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## BENEFITS OF WARMING UP IN SPORTS – AN ANALYTICAL STUDY

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### ABSTRACT

Warming up may seem like a waste of time when you want to crack on with your training, when in fact a pre-workout routine can be the most beneficial aspect to increase your overall fitness level. The benefits of warming up include elevated heart rate, increased blood flow, increased flow of synovial fluid and in overall getting your mindset right to power through your workout with 100% effort.

Many may skip this short but essential part of their workout, but few know how important this time is. Although it may take an additional 5-10 minutes of time in the gym, the rewards you will reap will be all worth it. If you love sports you know that injuries come with the consequences —caused by repetitive motion, imbalances in your biomechanics, or in many cases both! But if you would perform a sound warm-up, you have a great tool at your disposal for preventing injuries. Typically, a warm-up exercise consists of light cardiovascular exercises with stretches. The cardiovascular exercises are intended to increase circulation, bring the heart rate up and prepare the muscles for physical movements required to carry out the sport. Strength exercises prepare the body for sudden movements in order to prevent injuries. The best prevention is to become aware of your body, its shape, how it feels, range in the joints, and its symmetry. Sports create asymmetries because they are one side dominant, it's your job to recognize imbalances before they become an injury. Study will examine the role & benefits of warm-up in Sports.

### An Introduction to Warm-Ups

The practice of 'warming-up' has been universally accepted for a very long time. While the general principles surrounding the need to warm-up remain valid, in recent years there is growing evidence which questions the usefulness of historic warm-up methods and introduces potential areas for future development.

In past years, particularly within recreational and amateur sport environments, warm-ups were typically employed to serve only two purposes: 1) prepare the athlete mentally, and 2) to prepare the athlete physically for exercise or competition. However, in recent years whilst the same principles apply, warm-ups are now often viewed to serve four primary purposes:

1. Mental readiness
2. Physical readiness
3. Injury prevention
4. Performance enhancement

In professional and elite sport environments, using warm-ups to serve these four primary purposes appears to now be very common. As a consequence, warm-ups have evolved to also serve as a method of enhancing performance and reducing or preventing the occurrence of injury. In most of these professional and elite environments, the days of a simple 2-minute jog around the field, followed by some poorly coached and light-hearted static stretching are rapidly vanishing due to modern knowledge and the accessibility of information.

## What Happens In A Warm-Up?

Most warm-up sessions will include a combination of cardiovascular exercises, stretching and strength drills. The cardiovascular exercises are designed to increase circulation, increase body temperature and bring the heart rate up, while stretching warms the muscles and prepare them for the movements they will be required to carry out during the activity. Explosive strength exercises, which may include sprint drills or jumps, gently increase the level of intensity and prepare the body for sudden movements in the game which will follow; these exercises should only be done once the muscles are warm; this will prevent injuries.

### BENEFITS OF A WARM-UP

The purpose of a warm-up prior to strenuous activity or competition is to both prevent injury and improve your athletic performance. Warming up allows your deep muscle temperatures to increase, which allows for increased flexibility. Research has found many other benefits of warming up, which are as under:-

**Increased Muscle Temperature** — The temperature increases within muscles that are used during a warm-up routine. A warmed muscle both contracts more forcefully and relaxes more quickly. In this way, both speed and strength can be enhanced. Also, the probability of overstretching a muscle and causing injury is far less.

**Blood Vessels Dilate** — This reduces the resistance to blood flow and lower stress on the heart.

**Improve Efficient Cooling** — By activating the heat-dissipation mechanisms in the body (efficient sweating) an athlete can cool efficiently and help prevent overheating early in the event or race.

**Increased Blood Temperature** — The temperature of blood increases as it travels through the muscles. As blood temperature rises, the binding of oxygen to hemoglobin weakens so oxygen is more readily available to working muscles, which may improve endurance.

**Improved Range of Motion** — The range of motion around a joint is increased.

**Hormonal Changes** — Your body increases its production of various hormones responsible for regulating energy production. During warm-up, this balance of hormones makes more carbohydrates and fatty acids available for energy production.

**Mental Preparation** —The warm-up is also a good time to mentally prepare for an event by clearing the mind, increasing focus, reviewing skills and strategy. Positive imagery can also relax the athlete and build concentration.

## The Effects of a Warm-Up

A warm-up gently prepares the body for the physical activity. It's also a good opportunity to prepare one mentally for the sport or game. They can also be used for team drills and to practice skills. Most warm-ups should last between 20 minutes to half an hour. This gives the body plenty of time to prepare for the physical activity.

## The Medical Evidence in Sport Medicine Journals

Injuries are the part & parcel of sports & are the premier threat in sports. In the Journal of Sports Science and Medicine, studies found that warm-ups significantly reduce the risk of injury. Studies also indicate that "The potential for reduced injury rates may be greater if the type of warm-up relates directly to the activity subsequently undertaken, and where the participants are of similar ages. The warm-up should be sport-/activity-specific and tailored to the age of your client/group."

Stretching is a type of warm-up that helps prevent injuries. Types of stretches include forward lunge, side lunge, thigh stretch, side seat straddle and knees to chest stretches. Even walking, running in place or doing jumping jacks will help stretch and warm up the muscles.

Considering a well-planned warm-up has the potential to not only prepare athletes physically and mentally but also possess the ability to reduce the likelihood of injury and improve performance, highlights its significant importance in athletic development.

## CONCLUSION

Because of Warming up the chances of an injury are reduced considerably and muscle efficiency is enhanced since faster and more intense muscle contraction is achieved. Aerobic capacity is boosted, muscle coordination is improved, the body adapts to weather conditions and there is a positive attitude towards exercising.

Arguably the number one reason you should always warm up is injury prevention. Research has shown that 15 minutes or more of warming up helps prevent muscle injuries.

A thorough warm-up helps increase the blood flow to the working muscle which results in decreased muscle stiffness reduced risk of injury and often, improved performance. Additional benefits of warming up include physiological and psychological preparation for more extreme exercise.

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