
Downloaded from: http://insight.cumbria.ac.uk/id/eprint/2693/

Usage of any items from the University of Cumbria’s institutional repository ‘Insight’ must conform to the following fair usage guidelines.

Any item and its associated metadata held in the University of Cumbria’s institutional repository Insight (unless stated otherwise on the metadata record) may be copied, displayed or performed, and stored in line with the JISC fair dealing guidelines (available [here](http://insight.cumbria.ac.uk/id/eprint/2693/)) for educational and not-for-profit activities provided that

- the authors, title and full bibliographic details of the item are cited clearly when any part of the work is referred to verbally or in the written form
- a hyperlink/URL to the original Insight record of that item is included in any citations of the work
- the content is not changed in any way
- all files required for usage of the item are kept together with the main item file.

You may not

- sell any part of an item
- refer to any part of an item without citation
- amend any item or contextualise it in a way that will impugn the creator’s reputation
- remove or alter the copyright statement on an item.

The full policy can be found [here](http://insight.cumbria.ac.uk/id/eprint/2693/).
Alternatively contact the University of Cumbria Repository Editor by emailing insight@cumbria.ac.uk.
Musculoskeletal injury rates in multiday marathon runners performing a repeat course

Katie Small, Adam Smith, Nicola Relph


Abstract

Background Ultramarathon events are increasingly popular amongst non-elite athletes. However, there is little research investigating musculoskeletal injury rates, specifically multiday events using the same racing route.

Objective To describe musculoskeletal injury rates in runners completing ten marathons over ten consecutive days.

Design Observational.

Setting Sports-injury clinic.

Participants 27 athletes entered the study (age 45.1±7.47 yrs, mass 74.5±12.39 kg, years running 11.6±9.42 yrs, average weekly mileage 41.9±12.72 miles). 26 athletes completed all 10 marathons on a repeat, anti-clockwise, circular road course. One athlete withdrew due to serious injury.

Main Outcome Measurements Musculoskeletal injuries were recorded by trained medical staff three times each day. An injury audit questionnaire was used to document injury rate, type and location. Injuries were defined as a specific musculoskeletal abnormality that the runner perceived to effect performance.

Results 26 athletes sustained 108 injuries, averaging 4 injuries per athlete. 89% of injuries involved the lower extremity, 24.1% occurred in the foot, 18.5% the hip/buttock, 16.7% the ankle and 16.7% in the lower leg. The most common injuries were blisters (15.7%), Achilles tendinitis (11.1%), medial tibial stress syndrome (10.2%), iliotibial band syndrome (ITBS) (9.3%) and low back pain (LBP) (9.3%). 64.3% of injuries were sustained to the left limb. Chi-squared analysis revealed more injuries in days 1–3 than days 4–6 (p=0.013) and days 7–10 (p=0.001).

Conclusions Lower extremity injuries are highly likely in multiday marathon running; the most common being blisters, Achilles tendinitis, medial tibial stress syndrome, ITBS and LBP. Athletes entering these events should engage in appropriate injury prevention programmes. The majority of injuries were sustained to the left limb and during the first three days. Multiday marathon event organisers should consider alternating route direction to reduce injury risk; potentially the result of prolonged, altered gait biomechanics. However, further investigation of injury risk factors using larger sample sizes is required.