

## Fundamental Elements of the Shot Put and Discus.

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### What to look for in Shot Put and Discus Throwers:

- 1) **Strength:** This is the most obvious factor. Don't judge strength by size however. Some people are big, but not strong; others are strong, but they are not big and bulky.
- 2) **Size:** Look for kids who are tall, and have long levers. This is especially important in the discus.
- 3) **Overall athleticism:** Throwers must have a high degree of control over their body while engaged in high levels of athleticism. The nature of events demands kinesthetic awareness.
- 4) **Explosiveness:** Throwers need to have the ability to move their body rapidly. This needs to be developed through weight training, plyometrics, and bounding. The faster an object moves, the further it will fly.
- 5) **Mental toughness:** Both the shot put and the discus require consistency, along with long term development of complex skills. A thrower who lacks focus will never be successful.
- 6) **“Heart:”** By far, the most overlooked requirement of a successful thrower, or successful athlete in any event. An athlete with a tremendous work ethic and dedication to his or her sport is not only easy to coach, but can make up for shortcomings in one or more of the previous categories.

### Where Can You Find Potential Jumpers?:

- 1) **Begin within your own team first:** Check your sprinters, jumpers, and hurdlers for multi-talented athletes, or people who are being under utilized. I recommend full team testing (see next section). Every now and then you will find someone you least expect who can be successful in the throws.
- 2) **Check other athletic teams at your school:** Basketball, volleyball, swimming, and football are excellent places to look. Ask the coach if they can speak to a specific athlete at season's end.
- 3) **Ask you P.E. Teachers:** Look especially for young students with athletic ability you can develop over time.
- 4) **Just get people out:** The more kids you can get out for track, the more likely you are to find that “diamond in the rough.”

## Testing to Find Potential Horizontal Jumpers:

- **Sprint test:** Time your athletes from a standing start over a distance of 30 to 40 meters. This will give you an idea of the athlete's quickness and overall athleticism.
- **Standing long jump:** Have the athlete perform a standing long jump into the jump pit. This will give you an idea of the athlete's leg power.
- **Back throw:** Have the athlete throw a 4 kilo (girls) 12 lb. (boys) shot put backwards over their head, using both hands. This will give you an idea of the athlete's explosive speed.
- **Weight testing:** Have the athlete "max out" in various upper and lower body weights to determine their strength. (See weight testing and weight program hand out)

## Remember:

- *The throws are a dynamic event that demand high levels of athleticism. Your top throwers are usually some of the best overall athletes on your track team.*
- *The throws involve much more than just upper body strength; they require top notch full body strength, balance, and control. As a general rule the proportionate contributions of the body's muscle groups to the throwing events are:*
  - *50% legs*
  - *30% trunk*
  - *20% arms*

## **Rotation vs. Glide Shot Put**

### **Glide**

#### ***Pros***

- Easier for thrower and coach to learn
- Great for young or beginning athletes
- Very easy to maintain a good power position

#### ***Cons***

- Can be slow
- Athletes often want to make it a two step process

### **Rotation**

#### ***Pros***

- Can be better for faster athletes
- Athletes who excel in the discus can be successful
- Many argue that when learned and coached correctly the rotation is the superior technique

#### ***Cons***

- More difficult to learn and master (extremely technical)
- More prone to minor mistakes disrupting throw
- More difficult to achieve a good power position

## **GLIDE SHOT PUT - (Basic Technique)**

- The Grip
- Starting Position
- The Glide
- Power Position
- Delivery
- Recovery

### **The Grip**

- The shot should rest on the base of the fingers
- Four fingers on the ball
- Thumb balances shot on fingers

### **Starting Position - (Crouch)**

- Right foot at six o'clock
- Free arm closed pointing to the rear
- Shoulders parallel
- Eyes on a spot three to six feet in back of the ring
- Left leg extended with a slight bend in the knee
- Left foot touching the circle keeping the thrower on balance
- Right leg bent at sixty degrees with the back flat
- Angle of upper leg and trunk approximately ninety degrees
- Position needs to be comfortable and relaxed

### **The Glide**

- The movement is a rhythmic whole
- The coach must keep the rhythmic nature in mind when teaching these movements
- Glide Technique
- The glide is the result of the summation of three distinct movements:
- unseating
- Left Leg Action
  - The left leg is lifted for a rhythmic beginning
  - The left knee is bent and the left leg is brought in toward the right
  - As the left knee approaches the right knee the athlete begins unseating
  - Unseating
    - This is felt as sitting back or a controlled fall toward the toeboard.
    - The COG must pass behind the right heel
    - Thrower moves the line of gravity beyond the base of support
    - this is the process by which all translations of the human body occurs.
- Right Leg Action
  - As the left knee approaches the right knee the right leg pushes off
  - The right leg is fully extended with final contact coming from the heel
  - Following full extension the right leg is quickly pulled under the COG
- Landing
  - Weight should be on the ball of the right foot
  - The right foot should land approximately in the center of the ring
  - The right foot should be turned between forty five to ninety degrees
  - The majority of the body weight is back on the right leg
  - The shoulders are closed

- The eyes remain focused on the original focal point behind the ring
- The left leg should land approximately one inch from the toe board
- The left toe should be left of center
- The left leg should be slightly bent but firm upon landing

### **Power Position**

- From this position the delivery phase is initiated
- A good consistent power position is the key to effective throwing
- This position must be rehearsed

### **Delivery Phase**

- There is a violent lifting action with the legs and hips
- The shot stays in line with the elbow
- The key is a long application of force
- The throw is finished by a meaningful snap of the wrist
- The fingers should follow through in an outward motion (thumb down)

### **Recovery**

- This is termed as the follow through or reverse
- Recovery Action
  - This is a natural movement that results from the throwers technique
  - In the reverse the right leg can shift to the front
  - The right foot can brace against the toeboard
  - The toeboard may keep the athlete from fouling
  - The thrower should not watch the shot in the recovery

## **Teaching Progression**

### **Holding the Shot Put**

- place the shot at the base of the fingers
- the thumb rests on the side of the shot put for control

### **Teaching the Arm Strike**

- Probably the most under-coached area of the throw
- Medicine Ball Puts
  - Take a medicine ball holding it with the elbows up and the thumbs down
  - Instruct the athlete to throw the medicine ball to a partner
  - The hands follow through outward with the thumb down
  - This drill will teach the proper follow through in the arm strike
- Partner “High Fives”
  - Have the athlete face a partner with the throwing hand off of the shoulder
  - The left arm is flexed at the midline of the body
  - The partner will hold his hand in the air creating a target for the partner
  - The athlete strikes the partners hand with their throwing hand
  - It is important to stress the proper alignment of the arm with thumb down and elbow up
- Throws on the Knees
  - This series of Drills is designed to get the athlete comfortable with the arm strike

- This drill also teaches the left arm block
- The shot is off the neck just above the right shoulder
- The left arm is flexed in front of the athlete as they face the landing area
- The athlete puts the shot as described in previous drills
- When this is mastered add the block by pulling the arm into the body
- With the block have the athlete turn clockwise to add torque to the movement

### **Teaching the Power Position**

- The Stance
- Right toe - left instep relationship feet shoulder width apart
- Be fairly upright at first
- Keep the head up and the midsection firm
- Most of the weight will be on the back leg (right Leg)
- Rehearse this position over and over

### **Teaching the Lower Body Action**

- Hip Pop Drill
  - Assume the power position
  - Turn the knee in on the drive leg toward the direction of the throw
  - Keep the shoulders closed and the weight back on the right
  - Partner can hold the free arm to help the athlete stay back
- Executing the Standing Throw (Lower Body Action)
  - Assume the power position
  - Throw is started by the right knee turning in the direction of the throw
  - Turning of the hip and knee ultimately causes the turning of the foot
  - Hips are driven around and up
  - Body weight is driven from the right leg over the left leg
- Executing the Standing Throw (Upper Body Action)
  - Left arm bends during the sweep when it is parallel with the throwing direction
  - Shot comes off the neck to a position just above the shoulder
  - Elbow is up and the thumb is down
  - Fingers are parallel with the ground

## Teaching the Movement Across the Ring

- The Step Back Drill
  - Start in the same position as in the glide
  - Perform a short step with the right
  - Then step with the left into the power position
  - This is a rhythmic movement
- Glide Drills
  - “A” Drill
  - Med Ball Push Drill
  - Mini-glide Drill
  - Partner glide Drill
- The “A” Drill
  - Athlete assumes the power position and unseats
  - Majority of weight is on the right heel
  - Left Leg extends toward the toeboard
  - This extension should create a elongated body position similar to the letter ‘A’.
- The Med Ball Push Drill
  - Assume the power position
  - Medicine ball is placed behind left leg
  - Left leg is extended back toward the toeboard
  - Left leg strikes the medicine ball
  - This helps the athlete feel the left leg action
- The “Mini-glide” Drill
  - Perform a short glide of about 6 inches
  - Drill is designed to feel the feet hitting at the same time
  - The shortened version is great for ‘weak’ athletes
  - As the shortened version feels comfortable, lengthen the glide
- Partner Glide
  - Assume the power position
  - Partner holds left arm
  - As the glide begins the partner walks with the athlete
  - Partner holding the free arm helps the athlete keep the shoulders closed
  - These are usually performed in sets of five

# Discus

## **Grip**

- Place finger tips slightly over rim
- Place fingers flat against discus
- Align thumb not too close or too far apart from fingers
- Decide on comfortable grip
- Keep throwing wrist straight

## Release

- Pull discus across fingers
- Spin discus off index finger
- Thumb slides across discus
- Point thumb at target
- Keep throwing wrist flat

## Wind

- Only one
- No turning of disk
- Relaxed, Rhythmic
- Keep discus flat
- Keep shoulders square
- Feet shoulder width apart
- Keep weight centered

## Flight

- Left arm and left leg move together
- Right leg sweeps
- Do not want tall leg in middle(land with right leg bent)
- As you land right leg left knee comes up to right knee "Close the knees"

## Power Position

- Back straight
- Right leg bent
- Left nearly straight
- Long arms
- Head and chin up
- On balls of feet

## Finish

- Left foot in good position(back words)
- Hips bent
- Good blocking motion by left side

## Reverse

- Switch feet and rotate

## Whole Throw

- Orbit of the throw
- Rhythm of the throw
- Coaching

## Drills

- 360 pivot drill
  - with left leg
  - slow and controlled
  - left arm and leg move togetherHelps Athlete to:
  - gain control of rhythm
  - drive out of the back
- Hip sit Drill
  - use a towel held by throwers right hand-partners provide resistance
  - sit and lean to left side
  - right leg moves to sweep position
  - left arm and left knee together
  - can let go and go through a throw
- wind and shift drill
  - just wind, shift and hold
  - works on balance
- wide leg drill
  - athlete touches a towel or hand with right leg(NOT KICK!)
- sweep and lift drill
  - put a cone next to left leg(be laying down while doing this drill)
  - athlete will sweep with right leg and will have to lift it and get over the cone
  - don't want to see athlete stepped down with right leg
- Power position drill
  - hold towel with right arm
  - coach provides resistance
  - right foot and knee turn in – get hp out in front
  - discus stays back
  - let athlete feel stretch
  - good “power c”
  - let them go and throw feel slingshot
- Use non-reverse throws to force a correct finish position
- Orbit Drill
  - walk threw throw
  - low point at back of leg
  - discus travels low, high, low, high
  - can use a cone to help coach see orbit more clearly

- Swoosh Ta-Ta  
 sound of throw is swoosh (sweep) Ta-Ta  
 right left land very soon one after another  
 not much gap between Ta-Tas

**Throwing sequence:**

- Power throws
- Drop Step
- South African
- Full

**\*This is a good learning sequence to take throwers through. Do not proceed to the next step until the previous one is mastered.**

**Coaching Tips**

- Safety first – ALWAYS!
- 1) Film as often as possible
    - even if they can't watch you can
    - easy to see in slow motion
    - film from back
    - helps with early stages of throw
    - film from right side
    - see if hop is out in front
  - 2) Be positive
    - technical events are difficult and frustrating
  - 3) Coach head and eyes
    - most throwers make this mistake
    - improvement in this area big help
    - pick focal points
  - 4) Keep it simple
    - give them only one or two technical things at a time
    - perfect those before you move on
  - 5) Take different perspectives
    - from back
      - orbit
      - body line
      - fast work
    - from right side
      - foot placement

- right foot pivot
  - left block
  - also with overall throw and rhythm
- 6) Use different vocabulary to explain some techniques
    - particularly if they are struggling
  - 7) use verbal cues or claps for timing
  - 8) Listen to throws
  - 9) Throw with traffic cones and towels
- **they will work on form rather than worry about distance**