

Coaching the High School Discus Throw

By: [Paul Brueske](#)

Talent Identification:

To establish a successful high school throws program, the first thing a coach must do is find the right type of athletes. Keep in mind that great throwers are also great athletes. It is not advisable to recruit slow, overweight, non-athletic kids for the throwing events.

Power is a key ingredient for success in the throws. Look for athletes with speed, quickness and explosiveness. Besides quickness & power, look for physical traits such as height, large hands, a long wing span, and a large bone structure. However, keep in mind size alone doesn't necessarily equal to success in the throws.

The following basic physical tests can be useful in indicating potential for success in the throws:

- **Overhead backward shot put throw**
- **Standing long jump**
- **Vertical jump**
- **30 meters sprint**

Character traits such as work ethic, commitment, coachableness and aggressiveness should also be considered. At the high school level, a mediocre athlete with these qualities can still achieve a relatively high standard of success.

Building solid discus technique can take years. Therefore, it is an advantage to get kids working on technique early in their prep careers. Personally, I like to take the biggest freshman sprinter and teach him/her to throw. If your situation allows you to work with junior high school students, an even greater advantage will be gained.

Quality Repetition:

Technical proficiency requires quality repetition on a consistent basis. It is important the athlete becomes comfortable with the proper technical movement patterns with plenty of reps in the circle and through various event specific drills.

Technical Outline:

The following is a description of an ideal technical throw for a right-handed thrower.

Hold:

- The two most common holds:
 - 1) Fingers evenly spaced.
 - 2) Index and middle fingers together for power.
- The athlete should experiment with both holds to determine which is the most comfortable.
- With both holds, the discus is held *not* grasped. The discus should be held slightly to the right of the implement's center. This can vary slightly depending on the size of the athlete's hands. Also, the first joint of the fingers should overlap the edge of the discus.

Preliminary Stance and Wind:

- Feet are approximately shoulder width apart with the knees slightly bent.
- Long relaxed arms are held about shoulder level.
- Only one preliminary wind is necessary. More than one wind is wasted effort.
- The action is simple, rhythmic and relaxed. The discus is not forced back.

Entry and Sprint to the middle of circle:

- Center of mass is lowered and body weight is shifted over the ball of the left foot.
- Stay slow and level as the body turns as a unit on a bent left leg.
- The right leg is swept wide with the inside of the thigh leading.
- Once the left foot has rotated 180 degrees to the direction of the throw, the athlete should sprint off the left leg. Power comes as the left leg pushes forward. A common error is the athlete spins off left foot instead of sprinting.
- **Focal point:** left corner of the front of the circle or approximately 10 o'clock. This split second eye contact slows the upper body enough to allow the lower body to get into a leading position.
- The upper body is stretched with the discus carried behind the right hip. It may be helpful for the athlete to think of the right hip as running away from the discus.
- Turn is close to the ground.

Power Position

- Backward lean with most of the bodyweight over a bent right leg.
- Heel-toe position: Left toe is aligned with the right heel.
- The athlete is on the balls of the feet. The heels never touch the ground.
- A torque or "X" position is achieved in which the lower body is leading the upper body. In other words, the shoulders are facing toward the back while the hips face to the side.

Delivery and Reverse

- As the right foot lands, it continues to rotate and pull the right side around a braced left side of the body. This action pulls the discus in a wide arc until it is released in a slinging manner with the palm down.
- The right foot and knee turns inwards as the heel turns out. This action turns the right hip to the front. The thrower stays up on the balls of the feet. A helpful coaching cue: *"Think of the right foot pivot like grinding a cigarette into the ground."*
- The left arm (non-throwing arm) swings wide so shoulder rotation doesn't exceed hip rotation. When the left hand points to the direction of the throw, the left arm is pulled in tightly to the left side of the body and stops. This left side blocking action causes the right side to accelerate.
- The palm is down at release with the right thumb applying slight pressure to guide the flight of the disc. A helpful coaching cue: *"Keep the thumb down"*
- The discus comes off the hand in a clockwise rotation at shoulder level.
- Following the release, a reversal of the feet can take place to help the athlete from fouling. Keep in mind that many top throwers block so well that they do not reverse their feet. This is especially common with female throwers.

Drills:

- **“Bowling” Drill:** Allows the athlete to practice the release of the discus. The discus is bowled forward out of the hand onto the ground in a "clockwise" manner.
- **“Flip” Drill:** Another release drill. Athlete stands upright and flips the discus upward by squeezing the hand in a clockwise manner.
- **Standing Throws:** This drill is a good warm-up and allows the athlete to focus on the technical aspects of the power position. Stand with the weight over the ball of the right foot with the feet aligned in a heel-toe position. Perform the technique described in the power position and delivery sections of the technical outline.
- **Sink & Slings:** Start with the feet together with the weight over the right leg and the discus held at the side. The athlete sinks down on the right leg, slides the left leg towards to the front of the circle while the discus is slowly swings back to shoulder level. Then perform the technique described in the power position and delivery sections of the technique outline.
- **Wheel Drill:** This drill focuses on turning the right foot. Place the right foot in the center of the circle, stay up on the ball of the foot and torque the upper body. Start the movement by turning the right foot with the heel up. Keep upper body relaxed as the legs move into the power position and throw.
- **South African Drill:** This drill teaches the athletes to drive across the circle into the power position. Athlete starts with the left foot facing the direction of the throw (the right leg is behind the left) at the rear of the circle. From this position the athlete sprints across the circle into the power position and throws.
- **Full Throws:** Practicing full throws helps to master the slow to fast rhythm and feel of the complete throw. Many practice throws should be taken with submaximal effort to focus technique.
- **Balance Drill:** Start with the knees bent in a slightly bow legged stance at the back of the circle. The athlete rotates 360 degrees on the left leg, with the knees separated, back to the starting position. If the athlete is balanced, they should finish in the same position they started. A beginner may find it difficult to perform a full 360-degree rotation. If this is the case, modify the drill by having them perform quarter turns until they have rotated a full 360 degrees. Once they have mastered the quarter turns, progress into the full 360-degree balance drill.
- **Throwing alternative implements:** Throwing with alternative implements, especially in the preseason, is a great way to work on technique. It is difficult to correct technical mistakes with an actual discus because things tend to happen very quickly. Alternative implements tend to slow the movement down and help you feel what the body is doing. Examples of alternative implements include light dumbbells, traffic cones, weighted bars, bowling pins, a sock filled with sand and weighted balls.
- **Variable weight throwing:** As an athlete advances, the use of variable weight throwing may be useful. Overweight throwing develops strength and makes the competition implement feel light. Underweight throwing develops release speed. A very important consideration is rhythm and timing is crucial to success in the discus. Therefore, stay within 10-15% of the competition weight to prevent rhythm and timing problems.
- **Throws without a reverse:** Most practice throws should be performed without a reverse. It is not necessary to spend a lot of time working on the reverse in training because it is an action that should occur naturally. Practicing throws without a reverse promotes a strong block and hip drive. Throwing without a reverse also prevents a premature of shifting of bodyweight to the left leg. Many top throwers, especially females, throw without a reverse in competition.

Key Coaching Points:

- **Slow to fast rhythm:** The rhythm of the throw is ooone...two-three. Emphasize the importance of starting under control and gradually accelerating. Don't rush the throw. A helpful coaching cue: *"Start slow and low, finish high and fast."*
- **Take only one preliminary wind:** A common mistake made by prep throwers is taking too many preliminary winds. Coach your athletes to take no more than one preliminary wind at the back of the circle. Any more than one wind is a waste of time and effort.
- **Summation of forces:** The big, strong but slower muscles of the lower body start the throw then the smaller quicker muscles of upper body are used to finish. The lower body should start the turn while a relaxed upper body trails until the very end.
- **Stay on the balls of the feet:** Keep the heels off the ground throughout the throw.
- **Angle of discus at release:** A throw that looks like a "line drive" will go further than one that looks like a "pop fly".ⁱ It is important to note that the arm carries the disc and slings it out but the legs lift it.ⁱⁱ
- **There are many ways to throw far:** Although there are a few general technical principles that are mandatory for elite performance, individuals will interpret technique to their own style. There are as many different technical styles as there are successful throwers. Taller throwers might have more success with a more rotational style used by throwers such as Wolfgang Schmidt. Shorter throwers may have an advantage throwing with the linear style that John Powell employed. As prep coach be able to distinguish between individualistic style and poor technique. Guide your athletes to success.
- **Teaching progression:** A common mistake made by many prep athletes is trying to use the full spin too soon. Gradually progress into the full throw. Beginners should focus on mastering the standing position throw first then gradually progress to the full throw.
- **Throw at a target in practice:** During practice have the athlete aim for a target in the middle of the sector at a distance that exceeds their personal best 5-15 feet. It is also helpful to have the foul sector lines marked for practice sessions.
- **Throw multiple events:** At the high school level, encourage athletes to compete and train for the javelin, shot put and discus. Success in multiple events will help score more team points and can help make athletes more attractive to college coaches.
- **Develop overall athleticism:** Make dynamic mobility warm-up / sprint mechanic routines a daily practice procedure for throwers. Activities such as short sprints (under 30 meters), a limited volume of ground based plyometrics, and hurdle mobility drills are great training methods to develop quickness, mobility, power and coordination.
- **Know when to stop the throwing session:** When an athlete's technique starts to get sloppy due to fatigue it is time to stop throwing. If an athlete continues throwing they will simply be ingraining poor technical habits.
- **Peaking:** Focus more on quality practice throws versus a quantity of throws towards the end of the season. Reduce the amount overweight throwing and overall volume of practice throws. Moreover, throws with lighter implements can be useful in reaching peak performance at this time.

ⁱ **References:**

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