

Plyometric Exercises

Using Plyometric Exercises to Build Speed and Power

Plyometric jumping exercises can build power and speed if done properly

Many athletes and trainers use plyometric jumping exercises to build power and speed, improve coordination and agility and effectively improve sports performance. It's also important to recognize that these are high risk exercises and if performed incorrectly or performed without a solid base of training, plyometrics can increase the risk of injury.

What are Plyometric Exercises?

Plyometric exercises are specialized, high intensity training techniques used to develop athletic power (strength and speed). Plyometric training involves high-intensity, explosive muscular contractions that invoke the stretch reflex (stretching the muscle before it contracts so that it contracts with greater force). The most common plyometric exercises include hops, jumps and bounding movements. One popular plyometric exercise is jumping off a box and rebounding off the floor and onto another, higher box. These exercises typically increase speed and strength and build power.

Safety of Plyometrics

Experts in the field of exercise science have varying opinions of plyometrics. The American College of Sports Medicine states that "that plyometric training is a safe, beneficial and fun activity for children and adolescents provided that the program is properly designed and supervised."

The American Council on Fitness also recommends plyometric exercise if done properly. And the National

Strength and Conditioning Association offers a position stand in favor of plyometrics.

Plyometrics (and any impact exercise) can increase the risk of injury if you don't follow certain safety precautions. The tremendous force generated during these moves requires that athletes use them sparingly and with proper training.

The most important aspect of a safe and effective plyometric program is developing a safe landing technique. This means the athlete lands softly on the toes and rolls to the heels. By using the whole foot (and a larger surface area) for landing it helps dissipate the impact forces on the joints. The other key to proper landing is to avoid any twisting or sideways motion at the knee.

Plyometrics Safety Tips

- Plyometrics are recommended only for well-conditioned athletes
- You should have high levels of leg strength prior to performing plyometrics
- Warm up thoroughly before starting plyometrics
- Start slowly with small jumps and gradually build up
- Land softly (see above) to absorb shock
- Allow plenty of rest between plyometric workouts
- Stop immediately if you feel any pain in your joints
- Pay attention to Injury Warning Signs.
- Use footwear with plenty of cushioning
- Perform plyometrics on soft or cushioned surfaces only

This plyometric training program has been used to prevent ACL injuries in women soccer players.

Keep in mind that you can develop a great deal of strength and power without resorting to plyometrics, but if you participate in sports that require jumping and landing, plyometric training may be beneficial to improve skill and performance.

Source

Plyometric Training for Children and Adolescents, December 2001, www.acsm.org.

American Council on Exercise, Plyometrics: Controlled Impact/Maximum Power, Fit Facts, 2001, M01-076 PLY - 52.