



# The Running Athlete

Long-distance running is one of the most common forms of daily exercise due to its low cost and accessibility. The popularity of long-distance running has increased over the past 15 years and according to data compiled by Running USA, over 18.3 million United States runners participated in formal races in 2017.

## Common Running Injuries

Running injuries to the lower leg, foot, ankle, and hip all show high rates of injury with ample literature examining the details for each region.

- Patellofemoral Syndrome
- Iliotibial Band Syndrome
- Medial Tibial Stress Syndrome
- Achilles Tendinopathy
- Plantar Fasciitis

## Running Footwear

A Brannock device is used to determine proper shoe size. Three separate measurements ensure a correct fit: heel-to-toe, heel-to-ball/arch length, and foot width.

Types of Running Footwear:

- Traditional
- Minimalist
- Maximalist
- Racing Spikes
- Trail vs Road vs Cross-training

## Care Considerations

Consideration for how running injury factors relate to injury onset for each runner level is essential to establish a clinical picture of why an athlete suffered from an injury.

- Injury Location
- Biopsychosocial Influences on Injury
- Making the Decision to Withdraw from Sport
- Alternatives to Running
- Exercise Prescription
- Return to Running
- Recovery Aids

## Considerations for Adolescent Runners

Adolescent runners are unique in many ways and, therefore, cannot be managed in the same way as an adult. The adolescent body is still growing and developing, making adolescents more prone to certain types of injuries. Understanding the growth and development phases is pertinent to effectively manage this population.

- Sex Differences
- Endurance Runners vs Sprinters
- Training Experience
- Running Experience

## Exercise Progressions

It has been said that one of the top causes of running-related injuries is due to training errors.

- Core Stability
- Hip Stability
- Single Leg Balance and Control
- Low Leg and Foot Strength
- Power and Strength

## Biomechanics and Energetics

The goal of every runner is to optimize kinematics and kinetics to minimize the chance of injury and to improve efficiency.

- Running Kinematics
- Muscle Activity During Running
- Running Kinetics
- Running Economy
- Factors Influencing Running Economy
- Spatiotemporal Measures, Kinematics, Kinetics, Leg stiffness, Flexibility, Training