

WRAS Sporting Spirit



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To do or not to do? That is the question!

Does a warm-up and cool down benefit you? This article will discuss the benefits of completing a warm-up and cool down including what type of warm up to do, types of stretches and their effect on the body. Due to contradictory research and lack of specific guidelines it is hard to be precise on whether warm-up and cool down is beneficial for an athlete. Athlete are affected differently by a warm-up and cool-down and need to experiment with what works best for them.

A warm-up is 'intended to perform the following two major functions: (i) improve a muscle's dynamics so that it is less inclined to injury; and (ii) prepare the athlete for the demands of exercise' (Woods, Bishop, & Jones. 2007). A warm-up is commonly used to improve performance and reduce the chance of injury. A warm-up usually consists of sub maximal exercise (moderate to high intensity) and some type of stretching exercise. A cool down generally consists of minimal exercise (slow walk), some type of stretching exercise and body regulation/ hydration.

Types of warm-up can be either active or passive. There are two types of active warm-up: a general warm-up (non-specific body movements) and/or specific warm-up (activities and stretches specific to the upcoming physical activity).

An active warm-up - involves physical activity, whereas passive warm-up is when the muscle temperature or core body temperature is increased by an external means e.g., hot showers.

A specific warm-up - is the most effective as they correlate to the movements and exercises that are going to be performed. Stretching is a vital part of a warm-up and cool-down. As some research discusses, it is important that athletes do not over stretch (or do excessive stretching) as it may have a negative effect on their performance.

There are three main types of stretching dynamic, static and proprioceptive neuromuscular facilitation (PNF).

The dynamic stretching - technique can be the most harmful if not done correctly as it involves a bouncing or jerking motion to stretch a muscle. This stretching technique is not advised unless a person is abnormally flexible or has been shown correct technique by a professional.

Static stretching - is the simplest of stretching techniques as it involves a slow, deliberate movement to achieve lengthening of the muscle. Each static stretch should be maintained for approximately 20 seconds to get connective tissue lengthened.

PNF - is the most beneficial type of stretch and involves a four step stretch beginning with a static stretch, an isometric contraction (lengthening and shortening of a muscle) and relaxation, and then another static stretch. An example of a PNF stretch is a hamstring stretch where an athlete lays on their back and has their leg extended by an individual until the muscle is being stretched or under tension. The athlete then contracts (pushes against a person) the stretched hamstring for 5-6 seconds while the partner reduces all movement. The muscle is then allowed to relax. The final step is to repeat the static stretch again.

Research shows that a major benefit of a warm-up is that it increases the range of motion (ROM) of a joint significantly. This is important as increase in ROM will have a long term benefit on increasing joint flexibility. Other benefits of a warm-up may include increases in the speed and force of muscle contractions, smoother contractions due to the muscle becoming less viscous and increased muscle temperature which increases blood flow through to active tissue.

Research has shown that sports involving bouncing and jumping movements (eg netball and basketball) and 'explosive' type skills (eg. hockey) at a high intensity require some sort of warming up and cooling down exercise. This is because there is more energy released and absorbed by the muscles. Therefore a warm-up can increase muscle temperature and muscle elasticity, decreasing the chance of injury. The research shows that a warm-up or cool down for low intensity exercise such as jogging or swimming may not have the same advantages as the exercise is less strenuous which means slower and more controlled muscle contractions.

Stretching is accepted by many coaches and trainers as decreasing the chance of injuries and improving performance. Therefore it is often included in warm-up or cool-down exercises. However some research and scientific evidence express concerns about the effect of stretching on preventing injuries in warm-up or cool down. Due to the confusion that exists on the benefits and drawn backs of stretching, many coaches and sports-medicine professionals still utilise stretching in warm-ups and cool downs.

A warm-up and cool-down may not just have physiological benefits. Psychological benefits such as improved mental approach and decreased anxiety may all occur in a warm-up improving an athlete's performance. Cool down may benefit relaxation of an athlete and improve their team morale.

In summary there may be advantages of completing a warm-up and cool-down rather than not doing one at all. Some possible advantages may include increase ROM, joint flexibility, increase muscle temperature, and prevention of injury. Due to the variance in the research findings on this topic, it is important for athletes to experiment with different components of a warm-up and cool down and decide what works best for the individual.



Favourite recipes – Spicy Bean Burritos

Method:

Filling: Spray a nonstick pan with oil, add onion and cook on medium heat for 3 minutes or until soft. Add cumin and coriander and cook for 1 minute, constantly stirring mixture. Add beans, tomatoes, tomato paste and chilli sauce. Bring mixture to the boil, then reduce heat and simmer for approximately 4 minutes or until slightly thickened.

Serve the hot bean mixture, lettuce, cheese, tomato and yoghurt in separate bowls. To assemble the burrito, place lettuce in middle of tortilla, spoon bean mixture on top, add grated cheese and top with yoghurt. Roll up and eat immediately.



You will need:

8 tortillas
4 lettuce leaves, shredded
3 tomatoes, chopped
½ cup grated reduced-fat cheese
4 tbsp low-fat natural yoghurt

Filling:

spray canola oil
1 onion, chopped
1 tsp ground cumin
1 tsp ground coriander
440g red kidney beans, rinsed and drained
400g crushed tomatoes
2 tbsp tomato paste
2 tbsp Chilli Sauce

References

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