



THE STUDY ON POLYMETRICS TRAINING OF VOLLEY BALL PLAYERS



ABSTRACT: -

Plyometric training is now a common element of elite sports training programmes. But, while its beneficial effects on the lower body as documented, there is some doubt over how useful it is for upper body force development quoted by Raphael Brandon First documented as an effective training method by Soviet coaches in the middle of the last century, the main purpose of 'plyometrics' is to increase the rate of force development, the key ingredient of power. By contrast, the main purpose of heavy weight training is to increase total force production. Plyometric training for the lower body nearly always takes the form of various jumping movements, such as hopping, bounding and drop jumps, while upper body Plyometrics often uses medicine ball throwing movements. Both of these types of movements have been well documented. However, research into the effectiveness of Plyometric training is less readily available than coaching manuals for the relevant exercises. One study that raises some questions about the effectiveness of medicine ball training comes from Australia's Southern Cross University. Researchers (Rap Bardon, Coach English Institute of Sports, London) allocated 30 Volley ball players into three groups.

1. Performing upper body heavy weight training,
2. Using upper body medicine ball exercises

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3. Acting as non-exercising controls.

KEYWORDS: Plyometric training ,coaching manuals ,medicine ball exercises .

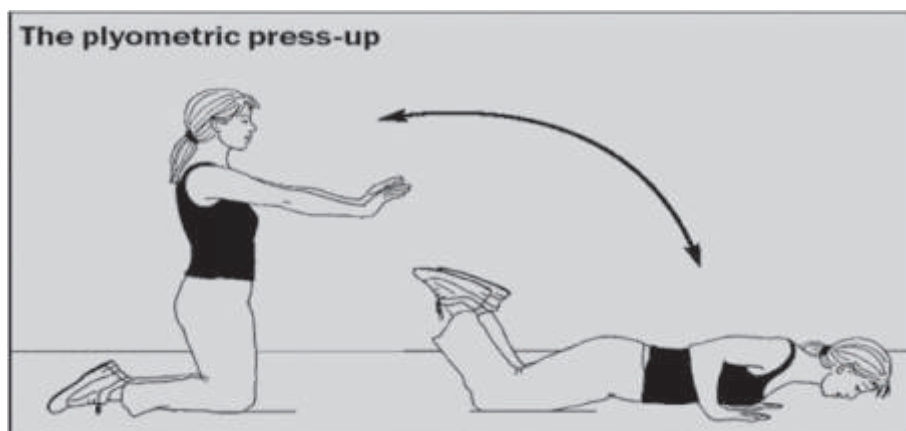
INTRODUCTION :

They found that while the Plyometric training in the form of medicine ball exercises improved strength but not basket ball velocity, heavy weight training improved both parameters. This suggests that upper body Plyometrics is not effective at boosting rate of force development. However, these basket ball athletes had not previously used strength training and the findings might have been different for strength-trained players. Further investigation at the DYSO Gulbaraga Volley ball Players compared the different effects of Upper and Lower body Plyometrics, this time using 30 previously trained subjects, who were assigned to weight training or Plyometric training or a control condition for two weeks. The researchers tested their subjects' Lower and Upper body strength, rate of force development and power before and after the training programme. They found that Plyometric training increased leg muscle power but not the rate of force development and power in the upper body.

During a jump exercise the Basket ball players were given 05-10 kg medicine ball to throw. The force required to produce this movement comes from the leg muscles, mostly the Quadriceps (thighs), Gastrocsoleus (calf) and Gluteus maximus. During a medicine ball throw the mass of the ball is 05 kg weight most commonly used by players. The force required to produce this movement comes from the arm muscles, mostly the Pectorals, Deltoids, Triceps and Latissimus Dorsi. A heavier load upper body Plyometric exercise can be effective has come from DYSO Gulbarga Volley

Ball players. The study of tested Male subjects on a medicine ball for chest pass distance (the distance the ball can be thrown forward and measured from the starting point) and on a chest press for strength.

Then performed either a normal press-up exercises (from the knee) or a Plyometric version of the illustrated below.



With Plyometric press-ups, you start by kneeling upright, then fall forward onto the hands, absorbing the weight using the press-up lowering movement (eccentric phase), then rapidly propel yourself upwards and back to the start position (concentric phase) with a ballistic movement. On retesting, the researchers found that both chest press strength and chest pass distance increased for the Plyo press-up group. The fact that they improved their performance on the throwing test implies that they had improved the rate of force development in their upper bodies.

The implication of this research is that, if Plyometric exercise is to be effective for the upper body, a load greater than a medicine ball must be used. The Plyometric press-up has been shown to provide such an effect for the common forward horizontal throwing movement (the chest pass). For the overhead throwing movement, which is specific to many sports, it may be worth using very heavy medicine balls or 'Powerbags' (cylindrical sand-filled sacks with handles to hold on). I would suggest 15-20 kg as a good (Men) and 05- 10 kg (Women) training load for the overhead throw movement. With this movement, you stand up, take the weight up and behind the head (eccentric phase), then rapidly pull the arms down and forward, releasing the ball or bag. When performing such upper body Plyometric exercises as the plyo press-up and overhead throw, I recommend 3to5 sets of 5to8 repetitions. To promote a high rate of force development. It is important to take 2to3 minutes rest between each set. This ensures that you do not exhaust the fast- twitch muscle fibers that are crucial to force development.

In the summary of study is Plyometrics are effective for increasing power. However, the load of the movement must be proportional to the strength of the muscles involved in the movement. Using heavy throwing objects or Plyometric press-ups allows the upper body to be trained effectively.

Recommended Plyometric exercise for the upper body of Sports persons.

Exercise	Weight	Sets x Reps	Rest
Overhead medicine ball throw	Men 10 to15 kg ball	2 to4 Sets	2 min
		7 to 9 Reps	
Plyo press-up	(body weight)	2 to5 Sets	2-3 min
		7 Reps	
Chest pass	Men 05 to 10 kg Powerbag	2 to4 Sets	2 min
		7 to 9 Reps	

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