



Athletic Development; It's all in the planning

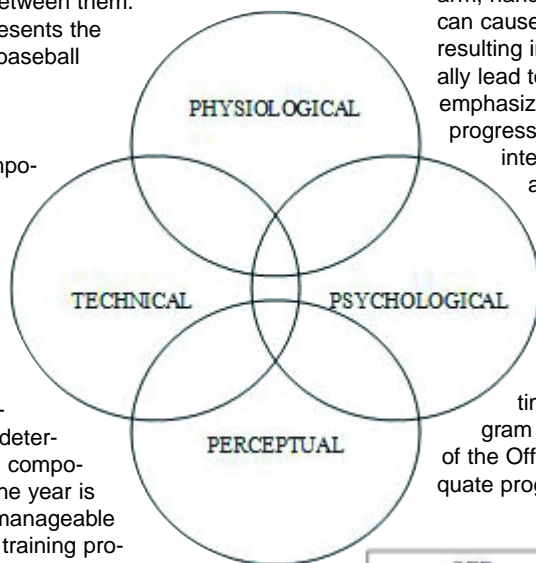
A two-part series from David Yeager, ATC, CSCS* and Brian Niswender, MA, CSCS**, Strength and Conditioning Mentors and Coaches - Worldwide Baseball Prospects

Planning for the High School Pitcher Part 1

Athletic Performance in baseball is an intricate relationship between several major areas: Technical skills, physical training, and psychological and perceptual fine-tuning. No one factor outweighs the others and there is a great deal of overlap between them. Achievement in these areas represents the ideal make-up of the successful baseball player.

Athletic Performance Model

With so many factors and components that go into developing a well-rounded baseball player, how can they all fit into a training plan? Although no one component of training outweighs the others, there are more appropriate times to emphasize each area. A well thought out and progressed Year-Round Training Plan can help to determine when to focus more on one component rather than another. When the year is broken down into shorter, more manageable seasons, an athlete can plan his training program for peak conditioning at the appropriate times as well as limit overtraining and reduce the risk of injuries. The High School baseball player can divide his training year into 4 basic training seasons: the Off Season, the High School Season, the Summer Season, and the Fall Season. This article will focus primarily on the physiological training factors (i.e. strength, speed and agility, metabolic conditioning, and nutrition) and explain proper progression throughout the different training seasons when developing programs for pitchers and position players.



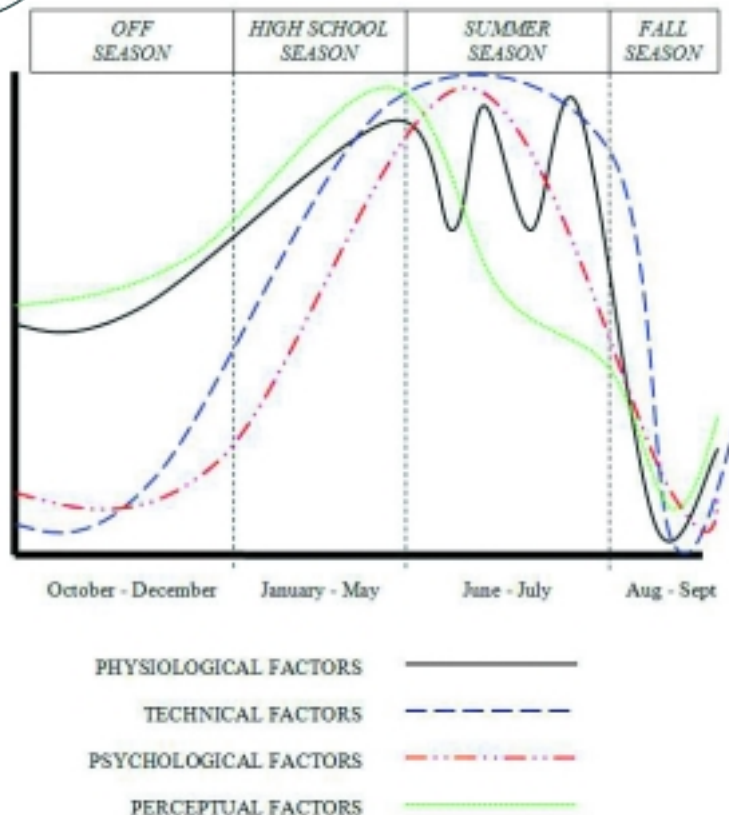
ate following the competitive season. Nutritionally, the decreased activity level dictates that the athlete plan for the decreased need for calories in order to prevent unwanted weight gain. Increasing lean protein can help promote tissue healing and repair, while fruits and vegetables increase fiber which can control appetite and help adjust to the change in calorie needs. The training focus at this point should be on general conditioning and fun, relaxing activities (i.e. spinning, yoga, massage, etc.).

As the Off Season continues (November – December), training shifts to the identification and correction of muscle imbalances, and the promotion of joint stabilization. This is done through the development of strength and strength endurance. During the throwing motion, the hips and legs create 50-60% of the generated force. Therefore pitchers need a strong lower body with a stable pelvic platform and core to ensure the proper transmission of this force to the shoulder, arm, hand, and ultimately the ball. Weakness and instability can cause the shoulder structures to create more of the force, resulting in greater stress on its anatomy which could eventually lead to breakdown and injury. Conditioning should initially emphasize the building of an aerobic base. As the Off Season progresses, metabolic training should transition to longer interval activities (i.e. fartlek training, shuttle runs, etc.) as well as the building blocks of lateral speed / agility movements. Because of the increases in training volume and intensity, athletes should be mindful of the increased calorie needs. Carbohydrates should be increased to provide fuel for activity. A high carbohydrate / moderate protein snack following activity will replenish fuel stores and begin the muscle recovery process. The most appropriate time for the initiation of a "throwing conditioning" program (long toss / flat ground activities) is the latter period of the Off Season (December). This allows for safe and adequate progression of volume and distance.

High School Baseball Periodization Plan

Although all baseball athletes are playing the same game, the pitcher possesses unique challenges when performing performance enhancement training programs. The act of pitching a baseball is an explosive, maximum effort movement. The pitcher must perform an average of 15-20 repetitions (pitches) for multiple sets (innings), as well as fielding his position and controlling the running game. The position player by comparison only exerts maximal effort movements when directly involved in the play and during 3-5 at bats over the course of the entire game.

The most important time of the training year for pitchers is the Off Season period. For the high school athlete this occurs between the months of October and December. The Off Season sets the foundation for athletic development. There is minimal to no baseball activity occurring at this time. Therefore, the Off Season is the main window of opportunity for developing strength and athleticism. Initially (October), the athlete must allow time for the body and mind to rest, recover, and regenerate



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The beginning of the New Year allows for schools to begin organized practice activities. Early in the High School Season pitchers should progress their "throwing conditioning" program to include a gradual increase in bullpen sessions. Training intensity is the highest as the coordinated movement patterns that were developed in the off-season are enhanced through strength-power activities (i.e. plyometric jumps, medicine ball tosses, etc.). Conditioning activities advance to sprint interval training. The player should consume enough calories to sustain the workload and muscle rebuilding following activity. With the onset of the competitive season, training activities should be tailored to promote recovery between outings. The recovery period should progress from general conditioning to more specific activities as the next outing approaches.

Sample In-Season Recovery Program (Based on 7-Day Pitcher Rotation)

Performance and competition are the spotlights of the Summer Season. As with the High School Season, training activities should be tailored to promote recovery. Athletes need to realize that as intensity and effort increase, there is a greater need for planned recovery (see Figure 3). Monitoring workouts and performance by paying attention to how the body feels and motivation can be helpful in assessing recovery and the need to modify the training program. During the summer, the player should strive to maintain the strength and athleticism that has been developed up to the competitive phase. By incorporating an undulating plan of mini-cycles ranging from the strength-endurance, strength, and strength-power activities, the player can minimize the effects of competition and detraining. Consuming a steady stream of energy combined with adequate hydration can help to ensure recovery as well as the maintenance of endurance, strength, and power.

Training in the Fall Season tapers to transition from the rigors of competition and maintenance to the active rest period of the Off Season. Begin to modify calorie consumption to coincide with the decreased activity levels.

A well thought out and progressed training plan that separates the year into shorter, more manageable periods (Off Season, High School Season, Summer Season, Fall Season) can help the athlete peak conditioning at the appropriate times as well as limit overtraining and reduce the risk of injuries. Performance on the baseball field is a relationship between the fuel that an athlete consumes, how much work and force he can harness / produce, the energy systems that are utilized and the quality /

quantity of recovery that the athlete receives. A breakdown in one of these areas can result in a breakdown of the others and ultimately a breakdown in performance.

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	GOALS	ACTIVITIES
Immediately after Start	Recovery Core	Active Shoulder Flush Core Stabilization Cardio x 5-10min
Day 1 after Start	Strength Mobility Recovery	Play Catch Cardio x 20min Kinetic Chain Mobility Scapular Stabilization Ex's
Day 2 after Start	Strength Core	Long Toss Double Pole Sprints Core Strength Lower Body Workout
Day 3 after Start	Strength Balance/Stabilization Recovery	Short Bulpen/Hat Drill Pole Sprints Kinetic Chain Stability Scapular Stabilization Ex's
Day 4 after Start	Strength Recovery	Long Bulpen Agility Running UB Workout Core Stabilization Active Shoulder Flush
Day 5 after Start	Strength Mobility	Play Catch Short Sprints (40yds) Kinetic Chain Mobility Core Strength Scapular Stabilization Ex's
Day 6 after Start	Recovery	Play Catch Short Sprints (20yds)

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.

**Brian Niswender MA, CSCS - Worldwide Baseball Prospects Strength and Conditioning. Brian has his Masters Degree in Kinesiology, Bachelors Degree in Exercise Physiology and a Minor in Coaching from the University of Northern Colorado; 2003 - Present Owner Director of Baseball Development Performance Baseball/Performance Dynamics; 2006 to 2007

- Fossile Ridge High School Strength and Conditioning Coach; 2006 to Present - Strength and Conditioning Advisor for Fort Collins High School Baseball team; 2002 - 2003 Acting Minor League Director Arizona Diamondbacks of Strength and Conditioning; 2000 - 2003 - Strength and Conditioning Coach for Arizona Diamondbacks; 1999 - Strength Coach at Colorado State University; 1998 - Strength Coach at Colorado Acceleration; 1997 - Strength Coach Intern University of Northern Colorado Baseball team; 1997 to 1999 - Baseball Coach at Rocky Mountain High School; 1993 to 1996 - Played Baseball at University of Northern Colorado; 1993 - Colorado All State Baseball Team 6A. Brian has worked as a Strength and Conditioning specialist at every level of competition in baseball. His applied professional and college level experience and industry knowledge will benefit all high school players of Worldwide Baseball Prospects as they will have the option to have a custom built strength program designed for them at no extra cost.

High Baseball Players enrolled in the WBP High School to College Baseball Academic Planning and Recruiting 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.

You can check out Dave Yeager at baseballstrengthcoaching.com and Brian Niswender at performancebaseball.org or visit both at worldwidebaseballprospects.com.