

Discus Technique and Training

Mike Sergent

University of South Carolina

Fundamental Points for Discus Technique

- Posture
- Balance
- Rhythm
- Physics Class
 - Height of Release
 - Angle of Release
 - Speed of Release

Posture

- “Athletic Position”
- Neutral Spine
- Head Up, Eyes on Horizon
- Level Shoulders
- Posture may need to be coached more than we think! Tie all movements-running, jumping, throwing of all types, weight training-to posture

Technical Issues

- Most issues in the discus begin with the wind up and transition into single support
- We can solve most problems with the start of the throw through the athlete understanding how to initiate movement from the lower body, feeling the implement and controlling the left side

Points to Review

- Wind Up
- Initiating the Throw (Left side and right leg)
- Transition to Center of Ring
- Power Position
- Reverse (Yes or No?)



Orbit and other points

- Orbit
 - Orbit issues are mostly due to other technical problems
 - At the start: Dropping the arm, too much speed at the start, over rotation due to swinging the left arm or leaning into the start, not maintaining posture and balance throughout the spin all affect proper orbit
 - At the finish: trying to hit the disc with arm too early, driving the hips forward without rotating, trying to gather and throw the disc up will all take the disc out of the correct orbit
 - Orbit can be manipulated, but be careful, manipulations could produce other negative effects!

Other Points

- Allow the disc to be a hammer and your arm to be the wire
 - Relaxation through the neck, traps, shoulders, etc
 - If needed, let the disc feel heavy
 - The thrower must feel the implement; must feel separation and elasticity
 - In the hammer, we try to keep our head on the ball, in the disc we would be well-served to keep our head neutral to the middle and on the disc until release

Drills

- The wind up and initiating the throw
 - $\frac{1}{4}$ turns; $\frac{1}{2}$ turns; 360's (aka disc pirouettes)
 - Focus on posture; level shoulders; head up; eyes on horizon; “lock” the upper body in place; work from the ground up
 - Perfect and emphasize the left leg loading action
 - Perfect the “skateboarder” and the sweep action
 - Can use broom sticks or weighted bars across shoulders; or hold pipe or cone-anything to create the feeling of a drag in the throwing hand





Drills

Giant Step

- Misnomer-we are not stepping
- Work the wind up and left leg loading; sweep the right leg to center of the ring-toe up/knee up
- Posture and balance
- Let the ground come to you and hold position
- More useful in the off-season

Drills

– Giant Step + Wheel

- After right foot touchdown, pause, tuck the left leg and turn to the power position-focus on keeping the upper body locked
- Walking Right Foot Pivot Drill
 - Walk a line or use a track lane, maintain posture, walking away from the right hand, while working the right foot pivot action and tucking the left leg through
 - Keep the left arm pointing toward the walking direction
 - See the direction of the throw as long as possible (12)
 - See the back (6 o'clock) at left foot touchdown
- Wheel Drills
 - One at a time; three; five; 10 at a time
 - Great for developing top control, active legs, and balance on the toes
 - Do with broomsticks, pipes, weighted bars, etc

Drills

- Left leg tuck
 - Tuck Drill
 - Skip and tuck-practice landing on the right foot with good posture while tucking the left leg
 - Turn to South African + South African
 - Here we introduce the “jump turn” or “air pivot” where we try to pre-turn the right foot prior to landing and work the quick right-left rhythm



Drills

- South Africans on a line
 - Use a track lane or line marking on a field
 - Posture and balance
 - Keep eyes focused on horizon, see the throwing direction (12) while working the sprint
 - Left arm points toward the throw, BUT keep the left shoulder closed-under the chin
 - Control upper body rotation
 - Land in a balanced power position (on toes, weight over the right leg)
 - Upon landing, see 6 (the back of the ring)
 - Do with broom sticks, weighted bars, various implements

Drills

- Float-Float-Sting
 - Float refers to low skipping
 - Sting refers to executing a “South African” or “Jump Turn” into the power position
 - Control the upper body; face 12; face 6
 - Light on the feet, great for teaching right-left (quick-quick) rhythm
 - Like Dancing with the Disc
 - Great for performing a lot of reps in a short time period
 - Do with broom sticks, weighted bars, various implements

Drills

- Imitation Full Throw
 - Putting it all together with the full movement:
There is no substitute!
 - Posture and patience are key
 - Do with broom sticks, weighted bars, various implements

Specific Strength Exercises

- Power position and delivery
 - Standing throws with heavy discs
 - Men-2.5 and 3k discs, 2.5, 3k, 3.5k, 4k weighted balls; 5 or 10# plates
 - Women-1.5 and 2k discs, 1.5, 2k, 2.5k weighted balls; 5# plate
 - Accounts for 50-60% of standing throw volume

Specific Strength Exercises

- Power position and delivery
 - Partial Standing Throws
 - Modify the length of the wind up to $\frac{1}{2}$ or $\frac{3}{4}$ positions
 - Focus on executing correct movement. Do not allow the implement weight or “meat head factor” to compromise technique
 - Two handed Standing throws
 - Have used 25# up to 45# plates
 - Could also use a Kettlebell or similar heavy weight implement

Specific Strength Exercises

- Wheels, South Africans, Full Technique
 - Use heavier than normal weight
 - Any object is fair game
 - With “souths” and “fulls” be careful about going too heavy! Technique and timing will be altered to accommodate; this could produce negative technical outcome or low amount of transference
 - For men, up to 3k is ok, but 2.25 and 2.5 are better
 - For women, 1.25 and 1.5k are the usual (2k or heavier is typically only used for stands-depends on the size, strength, and technical levels of the athlete)

Training Outline

In the fall we train 5 days a week

- Monday and Thursday are “neural” or “CNS” emphasis
- Tuesday and Friday are general strength, work capacity, and mobility emphasis
- Wednesday is an active recovery day: Core, balance/stabilization, agility, strides.
- We typically throw or do technical work of some sort every day
- Games and competitions are also on the menu

Fall Example

- MONDAY-Active Warm-up (20-30m); Overhead Shot x 10 (or other multi-throw); Throwing/Technical-18 stands (NR) with 2.5/1.5k, Wheel Drill Progression-no throw, Wheel Throws with 2.5/1.5k x 8 (NR), x 4 (rev), After throwing-shift drill, $\frac{1}{4}$, $\frac{1}{2}$, 360 drills 2 x 5 ea drill; Long Hill Build Ups x 6; Weights (Jerks, Bench Press, Assistance); Jumping-Stadium Hops 3 x 10 single leg (every step); 4 x 10 (every other step); Recovery-ice bath
- TUESDAY-Active Warm-Up (20-30m); Hurdle Mobility-2 sets ea; Throwing/Technical-Shift Drill; $\frac{1}{4}$ Turn Drill; $\frac{1}{2}$ Turn Drill; 360 Drill; Giant Step Drill; Giant Step + Wheel; Turn To S. Af + S Af; Fulls-no Throw-land In Balanced Power Position; 3-5 sets ea; Special Strength-2 handed heavy plate stand x 10, Partial Wind Up Heavy Plate or ball stand throw x 10; Weights (Cleans, Squats, Assistance); Sledge Hammer Circuit-30sec on/rest is 30-60sec-Do 2 rounds; Recovery-ice bath
- WEDNESDAY-If schedule permits do secondary event at early practice; Active Warm-Up (20-30m); Med Ball Circuit-(core/ab emphasis) 7 exercises x 10ea; Body Circuit or Pedestal Circuit x 5-10ea; Speed Ladder Drills; Strides 5 x 60; Weights (Snatch, Assistance); Mandatory Recovery-static stretch and foam roll

Fall Example

- THURSDAY-Active Warm-Up (20-30m); Repeat Monday's throwing workout; Sprints- 5 x 30m turnarounds; Reactive Jumps-4 x 5 18-24", 26.5 Tire Jump with or without wt vest-4 x 5, done one at a time, jump up, drop off; Weights-Unload Day: Cleans, Jerks, Bench Press, Assistance
- FRIDAY-Active Warm-Up (20-30m); Hurdle Mobility x 2 sets ea; Repeat Tuesday's throwing workout-with option to take throws out of ea drill-use normal wt; Stadium Sprints-lower deck, south end zone x 6; Weights-Unload Day: Snatch, Squats, Assistance; Battle Ropes-1-1 work/rest; 2 rounds
- In this example, for a shot putter, throw shot Monday and do discus drills. Throw discus Tuesday and do shot drill work. As the shot putter moves toward indoor season, shot putting volume and training days go up, discus is maintained with 1-2 sessions (usually one session of standing throws and some drills plus one day of discus throwing)
- Athletes learning the hammer need re-enforcement! In the fall, we may do 2 discus sessions per week and 3-5 hammer sessions. If athlete is primarily a hammer thrower, we may only have one discus session a week in the fall.
- Many variables to consider when planning training for multi-event throwers!!

In-Season Example

- Monday-Throw, Jumps (hurdle/box bounding), Weights are Olympics (cleans and snatches) + Assistance; Heavy core
- Tuesday-Throw, Hurdle mobility, Weights are Strength (bench press and back squat) + Assistance; Volume Core, short sprints 4-6 x 30-50
- Wednesday-Throw, Med Ball Circuit, Recovery Methods
- Thursday-Throw, Multi-Throws and Jumps (typically a nervous system primer not a knock out punch!), Build-ups/strides 4-5 x 40-60; Weights are a “combo day” (snatch, front squat, incline press, assistance + core)
- Friday-is often a travel day, “Meet Warm-Up”
- Saturday-compete
- Early to mid-season, we utilize heavy implements for most of our stands and wheels. Full technique utilizes minimal heavy implements (25% of total full reps). Late season we use competition weight exclusively.
- Indoor season we work mostly from the floor with heavy cleans and pulls with hang snatch on Day 3. As we move to the outdoor season, we move to heavy hang cleans on Day 1 and continue with hang snatch or variations for Day 3.

Physical Evaluation

- Quadrathlon
 - Overhead Backward Shot Throw, 30m sprint, standing long jump, standing broad jump
 - Scoring table, competition, keep records
 - Components of the test are useful throughout the year
- Vertical Jump
- Weight Training
 - Differences for men and women
- Functional Movement Screen (FMS)
 - Provides an objective mobility points system

- Discussion?
- Questions?

Thank You!