



# Developing the Softball Athlete

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## Table of Contents

### **CHAPTER 1 - THE COMPANY**

Philosophy .....	4
Training Principles .....	5

### **CHAPTER 2 - THE GAME**

Softball Strength .....	7
Softball Speed .....	8
Softball Conditioning .....	8
Injury Prevention .....	8

### **CHAPTER 3 - THE PROGRAM**

On-Field Warm-ups.....	10
Shoulder Prehab .....	11
Core Strength .....	11
Speed & Quickness .....	11
Strength .....	11
Progression .....	11

<b>Appendix A- Program Developers</b>	<b>12</b>
---------------------------------------	-----------

<b>Appendix B- Training Equipment</b>	<b>13</b>
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## **THE COMPANY**

*Building Better Athletes!*

# A

thlete Construction is a company passionate about building better athletes. To be successful, we know that athletes must commit to developing their bodies and elevating their overall athleticism. Why? Because athleticism impacts both performance on the field and, more importantly injury risk.

Unfortunately, in today's North American society too many young athletes (and too many coaches) fail to make a commitment to athlete development, choosing instead to spend as much time as possible playing the game. In fact, our current sports model encourages early sport specialization and year-round participation. The problem with this approach is it leads to high rates of 'burn-out' and 'drop-out.' Alternatively, for athletes who do remain in the game it results in high levels of skill development but inadequate physical development- which translates in to high rates of overuse and non-contact injury.

The key to building better athletes is following a solid training program-consistently! That program must first develop a foundation of fundamental movement skills- then progress toward building an appropriate level of total body strength. The program must address areas of the body most prone to injury in that sport, and finally it must educate the athlete on how to eat and recover optimally to produce maximum results.

## Philosophy

### **We train movements, not muscles!**

The field of strength and conditioning has evolved considerably in recent years. One of the greatest changes has been a trend toward training movements rather muscles. Traditional resistance training, or bodybuilding, over-emphasizes single-joint exercises and single-plane movements. This leads to increases in muscle size, but fails to enhance movement capabilities, and may exacerbate injury risk since the body has not been prepared for the specific movements of the game.

The movement-based (not muscle-based) approach to training adhered to by *ATHLETE CONSTRUCTION* simultaneously addresses prevention and performance. By emphasizing multi-plane and multi-joint movements, developing mobility where its' needed and stability where its' needed, the end result is a more prepared athlete, and greater overall transfer of training to sport.

## Training Principles

Our philosophy dictates our training principles. At *ATHLETE CONSTRUCTION* we adhere to the following principles in designing all of our training programs:

### **Sport-Specific Training**

The purest form of training for any activity is the activity itself. To be effective, a training program must reproduce the functional movements and metabolic demands of the sport being trained for. Sport-specific training challenges athletes' to perform specific movements and movement patterns safely, efficiently and subconsciously; develops the appropriate energy systems; and promotes muscular adaptations that lead to superior sport performance.

### **Multiple Joint Movements**

No single body part works in isolation during movement. The body works synergistically (muscles, joints and proprioceptors work together) to produce complex movements. Running, jumping, shooting and throwing all require multiple joint actions timed in synchronized neuromuscular recruitment patterns. Thus, integrated movements should be trained, not individual muscles, if the goal is to maximize function and performance.

### **Multiple Plane Movements**

Movement in sport occurs in three planes- sagittal (forward-backward), frontal (side-to-side) and transverse (rotational)- and combinations of all three. Resistance training should incorporate exercises and movement patterns that develop strength and efficiency in each plane.

**Ground-Based Movements**

Most sport skills are initiated by applying force in to the ground, on one leg or two. The more force an athlete can apply against the ground, the faster they will accelerate, the higher they will jump and the more effective they will be on the playing field. Exercises should be chosen to enhance this ability to generate force.

**Explosive Training**

The ability to generate force at high rates of speed (power) is crucial in sport. Power output is the result of motor unit recruitment by the central nervous system. There are two types of motor units- fast and slow- that vary greatly in their ability to generate force. Training explosively, using ground-based, multiple joint movements trains the body to recruit fast motor units at high rates of speed. This, in turn, improves performance potential.

**Regeneration**

No training program can be successful without a commitment to nutrition, rest and a healthy lifestyle. Decrements in performance can often be traced to a poor diet, poor sleep habits, and/or lack of recovery time. It is essential that athletes understand and apply regeneration techniques that accelerate recovery.

## THE GAME

**S**oftball is a game of speed and power. No secret there. What is often misunderstood about training for the game, however, is the role that strength plays in both of these. Any time high velocities are being produced- as with arm velocity to throw a ball at top speed (by a pitcher or fielder), or bat velocity during a swing- those velocities (movements) must also be decelerated.

### Strength

Preparing the softball athlete to play the game safely and effectively requires a heavy emphasis on total body strength. A strong lower body is critical for generating power in the batters' box, but also for explosiveness out of the box, and explosiveness in all directions defensively.

Exceptional core stabilization strength is required to optimize power output. By creating incredible stiffness through the middle of the body, the core musculature stabilizes the spine and pelvis during movement- allowing greater force to be applied in to the ground by the feet and ultimately applied in to the swing or throw. Every movement on the field begins at the core, so this area must be a top priority in training the softball athlete. That DOES NOT mean doing sit-ups and crunches! These are two of the worst excuses for core training (that have been around far too long)! They do nothing to increase core stabilization strength, but do everything to reinforce poor posture and tight hip flexors.

Upper body strength can neither be understated. The musculature of the shoulders, chest, and upper back in particular play a huge role in keeping the shoulder joint healthy. For pitchers the muscles around the elbow joint must

also be strong since the windmill motion places heavy stress on the biceps tendon.

## Speed

From a speed standpoint, the emphasis is on starting speed NOT top-end speed. It takes an athlete much longer than 20 yards to reach top speed. And, we all know that 20 yards is the furthest any softball player will ever sprint in a straight line. Speed training for the game must emphasize getting the body started- generating speed FAST! Starting speed (0-10 yards) and acceleration speed (0-20 yards) are the goals- and both of these correlate significantly with lower body strength.

Defensively, speed is also a priority. Lateral quickness, the ability to open the hips and drop step quickly, or the ability to react and explode forward to pounce on a bunt are all important movement skills to be developed. These also are developed much more effectively on a foundation of lower body strength.

## Conditioning

The topic of conditioning for the game of softball is often controversial. How fit does a softball player need to be? How fit is fit enough? We know the game is highly anaerobic in nature. Just about every movement on the field occurs in 5 seconds or less- followed by an extended period of rest. The exception, of course, is the pitcher (and to a lesser extent the catcher)- who must perform high speed movements over and over and over inning after inning.

There is no arguing that pitchers must be the fittest players on the field. And it is imperative that pitchers take pride in their conditioning status- to ensure that fatigue is never a factor in the outcome of a game. A high level of aerobic fitness is essential- developed through a combination of moderate and high intensity training that includes both continuous and interval workouts. Though conditioning status may not be as integral for many of the other players on the field, a high level of fitness ensures a high level of stamina not only within games but over multiple game weekends and long and challenging seasons.

## Injury Prevention

Decelerating a body in motion requires strength. Decelerating a body (or body part) moving at very high speeds requires exceptional strength. Think about the velocity of internal rotation of the pitcher's arm at the point the ball leaves the hand. Likewise, decelerating the arm on a throw to the plate from shallow centerfield places exceptional stress on the posterior muscles of the shoulder joint. This stress is augmented if appropriate mobility (freedom of



movement) is not present where it is needed (gleno-humeral joint), and/or adequate stability is not present in the segments where it is needed. (scapulae)

If the muscles around the shoulder joint and muscles around the hip and low back are not exceptionally strong these areas will- sooner or later- break down. Injury data from all levels of the game of softball show this to be a fact. Overuse injuries in the shoulder are the number one cause of injury (and games missed). Low back, groin and hip injuries are next. Building a better softball athlete then, requires that significant emphasis be placed on appropriately and effectively strengthening these areas.

**Chapter****3**

## THE PROGRAM

**T**he *ATHLETE CONSTRUCTION Softball Program* has been designed for maximum simplicity and effectiveness for coaches and athletes. It is organized as interchangeable series' of exercises (each addressing a different aspect of performance or prevention) that can either be incorporated in to practices, or used as stand alone workouts. The exercises are organized in to 5 separate sections: 1) Warm-ups, 2) Prehab, 3) Core Strength, 4) Speed and Quickness, and 5) Strength.

### Warm-ups

As a coach you may choose to alternate between the 3 warm-up series each practice, or you may decide to stick with 1 series until your team has mastered each of the movements and is comfortable with the routine. Regardless, each warm-up series begins with very simple movements (ie: calisthenics) and progresses to more complex dynamic movement patterns that will effectively prepare the body for either a workout or practice. These warm-up exercises will also serve to improve body awareness and control and flexibility- elevating overall movement quality.

### Shoulder Prehab

Shoulder prehab exercises have also been organized in to 3 series. Each series includes 4 exercises that either address shoulder mobility or scapulae stability.

These exercises can be done with little or no equipment, and make great pre-practice (pre-throwing) warm-ups for the shoulder. A resistance cord or piece of tubing is required for a couple of the exercises, and a light 2.5lb or 5lb plate for a few others (substitute 2 weighted balls or regular softballs if necessary).

## Core Strength

Core exercises, likewise, are organized in to 3 series' of 3 exercises. These can be done either at the beginning or end of a practice, or at a separate time altogether. Equipment needs again are minimal. Most exercises require bodyweight only, but a few require either a stability ball or a light medicine ball (both can be ordered on [www.athleteconstruction.com](http://www.athleteconstruction.com)).

## Speed & Quickness

Speed and quickness drills can be added at the end of warm-ups and prior to the start of practice. These simple drills involve a combination of linear and lateral movements, emphasizing quickness (first step) and starting speed. Simple plyometrics are included.

## Strength

Finally, 3 strength circuits of 5 exercises each round out the program. Each circuit can be done with a small group or larger team right on the field. Minimal equipment is required. These total body circuits involve mostly bodyweight exercises that easily be made more challenging by adding weighted vests, dumbbells or other external resistance (med. balls, sandbags, etc.).

## Progression

For maximum results it is recommended that all components within the program be completed 3 times/week. And, as the exercises get easier progression is essential for sustaining momentum. Within each section of the program there is a shaded yellow box at the bottom of the sheet that explains how to progress each exercise. We will progress by adding volume first. Once the maximum volume has been attained we will begin increasing load, or resistance, to the exercises.

fluids are important in the morning. Unsweetened fruit juices (not juices from concentrate) and water are good choices. Limit caffeine. If you do drink coffee add an additional 8-16 oz. of water to your daily fluid intake.

## APPENDIX A- PROGRAM DEVELOPERS



CAROL BRUGGEMAN

One of the the most respected coaches in the game, Carol Bruggeman is closing in on the 600 win milestone as Associate Head Coach at the University of Louisville. In her 5 years with the Cardinals she has guided the perennial Top 25 team to two Big East Conference Championships and five straight NCAA appearances. Prior to Louisville Bruggemen started the softball program at Purdue University and was head coach from 1994-2005, leading the Boilermakers to 30+ win seasons in 9 of her 10 seasons. Bruggeman began her coaching career as a graduate assistant at her alma mater- the University of Iowa- after a stellar playing career that placed her in the Iowa Sports Hall of Fame. From Iowa Bruggeman moved on to an assistant coaching position at the University of Michigan from 1989-1993. Coach Bruggeman has written extensively about the game of softball- including chapters in 'The Softball Coaches Bible', 'The Softball Drillbook'- and is a regular speaker at conferences and clinics nationwide. She is also the current President of the National Fastpitch Coaches Association.



TEENA MURRAY

Teena Murray is Director of Sports Performance at the University of Louisville where she oversees athlete development and performance for the Cardinals' 22 Olympic sports. She is also the head strength and conditioning coach for the U.S. Women's National and Olympic hockey teams, owner of Athlete Construction (LLC) and an instructor in the graduate program at U of L.

In her 15 years in the strength and conditioning industry Teena has worked extensively with professional, Olympic, and collegiate athletes- including top draft picks in the WNBA, NHL, Olympic medalists, World Champions and All-

Americans. She has worked collegiately at Cornell University and University of Connecticut and professionally as a consultant to the Florida Panthers and Anaheim Ducks.

She has published numerous training articles and has specific research interest in performance profiling for elite female athletes.

A native of Canada, Teena holds a Master's degree in Exercise Physiology and undergraduate degrees in kinesiology and education. She is a Master Coach with the Collegiate Strength & Conditioning Coaches' Association (CSCCa) and is certified by the National Strength and Conditioning Association (NSCA), United States Weightlifting (USAW) and Functional Movement Systems (FMS).

## **APPENDIX B- TRAINING EQUIPMENT**

\*\*All equipment is available for sale at [www.athleteconstruction.com](http://www.athleteconstruction.com)

### **SISSEL ABS PRO Swiss Ball**

55cm- 5'4-6'0 (height)

65cm- over 6'0

### **SISSEL Medicine Ball**

3kg (6.6lbs)

4kg (8.8lbs)

### **Resistance Cord with handles**

Strong

Extra Strong