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ESSENTIAL ASPECTS OF HIGH-POWERED SPEED, BALANCE AND BODY CO-ORDINATION OF SHOT PUT THROWERS

Amit Thakur
Research scholar

Dr.Avinash Sahare
Supervisor
Nashikrao Tirpude
College of Physical education Nagpur

Abstract :

Shot put is an individual field sport. In which the player tries to throw a ball made of iron or brass as far as possible. It is a popular sport in India. There is no information available about when and where shot put started in India. However, the game became popular in India during the post-independence period. The player is required to throw the ball from near his collarbone. If he does not do so, the throw is invalid. Shot put is a sport that tests physical strength, coordination and technique and practice is very important. In this paper focused on Essential aspects of High-powered Speed, Balance and Body Co-ordination of Shot Put Throwers.

Keywords: Shot Put High-powered Speed, Balance and Body Co-ordination, Muscle Strength

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Preface:

The exact history and origins of shot put are a bit difficult to trace. It can be compared to ancient games, but there is no solid evidence as to when and where shot put began under the same name. Archaeological evidence shows that the Greek and Roman cultures had a game of throwing large stones. Although these stones are different from iron balls, these games that emphasize throwing skills show similarities to shot put. There is a traditional game in Scotland called “Putting the Stone”. Large stones are thrown in this game. This game also shows some similarities to shot put. The modern shot put is believed to have been introduced in the late 19th century. Initially, the game became popular in England and later it was played in other European countries. The International Olympic Committee (IOC) included shot put in the first modern Olympic Games in 1896. Since then, the sport has become a regular sport for men. Women's shot put was included in the 1948 Olympic Games. Shot put is played for physical fitness in the Indian Army. Because of this, many Indian athletes have achieved success at the national and international levels. Shot putting is considered one of the most powerful sports. Developing the enormous amount of power needed to succeed as a shot putter requires more than just throwing. Weight training is a very effective way to develop an athlete's expression of power and can benefit even an athlete who is already considered very strong. Many of my former throwers, including past shot put champions Reese Hoffa and Adam Nelson, have incorporated various forms of weight training into their careers to improve their throwing performance.

Weight Training :

Weight training is very important for developing speed and power in shot putters. It is also important for shot putters to understand that this is a method that complements shot put training; it is not a separate sport or discipline. Strength development through weight training should be done in conjunction with the development of the thrower's technique. If these two elements are not balanced, serious problems with the thrower's technique in the long run can occur. A thrower who throws in the weight room can develop his strength levels very quickly. This gives the player some temporary advantage in throwing performance, especially for a large thrower who can get stronger very quickly. However, these short-term advantages have a major disadvantage: relying on strength to throw for a long time at a young age will reduce the efficiency of intra-muscular and inter-muscular coordination regarding the further development of shot put technique. As the shot putter gets stronger, the law of diminishing returns applies with increasing strength and the increase in distance becomes less and less. When a shot putter relies solely on strength to throw long, their long-term development can be stunted at a very young age. The following should be considered when planning weight training throughout the season:

- The main weight training exercises used to build strength include Olympic lifts (clean, snatch, overhead press/jerk variations) and power lifts (bench press, squat variations, and deadlight variations). Throwers perform these drills in some form throughout their training.
- The volume of these exercises is highest during the general and specific preparation phases, while the intensity is highest during the specific preparation phase and pre-competition phases.
- As shot-putters become more advanced, they can lift heavier weights more often if they wish, as their training capacity has taken longer to develop. Here are examples of exercises that are appropriate for shot putters and their variations
    - Bench Press
    - Incline Bench Press
    - Front Squat
    - Box Squat
    - Push Press
    - Clean
    - Snatch
    - Speed Clean and Jerk

Of all the weight room exercises, Olympic and power lifts generally place the greatest stress on the thrower's nervous system. For this reason, these lifts should be included in a training program around throwing sessions, so that the fatigue accumulated during lifting sessions does not negatively affect throwing sessions. However, more experienced throwers can recover more easily from their lifting sessions and throw with less recovery time between sessions. This gives the thrower more flexibility in their training. Complementary work such as core stability exercises, kettle bell or medicine ball exercises, fixed machine exercises, and bodybuilding and rehabilitation exercises can be included in a program around throwing, Olympic, and power lifts. Most accessory exercises involve slow and controlled movements

that primarily condition Type I muscles, so shot putters can recover very quickly from these exercise exercises. Accessory exercises are primarily performed during the general preparation and specific preparation phases. Once a thrower enters the pre-competition and competition phases, the number of supplemental activities will be greatly reduced to focus more on throwing training.

Examples of auxiliary exercises for shot putters are :

- Kneader press
- Medicine ball throws
- Power position stand throws with a med ball
- bend twists
- Walking twists
- Playometric push-ups
- Side ball slings with a med ball

Generally, rotational shot putters rely less on strength training than gliders because gliders require more power to throw a large stance. Rotator techniques are more complex and more time-based. For these reasons, even if the throwers are at the same performance level, weight training plans for rotators and gliders are not the same. Adjust the lifting volume relative to the throwing volume. Since throwing is a form of weight training (where a person moves a light weight very quickly) the throwing volume must be carefully monitored in relation to the lifting volume. When one goes up, the other usually has to go down. Neither type of volume can remain high for long; otherwise, the risk of injury greatly increases.

Strength and speed training :

Running and jumping are an essential part of strength and speed training for shot putters. However, due to the large size of shot putters (especially compared to other throwing sports), care must be taken not to over train. Running and jumping techniques can vary greatly depending on the type of shot putter. Lighter, more athletic shot putters can run and jump a lot without overuse injuries such as patellar tendonitis or shin splints. As they gain weight and mature, they may need to reduce their running and jumping due to the added weight. Conversely, larger shot putters may not be able to run and jump at a young age due to their lower weight-to-strength ratio. As they progress in their training level, they can improve their body weight-to-strength ratio and have the ability to increase their running and plyometrics. Regardless of the type of thrower, gradual running and plyometrics should be added to balance out the throwing and lifting. Most running routines will involve short, explosive sprints of 10 to 100 meters, with most sprints being 40 meters or less. Due to the nature of the shot put movement, only 3-5 second sprints are needed to develop the explosive power needed to carry the throw. Longer, more sustained runs can be done during general warm-up. However, even with more specific training as the season approaches, long runs do not combine well with maximal explosive training. They need to be alternated with less explosive sprints. The type of lifting and throwing performed during a given period should be supplemented by a plyometric and jumping program, and ground contact should be measured to monitor the volume of these exercises. High-intensity plyometrics should only be performed for short periods of time in

strategically placed sections of the training program. High-intensity sessions usually occur during the pre-competition phase and in the competition phase a few weeks before major competitions. Lower-level plyometrics can be incorporated at any time of the year. Shot putters with high training capacity can handle higher-level plyometrics; this is a trend that is seen as shot putters' strength levels increase over the years. However, they should be careful not to overdo the volume when performing higher-level plyometrics, as this can lead to injury too quickly.

Conclusion :

The game of shot put is developing in India. Indian players have won many medals at the national and international levels. The game of shot put requires proper technique and strength to play. If the players show their throwing skills and throw the ball, the distance of the shot put can be increased and for this, various skills are required. Special attention should be paid when planning strength training in a long-term development program. Take due care in selecting the most appropriate exercises to include in the training year and in planning their volume and intensity fluctuations. Running and jumping are also essential components of strength and speed training for shot putters. Again, be careful and use a proper loading strategy. Remember, supplemental strength and speed training is designed to complement the thrower's throwing ability - it is not a sport in itself.

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