PREPARING TO WIN: WARMING UP PROPERLY

Most athletes look at this heading and think that they will find an ideal workout that guarantees success. Besides the fact that there isn't one ideal workout (but rather your performance is the sum total of consistent training, sleeping, eating over several months), your ability to optimally perform stems from a proper warm up and cool down within your daily training and then again on race day.

There are three physiological benefits to an effective warm up:

1. Your warm up is an activity that allows the body to transition from inactivity to activity and to distribute the blood flow into the extremities. This distribution of blood warms up the muscles, tendons, cartilage and ligaments avoiding any pumping, cramping or tearing, and preparing them the more intense work to come.
2. A warm-up activates live protein cells called collagen and elastin. These proteins are laid down along the lines of force that occur when the connective tissue is stretched. This tissue needs to be supple and responsive to the forces exerted on it during physical activity. Stretching opens small blood vessels that nourish the connective tissue. Along with muscle movement, the increased body heat changes the molecular conformation of collagen and elastin, making them more springy and resilient. Properly warming up helps prevent connective tissue tearing caused by quick and forceful movements during exercise – especially early in the workout or event.
3. Warming up switches the fuel source your body uses to fuel your workout (from mostly muscle glycogen to stored fatty acids). During the early portion (the specific duration of time is still debated due to the influence of an individual's fitness level and intensity levels but 15 min. is a rough rule) of your workout, your muscles draw predominately on glycogen (which is stored in your liver and muscles) for fuel. During the later duration of your workout, the muscles rely mostly on liver glycogen and fatty acids from stored fat cells. Research indicates that the longer the workout, more glucose is made in the liver from sources other than glycogen, such as lactate, glycerol and protein. Proteins are made of amino acids and there are 16 of them found in the liver that can be converted to glucose.

Dating all the way back to 1947, researchers found that a sufficient warm up of 15-30 minutes yielded a 3-6 percent performance improvement - just from warming up! In a research report in the Medicine & Science in Sports and Exercise, demonstrated that stretching for 20 minutes before a race yielded performance times that were 3 to 5 percent faster than without stretching; however, the type of stretching is important. Static stretching is not a good warm-up. Dynamic stretching will prepare your body for work.

EFFECTIVE WARM UP PROTOCOLS

For an effective warm-up, you need to alternate between your sport specific activities with dynamic stretching over the course of 15-30 minutes. Here is an outline:

5-10 minutes of general warm-up such as fast walking or running in place

5-10 minutes of dynamic stretches such as high steps, walking lunges, push-ups.

5-10 minutes of sport specific activity with 4-6, 30 second accelerations

EVALUATING THE EFFECTIVENESS OF YOUR WARM UP

Sometimes when you think about starting your workout, your body and mind just don't feel up to the challenge – please understand, this is normal and does not mean that you are lazy! To determine if your body is tired and needs extra rest or if you should "give it a try", please complete these two tasks. First, evaluate your resting heart rate in the morning and compare it to your average resting heart rate over the last eight weeks. If your resting heart rate is up by more than five beats, do not work out (until your resting heart rate is back in the average range). Focus good nutrition and light activity.

Second, try warming up minutes at a low intensity level (a heart rate monitor will quantify this for you without any emotions attached) and evaluate if your energy levels improve during the warm up. If, after your warm up you still feel lethargic and/or it is taking a lot of effort to complete the warm up, stop the workout. Keep in mind that it is always better to err on the side of caution when it comes to human performance due to the fact that we often neglect the external signs that our bodies provide us that we need a rest day. However, if after a sufficient warm up your body begins to "wake up" and you begin to feel fresh, move from your warm up into your workout focusing on skills & drills.

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