



## Impact of voodoo flossing technique on shin splint in amateur runners by the end of 4 weeks: An experimental study

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### Abstract

Shin Splint is defined as exercise-induced pain along the posteromedial tibial border and is a common overuse sports injury. Tissue flossing is an increasingly popular treatment modality. The term is often used simultaneously with Blood Flow Restriction Training (BFRT). BFRT and tissue flossing techniques seek benefits of reduced pain, increased range of movement, improved performance, injury prevention improved muscle recovery reduced post-training muscle soreness, which will help in managing Shin Splint. This is hypothesized to reduce pain and functional recovery. The purpose of this study is to check effectiveness of voodoo flossing on pain and functional recovery in shin splint on amateur runners. In this study total of 40 subjects both male and female were included within the age 18 to 35 years..In this study half the subjects were categorized as group A the experimental group was given conventional exercises along with voodoo flossing for 4 weeks. The other half Group B control group was given only conventional exercise for 4 weeks. Pre and post test measurements were taken for analysis of result for both groups. The collected data was analyzed statistically, and the conclusions were drawn. The results showed significant difference between MTSS and VAS in intragroup is MTSS ( $t=10.7, p<0.001$ ) & VAS ( $t=75.80, p<0.0010$ ) for Group A and MTSS ( $t=8.90, p<0.001$ ) & VAS ( $t=16.82, p<0.001$ ) for Group B. Inter group comparison shows highly significant difference in MTSS & VAS values with  $P<0.0001$ , Mean Difference MTSS ( $2.4 \pm 0.94$ ) and VAS ( $4.05 \pm 0.591$ ) for group A & MTSS ( $3.55 \pm 1.15$ ) and VAS ( $4.425 \pm 0.612$ ) for group B. The results of study concludes that Voodoo Flossing Technique has significant effect on reducing pain and improving pain free activities in management of Shin Splint Syndrome in amateur runners.

**Keywords:** voodoo flossing, shin splints, amateur runners, blood flow restriction training

### Introduction

Shin Splint also known as a Medial tibial stress syndrome or tibial periostitis is defined as exercise-induced pain along the posteromedial tibial border, and recognizable pain is provoked on palpation of this posteromedial tibial border over a length or more than 5 consecutive centimetres<sup>1</sup>. MTSS is a common overuse sports injury<sup>2,3</sup> especially in jumping and running athletes and in military personnel<sup>4</sup>. Runners easily gets Shin Splint due to various factors like poor body mechanics, inadequate stretching, overpronation of legs, sudden spike in training volume, week ankle muscles, sudden transition in running surfaces, use of poor or worn-out shoes, excessive stress placed on leg or hip and knee, and many more.

Several forms of consecutive treatments have been applied in the acute phase such as relative rest, anti-inflammatory drugs, analgesics and cryotherapy, electrotherapy, laser, acupuncture, orthotics, foot orthoses, prolotherapy, compression, corticosteroid injections, kinesiotaping and extracorporeal shockwave treatment (ESWT) with varying results. Fasciotomy of the posterior superficial compartment of the leg has also been performed but no preferred therapeutic approach has been identified yet<sup>5</sup>.

Tissue flossing is an increasingly popular treatment modality. The term is often used simultaneously with Blood Flow Restriction Training (BFRT). BFRT and tissue flossing techniques seek benefits of reduced pain, increased range of movement, improved performance, in jury

prevention improved muscle recovery reduced post-training muscle soreness<sup>6</sup>, which will help in managing Shin Splint.

### Need of The Study

Many studies have reported that amateur runners are more prone to have Shin Splint syndrome. Running is one of the major causes of Shin Splints or as it is called tibial pain as the Tibia bears most of the body's weight while running. If the following study is done in earlier stages, Tibial Stress Fractures can be prevented. There are numerous studies into MTSS in which many studies have been in military recruits, where the findings may not be entirely applicable to the athletic population due to various reasons. There is very less amount of research on this topic.

### Aim and Objectives

To study the effectiveness of Voodoo Flossing technique on Shin Splint in amateur runners by the end of 4 weeks.

To study the effectiveness of Voodoo Flossing technique on pain in amateur runners with Shin Splint using Visual Analogue Scale (VAS) by the end of 4 weeks.

To study the effectiveness of Voodoo Flossing technique on functional recovery by amateur runners with Shin Splint using MTSS score and VAS by the end of 4 weeks.

To study the effect of Voodoo Flossing on recovery time of Shin Splint in amateur runners using MTSS score every week by the end of 4 weeks.

## Criteria

### Inclusion Criteria

- Both Males and Females
- Amateur runners with shin splint
- Age between 18-35 years.
- Functional flat foot.
- MTSS Score from 1-6

### Exclusion Criteria

- Stress Fractures.
- Allergy to latex material.
- Open wounds or cuts.
- Open reduction internal fixation.
- Poor circulation (Varicose, Deep Vein Thrombosis (DVT). Diabetes)
- Uncooperative subjects.
- Structural flat foot.
- MTSS Score 7-10

## Protocol

### Application of Voodoo Flossing

- The goal is to create a large compression force around the restricted joint or tissue.
- We start with wrapping the band about 5 cm below the area to be treated, aiming to finish wrapping about the same distance above the treatment location.
- For mobility, a stretch of around 75% can be applied to the band at the area to be treated, with 50% stretch around the remaining area.
- During wrapping we aim to keep a few centimetres overlap (half width of the band). If there is any leftover band, additional compression can be applied by making an "X" over the treatment area.
- Once band is applied you can try moving into the position causing restriction, or moving the joint or limb in all possible directions.
- General rule of keeping the Voodoo floss band is for around 2-3 minutes.

### Exercises: (3 days/week for 4 weeks)

#### Conventional Exercises

- Warm up 5 to 8 min before training session.
- Graded running (Jogging, walking drills, running on place, running on even surface, grass running, road running)
- Shin strengthening and stretching exercises: Straight leg and bent leg Calf raises, Toe raises, Calf stretches, Arch raising and lowering.

## Results

The difference between MTSS and VAS in intragroup is MTSS ( $t=10.7$ ,  $p<0.001$ ) & VAS ( $t=75.80$ ,  $p<0.0010$ ) for Group A and MTSS ( $t=8.90$ ,  $p<0.001$ ) & VAS ( $t=16.82$ ,  $p<0.001$ ) for Group B is significant. Inter group comparison shows highly significant difference in MTSS & VAS values with  $P<0.0001$ , Mean Difference MTSS ( $2.4 \pm 0.94$ ) and VAS ( $4.05 \pm 0.591$ ) for group A & MTSS ( $3.55 \pm 1.15$ ) and VAS ( $4.425 \pm 0.612$ ) for group B.

## Conclusion

This study concludes that Voodoo Flossing Technique has significant effect on reducing pain and improving pain free activities in management of Shin Splint Syndrome in amateur runners.

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