Dynamic Chiropractic

REHAB / RECOVERY / PHYSIOTHERAPY

Steps to Successful Rehabilitation, Part 2

WARMING UP, STRETCHING AND COOLING DOWN

K. Jeffrey Miller, DC, MBA

This article is the second in a series on successful rehabilitation and focuses on three fitness activities that are often minimized or completely overlooked: warming up, stretching and cooling down. While they are often considered important for working out or training, they are also vital to the overall rehabilitation process.

Recovering patients and even elite athletes often skip these activities and go straight to their primary workout. The activities are slow, tedious, and they do prolong an exercise session. For those who are already less than thrilled to be exercising, warming up, stretching and cooling down are not popular. However, the importance of these activities cannot be overlooked. They have specific functions and aid in the success of any exercise/rehabilitation program, regardless of the goals and intensity of the program.

Warming Up

There are two types of warm-ups: general and specific. General warm-up is for the entire body and is not the focus of a particular event or sport. In patient rehabilitation, general warm-up is preferred and is typically achieved by walking, jogging slowly or riding a stationary bicycle. Five to 10 minutes of one of these activities readies the patient/athlete for exercise by slowly increasing heart rate, blood flow, muscle temperature, respiration rate, perspiration and the viscosity of joint fluid.

Specific warm-up uses the movements that will be used in the exercise or sport. An example of specific warm-ups can be seen prior to most baseball games. The majority of running in baseball involves short sprints between bases or to field a ball. Players can be seen running short sprints prior to a game, usually at a slower speed than they would during the game. Swinging a bat in the on-deck circle prior to an at-bat is another example of a specific warm-up exercise. Players are using the muscles they will use in competition, but in slower and less forceful ways.

As stated above, general warm-up is preferred for rehabilitation of the average patient. Doctors working with a more accomplished athlete will probably want to employ both methods of warm-up to maximize results.

Stretching

Stretching of muscles, tendons and joints is important. Many claim it helps prevent injury or re-injury. Some claim there is no conclusive proof of this; however, this author takes the side that it helps and certainly cannot hurt if performed correctly. Stretching can be performed prior to warming up, after warming up or during cooldown. It can also be performed independently of any exercise session. Once again taking sides, this author prefers stretching after warming up.

Stretching can also be general or specific. General is for full-body benefit, while specific is for the body regions used in the specific activity or sport. Regardless of the type of stretching employed, there are a few rules that should always be followed to obtain maximum benefit. These rules should

be provided to each rehab patient:

- Perform each stretch slowly without bouncing or jerking movements.
- Perform each stretch 3-5 times.
- Hold each stretch 10-20 seconds before releasing.
- The time required to stretch is dependent upon the number of stretching exercises you are instructed to perform.
- Stretch to the point at which a pulling sensation is experienced. Do not push the stretch to the point that burning, tearing or painful sensations are felt.
- Perform only the stretches you are instructed to perform.
- If stretching is the only activity recommended, perform the stretches at least three times per week.
- Do not move on to sport- or activity-specific stretches until instructed to do so.
- If you are unsure of any of the instructions provided, ask the doctor *before* proceeding.

Cooling Down

Cooling down is obviously the opposite of warming up. Slowing activity levels down to the intensity of the warm-up period provides several benefits. Heart rate and blood pressure will slowly return to normal. Continued muscle contraction enhances venous return of blood to the heart. These factors help prevent light-headedness and dizziness after exercise.

Continued circulation as activity decreases also helps remove lactic acid that accumulated during exercise. The body can disperse heat generated during the exercise session and respiration can return to normal.

A working knowledge of warming up, stretching and cooling down is essential for both you and your patient before proceeding to aerobic and/or resistance exercise, which will be discussed in parts 3 and 4 of this series.

Resources

- Baechle T, Earle R. *Essentials of Strength and Conditioning, Second Edition*. Human Kinetics, 2000.
- Cotton R, Ekeroth C. *Personal Trainer Manual: The Resource for Fitness Professionals*. American Council on Exercise, 1997.
- Deuster P. *The Navy SEAL Physical Fitness Guide*. Department of Military and Emergency Medicine, Uniformed Services University of the Health Sciences F. Edward Hebert School of Medicine, August 1997.
- Siff M. *Facts and Fallacies of Fitness,4th Edition*. Self published, 2000.

This is part 2 of a four-part series on rehabilitation. Part 1 appeared in the Jan. 1 issue.

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