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Abstract

In this article we are going to look at the various forms of stretching as well as where and how to implement stretching into your training program. We'll also take a brief look at some of the latest research on stretching and warming up to help you put together effective warm up routines.

Static stretching is where you lengthen a targeted muscle group to the point of slight discomfort/tightness, then hold for a period of around 20 - 30 seconds. After holding your static stretch for 20 – 30 seconds, the slight discomfort/tightness you originally experienced should have dissipated allowing you to further lengthen your targeted muscle group. This sequence of lengthening to the point of slight discomfort/tightness and holding can be repeated until no further lengthening can be achieved without considerable discomfort.

PNF stretching is where you lengthen

Bend knees, grab both feet and straighten both legs. If you can straighten both legs then pull your heels up off the ground. (Calf)

a targeted muscle to the point of slight discomfort/tightness, then contract the targeted muscle group isometrically for approximately 6 seconds. After your isometric contraction, the slight discomfort/ tightness that you originally experienced should have dissipated, allowing you to further lengthen your targeted muscle group. This sequence of lengthening to slight discomfort/tightness then contracting isometrically for 6 seconds is repeated until no further lengthening of the targeted muscle group can be achieved without considerable discomfort. **PNF stretching** is more often than not performed with a partner, your partner takes your joint through its range of motion to the point of slight discomfort/tightness then holds the limb while the you contract isometrically against your partner.

Keeping left leg straight, bring your chest to your thigh, then repeat on the opposite side of your body. (Hamstrings & erector spinae)

With a little imagination you can perform **PNF stretching** on your own however for simplicity, it's easier to perform with the help of a partner **Dynamic stretching** is where you fluently take joints through their natural ranges of movement; this loosens the muscles that surround the joints allowing the joints to move more freely.

Dynamic stretching can be broken down into 2 subcategories:

- 1) **General.** A non-specific routine where dynamic movements are designed to loosen up joints.
- 2) **Sport Specific.** Where dynamic movements replicate the actual sporting movement that is about to be undertaken. Sport specific dynamic movements may not be as fluent as “general” dynamic movements, as sporting movements are often performed in an explosive manner to produce power.



WHEN TO INCORPORATE A STRETCHING ROUTINE?

- 1) As part of a warm up routine before a training session or sporting contest.
- 2) As part of a cool down session immediately after a training session or sporting contest.
- 3) As part of an active recovery, usually the day after a training session or sporting contest.
- 4) As part of a training phase specifically designed to increase the range of motion in joints.
- 5) As part of a maintenance program to keep your muscles healthy.
- 6) As part of an injury rehabilitation process.



WHAT TYPE OF STRETCHING ROUTINE DO YOU USE?

Athletes have been using stretching routines as part of their warm up for many years now, the rationale for this is stretching is believed to reduce the chances of injuries and increase sporting performance.

Bringing the soles of your feet together, place your elbows on your thighs and push your knees to the ground. (Groin)

I've read through many articles over the years and attended conferences and lectures where these issues have been addressed and the general consensus is that:

1) No studies have been able to prove undoubtedly that static stretching reduces injuries in athletes when used as a warm up.

2) A 5 -10 minute aerobic warm up designed to raise the body's temperature, making your muscles more pliable has proven to be more beneficial in reducing injuries than static stretching alone.

3) Static stretching after a 5 -10 minute aerobic warm up hasn't proven to be more beneficial than a 5 -10 minute aerobic warm up alone.

4) Research over the last few years is suggesting that prolonged static stretching reduces strength and power anywhere from 10% - 40% depending on the duration that each static stretch is held for. (Remember most competitive martial arts are strength and power based).

Current research is leaning towards a 5-10 minute aerobic warm up followed by a sport specific dynamic stretching routine where athletes replicate the sporting movements about to be undertaken.

Each sport specific movement can be repeated around 10 – 20 times starting off at a low intensity then progressing to higher intensities where the sporting movements place the muscles surrounding the moving joints under a brief stretch.

A cool down routine after a training session or sporting contest.

After a strenuous training session or sporting contest muscles can become stiff and tight.

A light aerobic cool down of around 5-10 minutes is generally recommended to help with the removal of

accumulated lactic acid. After your cool down a low intensity static or PNF stretching session can help to alleviate some of stiffness and tightness within the muscle fibers, assisting the recovery process.

(There are other effective means of recovery you may be interested in further researching such as contrast showers, icing, and massage).



Placing your left hand on your right knee and your right hand on the ground behind your right hip, lever off of your right knee and rotate clockwise, then repeat on the opposite side of your body. (Erector spinae & obliques)

An active recovery the day after a training session or sporting contest.

We've all woken up stiff and sore after a good training session or sporting contest, just like our cool down process your body can benefit from a light aerobic session of around 5-10 minutes to elevate our body temperature (making your muscles more pliable) followed up with a light to medium intensity static or PNF stretching session. Stretching will help to relieve some of the stiffness and tightness within the muscle fibers, when muscles are stretched back to their resting length.

(Massage again can also aid in recovery).

Place your left ankle over your right knee and pull your right knee to the ground while looking to the right, then repeat on the opposite side of your body. (Hips, buttocks & obliques)

