

High Jump Technique and Training

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In the 1968 Mexico City Olympics, sprints and jumps were on stage. United States sprint dominance was as evidenced by world records and medal counts. Bob Beamon (US) long jumped past 28 and 29 feet. Dick Fosbury (US) also gathered attention for his medal performance. He took off in the high jump with his back to the bar and landed on his back. Although others claim to have been using this style as far back as the early 60's, his name is forever linked with the Fosbury Flop. Next we will breakdown the key elements in the high jump and put together training plans for a couple different weeks.

The high jump has an Approach that contains a transition from linear to a curve. It has a Takeoff that is similar to the long jump, employing a penultimate and takeoff step. Lastly, it has Bar Clearance and Landing in the pit. Let's begin by taking a closer look at the Approach.

The Approach

To keep the approach simple we will discuss it as having 5 steps on the straight and 5 on the curve including the penultimate and takeoff steps. Most athletes will take their first step with the same leg they takeoff with. The drive phase will be two steps. Athletes should be moving into an upright running posture by the third step. The athlete will continue to accelerate in a straight line until they reach the fifth step. Watch for deviations to the outside, which slow the athlete down. Athletes will also tend to slow down as they approach the transition to the turn. The athlete should have two measurements for their approach, one parallel to the pit (between 8'-14' depending on speed) from the inside standard and another directly back on the apron from that point.

The transition to the turn should be a blend from straight ahead running to single track running while continuing to accelerate. To run on a turn each successive step must be directly in front of the previous one. In addition, the takeoff and penultimate steps must also be on the turn. Initiation of the turn on the fifth step happens on toe off. Instead of continuing to push directly behind, the athlete will push to the outside. This action will begin turning the body towards the far standard. The next step will land on the turn directly in front of the previous step. The lean is a result of ground contact and continued acceleration. It will be a full body lean from the ankle. The inside shoulder will be lower than the outside and shoulders will align with the hips. Typical errors in this part of the approach are the "football" pattern where the athlete plants the outside foot and cuts directly at the bar in a dual track fashion. Athletes will also tend to lean towards the bar on the penultimate and takeoff steps. Below are some drills to help both pieces of the approach.

Approach Drills

All acceleration work described in the Long Jump should be done for High Jumpers. After athletes grasp the idea of pushing, they will need to be taught to stand up earlier in the start. This is similar to the difference in the 100m start and the 110 or 100 Hurdle start; there is less time to push.

Straight start Run only the first five steps with and without the transition

3 point line runs If you have access to a basketball court, run the three-point line. Emphasis is on pushing to the outside and single track foot contacts. Options are to run the whole line or to take off (pop up) at the top (where foul shots are taken).

Circle runs or skips These can be done anywhere and any diameter of circle. Try increasing speed on the approach. Emphasize pushing to the outside and single track running. Run or skip the circle 2-3 times in a row. They can be done with takeoffs (pop ups) as well

Straights with circles Have the athlete run in straight line (like the linear part of the approach) and then run 2-3 circles. This is a good drill to link the two parts and can be done away from the pit

Pit Circles Once the athlete has learned how to run the earlier circle drills try this one. Have them start an arm length away and just inside the near standard. They will run a circle drill and pop up into the pit, landing on their feet. It may take a couple of attempts to figure out how many steps are needed. Once this is determined mark the far point of the approach with tape or a marker. You will see that this drill can be set up to closely match the athletes turn. Try it with a slower straight away run emphasizing the transition, complete a circle and pop up.

The Takeoff

During the takeoff, athletes will transition from a curved approach to a vertical takeoff. During the takeoff steps the athlete should maintain speed and "stay away" from the bar. The last two steps of the approach also need to be done on the turn with foot contacts directly in front of each other. Watch for the tendency of the athlete to lean into the bar upon planting the takeoff foot. If the takeoff is executed properly the athlete will feel like they are planting the foot "inside" because they are still leaning away from the bar and running on the turn

The penultimate and takeoff steps will be rocking action, full foot contacts. There should be no heel recovery on these steps, as the foot will only step over the ankle or mid calf. The plant for the takeoff will occur just inside (towards the far standard) the near standard with the toe of the takeoff foot aiming at the far standard. Arm action can either continue single arm or be double arm at takeoff. When the athlete plants the takeoff leg, it will need to be braced or ready for the jump. They will be getting great energy back from the plant, so they need to make sure to continue moving over the top of the leg. If the approach was done correctly their back should have been to the bar at the plant. The knee of the penultimate leg will be brought up because of stored energy from the previous step. Coaching of this leg action should be to get the ankle to the bar and knee away from the bar. Athletes should leave this knee up and let the takeoff leg come up to meet it.

Takeoff Drills

3 and 5 Step Jumps Have the athlete run back (arm length from the bar, just inside the near standard) 3 or 5 steps marking the spot where the step is. This mark will be inside of their normal run because they will not be moving as fast. Make sure they still run the turn.

Walk in or Jog in 5 Steps Same as above but move to the takeoff spot by either walking or jogging in. This is good linking to the full approach and less stressful than full approach jumps.

Full Approach with Scissors Kick Athletes will run their approach but clear the bar with an upright scissoring action of their legs. Emphasis will be on the takeoff step action before bar clearance. A bar or a bungi bar can be used for this drill. Set at a height where it will not alter the takeoff step sequence.

Bar Clearance and Takeoff

Like the other jumps, it is difficult to separate this phase from previous ones. There are a couple of drills listed that will work on the dynamic flexibility and spatial awareness needed to arch over a bar. During the takeoff the head should have been looking at the far standard. As the athlete becomes airborne, with hips near the bar, the head should look directly back so that the hips will rise over the bar. To get the feet to clear the bar, the athlete will bring their head back to the chest, finally landing on their upper back in the pit.

In the pit drills

Back Arch Have athlete place their hands on the ground next to their head (fingers pointing towards shoulders) and press up. Progress to doing this drill in the pit. Feet touches- Get to a back arch position in the pit. Push off and quickly try to get the hands to touch the feet before the back lands in the pit.

Standing bar clearance Have the athlete start with their back to the bar on two feet. Clear the bar and land in the pit. Jog in towards the center of the pit, jump or turn 180 degrees so that both feet land close to the bar and clear the bar like the standing drill.

SUGGESTED TRAINING WEEKS

5 Days - No Meet

Monday

- Dynamic Warm up - Pick 2-3 Approach drills - Run 4-8 Scissors approaches - Weight training (if properly supervised)

Tuesday

- Dynamic Warm up - Med balls and Plyometrics (if properly supervised) - Shorter interval training

Wednesday

- Dynamic Warm up - Conditioning Circuits - Short Hills - Weight training (if doing 3 days, otherwise do it Thursday)

Thursday

- Dynamic Warm up - 1-2 Approach Drills - 3-6 Scissors approaches - Jump from 5 steps or jog in 5 step

Friday See Tuesday, but longer interval training

5 Days - 2 Meets

Monday See previous Monday, no jumps, approach work only

Tuesday Meet

Wednesday See previous Tuesday, add weight training, eliminate or greatly reduce plyos

Thursday See previous Wednesday or Shake out workout

Friday Meet

6 Days - 1 Meet

Monday See previous Mondays but if you are jumping (5 steps etc.) do it today

Tuesday See no meet week Tuesday

Wednesday Long warm up, easy circuits

Thursday See no meet Thursday, approaches only, weight training

Friday Shake out

Saturday Meet

References

Level 2 Jumps, 1993