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## **An Article regarding Plyometric Training**

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### **Introduction**

Plyometric training is a well-known and highly effective form of exercise that has been utilised for many years by sportspeople and people interested in health and fitness. Plyometrics is a form of training that improves your power, speed, and agility through the use of explosive movements. The method was first developed in the 1960s by Yuri Verkhoshansky, a coach in the Soviet Union. It is now widely utilised in sports training, fitness programmes, and rehabilitation.

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### **Plyometric Training - What Does It Involve?**

Plyometric training is a type of resistance training that emphasises explosiveness and rapidity of movement in order to stimulate the stretch reflex. The stretch reflex is a natural reflex that happens when the muscles are stretched quickly, which causes them to contract quickly. This causes the muscles to feel as though they are being pulled. This type of training is commonly used in sports training and fitness programmes because it is designed to increase a person's power as well as their speed and agility.

Plyometric training typically entails jumping, hopping, and other types of bounding movements that work the legs and lower body. Movements involving the upper body, such as medicine ball throws and plyometric push-ups, can also be included in these exercises.

Plyometric training has as its primary objective the enhancement of an athlete's rate of force production, or the speed at which the athlete is capable of producing force. Athletes who compete in sports that require them to perform explosive motions, such as jumping, sprinting, or throwing, will benefit tremendously from this type of training.

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### **The Many Advantages of Plyometric Exercise**

Plyometric training offers a variety of advantages, including the following:

Plyometric training is beneficial for increasing power, which can be defined as the capacity to quickly generate force. The ability of an athlete to perform explosive movements like jumping, sprinting, and throwing can be improved as a result of this.

Plyometric training can be beneficial for athletes looking to improve their speed, which is defined as their capacity to move from one location to another in a short amount of time. This has the potential to be useful in a variety of sports, including basketball, football, and track and field.

Plyometric training has been shown to improve an athlete's agility, which can be defined as the capacity to quickly change direction. This has the potential to be advantageous in sports such as soccer, basketball, and football.

Plyometric training has been shown to help athletes improve their coordination, which can be defined as the ability to move different parts of the body in unison. Gymnastics and diving are two examples of sports in which this can be to one's advantage.

Plyometric training can help to improve an athlete's strength and stability, which can lead to a decreased risk of injury. This benefit is achieved by decreasing the likelihood of an athlete sustaining an injury.

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### **Plyometric Exercises**

When it comes to training, you have a wide variety of options to choose from when it comes to plyometric exercises. The following are some of the most common types of exercises:

Exercises Involving Jumping Jumping exercises can be broken down into two categories: vertical jumping and horizontal jumping. Exercises such as broad jumps, box jumps, and hurdle jumps are all examples of jumping exercises.

Exercises that involve hopping require you to hop either on one foot or two feet, depending on the exercise. Exercises that involve hopping include lateral hops, single-leg hops, and double-leg hops, among other variations.

Exercises in which you jump and land on one foot, and then immediately jump again and land on the other foot are called bounding exercises. Exercises that involve bounding include single-leg and double-leg bounds, as well as other variations.

Throwing and catching a medicine ball are the two main components of medicine ball exercises. Medicine ball exercises can be found online. Chest passes, overhead throws, and side throws are some examples of exercises that can be performed with a medicine ball.

**Plyometric Push-Ups** In order to perform plyometric push-ups, you must first explosively push your body off the ground and then catch yourself as you descend back to the starting position. This exercise can be made more challenging by performing it with one's hands raised above their shoulders on a bench or box.

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### **Programme for Plyometrics and Jumping Exercises**

When developing a plyometric training programme, it is critical to take into account the athlete's current level of fitness as well as their performance objectives. In order to prevent injuries, it is essential to build up both the intensity and the volume of the exercises in a measured manner over time.

A typical programme for plyometric training might consist of two to three sessions per week, with each session containing six to eight different exercises. Each exercise should be performed for three to five sets of six to ten repetitions, with two to three minutes of rest in between a rest period of minutes in between each set. You can step up the intensity of the workout by increasing the height of the jumps, the distance that you travel between them, or the weight of the medicine ball that you use.

It is critical to perform a comprehensive warm-up in order to reduce the risk of sustaining an injury before beginning a plyometric training programme. In order to improve the circulation of blood to the muscles, the warm-up should consist of both light aerobic activity and dynamic stretching exercises.

A well-rounded training programme should include both strength training and cardiovascular exercise. Plyometric training should also be incorporated into such a programme. Because plyometric exercises can be very taxing on the muscles and joints, it is essential to leave enough time in between sessions for adequate recovery.

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### **Concerns Relating to Safety**

Plyometric training has the potential to be a very effective form of workout, but it is essential to adhere to certain safety guidelines in order to prevent injury. The following are some essential factors to consider regarding safety:

**It Is Important To Use Proper Technique When Performing Plyometric Exercises** In order to avoid injury, it is important to use proper technique when performing plyometric exercises. If you don't have the right technique, you could end up putting strain on your muscles and joints, which could lead to an injury.

**Increase the Intensity Gradually** - To prevent injury, it is essential to gradually increase both the volume and the intensity of the exercises that you are performing. Exercises of low intensity should be performed initially, and then the intensity should be gradually increased over time to help reduce the risk of injury.

When performing plyometric exercises, it is critical to ensure that you are wearing the appropriate footwear at all times. Protecting one's feet and ankles should be a primary concern, so shoes should offer sufficient support and cushioning.

**It Is Important to Allow for Adequate Recovery Time** - In order to avoid overuse injuries, it is essential to ensure that adequate recovery time is allowed in between plyometric training sessions. After a strenuous workout, the muscles and joints need some rest in order to recover and repair themselves.

**Stay Away From Overtraining** It is essential that you stay away from overtraining as this can lead to injury as well as burnout. The ideal training programme would consist of plyometric training, strength training, and cardiovascular exercise, all of which would be performed by the participant.

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### **Conclusion**

Plyometric training is a powerful and effective form of exercise that can assist in the development of power as well as speed, agility, and coordination. Plyometric training has the potential to be a beneficial and risk-free addition to the training routine of any athlete provided that it is performed correctly and appropriate safety precautions are taken. However, in order to avoid injury, it is essential to gradually increase both the intensity and the volume of the exercises while also allowing for sufficient time for recovery in between sets. Athletes can improve

their performance on the pitch or in the gym and reap the many benefits of plyometric training if they follow these guidelines and perform the exercises correctly.

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### Reference

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1. Chmielewski TL Myer GD Kauffman D Tillman SM. Plyometric exercise in the rehabilitation of athletes: Physiological responses and clinical application. *J Orthop Sports Phys Ther.* 2006;36(5):308-319. [PubMed] [Google Scholar]
2. Chu DA Panariello RA. Jumping into plyometrics: Sport specific plyometrics: Baseball pitching. *Nat Strength & Cond Assn J.* 1989;11:81-85. [Google Scholar]
3. Chu DA Plummer L. The language of plyometrics. *Nat Strength Cond Assn J.* 1984;6:30-35. [Google Scholar]
4. Pezzullo DJ Karas S Irrgang JJ. Functional plyometric exercises for the throwing athlete. *J Athl Train.* 1995;30(1):22-26. [PMC free article] [PubMed] [Google Scholar]
5. Allerheiligen B Rogers R. Plyometrics program design. *Strength Cond.* 1995;17:26-31. [Google Scholar]
6. Chu DA. *Jumping into Plyometrics.* Champaign, IL: Leisure Press; 1992. [Google Scholar]
7. Wathen D. Literature review: Explosive/plyometric exercise. *Nat Strength Cond Assn J.* 1993;15:17-18. [Google Scholar]
8. Chu DA. *Explosive Power and Strength.* Champaign, IL: Human Kinetics; 1996. [Google Scholar]
9. Chu DA Cordier DJ. Plyometrics in rehabilitation. In: Ellenbecker TS, ed. *Knee Ligament Rehabilitation:* Churchill; Livingstone; 2000. [Google Scholar]
10. Costello F. *Bounding to the Top: The Complete Book on Plyometric Training.* West Bowie, MD: Athletic Training Consultants; 1990. [Google Scholar]
11. Gambetta V Odgers S. *The Complete Guide to Medicine Ball Training.* Sarasota, FL: Optimum Sports Training; 1991. [Google Scholar]
12. Wilk KE Voight ML Keirns MA, et al. Stretch-shortening drills for the upper extremities: Theory and clinical applicaiton. *J Orthop Sports Phys Ther.* 1993;17(5):225-239. [PubMed] [Google Scholar]
13. Wilt F. Plyometrics: What it is and how it works. *Athl J.* 1975;55(5):89-90. [Google Scholar]
14. Scoville CR Arcerio RA Taylor DC, et al. End range eccentric antagonistic/concentric agonist strength ratios: A new perspective in shoulder strength assessment. *J Orthop Sports Phys Ther.* 1997;25:203-207. [PubMed] [Google Scholar]