

The Mechanics of the High Jump And There Dictates To Training

TECHNICAL ASPECTS OF THE HIGH JUMP

1. The High Jump is one continuous RHYTHMIC motion.
 - A. The High Jump Approach
 - i. Uniqueness in the Approach
 - a. Only Approach with a curve for a specific reason
 - ii. Problems in the Approach
RUNNING MECHANICS
 - a. Start of the Approach must be consistent
 - b. Purpose of the Straight portion is to generate horizontal velocity
 - c. Drifting out to set up the curve
 - d. Transition into the curve (Watch for Post Pattern)
 - e. Running in the Curve is different than the Straight (More like a Hurdler)
 - f. Getting the feet on the ground in the last 3 steps (Decrease flight time)
 - g. Getting the Arms into the Jump (Vlasic's Set-Up)
 - h. Different styles of Penultimate Step (Still must be active)
 - i. Stepping Down the Bar (Cueing the Shoulders thur Curve & Takeoff)
 - j. Takeoff Position
 - iii. Purpose of the Approach
 - a. To allow the jumper to generate as much vertical velocity as possible
 - b. Establishing the Approach
 - c. Determining the Curve Width
 - d. Drawing out the Curve
 - B. Takeoff Position
 - i. Arms and Drive Leg in the Takeoff
 - a. Two-thirds of the Height Jumped is the height of COM at Takeoff
This is based on the Position of the Arms & Drive leg at Takeoff
 - C. Flight and Position over the Bar
 - i. Parabolic Curve
 - a. The depth of the Curve is based largely on Horizontal Speed
 - b. The height of the curve is the product solely of vertical velocity
 - c. The Drive Leg is Held and Takeoff Leg brought to it
 - d. Shoulders Down, Hips Up
 - e. How to clear the feet

PHYSICAL ASPECTS OF THE HIGH JUMP

2. Strength Training (Training CNS to Recruit Muscle Cells)
 - A. Rate of Force Development
 - a. When force application is .30 or Less, RFD is more important than Maximum Strength
 - b. Takeoff time in the HJ is .17-.19. Maximum Force is developed in .44
 - c. How to Develop RFD (3x3 @ 90% 5 min bet sets 4 times a week)
Maintenance 2
 - d. Maximally fast bursts of muscle action against high loads

- i. Relative Strength Levels
 - a. Back Squat & Clean 1RM added together divided by Body Weight
 - b. Males should be 1.75-2.50 on BS & 1.20-1.50 Clean (Steffan Holm)
Females should be 1.25-1.65 BS & .80-1.10 Clean
 - c. The goal is to get strength per pound of body weight as high as possible
- B. Golgi Tendon (What it does)
 - i. Training Methods for Improving the Myotatic Stretch-Reflex Mechanism
 - a. Rebound Jumps
 - b. Box Heights (Speed X Force = Power)
 - c. Sets, Reps and Rest for Rebound Jumps
 - d. Depth Jumping (ONLY FOR EXPERIENCE ATHLETE-High BS Str.)
 - e. Once every 10-14 Days only when the athlete is Rested
 - f. Height 6-10'; 3-5 Reps per session with 5-10 min bet Reps
- C. Using Strength Training to Teach the CNS to recruit muscle cells

**WHAT THE TECHNICAL AND PHYSICAL ASPECTS OF THE HIGH JUMP
TELL US ABOUT TRAINING**

- 3. Objective is the have Males Jump 15-18" Over Their Head and Females to Jump 4-6" Over Their Head
 - A. The High Jump is 90% Approach
 - i. Perfecting the Approach
 - B. Converting Horizontal Speed into Vertical Velocity
 - i. Increasing Vertical Ground Reaction Forces
 - C. Strength Training for Improving Rate of Force Development
 - i. Maximizing the CNS Recruitment of Muscle Cells

STRUGGLE AND EFFORT-Athlete must understand these are the two requirements to achieve athletic success.