



stretch your way to better health

There is probably one thing that most everyone agrees upon: stretching is healthy. However, there is a great deal of disagreement about the best method of stretching and when stretching should be done. There are so many possible choices: do we do static or dynamic stretching? Do we use the technique of contract relax or agonist contract? Do we

hold the stretch for 10 seconds and do three repetitions (reps), or do we hold it for three seconds and do 10 reps? Do we stretch before or after we exercise?

Let's first look at the fundamentals of stretching by examining the types of stretching techniques that exist and then examining when stretching should be done.

10 tips for stretching:
www.pamf.org/workhealth/stretchtips.html

What is stretching and why is it done?

Simply defined, stretching is a method of physical bodywork that lengthens and elongates soft tissues. These soft tissues may be myofascial units (muscles and their tendons), ligaments and/or joint capsules.

Stretching is done because soft tissues may become shortened and contracted, and have greater tension. This causes the soft tissues to resist lengthening and limits joint mobility and range of motion. Two types of tissue tension exist: passive tension and active tension. All soft tissues can exhibit increased passive tension, which results from increased fascial adhesions that build up in soft tissues over time. Additionally, muscles may exhibit increased active tension, which results when a muscle's contractile elements (actin and myosin filaments) contract via the sliding filament mechanism, creating a pulling force toward the center of the muscle. Whether a soft tissue has increased passive or active tension, this increased tension results in the tissue being more resistant to lengthening. Therefore, stretching is done to lengthen and elongate these tissues, hopefully restoring full range of motion and flexibility of the body. When performing a stretch upon our clients, we use the term "target tissue" to describe the tissue that we intend to stretch, or "target muscle" when we are specifically looking to stretch a muscle or muscle group.

Classic stretching

Ten to twenty years ago, conventional wisdom dictated that stretching should be done before exercise and that the method to employ was what is now called static stretching, meaning that the position of the stretch was attained and then held statically (Figure 1). The length of time recommended to statically

hold the stretch was between 10 to 30 seconds; three reps were usually done. Recently, the wisdom of this "classic" stretching technique has been questioned. Further, even the idea of when to statically stretch has been questioned.

When to statically stretch?

The conventional wisdom of when to stretch has recently been turned upside down. For years, it was stated that static stretching should be done before strengthening exercises were done. The reasoning was that stretching would make the tissue more flexible, thereby reducing the risk of tearing these soft tissues during the exercise (i.e., sprains and strains). However, many sources now say that static stretching before strengthening exercise is ineffective because the body is not warmed up. Because the soft tissues of the body are cold, they do not accept the stretching, and little is actually accomplished. In fact, some sources state that static stretching done before strengthening exercise is actually deleterious to the exercise regimen. Their reasoning is that by stretching, musculature is inhibited from contracting and consequently less able to contract quickly when needed to protect a joint from a possible sprain or strain during strenuous exercise.

This does not mean that all stretching is contraindicated before a workout. Mobilization, or dynamic stretching, is now recommended in place of static stretching. Dynamic stretching is done by moving the joints of the body through the ranges of motion that will be asked of them during the exercise workout, and it begins with small ranges of motion with little or no resistance and gradually builds up to full ranges of motion with the resistance of the exercise added. For example, before playing tennis, you would go



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Figure 1 illustrates static stretching in which the person is statically holding a position of stretch of the posterior shoulder muscles.

through the motions of forehand, backhand and serving strokes without a racquet in hand, beginning with small swings and building up to full swings. Then the same order of motions would be done with a racquet in hand, but not actually hitting a ball. Finally, you actually play on the court, hitting a tennis ball, starting with gentle swings and gradually building up to full and powerful swings (Figure 2). The advantage of this method of exercise warm-up is that circulation is increased, the tissues are warmed up and joints are brought through their ranges of motion. Also, with each motion that is done, soft tissues located on the other side of the joint are dynamically stretched.

There still is a place for classic static stretching after the strengthening exercises are done and the tissues are warmed up and ready to receive the stretching.

Static or dynamic stretching?

Perhaps the first choice is whether we do classic static stretching or dynamic stretching. More and more sources are recommending that stretching be done in more of a movement-oriented dynamic manner. But, even if we do choose to do static stretching, the rule on how long to hold the position of the stretch once it is achieved has been changing. Whereas it was classically recommended to hold the stretch for 10 to 30 seconds, many sources now advocate that the stretch be held for only 2 to 3 seconds. This allows for approximately 10 reps to be done instead of the previously recommended three. Something interesting to note here is that as the method of static stretching is changed from a



Figure 2 illustrates some of the beginning stages of dynamic stretching for a forehand stroke in tennis. In 2a, a short forehand swing is done without a racquet; in 2b, a larger swing is done without the racquet. The person then progresses to holding a racquet to provide greater resistance, first with a short swing as seen in 2c and then with a larger

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