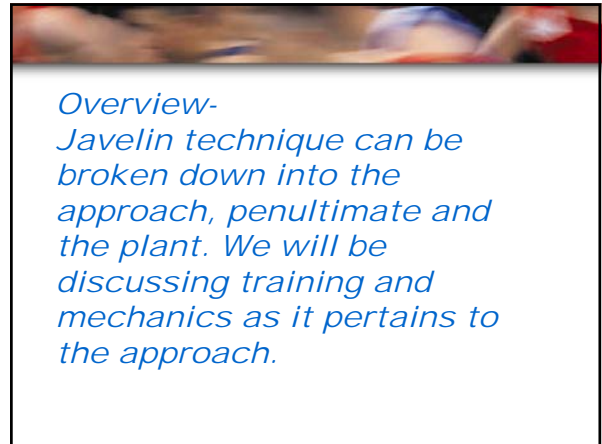


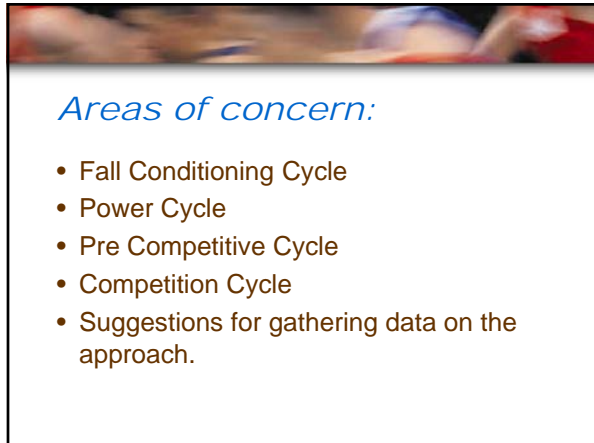


Javelin: Speed to Mechanics

Presented by:
Ramona Pagel

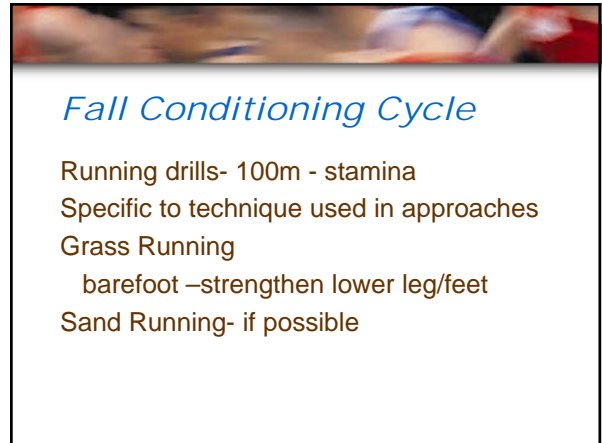


*Overview-
Javelin technique can be broken down into the approach, penultimate and the plant. We will be discussing training and mechanics as it pertains to the approach.*



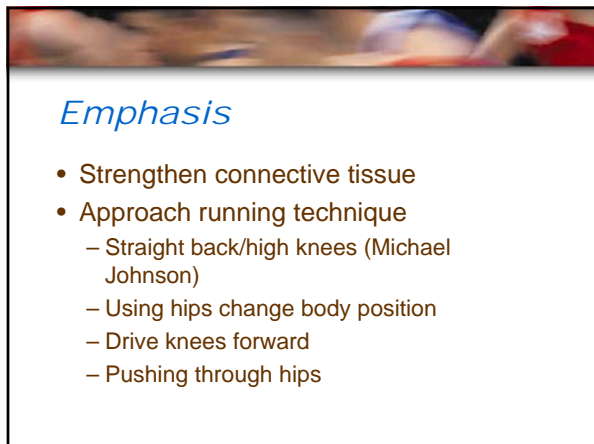
Areas of concern:

- Fall Conditioning Cycle
- Power Cycle
- Pre Competitive Cycle
- Competition Cycle
- Suggestions for gathering data on the approach.



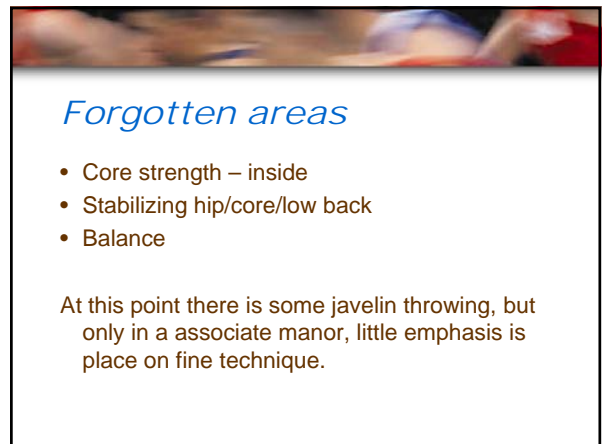
Fall Conditioning Cycle

Running drills- 100m - stamina
Specific to technique used in approaches
Grass Running
 barefoot –strengthen lower leg/feet
Sand Running- if possible



Emphasis

- Strengthen connective tissue
- Approach running technique
 - Straight back/high knees (Michael Johnson)
 - Using hips change body position
 - Drive knees forward
 - Pushing through hips



Forgotten areas

- Core strength – inside
- Stabilizing hip/core/low back
- Balance

At this point there is some javelin throwing, but only in a associate manor, little emphasis is place on fine technique.

Strength training

High rep low volume
Major muscle groups, utilizing Olympic lifts
Specific Javelin strength is not emphasized

This segment is 6-8 weeks long and the segments are tapered

Power Conditioning Cycle

- Running technique is still emphasized
 - Power element is included
 - Tire pulls
 - Stadium stairs
 - Hill running
- Important that restorative aspect is included in training regimen

Actual Approach

- Along with the conditioning, training of the approach 2-3 session a week are used to organize actual approach.
- Emphasizing the same aspect used when running. Speed development and transitional movement.
- This approach work are not at athletes full speed rather even and rhythm and tempo are examined.

Emphasis in Approach is acceleration: if peak speed on cross-steps is 5.5m/sec then at right foot touch down speed should be at least 5.5m/sec.

Power Conditioning-other

- Med ball
- Swiss ball
- PNF resistance
- Gymnastics
- Stabilization

Power Conditioning / Lifting

- Working on body segment speed
 - Olympic lifts-clean, snatch, jerks,
 - Power lifts used for gross strength should not be a major emphasis
 - Take notice of lifts for specific injuries prevalent in Javelin throwing, elbows, shoulders, backs.



Pre-competitive Cycle

- You need a good picture of what approach will look like – Both Athlete and Coach must match concepts
- Acceleration through cross steps-working into penultimate and block.
- Peak speed at left foot touch down



Pre competitive – training

- Approach
- Approach with throwing
- Conditioning more specific
- Generalized training localized and minimized but not left out
- Specific strength is larger portion of training.



Pre- competitive

- Drill sequencing
- Runway timing
- Putting throw together- there will be mis-timing and discordance with in the throw, small percentage of throws need to be all out, larger percentage of throws working rhythm and body position.



Pre-competitive lifting

- Maintain lifting strengths- snatches/cleans
- Increase specific lifting
- Increase core strength
- PNF strength through entire range of motion
- Flexibility should be a factor both as part of the workout and as recovery




Competition Cycle

- Work Rhythm
 - Consistency – check marks if needed
 - Posture
 - Running Cross steps
 - Hard Block
- By this time in training the body is conditioned to absorb but the timing may not be exact.




Competitive Cycle

- Meets once a week part of throwing training
- Do not have two meet throwing days in a row unless well rested
- Use restorative therapy after every workout and meet.




First Suggestion

- Force plate analysis to determine the amount of horizontal velocity at the plant
 - Using three force plates to measure the amount and direction of the last two steps and plant
 - We would also be looking for consistency in approach



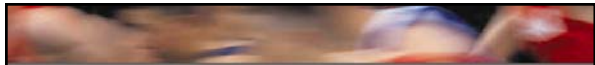
First Suggestion con't

- Using video to synchronize the visual with the data from the force plate
- Allows for greater understanding of the actions of the athlete not just using sense or historical data



Second- Suggestion

- Using film both historical and 09 season competitions to determine individual ideal speed on runway
- Establish a personal rhythm for throw
- Establish a consistent approach



Contributors:

Steve Leigh- Javelin Biomechanics
Duncan Atwood

Thank you both for your help and input!