



## about the AUTHORS

*Patsy Toman is a Senior Exercise Science Major at Schreiner University in Kerrville, Texas.*

*Juan Gonzalez is an Associate Professor in the Exercise Science Department at Schreiner University in Kerrville, TX.*

# At the Core of a Pitcher:

## *Increasing Strength and Power for a Softball Pitcher*

Patsy Toman and Juan Gonzalez, PhD, CSCS

The core of an athlete plays a significant role in nearly all sport-related movements. This is especially true for softball pitchers. Most fast-pitch softball pitchers use a windmill motion. During this motion instability occurs due to the re-distribution of body weight. At the beginning of the pitch all the weight is on the back leg. Once the lead foot hits the ground the weight shifts and most of it is distributed to the front leg (figure 1). This instability places an emphasis on the core muscles of the pitcher. Rotation of the hips is also an important aspect of a good windmill pitch. A strong core provides stability, balance, and power for rotation.

The core is typically described as being comprised of the: rectus abdominis, external obliques, internal obliques, transverse abdominis, and erector spinae. The core is essential in generating power and is the center of gravity for the body (1). Strengthening the core improves the pitch on many levels. First of all it increases rotational power, which provides more power behind

the pitch. It also increases stability and balance making the pitch a more fluid motion, which relays that the muscles are being more productive in producing power. Consequently, there is less wasted movement and all the concentration is on the proper pitching mechanics. The core serves as a link between the upper and lower body. Stable core muscles serve as a base in which the upper and lower extremities can accelerate and transfer power effectively (3). Lastly, a strong core helps reduce the risk of injury, "The muscles of the core when strong, stable, and efficient are better able to absorb and translate power, putting less stress on the extremities" (1).

A strong core can be very beneficial to a softball pitcher. With the proper core strengthening exercises a pitcher can become more productive on the mound.

## Stability Ball Weighted Crunch (figure 2)

Lie with your back on the ball and feet flat on the ground. Knees bent at 90 degrees. Raise your arms toward the ceiling holding a weighted medicine ball. Have a posterior pelvic tilt during the exercise. Slowly curl up from a hyper-extended position and push the ball backward so that your buttocks are on the ball. Repeat for 2 sets of 10.



Fig1 Once the lead foot hits the ground the weight shifts and most of it is distributed to the front leg.



Fig2 Stability Ball Weighted Crunch

### Stability Ball Rotation (figure 3)

Lie with your back on the ball and feet flat on the ground. Knees bent at 90 degrees. Holding a light to medium size medicine ball in your hands, rotate to one side while keeping your feet in a stationary position. Allow the ball to rotate across your back while keeping your hips under you. Rotate to both sides and repeat for 2 of 10.



Fig3 Stability Ball Rotation

### Stability Ball One-leg Sit-ups (figure 4)

Lie with your back on the ball. Have one foot on the ground with the knee bent at 90 degrees and the other leg extended out. Slowly curl your trunk, lifting your shoulder and upper back off the ball to a sitting position. Then slowly return to starting position. Repeat for 2 sets of 10 on each leg.



Fig4 Stability Ball One-leg Sit-up

### Stability Ball Leg Rotations (figure 5)

Lie down with your back flat on the floor and arms extended out to your sides. Place the ball between your calves, squeezing with your legs to hold the ball in place. Rotate your legs and hips so that your feet are now above and below the ball. Rotate to both sides and repeat for 2 sets of 20.



Fig5 Stability Ball Leg Rotations

### Stability Ball Alternating Superman (figure 6)

Lie face down with your stomach on the ball. Feet should be shoulder width apart with your toes and palms touching the ground. Raise one leg and the opposite arm. Keep the arms and legs straight and reaching out. Hold for a few seconds and then switch to the other arm and leg. Repeat for 2 sets of 10.



Fig6 Stability Ball Alternating Superman

### Floor Bicycles (figure 7)

Lie down with your back flat on the floor. Arms should be bent at the elbows and placed with your finger tips by your ears. Legs are together and extended outward 45 degrees to the floor. Pull one leg into your chest by flexing your knee and keeping the other leg extended. At the same time, crunch up and diagonally bring the opposite elbow to the flexed knee. Alternate knees and elbows in a cycling manner. Repeat for 2 sets of 25.



Fig7 Floor Bicycles

### Side Touch with Medicine Ball (figure 8)

Sit on the floor and lean back 45 degrees. Keep your feet off the floor. Move the medicine ball from side to side by twisting your trunk. Touch the medicine ball to the ground on each side. Repeat rapidly for 2 sets of 30.



Fig8 Side Touch with Medicine Ball

**Stability Ball V-Ups (figure 9)**

Get in a push up like position with the ball below the thighs and knees. Pike the hips up as high as possible, keeping your legs straight. Lower back down controlled. Repeat for 2 sets of 15.



Fig9 Stability Ball V-Ups

**Table Tops (figure 10)**

Make a bridge position using the feet and the elbows. Squeeze the abdominals and keep contracted. Keep the back straight and hold the position for 45 seconds for 2 sets.



Fig10 Table Tops

**Two Point Kneeling on Ball (figure 11)**

Place both knees and hands on the ball. Slowly try to remove hands and balance with just your knees on the ball. This may take some time to master. Once balancing on the ball with knees hold for 45 seconds or as long as you can for 2 sets.

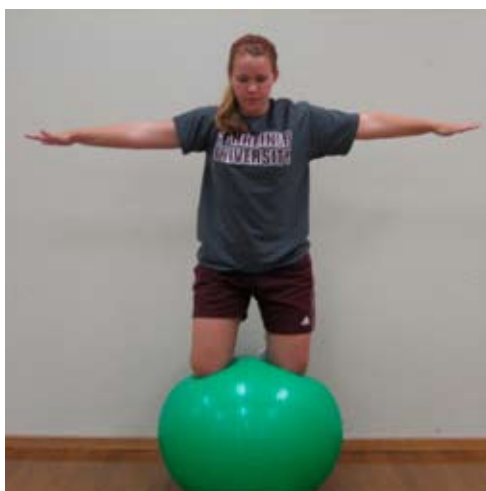


Fig11 Two Point Kneeling on Ball

**Stability Ball Push Ups (figure 12)**

Get in a push up position with hands on the ball and feet on the ground or on a box. Hold push up position by squeezing with the abdominals. Hold position for 45 seconds for 2 sets. Once you have mastered this exercise you can begin to actually do push ups on the ball.



Fig12 Stability Ball Push Ups

**Kneeling Medicine Ball Throw (figure 13)**

Kneel on one leg and keep on the other foot on the ground at a 90 degree angle. Hold the ball with both hands and bring back as in a wind up. Accelerate the ball forward and throw the ball. Repeat on both sides for 2 sets of 10 (2).



Fig13 Kneeling Medicine Ball Throw

**Single Leg Medicine Ball Throw (figure 14)**

Stand on one leg and hold the medicine ball with both hands. Bring the ball back by rotating backward. Rotate forward explosively and release the ball. Repeat on both sides for 2 sets of 10 (2).



Fig14 Single Leg Medicine Ball Throw



The core muscles are critical in not only stabilizing but in transferring power to the throwing motion of the softball pitch. Translating power from the core and trunk into the pitch is ultimately what every softball pitcher wants and needs. Following these routines the pitcher will also minimize the chances of shoulder injuries by utilizing as much of full body momentum instead of just shoulder strength. ■

### References

1. Handzel, T.M. (2003). Core Training for Improved Performance. *NSCA's Performance Training Journal*, 2(6), 26 – 30.
2. Hanzel, T.M. (2005). A Medicine Ball Progression. *NSCA's Performance Training Journal*, 4(1), 14 – 16.
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A promotional poster for the NSCA 32nd National Conference & Exhibition. The background is a night photograph of the Paris Hotel & Casino in Las Vegas, featuring its illuminated facade and a large, brightly lit hot air balloon. In the foreground, there are three circular inset images: the top one shows a smiling man and woman, the middle one shows a woman performing a rowing exercise with a yellow medicine ball, and the bottom one shows a man speaking into a microphone. The NSCA logo, consisting of a stack of white weights, is positioned to the left of the text. The text 'NSCA™' is in a large, bold, white font. Below it, '32nd National Conference & Exhibition' is written in a slightly smaller white font. In the top right corner, 'Paris Hotel & Casino / Las Vegas, Nevada' and 'July 8 – 11, 2009' are listed. At the bottom, the website 'www.nsca-lift.org/NatCon2009' is displayed in a large, bold, white font.

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