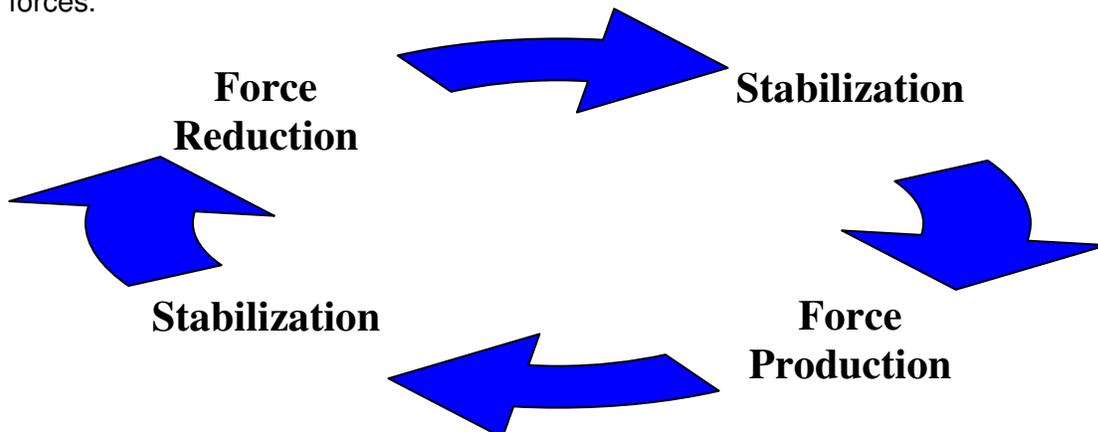
**Open Chain Activities** - one end of the chain is fixed to a point while the other is free to move in space.

*Example:* hamstring curl, tricep extension, bench press etc.

**Closed Chain Activities** - both ends of the chain are fixed to a point.

*Example:* squat, lunge, push-up, etc.

In reality, there is no such thing as a pure open and closed chain. Sports movements involve a constant cycle of opening and closing of the chain (i.e. running, jumping, throwing, kicking, etc.). The Central Nervous System (CNS) is not programmed for isolated muscle function. When a motor task is necessary, the CNS recalls the pre-programmed patterns of movement that were learned during our developmental years. During sports activities, the body has to compensate for the pre-programmed movement patterns and react to gravity, momentum, and ground reaction forces.



Despite the body's natural tendency to movement pattern activities, many athletes, coaches, and trainers continue to perform strength training activities by isolating and developing specific muscle groups. This will succeed in developing muscle size and strength, but will limit the crossover for sports performance and daily life. During athletic and daily life activities, the body must function as an integrated unit rather than isolated segments. Performing exercises which stress multi-joint and sport-specific movement patterns which the athletes encounter while playing strengthens the muscles in the manner in which they are used. This helps to limit abnormal muscle recruitment patterns and stresses on the body by integrating and enhancing the function of the kinetic chain.



### **Step & Decline Press**

Focus on strength and power through weight transfer and trunk rotation. Links the forces created in the lower body + core strength to develop hand speed.



### **Reverse Lunge and Step-Up Combo**

Focuses on front leg drive / pull to create force. Stabilization through the core transfers energy to the upper extremities and integrates the Kinetic Chain.



### **About Coach Dave Yeager:**

**David Yeager** holds national certifications as an Athletic Trainer from the National Athletic Trainer's Association (NATA) and as a Strength and Conditioning Specialist from the National Strength and Conditioning Association (NSCA).

Throughout his career, David has specialized in prescribing exercise program designs for general conditioning, performance enhancement, rehabilitation, and reconditioning of athletes and individuals in all levels of competition and physical activity. David has served as an Athletic Trainer and Performance Enhancement Coach for the Milwaukee Brewers, the 2001 World Series Champion Arizona Diamondbacks and the Boston Red Sox organizations.

He has also been involved with other high school, collegiate, Olympic, and professional athletes from organizations such as: The Cleveland Indians, The Cincinnati Reds, The Pittsburgh Pirates, The Detroit Tigers, The Tampa Bay Devil Rays, The Los Angeles Dodgers, The Oakland A's, The Chicago White Sox, The San Diego Padres, The Detroit Lions, Auburn University, The University of Georgia, The University of South Carolina, Jacksonville State University, The University of Alabama-Huntsville, U.S.A. Bobsled, and Team Nicaragua.

High Baseball Players enrolled in the WBP™ High School to College Baseball Planning and Recruitment Program, receive a personal custom built baseball strength and conditioning training program specifically designed for them by Baseball Strength / Athletic Trainers and Coaches Brian Niswender and/or Dave Yeager.

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