What Is the Clinical Course of Acute Ankle Sprains?
A Systematic Literature Review

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FROM ABSTRACT

BACKGROUND:
Ankle sprains are one of the most common musculoskeletal injuries. In order to evaluate the effectiveness of therapeutic interventions and to guide management decisions, it is important to have clear insight of the course of recovery after an acute lateral ankle injury and to evaluate potential factors for non-recovery and re-sprains.

METHODS:
A database search was conducted in MEDLINE, CINAHL, PEDro, EMBASE, and the Cochrane Controlled trial register. Included were observational studies and controlled trials with adult subjects who suffered from an acute lateral ankle sprain that was conventionally treated.

RESULTS:
In total, 31 studies were included, from which 24 studies were of high quality.

There was a rapid decrease in pain reported within the first 2 weeks.

5% to 33% of patients still experienced pain after 1 year.

36% to 85% reported full recovery within a period of 3 years.
[This means that 15% to 64% had not fully recovered at 3 years]

The risk of re-sprains ranged from 3% to 34% of the patients, and re-sprain was registered in periods ranging from 2 weeks to 96 months [8 years] post-injury.

There was a wide variation in subjective instability, ranging from 0% to 33% in the high-quality studies and from 7% to 53% in the low-quality studies.

One study described prognostic factors and indicated that training more than 3 times a week is a prognostic factor for residual symptoms.
CONCLUSIONS:
After 1 year of follow-up, a high percentage of patients still experienced pain and subjective instability, while within a period of 3 years, as much as 34% of the patients reported at least 1 re-sprain.

From 36% up to 85% of the patients reported full recovery within a period of 3 years. [This means that 15% to 64% had not fully recovered at 3 years]

THESE AUTHORS ALSO NOTE:

In the United States there are 23,000 ankle injuries each day.

In the United Kingdom there are 5,000 ankle injuries of the ankle each day.

Six cited studies indicate that the best treatment consists of early mobilization and early weight-bearing, sometimes combined with the use of an external support (tape, bandage, or brace).

The purpose of this study was to perform a systematic review of the literature about the clinical course of conventionally treated acute lateral ankle sprains in adults and its prognostic factors.

“The proportion of patients who reported that they experienced pain after a follow-up period of 1 year or longer ranged from 5% to 33%.”

“After 3 years follow-up, 5% to 25% of patients still experienced pain.”

Re-sprains were registered within periods ranging from 2 weeks to 96 months after the injury. The occurrence of a re-sprain ranges from 3% to 34% of the patients.

One study reported a re-sprain rate of 42% in 882 days of follow-up.

Another study reported a re-sprain rate of 54% in 230 days of follow-up.

The studies reported an incidence of subjective instability of their injured ankle ranging between 0% to 53 %.

“Ranging from 2 weeks to 36.2 months follow-up, 36% to 85% of all patients reported full [subjective] recovery.”

[Again, this means that 15% to 64% had not fully recovered at 3 years]

“After 3 years follow-up, some patients still report residual symptoms (pain, subjective instability) and thus no total recovery.”
The only significant prognostic factor for residual symptoms found was that sports activity at a high level worsened recovery compared with sports activity at a low level or no sports activity.

A 1986 study “concluded that athletes had an increased risk of residual symptoms and that residual symptoms occurred in 32% of top athletes after 1 year.”

“As mentioned before, after 3 years follow-up, some patients still have residual symptoms. The factors contributing to persistent complaints are largely unknown. For the time being, injury grade (rupture or no rupture) does not seem to be a strong predictor for the course of lateral ankle sprains.”

KEY POINTS FROM DAN MURPHY

In the 31 studies used in the literature review in this article pertaining to the recovery of acute ankle sprains, the authors found:

1) 5% to 33% of patients still experienced pain after 1 year.

2) 15% to 64% had not fully recovered at 3 years. [Important]

3) The risk of re-sprains ranged from 3% to 34% of the patients, and re-sprain was registered in periods ranging from 2 weeks to 96 months [8 years] post-injury.

4) The only significant prognostic factor for residual symptoms found was that sports activity (training more than 3 times a week) at a high level worsened recovery compared with sports activity at a low level or no sports activity.

5) After 1 year of follow-up, a high percentage of patients still experienced pain and subjective instability.

6) “After 3 years follow-up, 5% to 25% of patients still experienced pain.”

7) “After 3 years follow-up, some patients still report residual symptoms (pain, subjective instability) and thus no total recovery.”

8) At 3 years, as much as 34% of the patients reported at least 1 re-sprain.

9) In the United States there are 23,000 ankle injuries each day.

10) Six cited studies indicate that the best treatment consists of early mobilization and early weight-bearing, sometimes combined with the use of an external support (tape, bandage, or brace).

11) One study reported a re-sprain rate of 42% in 882 days of follow-up.
12) Another study reported a re-sprain rate of 54% in 230 days of follow-up.

13) The studies reported an incidence of subjective instability of their injured ankle ranging between 0% to 53%.

14) A 1986 study “concluded that athletes had an increased risk of residual symptoms and that residual symptoms occurred in 32% of top athletes after 1 year.”

15) The severity of ankle injury “does not seem to be a strong predictor for the course of lateral ankle sprains.”

COMMENTS FROM DAN MURPHY

Most of my med-legal experience is with whiplash injury. Often, insurance defense personnel and their chiropractic/medical experts make an analogy between the whiplash-injured neck and a sprained ankle. Their classic claim is that a sprained ankle will heal spontaneously (without any treatment) and quickly (weeks), and there are no long-term residuals.

This article presents a much different reality pertaining to the healing of the sprained ankle: at 3 years up to 64% have not fully recovered, up to 25% have residual pain, up to 53% suffer from residual instability, and up to 34% suffer from re-injury. It appears that 15% to 64% have some degree of permanent injury. Additionally, the severity of ankle injury is not a strong predictor for the ultimate clinical outcome.

Consequently, it appears that trauma from ankle sprain and whiplash have a number of shared characteristics: significant residual pain, instability, re-injury rates, permanent injury residuals, and the severity of injury not being a predictor for the ultimate clinical outcome.