

Role of Warm-up and Stretching in Reducing Sports Injuries

Radha Rani*

Department of Bio-sciences and Bio-engineering, Lovely Professional University, Phagwara, Punjab, India

INTRODUCTION

Athletes use different types of pre-participation warm-up and stretching before both training and competition. Warming up and stretching have been linked to a reduction in the risk of injury, among other things. Our goal is to synthesize the current research, locate relevant information resources, and offer a reasoned review of the evidence at hand. We found that every athlete, coach, or conditioning trainer must include a warm-up procedure as part of their training routine. An athlete's training plan should include a stretching practice.

Warm-up, stretching, and cool-down activities are recommended by athletes, coaches, trainers, physiotherapists, and medics. A concerted effort to both prevent damage and improve performance. Warming up improves blood flow to the muscles, the speed of nerve impulses, and the amount of oxygen in the blood. And the transport of energy substrates, as well as the release of oxygen from hemoglobin as well as myoglobin. It reduces both the activation energy and the activation energy for Cellular responses and muscle viscosity. Warm-up is intended to improve muscle and tendon suppleness, raised body temperature as well as improves free, coordinated movement.

Warm-up techniques are divided into three categories: (a): Passive warm-up, which raises the temperature through some external means; (b): General warm-up, which raises the temperature through nonspecific body movements; and (c): Specific warm-up, which raises the temperature through the use of similar body parts that will be used in the subsequent, more strenuous activity. Warm-up procedures that include the aforementioned characteristics, as well as diverse structures (e.g., variable intensity, duration, and recovery), have been utilized over the years.

Muscular injury is one of the most serious issues confronting today's sportsmen, both recreational and professional, with skeletal muscle injuries accounting for more than 30% of all injuries seen in sports medicine clinics. There has previously been researching done both for and against the requirement for a warm-up and stretching before sports action, as well as its function in injury prevention.

WARM-UP EVIDENCE

Warm-up advantages have been found in studies to potentially lower the incidence of muscular strain damage. Several programs that combine warm-up, strength training, balance training, stretching, controlled rehabilitation, information about the importance of disciplined play and the increased risk of injury, and correction and supervision by the doctor(s) and physiotherapist(s) have demonstrated effectiveness in the prevention of knee and ankle injuries. It has also been shown that during preseason assessment and rehabilitation following hamstring muscle injury, physicians should evaluate the effect of hamstring strength, flexibility, warm-up, and fatigue on muscle performance. Research that used biomechanical support to analyze the athletic practice of warming up before to an exercise task to minimize the frequency of injury concluded that physiologic warming is beneficial in avoiding muscular damage by improving the length and flexibility of the muscle-tendon unit.

EVIDENCE AGAINST PRE-WORKOUT WARM-UP

On the other hand, other writers claim that there is no proof of muscular strain or damage as a result of performance without warm-up. According to one study, warm-up did not reduce delayed onset muscle soreness caused by strenuous exercise. Certain authors suggested that passive warm-up performed before eccentric exercise may be more beneficial than active warm-up or no warm-up in attenuating swelling, but they do not support the use of warm-up to prevent, attenuate, or resolve strength loss, loss of motion, or soreness caused by eccentric muscle damage more quickly.

STRETCHING AND WARMING UP

Stretching and warm-up are frequently included in sports activity preparation, making it difficult to examine their separate impact on injury prevention. According to research, certain approaches and processes have a good effect in preventing injuries.

To reap the maximum advantages, a warm-up and stretching procedure should be performed before physical activity, with the routine enabling stretching to occur within 15 minutes of the exercise.

Correspondence to: Radha Rani, Department of Bio-sciences and Bio-engineering, Lovely Professional University, Phagwara, Punjab, India, E-mail: aggarwalradha28@gmail.com

Received: September 14, 2021; **Accepted:** September 22, 2021; **Published:** September 30, 2021

Citation: Rani R (2021) Role of Warm-up and Stretching in Reducing Sports Injuries. *Orthop Muscular Syst*. 10:318.

Copyright: ©2021 Rani R. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

CONCLUSION

Injury prevention (and risk reduction) is one of the most significant areas of sports medicine today. As a result, more marketing of injury prevention tools is advised, along with a study into the

usefulness of these resources and how players may be persuaded to adopt suitable injury prevention techniques. More study is needed to identify the function of warm-up and stretching in sports, as well as their influence on injury prevention.