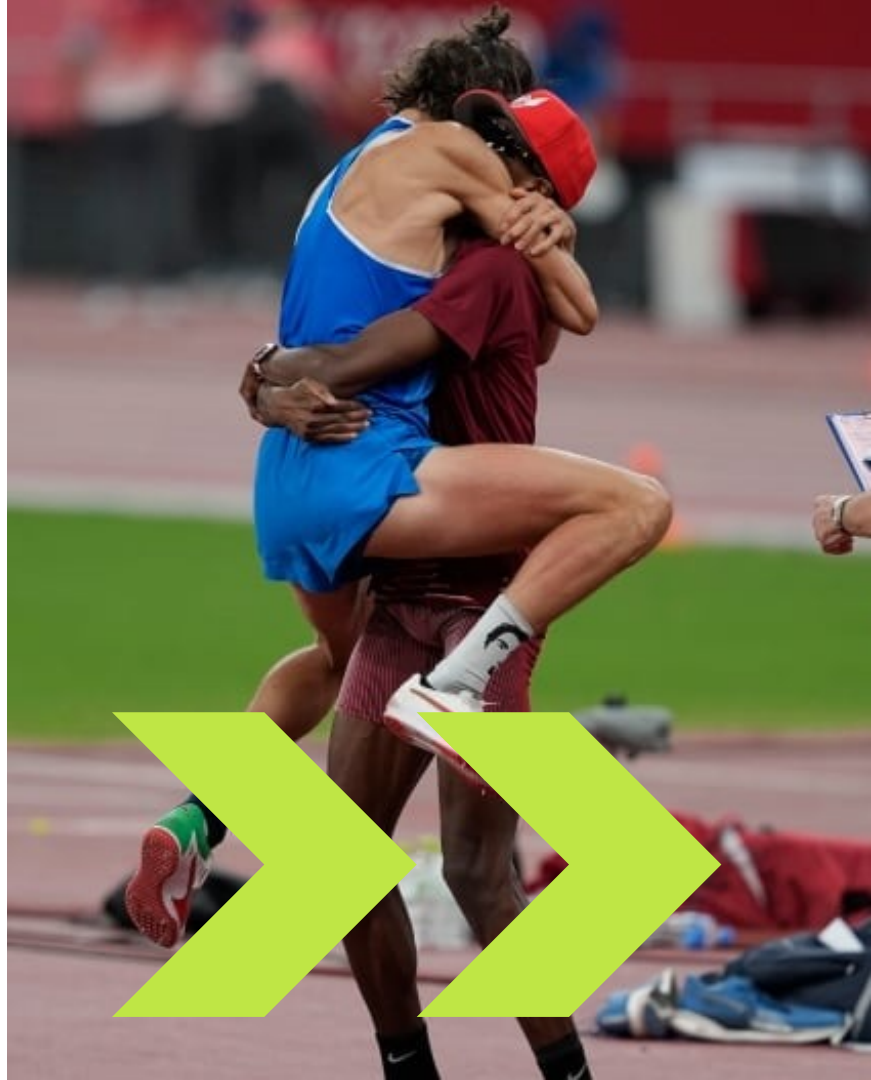


Strength Training and Conditioning: High Jump

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Phases of high jump



Approach: Begins as a straight line sprint that eventually turns into a curve. It increases the athlete's horizontal velocity, which will eventually be used for the plant.

Plant/Take off: The horizontal velocity that has been developed during the approach run is used to develop the vertical velocity that will be required to jump high.



Flight: Success in the flight phase is dependent by the athlete's ability to exert force against the ground during the plant/takeoff.

Landing



Physical demands



Power



Strength



Horizontal
application
of force



Single-leg
strength and
power



Ability to
maintain
posture





Strength training

Qualities	Exercises
Strength	Squats (back, front, split, overhead), Deadlifts, Romanian deadlifts, Good mornings, Presses (bench, incline, decline, military), Rows (bent-over, seated, one-arm), Pull-ups/pull-downs
Power	Cleans (power, squat, split), Snatches (power, squat, split), Jerks (push, power, split), Pulls
Horizontal application of force	Horizontal jumps (standing long jump, triple jump, hurdle hops, etc.), Sled pushing/pulling, Bounds, Resisted sprints
Single-leg strength and power	Split squats, Lunges, Step-ups, Split cleans/snatches/Jerks, One-legged cleans/snatches/Jerks
Ability to maintain posture	Squats (back, front, split, overhead), Deadlifts, Romanian deadlifts, Good mornings Squats, deadlifts, Romanian deadlifts, good mornings with a pause Squats, deadlifts, Romanian deadlifts, good mornings with an exaggerated eccentric phase





Specific training

Sprinting training: to improve the athlete's ability to perform the run-up.

Drills with few strides: focus on the plant/takeoff.

Back flexibility: to increase the arch of the jump.

Vertical and horizontal plyometrics: to enhance jump performance.



Potential injuries

01

Hamstring injury in sprinting

The biceps femoris is especially susceptible to strains when the leg is being swung forward or during foot strike, as these are times when the muscle is lengthened.



02

Ankle joint injury in change of directions

In take-off stage, it moves in a rotation with a range more than normal and may sometimes lead to injury.



Potential injuries prevention

01

Hamstring injury in sprinting

Strengthen the hamstring muscles eccentrically.

e.g. Romanian deadlifts,
Good mornings (standing, seated), Glute-ham raises,
Reverse hyperextensions,
Nordic leg curl



02

Ankle joint injury in change of directions

Improve and strengthen the weak muscles, tendons, and ligaments surrounding the ankle joint.





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