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## Effect of strength training with blood flow restriction training on elastic strength among college athletes

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### Abstract

The purpose of the study is to find out the effect of strength training with blood flow restriction training on elastic strength among college athletes. To achieve the purpose of the study, 45 men athletes from Golden Athletic club, Trichy, Tamil Nadu were selected as subjects at random and their age was between 18 and 25 years. The subjects were divided into two groups namely strength training with blood flow restriction training and control group. Each group consisted of 15 subjects. The duration of the training was twelve weeks. The data will be collected on selected criterion variables prior and immediately after the experimental period as pre and post tests were tested. Elastic strength measured by vertical jump and the unit of measurement was recorded in meters. The results of the study also shows that strength training with blood flow restriction training have improved in elastic strength.

**Keywords:** Strength training with blood flow restriction training and elastic strength

### Introduction

Athletics is a collection of sporting events that involve competitive running, jumping, throwing, and walking. The most common types of athletics competitions are track and field, road running, cross country running, and race walking.

Strength training is an exercise that uses resistance to strengthen and condition the musculoskeletal system, improving muscle tone and endurance. Strength training is used as a general term synonymous with other common terms: weightlifting and resistance training. Physiologically, the benefits of consistent strength training include an increase in muscle size and tone, increased muscular strength, increases muscular endurance and increases in tendon, bone, and ligament strength. Muscles quite literally utilize energy to produce movement.

BFR training is a technique in which pressurized bands (which look similar to blood pressure cuffs) are worn around the arms or legs to slow blood flow to specific muscles during training. It's thought to trigger the body to build more muscle mass than it otherwise would at that training intensity

Elastic strength always finds expression in motor movements i.e., it is a form of dynamic strength. The level of motor co-ordination markedly influences elastic strength performances.

### Statement of the problem

The purpose of the study is to find out the effect of strength training with blood flow restriction training on elastic strength among college athletes.

### Methodology

To achieve the purpose of the study, 45 men athletes from Golden Athletic club, Trichy, Tamil Nadu were selected as subjects at random and their age was between 18 and 25 years. The subjects were divided into two groups namely strength training with blood flow restriction training and control group. Each group consisted of 15 subjects. The duration of the training was twelve weeks. The data will be collected on selected criterion variables prior and immediately after the experimental period as pre and post tests were tested. Elastic strength measured by vertical jump and the unit of measurement was recorded in meters.

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### Analysis of Data

The data collected prior to and after the experimental periods on elastic strength on strength training with blood flow

restriction training and control group were analyzed and presented in the following Table 1.

**Table I:** Analysis of covariance for elastic strength on strength training with blood flow restriction training and control group

Variable Name	Group Name	Experimental group	Control group	F ratio
Elastic Strength	Pre-test Mean $\pm$ S.D	42.53 $\pm$ 4.138	42.266 $\pm$ 3.692	0.024
	Post-test Mean $\pm$ S.D.	48.867 $\pm$ 2.445	42.265 $\pm$ 3.731	10.074*
	Adj. Post-test Mean $\pm$ S.D.	48.827	42.287	22.436*

\* Significant at 0.05 level of confidence (The required table value for significance at 0.05 level of confidence with degrees of freedom 1 and 27 is 4.21 and degree of freedom 1 and 28 is 4.20)

### Results

The “F” ratio was used to find out the significant difference if any, among the experimental group and control group on selected criterion variables separately. In all the cases, .05 level of confidence was fixed to test the significance, which was considered as an appropriate.

Table - 1 showed that the results of the study there was a significant difference between strength training with blood flow restriction training and control group on elastic strength. Further the results of the study showed that there was a significant increase on elastic strength after 12 weeks of strength training with blood flow restriction training. However the improvement was in favour of experimental group.

### Conclusions

Within the limitations and delimitations of this study the following conclusions were drawn from the result. The results of the study also shows that strength training with blood flow restriction training have improved in elastic strength.

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