Comparison of Spring Ankle Braces Versus Splints and Casts in Treating Ankle Sprains in Patients Diagnosed with Ankle Sprains

Hamidreza Farhadirad[1], Salman Daneshi[2*]

[1]Student Research Committee, Jiroft University of Medical Sciences, Jiroft, Iran
[2]Department of Public Health, School of Health, Jiroft University of Medical Sciences, Jiroft, Iran

OPEN ACCESS

***Corresponding Author:**
Dept. of Public Health, School of Health, Jiroft University of Medical Sciences, Jiroft, Iran

Citation:
Farhadirad H, Daneshi S. Comparison of Spring Ankle Braces Versus Splints and Casts in Treating Ankle Sprains in Patients Diagnosed with Ankle Sprains. *Iranian biomedical journal*. Supplementary (12-2024): 127.

ABSTRACT

Introduction: Acute ankle sprains are one of the most common injuries in emergency departments. Various treatment approaches for ankle sprains can reduce treatment costs and enhance recovery. Since the early 1990s, functional therapy, including taping and bracing of ankle ligament sprains and cast or splint immobilization, has been recommended instead of surgery. Despite the lack of evidence-based studies comparing treatments, no study has definitively determined the optimal treatment for such injuries. This study aimed to compare the efficacy of spring ankle braces with splints and casts in treating ankle sprains.

Methods and Materials: This cross-sectional study involved 60 patients diagnosed with ankle sprains at the Imam Khomeini Hospital orthopaedic clinic in Jiroft in 2022. Following diagnosis confirmation through additional examinations and imaging, patients with ankle sprains not requiring surgery were selected. They were placed in two groups (30 individuals): one was treated with spring ankle braces and the other with splints or casts. Both groups underwent a four-week brace or spring treatment. Data were collected and analyzed using SPSS version 26. Analytical statistics were used to perform chi-square and independent t-tests.

Results: The average age of patients was 32.5 ± 13.4 years. Of the ankle sprain patients, 56.7% were male. Patients reported the highest satisfaction levels with the plaster cast treatment method. A statistically significant relationship was found between patient satisfaction and the treatment methods of spring ankle braces and plaster casting ($p = 0.05$). Patients treated with plaster casts reported the lowest pain levels, with a significant relationship between pain levels and the two treatment methods ($p = 0.05$). Range of motion results were similar for both treatment methods, while the cast treatment showed the highest incidence of skin complications. Regarding skin complications, a significant relationship was observed between spring ankle braces and plaster casts ($p = 0.05$).

Conclusion and Discussion: Treating ankle sprains with plaster casts leads to higher satisfaction and lower pain levels than spring ankle braces. The range of motion can be similar for both treatment methods, but skin complications may occur more often during cast treatment.

Keywords: Hospitals, Patients, Splints

[Downloaded from ibj1.pasteur.ac.ir on 2026-10-19]

[DOI: 10.61186/ibj.25th-11th-IACRTIMSS]