Running Injuries: How to Prevent and Overcome Them (3rd ed.)

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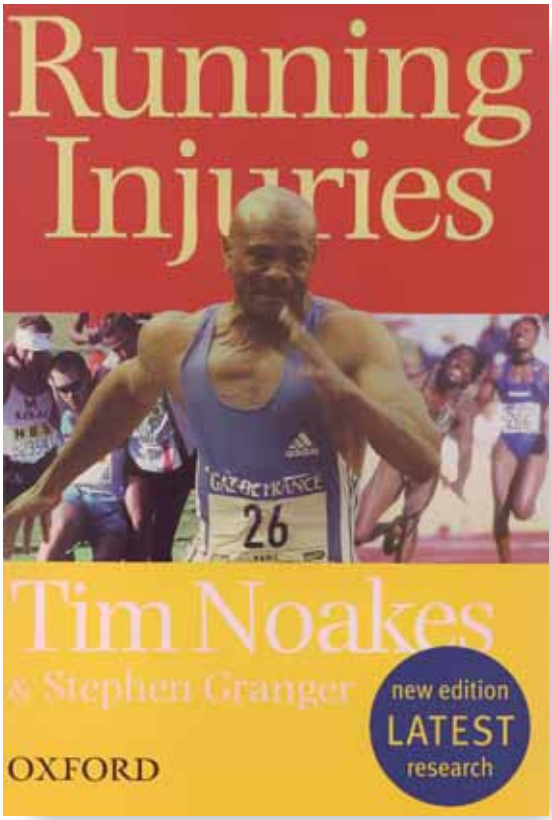
Tim Noakes & Stephen Granger



The fact that there is a growing body of knowledge about running injuries does not prevent that at some point in their careers most runners find themselves injured, in pain, or even laid off. Running Injuries: How to Prevent and Overcome Them (3rd ed.) by Tim Noakes and Stephen Granger was written from the point of view that runners need to understand not only the cause of their injury, but also how to obtain the best possible treatment for it. Moreover, since avoiding injuries is always better than being forced to treat them, a special focus is on injury prevention.

The authors are extremely well qualified to deal with the subject. Noakes is not only a professor of exercise and sports science at

the University of Cape Town, Director of the Medical Research Council/UCT Research Unit for Exercise Science and Sports Medicine at the Sports Science Institute of South Africa, and a practising consultant at the UCT Sports Injuries Clinic, but he is also an avid runner, who has run over 70 marathons and ultra-marathons. His book Lore of Running is widely regarded internationally as the most definitive guide for runners and sports scientists.

Granger is a former competitive road and cross-country runner and a freelance writer and photographer. He has served as provincial road running referee, convener of the Western Province road running selectors, and technical director for the 1996 World Cross-Country Championships in Cape Town.

Running Injuries comprises seven chapters:

In Chapter 1, "New insights into running injuries," a distinction is made between extrinsic an intrinsic sports injuries. Extrinsic sports injuries result from the application of a single, irresistible force to the body, which causes the immediate onset of pain and disability. They occur especially in contact or collision-type sports. Intrinsic injuries do not originate from forces outside the body and their onset is typically gradual. These injuries are very often found in long-distance runners.

The unique feature of running injuries is that they have an identifiable and treatable cause. The authors emphasise that until that cause is rectified, the conventional approach – rest, drugs, injections, and surgery – is an expensive waste of time. The first one to conclude this in the 1970s was marathon-running cardiologist George Sheehan. He found out that treatment of running injury must take into account every possible contributory factor – the genetics, unique physiology and biomechanics of the individual, the environment (specifically the running surface), the type of shoe that is worn, and the training. This implies that a holistic view must be adopted and any or all of these factors must be corrected if an injury is to be prevented or cured.

Against this background, the authors' aim is to provide runners with 1) an understanding of how their own genetic predispositions make them vulnerable to injury, 2) the means to remain injury-free, and 3) the hope of returning to their sport in the shortest possible time.

Chapter 2, "Understanding the body," deals with the basic principles of the mechanics of running, the knowledge of which is essential to understanding why runners become injured. This includes: the principles of the ideal running stride, the role of the ankle as a universal joint, the normal or ideal running gait, structural foot deficiencies (the rigid and immobile 'clunk' foot and the hypermobile foot versus the normal foot), biomechanical structure and shoe design, and other structural deficiencies (bow legs, a quadriceps angle greater than 16º).

In Chapter 3, "Understanding the mind," the psychological factors that determine a runner's response to injury are considered. Here, the point is made that the tools, e. g. the shoes and the orthotics, may not be sufficient to cure many runners. Some conventional remedies are useless as some runners can never heal because their problem may be more a mental than a physical one, a condition for which the authors have coined the term "excessive pronation of the brain." It is also shown that certain personal factors should be considered when treating injuries. These are:

- the desire to be in control (injured runners whose wish is to be in control of their treatment require little more than simple advice, whereas injured runners who wish to be controlled require very precise and detailed instructions),
- the level of self-esteem (e. g. athletes with a low self-confidence often require the doctor to take charge of their treatment),

- the speed of decision-making (e. g. people who take a long time to consider all the possible consequences of their decisions should consult more patient physicians who better understand their needs),
- the degree of extroversion-introversion (introverted persons become even more so when injured, whereas extroverted persons may use denial and joking to avoid facing the reality of the injury), and
- interpersonal expressiveness (if, for example, an injured person's expressiveness is dominated by the intellectual instead of the emotional function, a structured treatment protocol rather than understanding and commisteration is required).

Understanding the psychology of injury helps to understand why athletes respond to injuries in their own peculiar way. By understanding why one responds as one does, one gains a better insight into one's psychological make-up and the type of medical approach that will most likely be helpful to get over the injury.

Chapter 4, "Preventing running injuries," begins with a list of those factors that increase the risk of injury, for example:

- gender (women have a broader hip structure than men and are thus more likely to have biomechanical abnormalities in the lower limbs that predispose to injury),
- anatomical abnormalities,
- heavy mass,
- inappropriate shoes,
- training errors,
- inflexibility,
- muscle imbalance,
- failure to warm up.

Subsequently this chapter focuses on several key strategies for preventing running injuries: choosing appropriate shoes, using sound training methods, stretching to promote muscle flexibility, exercising to strengthen the muscles and warming up.

Chapter 4 concludes with a simple checklist of points for avoiding injuries, including:

- Run on forgiving surfaces.
- Warm up beforehand (and cool down afterwards).
- Stretch regularly.
- Do muscle-strengthening exercises.
- Alternate hard and easy training days.
- Race in moderation and only when injury-free.
- Maintain a daily running logbook.
- Monitor your running shoes.

In Chapter 5, "The ten laws of running injuries," the authors once again stress that it is absolutely crucial to understand the reason for a running injury and that it serves no purpose to diagnose the injury correctly if no attention is paid to the cause. If nothing is done to eliminate the cause of the injury, the injury is quite likely to recur, possibly more serious than before. Chapter 5 is therefore intended to allow injured runners to reflect on why their injury occurred. For this reflection the consideration of the following "ten laws of running injuries" may be helpful:

1. Running injuries are not a act of God. (Instead they result from the interaction of the athlete's genetic structure with the environment through training methods.)
2. Each injury progresses through four grades. (Pain after exercise, discomfort during exercise, pain during exercise, pain that prevents any attempts at running)
3. Each injury indicates a breakdown point. (This law simply emphasises that once an injury has occurred, it is time to analyse why the injury happened.)
4. Most true running injuries are curable.
5. Sophisticated methods are seldom necessary to diagnose injury.
6. Treat the cause, not the effect.
7. Complete rest is seldom the most appropriate treatment.
8. Never accept as final the advice of a non-runner (medical doctor or other).
9. Avoid surgery.
10. There is little evidence that recreational running causes osteoarthritis.

At the end of the chapter, the authors underline once more the importance of the psychological aspect: "Indeed, it is possible that 60% of the caregiver's success is due to an ability to understand what the injury means to the patient, the fears that the injury engenders, and how best to allay those fears. In this approach the caregiver needs to understand the patient's psyche and why the patient came to have the injury being examined."

Chapter 6, "Bones and muscles: a discussion of non-site specific injuries," contains a general account of certain types of bone and muscle injuries which occur at different sites on the musculoskeletal system. While the site of the injury may vary, the diagnosis, cause and treatment are often the same. This chapter also provides a background to the discussion of site-specific injuries in the chapter 7.

The two common bone injuries in runners are stress fractures and (tibial and fibular) bone strain. Muscle injuries in runners fall into four categories:

1. delayed onset muscle soreness (DOMS),
2. acute (sudden) muscle tears,
3. chronic (insiduous) muscle tears, and
4. muscle cramps.

For each of these injuries diagnosis, cause, prevention, treatment, and rehabilitation are discussed. Although not an injury to the musculo-skeletal system, the stitch is dealt with at the end of this chapter.

Chapter 7, "A troubleshooter's guide to site-specific injuries," is with its 75 pages also the book's longest chapter. This chapter might also attract the greatest interest among injured runners because in it the diagnosis, causes, and treatment methods of approximately 40 running injuries are presented and discussed. These injuries concern the following parts of the body:

- the back
- the buttocks,
- the hip, pelvis, and groin,
- the upper leg,
- the knee,
- the lower leg,
- the tendons,
- the ankle, and
- the foot.

The book concludes with a diagnostic chart, which makes it easy to find information on specific injuries, and a glossary.

What sets Noakes' and Granger's book apart from the numerous other books about injuries is that every page reflects genuine practical experience. In accordance with the eighth law of running injuries (see above), runners are always among the best sources of information about what works and what doesn't work in the treatment of their injuries. For this reason, the text is interspersed with personal accounts from runners dealing with and trying to prevent injuries. In each case these are followed by a comment from the authors, who put the individual experiences into a greater perspective.

Running Injuries is an extremely good example of how to translate medical knowledge into very readable and convincing practical information. Runners reading this book will see in every sentence that the authors are both experts and runners themselves. Importantly, they will feel that their problems are taken seriously and that the advice given can be relied upon.

Without doubt, *Running Injuries* should be a part of every runner's library.

Reviewed by Jürgen Schiffer

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