



## BASIC PLYOMETRIC TRAINING & STRETCHES TO ENHANCE PERFORMING ARTS

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### ABSTRACT

*More than 60% of performing arts like kalaripattu yakshyagana, dance and drama has jumping and swinging movements. Either horizontally or vertical. But most of the performers don't deal with scientific principles of these jumping movements. Plyometrics and stretch exercise improves motor performance and helps the performer to maintain their body balance while performing. When we observe the yakshyagana, hip hop, kalaripayttu and theaters performers usually involves in stopping, starting, change the direction in explosive manner which can cause injuries. Today most of the performing art students do not pre-stretch. Pre-stretch involves in muscle construction and improves elasticity of muscle. The purpose of the study is to impart knowledge of injuries caused due to physical performance while dance and training methods to improve performance of dancers. Most of the performers are prone to soft tissue injuries which are not open wounded. But these injuries like sprain, strain, contusion are very much danger to performer sometimes improper treatment can change the posture and in activates that particular muscle group. Initial stages like type-I, type -II can be corrected or strengthened.*

### INTRODUCTION:

Plyometrics in simple is a jump training .Exercise which enables the muscle reach maximum strength in as short a time possible. It is simply a set of drills designed to stimulate the series elastic component over and over again.

### Stretches:

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Stretch tends to flex the soft tissues. It is ability of a subject to move body joints to maximum range of motion. Before performing any activity subject should stretch at least for 3 seconds.

### **The scientific physiological effect of Plyometric and Stretch**

#### **Plyometrics has 3 stages:**

- Eccentric – occurs when muscle lengthens the tendon under tension.
- Isometric-a static position in which no muscle shortening.
- Concentric –follow immediately by concentric (shorten of muscle)

#### **Stretches are 2 types:**

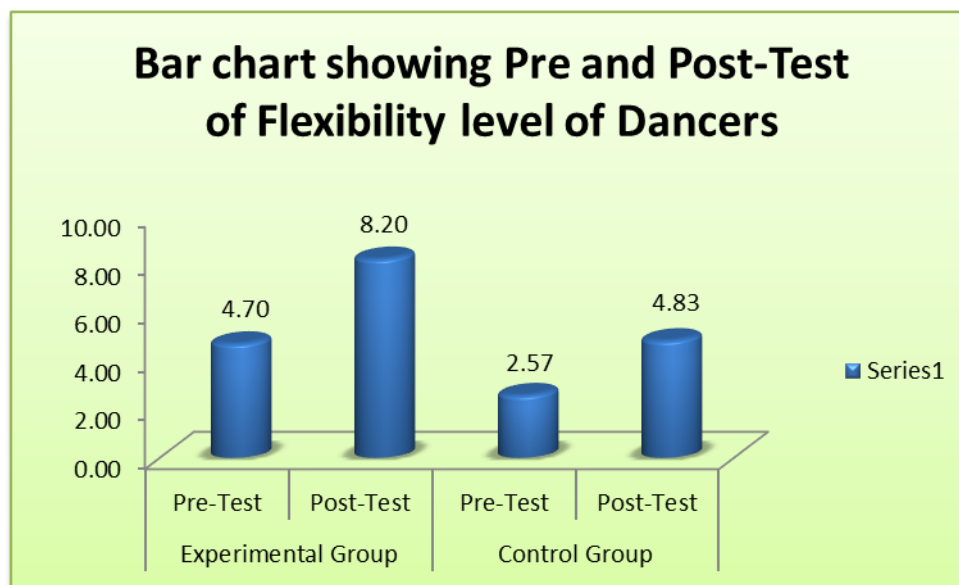
- **Static stretch** – which holds position
- **Ballistic stretch**- which involves rhythmic movement , bouncy movement , are most efficient and increase flexibility around joints while involving in activity (dance)

#### **Static plyometric exercise involved for the study.**

#### **Methodology:**

The Plyometric training was used on 60 dancers. The dancers were equally divided into two groups. Experimental Group and Control Group. The Experimental Group was given Plyometric training weekly twice for 10 sessions. The Control Group was not given any training. The study was conducted to access the flexibility; gynometer was used to for both the groups to test the flexibility. T-test was used to find out the significant improvement.

#### **Chart showing the Pre and Post test of Flexibility level**



**Table showing Pre and Post Test of Flexibility**

		Group	N	Mean	Standard Deviation	T-Test	Significant Level
<b>Experimental Group</b>	<b>Pre-Test</b>	<b>A</b>	30	4.70	1.90	3.2362	**
	<b>Post-Test</b>	<b>A</b>	30	8.20	1.99		
<b>Control Group</b>	<b>Pre-Test</b>	<b>B</b>	30	2.57	1.07	4.2865	**
	<b>Post-Test</b>	<b>B</b>	30	4.83	1.26		

\*\*= Significant 0.05 (critical value=1.645)

It is observed from the above table that Experimental Group Flexibility mean score of the pre-test is 4.70 which is increased to 8.20 in the post-test, where among the Control Group the pre-test mean is 2.57 and post-test mean score of flexibility is 4.83 respectively.

It is also evident from the above table that the obtained t-value of Experimental Group 3.2362 is greater than the critical value 1.645 even at 0.05 level of significance in sports person and t- value of Control Group is 4.287 is Greater than the critical value 1.645 at 0.05 level of significant.

## CONCLUSION

From the above study it concludes that Phyometric training helps the dancers with flexibility. It helps in increase their range of motion quicker than before the training.



## Recommendations:

1. Regular stretching should be done before involving in physical activities in performing arts.
2. Scientific method of stretching and jumping should be adapted.
3. While stretching subject should not be jerk.
4. Stretching should be done slowly
5. While practicing Stretching and jumping load should be increased drastically .

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