

# TRIPLE JUMP

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## TODAY'S TALK

- Technical overview of the triple jump
- Training the triple jumper

## INITIAL CONCEPTS

- The approach is critical to performance
  - Consistency in the approach important
  - Appropriate rhythmic harmonic
- Goals of approach:
  - Maximal velocity attainment
  - Attain proper takeoff position over last two steps
  - To consistently hit the board
- Takeoff mechanics are a function of the approach and solid penultimate mechanics
- Flight mechanics are set up on the ground before takeoff

## THE HORIZONTAL JUMPER:

- Must have speed
- Must be powerful, elastic and able to handle high impact forces
- Must have good body control
- Is usually a good all-around athlete
- Often is also a top sprinter
- 80% of distance jumped is due to horizontal vel. At takeoff...thus speed is critical. Train speed!!

## TRAINING SPEED

ACCELERATION → SPEED  
(don't get ahead of yourself)

## ACCELERATION

- ACCELERATION:
  - Repetitive starts over distances short of 40m
  - Get it right short, before going out farther
  - Crouch start, block start, rocker start
  - Focus on extension, posture, decreasing ground contact time, arms long to short
  - Stadiums 2 steps at a time (works on full extension and pushing)

## ACCELERATION PROGRESSION

1. 10 - 15 x sprint ladder  
Emphasis on increasing velocity and increasing stride length, changing body angles and changing arm action (excellent tool for learning increasing stride length and decreasing ground contact times)  
2 min recovery
2. 2-5 X (5 X 20m, crouch start)  
3 min recovery reps / 6 min. recovery sets  
Total volume: 300m build to 500m
3. 2-4 x (5 x 30m, blocks or rocker start)  
3 min. recovery reps / 7 min. recovery sets  
Total volume: 600m
4. 3 x (4 x 40m, blocks or rocker start)  
3 min. recovery reps / 9 min. recovery sets  
Total volume: 800m
5. 2-3 x (3 x 50m, blocks)  
4 min recovery reps / 7m recovery set  
Total volume: 300m Very high quality...very demanding.

## SPEED

- SPEED:
  - High velocity mechanics
  - Relaxed, but full amplitudes to maximize elastic energy gain
  - High heel recovery, hip oscillation, "pop" ground
  - Train with Stadiums 1 step at a time (works on quick contacts, high knees)
  - Train with variations of speed work:
    - Ins/Outs (don't relax too much in the outs)
    - Accel → Speed > Relax → Speed
  - Speed mechanics dependent on good acceleration mechanics

## SPEED PROGRESSION *(very high quality)*

- 1 3-4 x (5 x 20m) with 15m acceleration. Time the 20m segments only  
3 min recovery rep / 6 min recovery set  
Total volume: 300m-400m
- 2 2-5 x (5 x 30m) with 15m acceleration  
4 min recovery reps / 8m recovery set  
Total volume: 300m-750m
- 3 4-8 x (25m accel / 20m max / 15m float / 20m max)  
4 min recovery reps  
Total volume: 320m – 640m
- 4 5 x (25 accel / 20m max / 15m float / 20m max / 15m float/ 20m max)  
5 min recovery  
Total volume: 575m
- 5 3 x (3 x 40m accel / 20m relax / 30m max)  
8 min recovery rep / 12 min recovery set  
Total volume: 810m

## THE APPROACH

- Length 12-18 strides. Dependent on phase of training, age and ability
- Phases of the approach
  - a. Drive phase (first 6 steps)
  - b. Acceleration development (everything between a. and c.)
  - c. Transition into takeoff. Note that the change from cyclic to acyclic at the TO for TJ is minimal.
- Drive Vs Jog at the beginning of approach?

## MORE ON THE APPROACH

- Goal at takeoff is to maintain velocity, and push fully off board...out and up. Do not think jump!
- Maintenance of velocity is critical through penultimate step
- Make sure maximal velocity is attained prior to board
  - Forward lean at takeoff from late acceleration is fatal
- Variance at takeoff and using checkmarks
  - 4 step
  - Coach mark (4 steps from board: 25-31' out)

## TRANSITION INTO TAKEOFF

- Maintain good running mechanics into TO
- Maximize amplitude of stride into TO
- Lower vertical impulse off ground than in LJ
- No lean at TO (forward or backward)
- Minimal change in mechanic of penultimate step

## GOALS AT TAKEOFF IN TJ

- Maintain horizontal velocity
- Be tall, no lean
- Maintain amplitude of stride
- Strong hip extension off board to maintain elastic reflexes and to counter forward rotation
- Free leg (thigh) must move forward not up as jumper leaves board

## WHAT MUST HAPPEN AT GROUND CONTACT DURING THE JUMP?

- Stabilization of the joints (be ready and active)
- Amortization occurs to elicit the stretch reflex (eccentric contraction)
- Concentric contraction follows to lift athlete off ground
- Be active!!

## TAKEOFF MECHANICS

- Full extension off takeoff...big amplitude at hips
- Stabilized and braced for impact to limit amortization
- Head in line with body, posture tall
- Arms continue cycling as normal
- Maintain hip oscillation onto board and off
- Stepping out on takeoff leg: strength deficit or too much preparing to jump. Maintain rhythm!

## THE HOP

- Maintain amplitude, don't pull hop leg through to early!
- High recovery of leg (heel to butt)
- Stabilization and preparation for landing is critical.
- Most important cue: Maintain the amplitude of the stride.

## THE STEP

- Takeoff angle for step is higher than for the hop. Cue: think vertical.
- Be prepared for the landing off the hop, but be active when you hit the ground. The goal is to maintain horizontal velocity.

## THE JUMP

- The jump is just a bound.
- Maintain big amplitudes here, and don't hurry to finish. This preserves any elastic force generating potential, and you do not want to give this up.
- Landing: don't fold up early, this just drops the legs early because the system is already rotating forward.

## LANDING

- Folding forward and arms continuing on through to raise legs and maximize distance
- Arms are behind the hips upon contact with sand...then arms drive forward
- Legs accordion upon striking sand

## FAULT-CORRECTION FOR TRIPLE JUMP

Braking on penultimate (you can hear this)	Be active on penultimate. Maintain the cycle and the amplitude.
Too much vertical component at takeoff	Run through TO. Be active!
Accelerating too late in the approach	Harder drive phase or lengthen approach
Fouling consistently	Do not look at board, improve acceleration mechanics for consistency
Collapse at impacts	Shorten approach, work on stability and strength.

### **PRACTICE CONSIDERATIONS FOR TRIPLE JUMP**

- One jump day per week is plenty. Another day of drills, bounding.
- Practice jumps will always be off short approaches
- Easy day after jump day
- TJ work is very taxing. Recognize this.

### **DRILLS FOR TRIPLE JUMP**

- Drills
  - Easier: SLJ, Standing bounds, Standing TJ's, Bounds for distance (progress from easy, elastic bounds to bounds for height and distance)
  - Harder: RR-LL or RR-LL, R-R-jump's (giddy-ups)
  - Advanced: continuous single leg hops with high recovery, short run TJ's into pit

### **USING MEETS FOR QUALITY JUMP SESSIONS**

- Think of meets as high quality jump sessions
- For multi-event jumpers, a two meet-per-week model offers the coach and athletes a chance to do multiple events
  - One meet focusing on LJ and/or TJ
  - The other meet focus on sprints/relays
  - Use shorter approaches for early meets

### **The Training Inventory "What to do"**

- Developing a training inventory
  - Inventory elements are what you will use each day to train the long jumper
  - Inventory elements fall into the categories of speed, strength, endurance, flexibility/mobility and skill
  - Your athletes will train all of these categories each day, some more than others (depending on the goals of the day and the week)

## THE TRAINING INVENTORY

- Warm-up
- Acceleration
- Speed
- Lifting Core
- General Strength Routines
- Pillar Routines
- Hurdle Strength Routine
- Medicine Ball Routines
- Multi-Jump Exercises
- Long Jump Drills

## THE DAILY WARMUP

- Purposes
  - Warm-up systems
  - General bio-motor training (balancing the system)
  - Restorative tool (great off-day routine)
  - See inventory for warm-up exercise progression
  - A mechanism to “clear the screen” and focus down on the task at hand that is upcoming in the session

### The Warm-Up

- Jog 30m down and back (2-3x)
- 30m backward run, forward run back to start
- 30m ankling walk
- 30m ankling skip
- 30m ankling skip with windmill arms forward, 30m arms backward
- Jog-jog-jog-quickstep (right only 30m, then 30m left only)
- Jog-jog-jog-quickstep-quickstep, repeat each side for 30m
- Walk 30m with arm circles forward, 30m arm circles backward
- Jog 30m
- 30m A-skip
- Jog 30m
- Carioca right 30m, carioca 30m left (ball of foot, light on feet)
- 30m high-knee skip
- 30m straight-leg bounds
- 30m walk
- 30m easy acceleration
- 30m accel. from 3 point stance
- 30m accel from start position

Note: skipping can be factored in as recoveries of each exercise

## LIFT CORE PROGRESSION

Lifting done on Mon/Thur/ and possibly Sat

Weeks 1-3	Weeks 4-6	Weeks 7-9	Weeks 10-12
Clean 3x10 @ 60%	Clean 4 x 8 @ 70%	Clean 3 x 5 @ 80%	Clean 3 x 5 @ 85%
Squat 3x10 @ 60%	Squat 4 x 8 @ 70%	Squat 3 x 5 @ 80%	Squat 3 x 5 @ 85%
Bench Press 3x10 @ 60%	Bench Press 4 x 8 @ 70%	Bench Press 3 x 5 @ 80%	Bench Press 3 x 5 @ 85%

## ANCILLARY LIFTS

- Add snatches to core
- Pullovers with DB
- Step Ups onto box with DB
- Cybex (glut and hip flexors)

## General Strength Routines

*Begin with 1 set, increase with fitness.  
Good for off-day strength work, and recovery day work*

### Routine 1

- Lateral Hops (x10)
- Squat Jumps (x10)
- Clap Push Ups (x10)
- Crunches (x30)
- Russian Leg Lifts (x10)
- Jump Burpees (x10)
- Walk on heels (30 sec)
- Split Squat (x10)

### Routine 2

- Speed Skaters (x10)
- Fire Hydrants (x10)
- Crab Walk (30 sec)
- Eagles (x10)
- L-Overs (x10)
- Rope Skip (1 min)
- Crunch (x30)

## Pillar Routines

*(start with reps of 20 or 20 sec., then increase with fitness)*

### Routine 1

- V-Ups
- Side-Ups
- Back Hypers
- Crunches
- Russian Leg Lifts
- Low-Level Bikes
- Scissors
- Hip Ups
- Knee to chest, press knee up

### Routine 2

- V-Balancer
- Toe Touches on back
- Single-Double Leg Slides
- Crunches
- 3-way roll-ups
- Static Pushup (hold)
- Finger walk-outs
- L-Overs
- Climb rope

## HURDLE STRENGTH ROUTINE

*Excellent for core stabilization*

- Walkovers (1 leg leads, then switch)
- Walkovers (alternate legs)
- Walkovers (over 3, back one)
- Walkovers (backward one leg, then switch)
- In-Place Skip-Overs
- Skip Down the row
- Over-Unders
- Hurdle Hops (jump and stick, dynamic)



## MEDICINE BALL ROUTINES

### Routine 1

- St. Overhead Throws
- Hip Catch-n-Toss
- Partner Exchange
- Sit Up Catch-n-Toss
- Squat Chest Throws
- UH toss for height
- Front Loader
- Trunk Rotations

### Routine 2

- Seated Partner Toss
- Hop-Hop-2-hand shot
- Over-Shoulder toss
- Overhead back toss
- Overhead step/toss
- Hammer releases
- Push Up holding ball
- UH forward toss

## MULTI-JUMP PROGRESSION

*MJ routines must reflect the strength and age of the athlete. Make sure the surface used is of grass or softer track surface. The load will be specific to the athlete. Do not over do this.*

### Easier Exercises

(Early season or recovery week. Begin with loads shown, increase over time)

- SLJ (1-5 repeated)
- Tuck Jumps (x 10)
- Bunny Hops (x20)
- Split Squat (x 10)
- Easy Bounds (8-10)
- Star Jumps (3-8)

### Harder Exercises

(Middle of season forward)

- STJ (1-5 repeated)
- Repeat SLJ (up to 5)
- Box Jumps (12"-24" max) 3 x 8 max.
- Bounding for distance 25m build to 40m
- Hurdle Hops (1-3 x (8-10 H))
- RR-LL-RR-LL (1-4)

## THE 12-15 WEEK MACROCYCLE

- Primary themes drive the training in each 4 -5 week segment of the season
  - 4-5 weeks of infrastructure work (building the body to train)
  - 4-5 weeks of event-specific work (bleeding period between base work and competitive focus)
  - 4-5 weeks of competitive focus

## First 4-5 weeks

- The focus is on developing speed, strength, endurance, flexibility and coordination in a relatively balanced way (conditioning base)
- Speed Work
  - Acceleration → Speed
- Strength Work General → Specific
- Endurance, flexibility, Generally stable in load (good for daily use and for recovery day work)
- Jump training: drills every week, short approaches
- Focus is on training and not competition

### *2<sup>nd</sup> 4-5 weeks*

- Training now begins to focus more on the demands of the long jump.
- Training is now of a higher volume.
- Meets are beginning to be a focus.
- Approach practice now building in length
- This is a high load period..beware of potential for injury and make sure you provide for recoveries needed (schedule lighter loads for days before and after meets)

### *Last 4-5 weeks*

- Quality is the focus now for all training. Jumping is of the highest priority. Quality drill work.
- Recovery becomes a critical part of the training formula (perhaps the most crucial part). Make sure there is adequate recovery, especially after jump days
- Focus is now on competitions first, training second.