

Technique and Throwing Progressions for the Glide Shot Put

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The Glide Shot Put

Despite the large number of male throwers and increasing number of females who employ the rotational technique, the glide is still a very effective way of putting the shot for both men and women. The most obvious being Michelle Carter and Valerie Adams both Olympic Champions, probably David Storl & Tomasz Majewski on the men's side.

When do you look at an athlete who needs to spin? Perhaps the answer is dynamic oriented athletes who don't have a big stand throw can achieve more success in the spin

Benefits of the Glide:

- Consistency
- Maximizes the power position
- Simplicity

Two Dominant Glide Techniques

1. Long/Short: rotate and lift technique
 - Characterized by a long impulse/glide and a short power base, landing past middle of circle
 - Requires less strength and more athletic ability
 - Generally favors throwers that are shorter and more compact
 - Thrower must get right foot turned to 90 degrees (9 o'clock) in the power position
 - Emphasis is on the right side rotation (important to note not all throwers can turn the right foot especially with a shot put)
 - Thrower's torso is more torqued/closed in the power position
 - Active Reverse
2. Short/Long: lift and rotate technique (power throwers)
 - Characterized by a short impulse/glide and a wide power base
 - Most coaches feel it requires more natural strength
 - Generally favors throwers with good height and long levers
 - Right foot doesn't get turned all the way to 9 o'clock in the power position
 - Emphasis is on driving the body weight from right leg up over the left leg
 - Athlete's torso is more open in the power position
 - Wider base allows more time to apply force
 - Strong block not a real active reverse

"The real question in my mind is what technique will produce the best increase of standing throw to full throw differential under competition conditions" (John Smith)

I personally don't think one technique is better than the other rather it depends on the athlete and his or her abilities, body type, strength levels, etc.

Glide Shot Put Progression

Note: I will refer to the ring in relation to the face of a clock with the back of the ring being 12 o'clock and the front of the ring being 6 o'clock.

1. Grip Technique:

A. Hand Placement

- Shot should be held at base of the fingers where the fingers connect to the palm. Don't palm the shot.

B. Fingers Apart vs. Fingers Together

- Personal preference, allow the athlete to experiment with both styles
- Some coaches feel you get a better force platform with the fingers together. (Don Babbitt, Georgia likes fingers together)

C. Neck Placement

- Hand→Ball→Neck: place ball under the chin, firmly against the neck and slightly in front of the ear.
- Placement should be more forward and lower on the neck compared to a rotational thrower

2. Release Drills: In all of the below drills the following is a simple but efficient cue progression: elbow(s) up → thumb(s) down → full arm extension → full wrist snap

A. Bent Over Throw Downs with Shot Put

- Bend over 45-90 degrees at the waist with a flat back
- Drive shot into ground emphasizing proper arm extension & wrist snap

B. Medicine Ball Chest Throws (2-4 kg ball)

- Seated or Standing chest throws to a partner or against wall
- No-step, 1-step, 2-step, Lunge throws, etc.

C. Medicine Ball Partner Bench Press Throws (2-4 kg ball)

- One athlete lays on back with partner standing to side next to their chest
- Athlete standing drops ball onto their partner's chest
- Thrower on the ground pushes ball straight back up with elbows out, thumbs facing feet, full arm extension and full wrist snap

D. Kneeling Throw #1

- Face throwing direction kneeling on right knee with left knee up and left arm extended towards the throwing direction
- Left arm remains long at the midline of the body throughout the action
- Push the shot emphasizing proper arm extension & wrist snap

E. Kneeling Throw #2

- Same position as kneeling throw #1
- Push the shot emphasizing proper arm extension & wrist snap
- Add left arm blocking action

F. Kneeling Throw #3

- Same position as kneeling throw #1 and rotate shoulders 90 degrees right
- Allow the shoulders to naturally turn back square to the throwing direction while allowing the left hand to come in to the left shoulder (block arm)
- Push the shot emphasizing proper arm extension & wrist snap

G. Feet against Toeboard #1

- Face throwing sector with both feet against the inside of the toe board shoulder width apart
- Left arm up at the midline of the body towards the throwing sector
- Push the shot using only the throwing arm. Focus is on isolating the proper throwing action of the arm

H. Feet against Toeboard #2

- Same position as #1 and rotate the shoulders 90 degrees to the right
- Rotate the trunk back towards the sector and complete the throw
- Focus is on proper trunk rotation and throwing action of the arm

I. Feet against Toeboard #3

- Same position as #2 and flex the legs into a ½ squat position
- Initiate throw with the legs then rotate trunk towards the sector and complete the throw
- Focus is on coordination of the leg action, trunk rotation, and proper throwing action of the arm

3. Starting Positions

A. Dynamic/T-Start & variations: (David Storl)

- a. Allows you to create velocity by converting vertical displacement into horizontal velocity. This technique allows involves a timing component with the left leg.

B. Static/Crouch Start: (Furebach)

- b. Start already loaded which eliminates the timing component, but you don't get the free drop roller coaster effect and therefore requires a strong engine (quad)

4. Full Glide Motion1. Setting up the back:

- a. Right foot on the midline in a straight line. Don't pre-turn right foot
- b. Hips & shoulders square to back of ring. Don't let hips open at the start by hooking the left leg behind the right leg
- c. Center of mass over the right leg with a deliberate load of the right leg. Right knee out over the right toe (cue this pre-stretch)
- d. Get ball outside the back of the ring. Create a flat back with a long ball path, the space out the back of the ring is free space, take advantage of it
- e. Chest as low down on thigh/knee as strength & flexibility allow, "belly to quad" or "nipple to knee" (Brett Hatler)
- f. Left leg should be drawn in to a nearly identical position of flexion of right leg (knee to knee)

2. Drive Phase:

- a. Unseating out of the back (sitting back into chair). Hip displacement is down & back, most throwers want to come up with vertical displacement
- b. Shoot left leg down & back to toe board. Brett Hatler shoot straight back so don't open hips too soon. Mike Maynard shoot down left sector line to help open up hips "kick down left sector line"?
- c. Both legs get you across ring with an almost simultaneous explosive extension of left leg & right leg push/pull
- d. Not actually pushing off the heel, the heel is simply the last thing to leave the ground

3. Flight Phase / A-Position

- a. Keep chest covering thigh throughout drive phase, stay over the drive leg as long as possible to maximize push out of back
- b. Recovery of the right leg bringing knee up to chest with toe up letting the ground come to you

- c. Open hips and turn right foot in the direction of the sector in flight to maximize separation/torsion without opening shoulders.

4. Power Position:

- a. Absolutely want to get right leg under the system (center of mass) in the middle, but don't over focus on this or they will short their drive phase. Long drive phase out of the back is more important than getting right leg all the way under in the power position
- b. Maximum hip/shoulder separation with ball still behind left foot and free arm to right foot
- c. However, don't force shoulders turned all the way back trying to get 90 degrees of separation if they have to turn their hips back to do it. Hips won't come around for the delivery if they are closed driving across the ring

5. **Power Position Set-up:**

1. Base and Feet
 - a. Will vary depending on athlete but generally slightly wider than shoulder width
 - b. Both feet should be facing roughly 90 degrees to the sector or 9 o'clock
2. Heel-Toe Alignment
 - a. Will vary depending on athlete. Generally right heel lined up with left toe
 - b. Alignment should be wide enough to allow for proper hip clearance
3. Right & Left Leg
 - a. Load the right leg so the majority of the athlete's weight is balanced on the ball of the right foot (hide right toe with the quad). Should be able to pick up left leg and balance on ball of right foot
 - b. Left leg extended towards the toe board with slight flexion and with left foot facing 9 o'clock
4. Trunk
 - a. Want to create maximum separation between hips and shoulders. Trunk should be rotated back between 11 & 12 o'clock, but not so far back they close the hips. Shoulders level and square to the back of the circle
5. Left Arm
 - a. Left arm should be long, relaxed, rotated back with shoulders and reaching down toward back of ring (cue left arm to right foot)
6. Head
 - a. Focal point for eyes 4-8' out back of circle not down

6. **Standing Throw / Delivery Sequence:**

- A. Firing order/sequence starts from the ground up with the legs & hips then trunk and then throwing shoulder/arm
- B. Right to left action, allow center of mass to continue moving to the block. Rotation and extension of the right leg and then the hips (rotate & lift or lift & rotate)
- C. While maintaining separation between the upper and lower body, the upper body starts to rotate towards sector
- D. Free arm either long sweep allowing the chest to open & stretch
- E. Final rotation of the hips and shoulders with full extension of the legs
- F. Left arm block puts energy down into left side to get extension over toe board & a long ball path
- G. Left leg blocks as the right leg finishes its extension allowing even more right side acceleration

7. **Teaching the Reverse:**

Many beginning throwers tend to reverse too soon when they are attempting to reverse for the first time. I feel it is extremely important that beginning throwers start by non-reversing and only graduate to the reverse when they show that they can consistently reach full extension of the legs, hips, and shoulder/arm on their non-reverse throws.

- A. For throwers who are not able to naturally reverse all the way, start with the first drill which is to have the athlete jump (with their hands on their hips) and turn 180 degrees in the air landing on both feet on balance.
- B. Second progression would be to have the athlete jump 180 degrees, this time reaching up and out with right arm “stretching the rib cage” while landing on the right leg and reaching down and back with the left leg
- C. Eventually when teaching the full reverse the athlete will kick the block leg (left leg) out the left side of the circle and replace it with the right leg.
- D. The thrower will turn 180 degrees with the follow through of the throw and finish facing out the left side of the circle after the throw. Flat foot right leg landing in the reverse allows you to stay tall.
- E. It is important that the thrower does not watch the shot as it is released. This will cause the center of mass to move forward out the front of the circle and result in a foul.

Standing Throw Drills: I do all standing throw drills and throws with a non-reverse

- A. Triple Extension Sequence
 - Multiple variations working extension
- B. Triple Extension + Rotation
 - Multiple variations working rotation to extension
- C. Bottle Drill
 - Set up a bottle by heel of right foot (4”-6” off of heel)
 - Turn foot, knee, and hip of right leg and knock the bottle over
- D. Hip Pops
 - Keep the shoulders back and the weight on the back leg
 - Turn the foot, knee, and hip of the drive leg
 - Drill can be done with a MB; with partner holding the left arm to help keep shoulders back; with partner providing resistance against the left shoulder from behind the athlete; or with partner holding the elbow of the throwing arm while the athlete lets the left arm sweep open, which allows the focus to be on the coordination of the right leg action combined with the opening of the chest
- E. Fence Drills #1, 2, & 3
 - Hold onto fence with both arms outstretched and weight balanced on right foot or in a good athletic position on both feet.
 - Can also do this drill with shot in right arm while holding onto fence with only the left arm
 - Hop up off the right foot or both feet and turn feet to 9 o’clock while in the air, landing on a loaded right knee in the power position
- F. Toe Board Stands
 - Set up in the power position and place left leg on top of the toe board
 - Perform standing throw and drive up and over the left leg finishing on top of the toe board
- G. Double Pivot Standing Throw: (Brett Hatler “key throw”)
 - Non-reverse stand throw without shifting weight to the front leg
 - Hands on hips, Stick on Shoulders, Barbell push press, MB vertical throw, then shot put

H. Deep Squat Stand Throw

- Lower the center of mass as deep as possible (left knee to ground) then drive up through a non-reverse throw

I. Accentuated Reverse (Chaser):

- Set-up in normal power position then complete the standing throw while stepping out over the toe board through the finish of the throw
- Standing throw with an intentional foul, how long can they stay on the ball and push and not actually strike until moving up & out over the toe board

J. Stand Throw from Stretch

- Start in normal power position and then step back with right leg into stretch position
- Initiate throw by pulling the right leg back underneath center of gravity to power position then execute a non-reverse standing throw

Glide Progression Drills:

A. Backwards Walk Drill

- Start facing the back of the circle with the feet side by side in a toe squat position
- Step to the power position with right leg and then the left leg then complete the throw (right → left → throw)

B. Glide Squats

- From T-start or Crouch starting position in back of ring, draw in left leg and hold load position
- Right knee over right toe, left knee all the way drawn in to right knee, chest down on right knee
- Add MB, Barbell, Weight Plate, etc.

C. Glide Squat + A-drill

- Perform a glide squat then
- Extend/kick the left leg towards the toe board while unseating down and back through the right leg
- Finish in a split position with the right foot dorsa-flexed and with chest down covering right thigh

D. Medicine Ball Kick

- Perform a glide squat with a medicine ball about 1' behind the left leg then
- Perform an A-drill extending the left leg into & kicking the medicine ball

E. Glide Squat + Cossack Drill

- Perform a glide squat then an A-drill
- From the split position bend the right knee slightly, lower the right toe slightly and then pull the right foot under center of mass and finish in a good power position

F. Plate Glide with Neider Press

- Start with weight plate on the chest and perform a full glide
- Execute a double pivot drill from power position, finishing behind block leg up on both toes in triple extension
- Men 20-45lbs and Women 10lbs

G. Glide & Stop: (John Fraizer key drill)

- Glide to the power position and stop, have a coach or teammate check the power position then complete the throw

H. Plate Glide with Throw

- Start with arms extended holding weight plate out back of circle
- Perform full glide and then sling type throw around the hips

I. Medicine Ball Glide Throws

- Start with MB on the chest and then execute a full glide with MB throw

J. 1-legged Glides

- Perform a glide squat then keeping chest down on knee, execute a single leg glide from lane line to lane line, never letting the left foot touch the ground
- Men up to 48 inches and women up to 36 inches up to 10 lane lines

K. Hop + Hop + Hop + Glide

- Three continuous single leg backwards hops off the right leg with a little unseating action
- After third hop execute a full glide finishing in power position

L. Mini Glides

- Perform a short glide of about 6 inches so the athlete gets the feel of both feet hitting at the same time
- Gradually extend the distance of the glide to a full glide

M. Partner Glides

- Perform glide with partner holding the left arm straight down low to ground, can also be done holding a towel or bungee tied low to a fence
- Keep chest on knee, don't pull left shoulder up and or open

N. Repeat Glides

- Consecutive glides done down a line on the track

O. Butterfly Glides (add 5lb weight in each hand)

- Start with arms together in back of ring pointed at focal point
- Perform full glide opening both arms together at same time to 180 degrees at shoulder height