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The Functional Warm-Up

Mathew Thomas, MS, CSCS
Fitcorp
Boston, Massachusetts

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THE WARM-UP IS GENERALLY designed to prepare the cardiorespiratory and musculoskeletal systems to meet the demands of exercise. It also mentally prepares the individual for the activity that he or she is about to perform. When most people think about warming up, there are 3 ideas that typically come to mind: stretching, the basic warm-up, and the specific warm-up.

Stretching

Stretching is generally the first activity in the warm-up, whether it is static, ballistic, or proprioceptive neuromuscular facilitation (PNF). The static stretch is when an individual holds a stretch for a certain amount of time (e.g., 30–60 seconds) without any movement (4). Most individuals, especially beginners, perform this type of stretching. The next type of stretch is the ballistic stretch. This stretch is characterized by dynamic movements performed throughout a full range of motion and is often designed to mimic the movements of a particular sport or activity (1). The ballistic stretch relies on speed and body weight to stretch a muscle, and therefore can be more sports-specific. An example would be a track athlete bouncing while performing the hurdler's stretch. The PNF is partner-assisted stretching that incorporates the stretch reflex and Golgi tendon organ responses, along with reciprocal inhibition to stretch a muscle (3). An example of a PNF stretch is when the individual lies on his or her back with 1 leg straight up. The trainer assists the individual in pushing the leg back as far as it can go, thereby stretching the hamstrings.

Basic Warm-Up

The second type of warm-up is a basic or general warm-up. In this, an individual performs 5–10 minutes of low-intensity aerobic exercise until the body temperature is elevated. This involves activities such as riding a bicycle, walking, or jogging. The body temperature is elevated because the activity is rhythmic in nature and is performed at an elevated heart rate (6).

The third type of warm-up is called a specific warm-up. This is when specific exercises are performed at a lower intensity in order to activate the specific muscle groups that will be utilized in the ensuing practice or game situation. Some examples of the specific warm-up are performing the bench press exercise at a lighter weight before building up to higher intensities or throwing the football a few times prior to a game.

Functional warm-up

In addition to the aforementioned protocols, another type of warm-up is the functional warm-up. It incorporates equipment like medicine balls, Swiss balls, and rubber bands to not only activate specific muscle groups but also the stabilizing muscle groups in a specific region. This type of warm-up works on an individual's balance and coordination, as well as elevating his or her body temperature. By working on an individual's proprioception and improving it, perhaps some of the injuries that occur can be eliminated. The functional warm-up can better prepare individuals for recreational and sports activities that require moderate to high levels of physical activity. It also aids in improving one's proprioception and therefore in activating stabilizers around the joints being worked.

Personal trainers and coaches are constantly looking for ways to add variety to athletes' programs while delivering the most effective

and efficient program possible in the limited amount of time that is available. A growing number of strength and conditioning professionals now use Swiss balls, medicine balls, and rubber bands to enhance functional performance. Functional training has been defined as "a comprehensive approach to training, or rehabilitation that addresses ALL performance components (i.e., balance, reaction, agility, acceleration, and deceleration) necessary to achieve success in any target activity" (2). Incorporating all of the exercises involved in functional training to an individual's program is difficult. First, one may not have the time, and second, the client may not have the skill level to perform all of the exercises properly. Fitness professionals should incorporate some of the functional exercises (Table 1) directly into the warm-up. Instead of riding a bike for 10 minutes, the individual should perform functional exercises for his or her warm-up.

Table 1
Sample Functional Warm-Up Exercises

Exercise	Description
Woodchoppers	Medicine ball is held overhead, swung between the legs, and brought back to the starting position
Medicine ball twists	Medicine ball is held in front of the body and is rotated from the left to the right side, and vice versa; when rotating to one side, pivot on the ball of the opposite foot
Rubber band walks	
Forward	Place rubber band around the ankles; walk forward while keeping tension on the band
Backward	Same as above, but walk backward
Lateral	Walk side to side with the band around the ankles

Functional Exercises

The individual begins by walking up and down the gym floor (approximately 10 yards) with a Gambetta or big band around their ankles (these bands are large versions of a rubber band). He or she starts by walking forward, then backwards, and then laterally, with the right leg first and then the left leg, and finally, he or she walks forward again, taking very long steps. These exercises will warm up all of the muscles around the hip region.

To warm up the muscles of the abdominal, lower back, and shoulder regions, a medicine ball is used. A woodchopper is an exercise that can be performed. The individual holds the medicine ball (about 3–5 lb) overhead, brings it between his or her legs, and then returns back to the starting position. If he or she is having difficulty holding a medicine ball, the instructor can give him or her a light dumbbell to hold.

Another exercise is the medicine ball twist. To perform this exercise, the individual is told to hold the medicine ball directly in front of his or her body and to then rotate to the left and then to the right. The individual can also hold the medicine ball to one side, rotate the torso, and bring the ball down to the opposite knee. After a few repetitions, he or she can switch directions.

Chest passes with the medicine ball is another exercise that can be performed to warm up the upper-body muscles. The Swiss ball can also be used. The individual should get into a position to do push-ups, placing the hands on the Swiss ball instead of the floor. He or she is then instructed to hold that position for as long as they can. This exercise will help in isometrically strengthening the abdominal muscles, as well as the stabilizers in that region.

On days that the individual works out his or her legs, band exercises that have been previously mentioned are performed, performing a variety of single-leg exercises afterward. The experience level of the individual determines whether they perform these exercises on a stable or unstable platform.

All of the exercises do not need to be performed. One has the freedom to pick and choose what he or she wants. The key point is that this serves as a warm-up before the actual resistance training begins. Therefore, it should not exceed 10–15 minutes in duration.

Performing these functional warm-up drills will help individuals gain balance and coordination that he or she may lack. Many exercises that personal trainers prescribe are performed in a very stable environment; therefore, the stabilizing muscle groups are never worked too hard. In everyday life, most of the activities that an individual engages in have some form of instability attached to them. Therefore, it is vital that personal trainers begin adding some functional exercises to their clients' programs.

Functional exercises give the same basic benefits as a traditional warm-up. For example, they elevate body temperature and alert the muscle groups being utilized that a specific event is about to occur. But functional exercise also provides activation of the muscle groups involved in the stabilization of the body; it helps to work on the proprioceptive factors involved.

Summary

The benefits of a functional warm-up are to activate the stabilizing muscles that are going to be used in any type of exercise. Once these stabilizing muscle groups are warmed up, performance of any activity should be easier (5). The functional warm-up also prevents boredom; it not only prepares the cardiorespiratory and musculoskeletal systems for upcoming exercise, but it can be a fun and exciting method of conditioning. ▲

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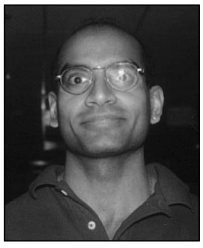

Thomas

Mathew Thomas is a Senior Exercise Physiologist for Fitcorp. He is an NSCA Certified Strength and Conditioning Specialist, an ACSM-certified Health and Fitness Instructor, and a USA Weightlifting Club Coach. He also has a Master of Science degree in Applied Anatomy and Physiology from Boston University.