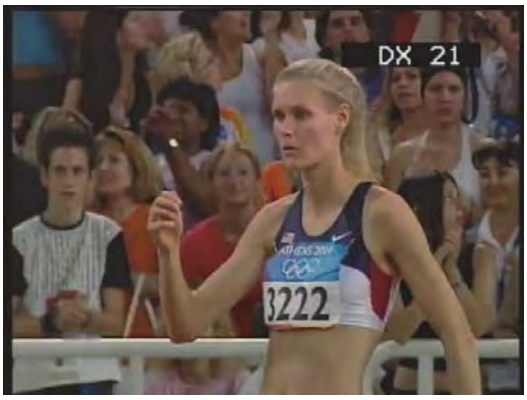
High Jump



Categories for Improvement

- Flexibility
- Starting strength
- Dynamic Strength
- Speed Endurance
- Top speed/ explosiveness
- Mental training

Overall Concepts

1. Gradual acceleration
2. Smooth transition of hips
3. Good penultimate contact, lower c.g. with no further lowering from penultimate onto takeoff
4. Little deceleration over last steps

Beginner High Jump

1. preparation to prevent injury
2. high jump running style
3. measuring an approach
4. approach length
5. tempo
6. transition points
   a. outstep- straight to curve
   b. pre-penultimate
   c. penultimate
   d. plant positions
7. visual tracking
8. layout
9. chin to chest

Training Phases

Prehab- Train to prepare for Training

Flexibility, Stabilization exercises, Proper mechanics

Lower Intensity, longer duration

Plyometrics, Sprinting, Lifting

Short approach jumping, more repetitions, bungee at lower height

High Intensity, shorter duration

Sprinting, Lifting, Mental Training

Long approach jumping, bar incrementally raised

Peak Competition maintenance

Neurological Training, Short distance sprinting, Mental Training

https://www.youtube.com/watch?v=qMJJ1d8Q2bI

Drills and Weights for High Jump

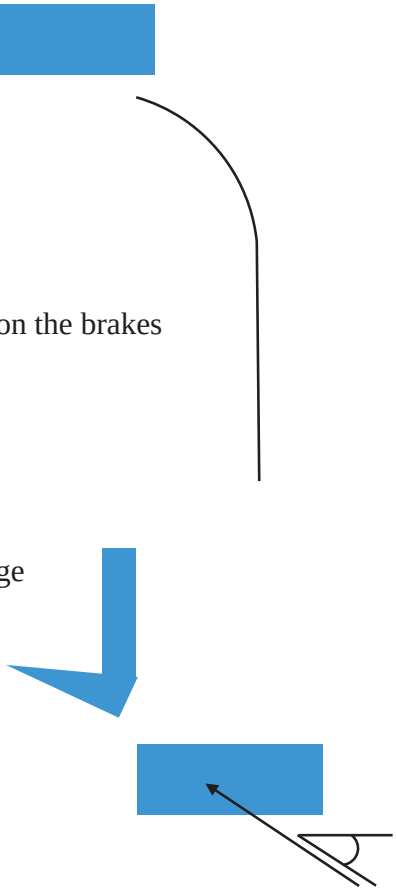
1. box back-over
2. hip extension on high bar
3. swiss ball hip rotation
4. low impact plyos
   a. six inch box depth jumps
   b. lateral box jumps for quickness
   c. spaced cones/ hurdles
   d. jumping at the rim
5. quarter or 1/8 squat for explosiveness
6. push press
7. single arm dumbbell snatch
8. leaper extension of hip
9. six inch box step up with drive knee and weighted bar
10. duck lunges
11. single leg RDL- take it easy at first
12. speed bounding
13. cycle/ run-outs
14. six inch box jump and run out
15. hopping/ bounding
16. Russian twists
17. corkscrews
18. swiss ball abs- v-ups, scorpion, and twisting table

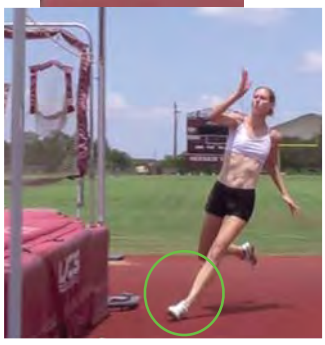
Correction of Errors in High Jump

1. penultimate errors
   a. toe dragging
   b. missed penultimate
2. speed- role of dorsal-flexion
3. sitting up on layout, hip flexion
4. arm errors
5. missing transitions
6. paralysis
7. approach length fixes
8. approach width fixes
9. hip position maximization
10. cutting the curve

Cause and Effect- cues to try

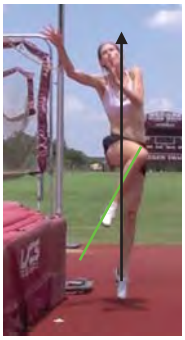
A. Too close at takeoff
   1.Scoot back mark
   2. Run deeper curve
B. Too far out at takeoff
   1. Drive out of back
   2. Scoot up mark
C. Coming down on the bar
   1. maintain speed at the end, don't put on the brakes
   2. hold knee drive
D. Throwing Head Back
   1. Face back corner
   2. Look at opposite standard
E. Diving at takeoff
   1. lower run
   2. keep inside shoulder back, lift rib cage
F. Reaching for takeoff
   1. move up run
   2. dorsi-flex, "cast ankles"
G. Forward lean in windy conditions
   1. accept lower speed, hit positions
H. Ankle Pain
   1. needs 45 degree alignment to bar





Checklist for Success

1. Drive
2. Upright torso at mid-mark
3. Hips move underneath shoulders on curve
4. Low heel recovery through last steps
5. Natural curve lean
6. Face back corner
7. Eyes on opposite standard
8. Knee drives across, not head, not shoulder



How to Develop an Effective Approach

1. dorsal-flexion
2. vector components of force in run- harmony
    a. vertical push-up, finding positions
    b. bounding, 45 degree force
    c. horizontal
3. appropriate width/ length
4. keeping short and long approaches, frequency and repetitions in practice
5. run throughs, jumping or stepping up on the pit
6. scissors
7. auditory cues
8. speed vs low center of gravity
9. hitting positions, speed of transition
10 angle to the bar
11. not cutting the curve

Weak Links (Body parts/ injuries)
- Lower leg- left especially
- Left hip- rotators
- Low Abs

Weak Links (Skills)
- Ability to accelerate into takeoff
- Ability to translate horizontal fully into vertical
- Ability to stabilize upper body during takeoff

Flexibility Challenges
- Shoulders
- Upper back

Training Areas (take into account training age, current deficits, injuries, stress levels)

1. Strength/ Hormonal Stimulation- lifting with any large muscle groups 3 to 4 sets of 5 with at least 80% maximal effort, includes Olympic Lifting which can imitate firing pattern of event, builds testosterone and ATP (2-3 times per week, minimum once every 7 days)
2. Acceleration Development- 10-30m sprints 9-12 repetitions, builds ATP stores for explosive movements, can be on hill (2-3 times per week, minimum every 3 days)
3. Alactic (anaerobic with no lactic acid produced)- 90-150 m, 6-10 reps broken into sets of 3, 4, or 5 (once per week, minimum once every 7-10 days)
4. Bodybuilding circuits- one minute or less rest taxes glycogen, builds storage potential, good to eat sugar within 15min of completion, then protein within 45min (0-2 times per week in fall, optional)
5. Special Speed Endurance- anaerobic and lactic system, must be more than 15 seconds- up-backs, cycling over ankle and running back (once per week, optional)
6. Plyometric- high jumping, elastic energy, box jumps, depth jumps, hurdle hops, speed skipping, dunks, hopping and bounding (3-4 times per week, 100 low impact contacts or 20-30 high impact contacts such as high jumping, work up to it!)
7. Neurological- building pools of neurotransmitters through high demand neural stimulation, elements of balance and instability in exercises, not isolating muscles! Using whole body (20 min, twice per week)
8. General strength G.S.- builds glycogen stores, injury prevention (good for young training age, 2-3 times per week)
9. Event Specific- high jumping, running approaches, pop-ups, (keep under 30 reps, 2-3 times per week for healthy)
10. Fat loss- lifting style #1 plus aerobic activity (over one minute) optional
11. Flexibility (best every night)
12. Rehab/ prehab (as needed)
13. Rest (2 days off per week, ideally mid-week and Sunday)

Rate yourself on a scale of 1-10 on each of the areas above and your mastery or strength in each area.

A Weekly/ Monthly/ Season Workout Schedule

Sample workout for Intermediate Jumper just prior to competition track season:

Monday
- Dynamic warm-up (neurological stimulation)
- Jump at rim 20 times
- 3 sets of 3x 20m accelerations,
- Step-ups onto 6 inch box with drive knee and toe extension, 3x5 on each leg
- Single Arm Dumbell Snatch 8 sets of one on each side (right and left hand) try 20% of body weight to start
- Russian Twists 3x20 seated with 15 pound plate

Tuesday
- High Jumping
- 5 short approach (6 step)
- 10 middle approach (8 step)
- 10 long approach run-throughs, step up onto pit
- 1/8 Squat for Explosiveness with body weight, go up on toes, 4x6, try body weight to start, just go down a few inches and explode up

Wednesday
- 6x 50m Up-Backs, cycle for 50m, turn around and run back
- general strength, med-ball circuit for core 10 reps of 5 exercises

Thursday
- 12 run outs- cycle for 10m, accelerate for 20m
- 3x10m speed bounding on each leg
- Leaper- 2 feet, should be reasonable fast and reach full extension or reduce weight load, 4x6 reps

Friday
- High Jumping
- 5 Short Approaches High Jump
- 15 Long Approaches High Jump
- general strength- isometric 10 reps of 5 exercises

Saturday
- Swiss Ball hip exercises (neurological stimulation)
- 4x 150m all out with walk back recovery
- Swiss Ball Abs

Sunday
- Off

Mental Aspects of Jumping

1. Arousal States
   a. internal volume
   b. caffeine/ food/ blood sugar
2. Understanding and Executing/ Visual Aids/ New Media
3. Mental Training/ Visualization
4. Athlete/ Coach/ Parent Psychology
5. Alarm Resetting
6. Limbic Brain/ Fear
   a. self-talk
   b. ruts
   c. reprogramming
7. Neural Archetypes
   a. sympathetic dominant type (fight or flight mode)
   b. parasympathetic dominant type (digestion and repair mode)

Physical Signs of Overtraining

- Restless sleep/ insomnia
- Poor appetite
- Morning mental fog/ puffy face
- Pale tongue
- Dry mouth
- Tendonitis appearing
- Lowered immunity