Understanding the JAVELIN: Science and an Art

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Themes

• Recap of last year’s presentation:
  • Posture dictates position, position dictates muscle function
  • Speed v. Acceleration
    • Speed Kills
  • Summation of Forces, from the Ground UP
• Shoulder Hip Separation

• ANGLES—VECTORS—PATH of ENERGY

• New approach to thinking the THROW… launch, use the ENTIRE right side, not just the arm
**Release Speed Generation**

Runway Speed

- Hip Speed
- Shoulder Speed
- Elbow Speed
- Wrist Speed

- EFFICIENT summation of joint speeds for a high release speed

- INEFFICIENT summation of joint speeds gives a lower release speed

**Summation of Forces... Ground Up**

**Braking/Deceleration...**
Shoulder to Hip Separation

- Turn-under
- Accelerate from the Ground Up
- Back as far as possible, Out as far as possible
- Fly the Jav
The Approach... Transitions

- Posture—Max Velocity
- Withdraw—Walk away from the Jav
- X-Overs...Pull, punch
  - A-skip, Right
  - B-skip, Left
- Impulse—X-step, high knee
- Wait for it... INTO and THROUGH
Continuous Run Withdraws

A-Right, B-Left — fwd

A-Right, B-Left — Lat
You asked for it…

- Last 4
- X-Step
- Impulse
- R to Left
- Block
- Deeper Look into The Block
- Drills
Breakdown of the Last 4 Steps...

Overarching Theme: DRIVE DOWN

• X-step
  • Last Left… HIGH knee; keeps Left hip high, keeps you from going UP in the impulse

• Impulse/Penultimate
  • CANNOT take you UP… hips have to stay level, in same plane, driving Laterally
  • R knee up, toe up… R foot touches down under or slightly in front of COM

• Right to Left… Must DRIVE DOWN TO GET THERE!!!
  • R foot at 45deg (down R sector) Knee down
  • COM has to stay behind the legs and feet

• Block
  • Entire Left side
  • Hips MUST go UP

• Throw begins with R hand behind the R foot
X-Step

• Preparatory Step before Impulse...

• Keeps L hip High

• Keeps you from “Falling” into the Impulse

• If you “fall” into the impulse, it’s a breaking/decel mechanism
**Right to Left**

- “soft right”
- “push off the right”
- …or Turn Down

-Tero Pitkämäki
**The IMPULSE**

- Move Laterally
- Set-Up the Delivery into Block
- POWERFUL Left Leg
- R Knee UP, Toe UP (turn toe down R sector)
**The Block**

- Running INTO and THROUGH
- Left SIDE
- Use it, don’t absorb/waste it
Drills

- Turn-Unders
- Wall Walks
- Continuous Turn-Unders
- Mulans
- U’s ‘n 2’s
- Stanky Leg
- Knee Down Decline
- X-overs Uphill
Turn-Under working Block
Turn-Under Progressions

- Turn Under w/ Ball
- Holding Band
- Band Assisted
- Band Resisted
Runway Drills

- Crabwalk X-Overs
- Cont. X-Step X-Overs
- Cont. Impulse X-Overs
- Cont. Drive to the Plant
More Runway Drills

Tight Rope R

Tight Rope L

Alt Tight Rope
Continuous Turn-Unders
Ball Day Throws

Basic Ball Throw

Softball Pitch

Opp Hip to Over Shoulder
Ball Day Throws

90-90 shoulder health

X-Step Ball Throw

Kneeling to Block Ball Throw
MedBall Throwing Drills

- U’s in 2’s
- SA MB on Wall
- Alt MB on Wall
MedBall Throwing Drills

U’s in 2’s w/ X-Step

Power Hip

Quick Hip
Mulans
Knee Down Incline
X-overs Uphill/Incline
Wall Walks
Strength Considerations

- Pull-overs... specific strength
- Side Planks
- Posterior Chain... accelerate what we can decel
- Isometrics
Questions?!?
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