Introduction

When Parry O’Brien, a young University of California athlete, turned the starting position of the shot-put movement ninety degrees, a historical technical breakthrough occurred in the event. He became the first man to break the 60 foot barrier. He was on four Olympic teams, won two gold medals and one silver medal and, from 1952 to 1956, achieved a record of 116 consecutive victories which still stands thirty years later. O’Brien’s records were progressively broken until 1965 when another American, Randy Matson, shattered the 70 foot barrier. Distances continued to progress for gliders culminating with Ulf Timmerman establishing a world record of 75’8” in 1988. The glide continues to be a technique used by many world class throwers but the implementation of the spin technique has grown in recent years. The glide is still the dominant technique used by females domestically and internationally. Sometimes described as the linear style, the shot put glide has the least complex technique of the four throwing events. What is forgotten by many is that the glide is a rhythmic activity that must be sequentially executed to achieve optimum results. It is an excellent technique for high school athletes.

In working with shot putters I have adopted a series of drills to teach each specific part of the throw. This session will examine each part of the throw and a series of drills designed to help the athletes learn, and hopefully master proper technique. The focus will be on a drill progression for the glide shot putter. These drills aid in helping the thrower feel the desired position or action.

Session Overview

- Introduction
- Historical background
- Mechanical factors
- Technical aspects
- Teaching Progression
- Summary Points

Analysis of Technique
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.

Placement on the Neck
- The shot put is pressed against the neck.
- Placement can vary from under the chin to behind the ear.
- This depends on comfort and flexibility.

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

The Glide
- The movement is rhythmic, but the tempo more rapid, to the point of being an attack.
- The coach must keep the rhythmic nature in mind when teaching these movements.

Stylistic Variations
- There are many different ways to start the glide.
- Start with a static start.
- Adjust the start to fit the athlete’s needs.

Glide Technique
- The glide is the result of the summation of three distinct movements:
  - Unseating
  - Left leg action
  - Right leg action

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 toe board.
- The COG must pass behind the right heel.
  - Thrower moves the center of gravity beyond the base of the support.
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 leg should land approximately in the center of the ring.
- The right foot should be turned between 45 degrees and 90 degrees.
- The majority of the body weight is back on the right leg.

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.
- A cue system must be developed to coordinate the action of the upper and lower body.
- The athlete must understand what each part is doing.

Hip Thrust
- As the athlete hits the power position the lower body is activated
- The center of gravity is activated first
  - (Bigger, slower, stronger muscles)

Two Ways to Attack with the Lower Body
  The Free Arm
- The free arm is kept long to slow the rotation of the upper body
- Feel a “stretch” across the chest
- It will trace the desired angle of release
- The free arm will be shortened as it passes the midline of the body

The Delivery
- 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).

Delivery

Final Push
  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 toe board.
- The upper body is facing nine o’clock.

Glide Shot Put Teaching Progression

Holding the shot put
- Place the shot in the base of the fingers.
- The thumb rests on the side of the shot put for control.

Teaching the Arm Strike
- This is probably the most under-coached area of the throw.

Medicine Ball Push
- Take a medicine ball (2 or 3 kg.) and hold 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.

Med Ball Push Drill

Partner "High Fives"
- Have the athlete face a partner with the throwing hand off of the shoulder and the left arm is flexed at the midline of the body.
- The partner will hold his hand in the air creating a target for his partner.
- The athlete strikes their 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 teaches also teaches the left arm block.
- The shot is off the neck just above the right shoulder.

Throws on Knees
Throws on Knees with Block
Throws on knees 1/4 turn

Teaching the Power position
Practice the power position stance.

The Stance (Power position)
- Left toe - right instep relationship with 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).

Executing the Standing throw (Lower body action)
- The athlete assumes the power position.
- The throw is started by the right knee turning in the direction of the throw.
- The turning of the hip and knee ultimately causes the turning of the foot.
- The hips are driven around and up.
- The body weight is driven from the right leg over the left leg.

Executing the Standing Throw (Upper body action)
- The left arm bends during the sweep when it is parallel with the throwing direction.
- The shot comes off the neck to a position just above the shoulder.
- The elbow is up and the thumb is down.
- The fingers are parallel with the ground.

Standing Throw Drills
- Standing Throw #1
- Standing Throw #2
- Vault Throw
- Two Part Stand

Standing Throw #1

Standing Throw #2

Vault Throw

Two Part Stand

Teaching the Movement Across the Ring
- This can be accomplished through a series of drills.

The Step Back Drill
- The athlete starts in the same position as in the glide.
- The athlete performs a short step with the right.
- The athlete then steps with the left to the power position.
- This is a rhythmic movement.
Step Back Drill

Glide Drills

- “A” drill.
- “A” pull foot drill.
- Mini-glide drill.
- Partner glide drill.
- Towel Hop
- Multi-Glides
- Glide with Hip Pop
- Glide and Stop
- Glide No Reverse

The “A” Drill

- The athlete assumes the starting position and unseats.
- The majority of weight is on the right heel.
- The left leg extends toward the toe board.
- This extension should create a elongated body position similar to the letter "A".

“A” Pull Foot Drill

The "Mini-glide drill"

- The athlete performs a short glide of about 6 inches.
- This drill is designed to feel the feet hitting at the same time.
- The shortened version is great for the “weak” athlete.
- As the shortened version feels comfortable, lengthen the glide.

The “Mini Glide Drill”

Partner glide

- The athlete assumes the starting position.
- A partner holds the left arm.
- As the glide begins the partner walks with the athlete.
- The partner holding the free arm helps the athlete keep the shoulders closed.
- These are usually performed in sets of five.

Partner glide Drill
Towel Hop Drill
Multi-Glides
Glide and Hip Pop
Glide and Stop
Glide no Reverse
Setting Up Workouts

- Start with Drills
  - Release drills
  - Power Position
  - Glide drills
  - 10x Standing Throws
  - 20x Glides
  - Use varied weight implements
  - 10% Rule

Throwing Varied Weight Implements

- Different ways to set up workouts
  - Ladder system
  - 16,14,6k College 14,6K,12 high school
  - 12,5K,4k or
  - 10,4K, 3.5K
  - 2-1-1 or 2 heavy, 1 standard, 1 light
  - 16,16,14,12
  - 12,12,10,4

Throwing workouts
Pre-comp phase to comp phase
High School Boy
15 release drills
  3 X 10 Glide drills
  10 stands 14lbs shot
  10 glides 6k shot
  10 glides 12 lbs shot

Throwing Workouts
Pre-comp phase to comp phase

High School or College Female
15 release drills
  3 X 10 Glide drills
  10 stands 12lbs shot
  10 glides 5k shot
  10 glides 4K shot

Observatory Strategies
- Viewing and Filming Positions
- Rear view
- 12 o’clock and 6 o’clock positions
- Side view
- 9 o’clock and 3 o’clock positions

What to Watch (Rear view)
- Back of circle
- Head and feet positions
- Loading of the right leg
- Path of left leg
- Direction of push-off

- Front of circle
- Tilt
- Shoulder/shot wrap
- Left side block

What to Watch (Side view)
- Back of Circle
- Posture and body alignment
- Tilt
- Length of push-off

- Front of Circle
- Base
- Torque
- Vertical lift-Rotation-Drift

Computer Assisted Coaching Analysis
- Dartfish
  - Comparison
    - Side by side
    - Top to bottom
    - Four corners
  - Overlayed
    - Measurements
      - Path of acceleration
      - Release velocities

Faults and Corrections
Video Analysis-Stick Figures

Path of shot

- Shot moves in an arching motion around the body