

Basic Discus Throwing

By Mark Mirabelli

How does one develop a two-time discus champion? After coaching for 26 years on a high School level, I can honestly say it isn't easy. In fact, it is challenging and sometimes overwhelming to bring out the very best in a student athlete.

Finding a potential champion is not an easy task and it is certainly not a glamorous one! I have combed the school hallways, the gym classes, and the cafeteria year after year for a glimmer of athleticism.

I also look for athletes that have good balance. For those students who are not so athletic at first, I need to challenge their individual competitiveness and their inner strength to make them appreciate their own potential. After they make a commitment to the sport, the next step is to encourage them to make a commitment to the training.

Before an athlete can achieve county, state or national recognition, the coach must establish a well structured training program which should be incorporated in the athlete's weekly workouts during the off-season, so that the athlete can develop all elements equally.

FLEXIBILITY

Flexibility training (or forced stretching) is one of the most neglected, but most vital elements to an athlete's training program. It should also always be done with a coach present to ensure that the athlete is working to move beyond his sticking points and therefore increasing his/her flexibility. Two sets of eight counts per stretch are equally adequate.

Examples of stretches include

LOWER BODY

1. Lower Body Head to Knee- First, the athlete should sit in a 90-degree position with legs together on the ground. The athlete's toes should be pointed to the sky. The coach should then the palm of his hand between the athlete's shoulder blades and push downward while the athlete's

legs remain flat. The goal of this exercise is to for the athlete to eventually be able to touch his head to the top of his knees.

2. Straddle Stretch – The athlete's should be sitting on the ground with his legs spread as far apart as possible. The coach should then place the palm of his hand between the athlete's shoulder blades and push downward while the athlete's legs remain flat. The athlete should stretch to the left, then to the right, and finally (with arms straight out in front), down the middle. The goal of this exercise is for the athlete to eventually be able to move his/her body lower to the ground.
3. Legs Back- The athlete should lie flat on his back. The coach should be positioned at the feet of the athlete. The coach should then pick up one of the athlete's leg and lift that leg from the heel back towards the athlete's body. On the fifth count of the forced stretch, the athlete should resist. The coach should then resist on the remaining three counts.
4. Upper Groin Stretch – The athlete should lie on his stomach. The coach should sit lightly on the athlete's buttocks facing the athlete's leg upwards. On the fifth count of the forced stretch, the coach will move the athlete's leg downward while the athlete resists for the remaining three counts.
5. Butterfly Groin Stretch – The athlete should sit on the ground with his legs together and his arms positioned behind him for support. The coach should then press down on the athlete's shoulders. On the fifth count, the athlete should resist.
6. Trunk Twist – The athlete should stand with his legs apart and his arms straight out to the sides. The coach should be positioned behind

the athlete. The coach should then rotate the athlete's torso as far to the left as possible, then as far to the right as possible. This exercise should be repeated twice.

Upper Body

1. Open Arm Stretch – The athlete should sit on the ground with his arms straight out to the side of the body at shoulder level. The coach should be positioned behind the athlete. The coach should then pull the athlete's hands and arm backwards while making sure that the athlete's palm faces away from the coach. ON the fifth count, the athlete should begin to resist.
2. Triceps Stretch – The athlete should stand with his back to the coach and touch his right hand to his right shoulder. From behind the athlete, the coach should slowly lift the athlete's elbow. On the fifth count, the athlete should begin to resist.
3. Cuff Stretch – The athlete should sit on the ground with his hands locked behind his head. The coach should be positioned behind the athlete. The coach should the slowly pull the athlete's elbows back and up. On the fifth count, the athlete should begin to resist.

Speed

The following are some of the various drills and stations that should be used throughout a thrower are training program:

Box Run (see diagram A) – The coach should place four cones in a square approximately 10-15 yards apart. The athletes should run in a single line forward to the first cone. Then, they side-shuffle left to the next cone. Then, they should run backwards to the next cone. Then, they should side-shuffle right to the next cone. The athletes should remain facing one direction at all times, and should run in this pattern for five minutes.

Variation Sprints (see diagram B) – The coach should set up two sets of three cones. The athletes should form two lines. This exercise consists of each athlete sprinting to the first cone, running backwards to the starting position. This exercise should be repeated four times.

Hurdle Jumps (see diagram B) – The coach should set two sets of three hurdles at varying heights. The athletes should then form two lines behind the hurdles. At the whistle-blow, the athletes should race against each other. The athletes should sprint over the second and third hurdles and then sprint back to the starting position after they reach the third cone.

Plyometric Jumps / Double Leg Bounding – Set three plyo boxes approximately three feet apart and have spotters on each side of the plyo boxes. The athletes should leap up to the first ply box (which should be set at 18”), jump down, and then immediately leap up to the next ply box (which should be set at 24”). The athletes should jump down, then immediately leap up to the next ply box (which should be set at 32”). This exercise should be repeated 10-20 times at least once a week.

Up and Down Hill Runs – The athletes should sprint 20-40 yards uphill, and then walk back down the hill. The athletes should then sprint 20-40 yards downhill as well. Implementing a competitive running workout is great for the throwers, since it can be both challenging and fun.

STRENGTH

Strength is another important element in discus throwing and must be done year-round. For beginning throwers, it is best to start on nautilus machines so that all major muscle groups are covered. Three reps of ten would be adequate to begin their strength training. The second and third year throwers should perform power lifts as well as use the nautilus machines at least three days a week after practice.

Beginners should do the following: Bench Press, Military Press, Pull Downs, Wrist Curls, Shoulder Rolls, Incline Press, Pullover, Leg Extensions, Hamstring Curls, Reserve Curls, and Tricep Extensions.

Advanced lifters should divide their strength training into three parts – upper body, middle body and lower body.

Upper Body training includes bench press, incline press, power/half/full cleans, clean and jerk, curls, reverse curls, weighted pullovers. **Middle Body** training includes dead lifts, back lifts, variation sit-ups. **Lower body** training includes half squats, quarter squats, calf raises.

TECHNIQUE

Technique is the forth and most important element in an athlete’s overall training program. A coach must have a simple, step-by-step approach when teaching all the parts of the discus throw. **Teaching the Grip and Release** Even before an athlete begins to learn the discus spin, he must first learn how to properly grip the discus. The discus rim should be held at the joint of the index and middle fingers, which should be held together. The other fingers should be held slightly apart. This grip will help create the necessary centrifugal force in the windup as well as keep the discus from falling to the ground. The following drills are used to help improve the release:

1. **Bowling Drill** – The athlete should simply roll the discus on the ground like a bowler.
2. **Flip, Drill** – The athlete should pitch the discus underhand like a softball pitcher.
3. **Single & Double Knee Kneeling Throws** – The athlete

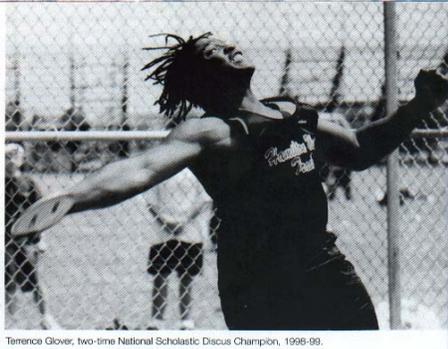
throws the discus while kneeling on the right knee and extending the left leg. The coach should remind the thrower to release the discus in a clockwise manner.

4. **Standing Throws** – This drill should only be done after the previous three drills have been completed. The focus of this drill should be on the release of the discus and the direction of the release. The coach may consider placing a tire out in the field so that the athlete has a target for his release straight down the sector.

The next focus of the training should be on the placement of the athlete’s feet within the discus circle (see diagram C). A couple of years ago, I was having difficulty in illustrating this technique to one of my athletes. He kept falling off the side of the circle and was not able to position himself correctly. It was only after I discussed my difficulty with a fellow coach, Jerry Brocaill of Hanover Park High school in Hanover Park, New Jersey, that I was finally able to help my athlete. Jerry, a true technician in track and field, explained and demonstrated a concept called the “Inverted 7.” Ever since he clued me in to this concept, I have had little or no difficulty in getting my athletes to learn the proper foot placement. By Drawing the Inverted 7 within the discus circle, the athletes has a consistent visual cue for correctly placing his feet for power throws, South African throws, and the complete rotational spin.

Power Throws

The athlete should place the right foot facing the 45-degree angle to the front of the R3. The athlete’s weight should be on the ball of the foot. The left foot or the blocking leg is placed in the 1, 4 position. The athlete should practice pivoting back and forth between these two positions, shifting his body weight, while holding a cone or a sock filled with sand. The athlete should practice his release and throw from this position while focusing on blocking and holding the left foot down. The coach should



Terence Glover, two-time National Scholastic Discus Champion, 1998-99.

remind the athlete to pivot his right foot forward.

The coach can also use verbal cues with his athlete such as “pull out the cigarette” to help the athlete remember to lead with his hips and not his shoulder. The athlete should consistently keep his shoulders level. In addition, the coach should remind the athlete to stay relaxed and to keep the discus as far away from the armpit as possible. This will then help create a long pull and a smooth release. It is important for the coach to have his athlete repeat these exercises with sand filled socks or with cones as much as possible before moving to throwing the discus itself.

South African Drill

After the thrower improves on the power throws, it is important now to get the athlete to develop the discus spin or rotation by going through five simple steps (see Diagram C):

1. The athlete should stand at the back of the circle placing his left foot on L2 and facing the direction of the throwing area.
2. The athlete should step to the middle with the right foot on 3R in the middle of the ring.
3. The athlete should pivot counterclockwise on the ball of the right foot while quickly placing the left foot down on the 4L position. The athlete should

remember to lead with his hips to form the power position.

4. The athlete should drive his hips forward towards the front of the ring and pull his torso to the front and shift his body weight over his left leg.

5. The athlete should lift his body over the 4L position vertically and release the discus. The angle of the arm should be approximately 90-

degrees to the athlete’s torso, while the arm continues the release in a 220-degree (see Diagram D) plane to the ground. After the release, the athlete should reverse his feet and bend his knees to maintain optimal balance and recovery.

Full Rotation Spin

Using the Inverted 7 (see Diagram C); the athlete should place his left foot in the L1 position and his right foot in the R2 position. The athlete must stand in a relaxed partial squat with his back towards the throwing area. The athlete should then pivot on the ball of his left foot. The coach should remind the athlete to turn in a controlled manner with the left armpit directly over the left kneecap as he pivots to the middle of the circle.

If the athlete falls back on the first pivot, the entire throw will be out of control. So, as he pivots, the athlete should swing the right leg wide to form the power position. His weight should be on the right leg with his torso ahead of his throwing arm. His head should face the rear of the ring and the right arm should be behind the right hip. Now, for the release sequence:

- The athlete’s hips and torso should turn toward the inside of the circle.

-The athlete’s head and eyes are up and the weight has been transferred from the back to the front leg in the 4L position.

-The athlete’s left arm blocks, creating an action-reaction and his throwing arm is straight out from his body.

Finally, the discus is released at shoulder level. As you teach the full rotation, there are various drills that will help the athlete be consistent in his movement:

1. The athlete should pivot and hold in the middle of the circle.
2. The athlete should pivot and hold in the middle of the circle, then shifts his hips forward.
3. The athlete should pivot and hold in the middle of the circle, shift his hips forward before opening them.
4. The athlete should pivot and hold in the middle of the circle, open up his hips, throw and recover.

As a coach, I run my athletes through these drills relentlessly. More importantly, I always remember to use the Inverted 7 when teaching technique. When I work with more than one athlete at a time, I simply draw more chalk circles for them to walk within. I cannot stress enough how useful it has been in illustrating proper technique over the years. Since I have included the Inverted 7 in my training program, I have been able to help my athletes realize their full potential.

It has helped me structure a comprehensive training program that is precise, uncomplicated, and most importantly, successful!

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