THE COMMONALITIES OF TRAINING JUMPS ATHLETE

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TRAINING THEORY
Area of Importance in Planning

- Strength: general, absolute, power, reactive
- Speed: acceleration, speed, speed endurance
- Flexibility: static & dynamic
- Coordination and balance
- Train the energy system specific to the event!
- Consider the competition day to be the most important day when planning

#1: SPEED KILLS
SLOW JUMPERS DON’T BRING HOME MEDALS

- Jumpers are sprinters first
- Jumps are explosive reflex actions that are enhanced by proper sprint mechanics
- Train technique in a progressive order from day #1
- Teach new skills when athlete is not tired...technique before fatigue
- Distance running destroys motor patterns...train slow, run slow
- Speed is a teachable skill that is best taught by SPRINTING
- Speed must be developed in sequential fashion that allow for the athlete to maintain coordination over longer approach distances

COMMON JUMP THEMES

- Approach- Used to create horizontal momentum on the runway/apron
- Preparation- movements needed for take off
- Takeoff- movements that project the body into flight
- Flight- movements and counter movements that occur after takeoff
- Landing- the return to the ground

PARTS OF THE APPROACH

- Acceleration: Jumper begins in a stationary position and uses a drive phase to reach their maximal controlled speed at take off
- Slow to fast rhythm due to pushing action at first portion of approach
- Progression of body angles and shin angles from forward and parallel to vertical and perpendicular
- Posture must be upright to keep efficient mechanics. This also helps with steering and takeoff accuracy. Coach posture at all times
- The pelvis must always remain forward. If it is out of position, takeoff will be compromised and proper sprint mechanics will be next to impossible. A good way to keep good pelvic alignment is to accelerate properly.
- The high jump approach requires special considerations due to the athlete running a curve

THE APPROACH

- The approach is the single most important training component of any jump.
- Training should revolve around the approach and a majority of training time should be spent developing this.
- The approach should progressively develop horizontal momentum and place the jumper in an accurate takeoff position
- The approach should allow the jumper to reach takeoff in the correct body position regarding the angle of the hips, the height of the hips, and the speed of the hips
- Large ranges of motion throughout the run up and triple extension
- Stride frequency increases in a rhythmic manner during the run up. The jumper needs to be patient during the drive phase in order to maintain coordination after hitting maximum velocity
- Good form is present through entire run up
DETERMINING THE LONG/TRIPLE JUMP APPROACH

• Determining a long and triple jump approach
  1. Determine the length of the approach based on the jumper's ability. For example purposes, the athlete will be running a 16 step approach.
  2. On a day when the jumper is fresh, have them start from a point on the track with their takeoff foot forward. Have the jumper run and mark the 16th step where the jump foot contacts the ground, a total of 16 steps. Do this 6 times and average the marks. This distance can then be transferred over to the runway at a later practice.
  3. Marking the 4th step from takeoff can be used for the coach as an indicator of issues coming into take off and how to adjust.
  4. With long jump, maximal speed is critical. With triple jump, you are finding the maximum controlled speed. Sometimes the distances and number of steps for the two approaches vary as many athletes have trouble converting the speed in triple jump.

DETERMINING THE LENGTH OF THE HIGH JUMP APPROACH

• 1. Have the athlete run 10 steps in a straight line with the speed they feel they can handle to execute a jump. The 10th step should be marked and then you take the average of the 5 trials.
• 2. Have the athlete run 10 steps again in the same manner and mark step 5. Measure the average of the 5th step.
• 3. Have the athlete run a curve that feels comfortable to them, initiating the curve with the 5th step. Establish the take off point on step 10 and mark the average of 5 trials.
• 4. Measure from the takeoff point out parallel to the imaginary bar and from this point extend to the mid and starting point, which should be perpendicular to imaginary bar. You now have 3 marks to transfer to the apron.

HIGH JUMP APPROACH CONTINUED

• 5. Place the takeoff point on the apron where you want the athlete to take off, then measure back your other marks.
• 6. Run the approach on the apron with the mat and make adjustments as needed.
• 7. Look for the following.....1. ten step on straight should be close to distance of what you ended up with after running the curve, that is the distance from the baseline to the starting point. 2. the mid mark should be close to half the 10 step distance.
• Adjusting the curve radius can be done on the apron. The tighter and faster the athlete can run the curve, the better.

THE START

• The start should be consistent and practiced as part of the approach.
• The start sets up an unfolding action into the drive phase.
• Rollover and crouch starts.
• Feet staggered at 8 to 12 inches.
• Start is initiated with a bend of the waist keeping the hips high.
• Keep visual contact with takeoff spot during entire start (steering) in long and triple jump...so DO keep an eye on the board.
• The wall drill.

THE DRIVE PHASE

• A good drive phase allows the jumper to properly break inertia and makes the movements at the end of the approach easier to accomplish.
• Helps minimize the loss of coordination and also places the body in a posture necessary to perform a proper take off.
• Cue to “push” out of the back with aggression.
• Look for parallel shin angles indicating push.
• Feet should ground behind the hip.
• Teach athletes to be patient during this phase of the approach....this is powerful but not top end speed.
• Most take off flaws can be traced back to this portion of the jump.
• The drive phase in the high jump consists of the first 3 steps.
• The drive phase in the long jump consists of the first 6 steps.

CONTINUATION AND TRANSITION PHASES

• CONTINUATION
  • The middle portion of the approach.
  • Max velocity sprint mechanics (vertical push offs).
  • Maintain upright posture.
  • High jumpers aggressively push outward during this portion of the approach and keep hips ahead of the shoulders.

• TRANSITION
  • Final portion of the approach where most issues occur. The mechanics should be similar to max velocity running here. If there are issues in this portion of the approach, poor take off accuracy and body positioning are a result.
  • Use of a coaching check mark for long and triple jump.
**PENULTIMATE STEP**

- The idea of the p-step is to lower the center of mass.
- This must be done without compromising horizontal velocity. The best way to help conserve this is to keep posture during this step (head up, pelvis forward).
- There is no p-step or preparation in triple jump.
- Achieve lowering by cueing the over dorsiflexion of the p-step foot.
- Foot needs to land close to center of mass to maintain horizontal velocity.
- The foot hits flat, with a heel to toe rolling action as the body moves slightly past the p-step placing a pre-stretch on the quadriceps. This enhances the swing of the free leg at takeoff.
- You can hear a good penultimate.
- Do not over coach this aspect of the jump!

**TAKEOFF**

- Foot should touch down close to the hips in order to conserve velocity.
- Ankle dorsiflexed and quadriceps tensed.
- Foot contacts the ground flat.
- Triple extension present (ankle, knee, hip).
- Knee drives through reflexively due to pre-stretch placed on quad.
- Use of arms.
- Straight and strong principal.
- Summation of joint forces principal.

**PLANNING**

- The biggest piece of the week is always the meet during the season. Plan around there and give proper rest.
- Adaptation to stimulus takes roughly 21 to 28 days.
- It takes 2 days to recover full from a strength/power/plyometric day.
- It takes 5 to 24 hours to recover from agility, coordination, and speed.
- You can aid recovery of the endocrine system by doing general strength and med ball work… don’t confuse med ball work with multi throw work.
- Don’t mix the signals. Pair things accordingly so the purpose of the practice is effective.
- Rest is a component of training. Not giving rest leads to overtraining & injury.
- On weeks where there are two meets, consider varying events for the athlete that week, especially if they do more than one jumping event.