Effects of kinesio taping on shin splints in runners

Saadhve Rajaraman and Riddhi Shroff

Abstract
Shin Splints is the term that is used to describe lower leg pain that occurs below the knee, on the front of the leg; either the outside part of the leg (anterior shin splints) or the inside of the leg (medial shin splints). Shin splints is an overuse injury.

Methodology: An interventional study was done to study the effects of kinesiotaping on shin splints in marathon runners coupled with a plantar-flexion and dorsiflexion exercise program. Study design: Prospective study. Sample size: 30 marathon runners.

Results: A statistically significant difference was found in: the IOWA Pain thermometer (IPT) test pre and post intervention (p value: 0.0065), in the shin pain experienced by the runner pre and post the intervention (p value: 0.0007) and also in the changes in running routine pre and post the intervention study (p value: 0.0001).

Keywords: Shin Splints, Marathon runners, Kinesiotaping, pain

Introduction
Shin splints describes leg pain that occurs on the front part of the leg; either on the lateral part or medial part of the leg. Shin splints occurs as an overuse injury, due to overdoing an exercise or activity; and the person develops a dull burning or aching in the front part of the leg [1]. Shin splints occurs due to small tears in the muscle leading to an inflammation of the periosteum due to the muscle being pulled off the bone. [1-5] Shin splints pain is worse in the morning as the soft tissue tightens overnight.

Kinesiotaping for shin splints helps to increase the natural blood flow around your muscles. The Kinesio tape features a revolutionary wave pattern adhesive that moves with your skin and muscles as you heal [6].

Use of Kinesio tape
- It facilitates the body's natural healing process while providing support and stability to muscles and joints without restricting the body’s range of motion.
- It provides extended soft tissue manipulation to prolong the benefits of manual therapy administered by the therapist.
- By targeting different receptors within the somatosensory system, the tape alleviated pain and facilitates lymphatic drainage by microscopically lifting the skin.
- This lifting techniques mentioned in the previous point, helps form convolutions in the swing thus increasing interstitial space and allowing for a decrease in inflammation of the affected areas.
- It has shown to have a positive physiological effects on the skin, lymphatic and circulatory system, fascia, muscles, ligaments, tendons and joint.
- It can be used along with other treatments and modalities, and is effective during the rehabilitative and chronic phases on an injury as well as being used for preventative measures. [2] The above research study was done to check the effectiveness of kinesiotaping and an exercise program on shin splints in marathon runners.

2. Methodology
2.1 Study Design: Prospective study.
Study consisted of 30 marathon runners, both male and female, in the age group 20 to 59.
3.1 Tables and Figures

Table 1: Pre-intervention vs Post-intervention IOWA Pain Thermometer (IPT) comparison.

<table>
<thead>
<tr>
<th>Pain Levels</th>
<th>% pre-intervention</th>
<th>% post-intervention</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>No pain</td>
<td>0%</td>
<td>33%</td>
<td></td>
</tr>
<tr>
<td>Mild pain</td>
<td>50%</td>
<td>33%</td>
<td></td>
</tr>
<tr>
<td>Moderate pain</td>
<td>20%</td>
<td>20%</td>
<td>.00065</td>
</tr>
<tr>
<td>Severe pain</td>
<td>23%</td>
<td>13%</td>
<td></td>
</tr>
<tr>
<td>Very severe</td>
<td>7%</td>
<td>0%</td>
<td></td>
</tr>
</tbody>
</table>

Table 2: Pre-intervention vs Post-intervention shin pain while running.

<table>
<thead>
<tr>
<th>Shin Pain While Running</th>
<th>% pre-intervention</th>
<th>% post-intervention</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>100%</td>
<td>67%</td>
<td>.00007</td>
</tr>
<tr>
<td>No</td>
<td>0%</td>
<td>33%</td>
<td></td>
</tr>
</tbody>
</table>

4. Conclusion

Our study concludes that pain experienced by the runners while running reduced with the application of the Kinesiotape. There was an extremely significant increase in the speed of the runners post the intervention period as the pain had reduced and this made running easier.

5. References

2. https://kinesiotaping.com/about/what-is-the-kinesiotaping-method/