

STATIC STRETCHING

When using static stretching to increase the range of motion in your joints, you first need to raise your body temperature with a light 5 – 10 minute aerobic warm up. After your warm up, you then lengthen a targeted muscle group to the point of slight discomfort/ tightness, you then hold this position for a period of around 20 - 30 seconds or until the slight discomfort/tightness you originally experienced dissipates. At this point you further lengthen your targeted muscle group until the slight discomfort (or tightness)

Interlocking your hands behind your knees, straighten your legs and round your upper back. (upper back & rhomboids)



re appears and again hold this position for another 20 – 30 seconds or until the slight discomfort/tightness again dissipates. You continue this pattern until no further lengthening of your targeted muscle group can be achieved without considerable discomfort, at this point you are at your targeted muscle groups “end range of motion”, you then hold this position for ideally 2 – 3 minutes then move onto another muscle group.

A training phase specifically designed to increase your flexibility.

There are many martial artists who have developed above average ranges of motion in their joints when a 5 – 10 minute static stretching routine is incorporated into their warm

Lying flat on the ground, place both hands on the ground in line with your shoulders, then straighten your arms as you arch your back. (Abdominals)



up before class. There are also many martial artists who have below average to average ranges of motion in their joints when a 5 – 10 minute static stretching routine is incorporated into their warm up before class.

There are 2 main reasons for the variations in flexibility in these 2 groups of martial artists.

1) The range of motion achieved in joints can be a genetic factor.

Opening you legs as wide as you can, place your elbow on the ground inside your knee and bring your head to your knee, then repeat on the opposite side of your body. (Latissimus dorsi, teres major, quadratus lumborum & intercostals).

INDUSTRY EDUCATION

2) Some martial artists turn up to training 4 – 5 nights a week and put in 100% into their training (warm up and stretching included) where other martial artists turn up to training 1 – 2 nights a week and just go through the motions.

If you are looking at increasing the range of motion in your joints, you are better off addressing your flexibility training the same way you would address your strength training, endurance training etc. You need to put aside 3

– 4 days a week where you can spend around 20 – 30 minutes specifically developing your flexibility. When

looking at increasing the range of motion in joints static stretching or PNF stretching can be used.

PNF STRETCHING

When using PNF stretching to increase the range of motion in your joints, you first need to raise your body temperature with a 5 – 10 minute light aerobic warm up. After your warm up, you then lengthen a targeted muscle group to the point of slight discomfort/ tightness, then contract your 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 the point

of 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.

At this point you are at your targeted muscle groups “end range of motion”, if you are looking at increasing your current range of motion, at this point I recommend that you then hold a static stretch for around 2 – 3 minutes then move onto another muscle group.



When looking at increasing the range of motion in joints you need to get to your targeted muscle groups “end range of motion”, then hold this position for a reasonable length of time (ideally 2 – 3 minutes). The main difference between static stretching and PNF stretching is PNF stretching will generally get you to your targeted muscle groups “end range of motion” in a shorter length of time than static stretching.

*Opening your legs as wide as you can, lean forwards, bringing your chest to the ground.
(Groin, hamstrings & erector spinae)*

An ongoing maintenance program

An ongoing maintenance program where a light to medium intensity stretching routine (static or PNF) is performed several times a week will.

- 1) Help to keep your muscles healthy and your joints moving freely
- 2) Help maintain posture
- 3) Help to reduce injuries to muscles that surround highly mobile joints such as the hip and shoulder joints.

Guidelines for Stretching

1) When incorporating a training phase specifically designed to increase the range of motion in joints, a “periodised program (a program of varying Intensities) is recommended.

2) If you are specifically looking at increasing the range of motion in your joints you will have to incorporate some high intensity stretching into your program. A high intensity stretching session needs to be followed up with a low – medium intensity stretching session, not another high intensity stretching session.

Standing on your left leg, grab your right foot and bring it to your butt while leaning forwards, then repeat on the opposite side of your body.

3) When performing high intensity stretching, you will need a qualified trainer or coach involved in your first few sessions to show you how much intensity is enough and how much intensity is too much. You will also need guidance as to the acceptable ranges of motion in each joint. Remember, more mobility means less stability.

4) All forms of stretching require some form of a warm up to elevate the bodies temperature, making the muscles you are about to target more pliable and easier to stretch. Warm ups include a 5 – 10 minute light aerobic workout, heat packs (when treating injuries) and hot baths or hot tubs. Hot baths and hot tubs are great for increasing the range of motion in joints, you can either sit in a hot bath or hot tub for 5 – 10 minutes then get out and stretch, or stay in the hot bath or hot tub and stretch in the hot water. Be careful not to over stretch in hot water, the heat from the water makes your muscle fibers incredibly soft and pliable allowing you to achieve greater ranges of motion.



5) When using static or PNF stretching for a cool down or an active recovery make sure the muscle groups you are targeting are only stiff and tight. If the muscle group you targeting is actually injured (e.g. torn), stretching can further damage the injured muscle or muscle tendon.

6) When performing a “general’ or a “sport specific” dynamic stretching routine, each movement is repeated around 10 – 20 times. Your initial movements are performed at low intensities, you then gradually increase the intensity with each movement until your last few movements place the muscles that surround the moving joints under a brief stretch.

7) Remember your body is a product of its training environment. If your warm up routine has included a static stretching routine, your body would have adapted to this routine and therefore will feel comfortable with this routine.



If you decide to change over to a dynamic stretching routine as part of your warm up routine, you may feel more comfortable initially starting off with 50% dynamic stretching and 50 % static stretching and progress to 100% dynamic stretching over a 2 – 4 week period.

Some of these stretches can be harmful if you perform them incorrectly or if you have current or previous injuries. I recommend that you learn these stretches under the guidance of a qualified trainer or coach and for current and or previous injuries under the guidance of a physiotherapist.

CONCLUSION

Stretching is a very important training component for all martial artists.

Understanding of the different types of stretching as well as how and when to implement the appropriate forms of stretching into your training will help you put together effective stretching routines specific to your needs.

Currently there is a lot of research currently going on the effect of static stretching and how it effects strength and power. If you aren't a competitive martial artist, then how you perform your warm up and stretching routine probably isn't that important. If you are a competitive martial artist and strength and or power are important components in your competition, then you may have to look at how you perform your warm up and stretching routine.

Placing your left ankle over your right knee, grab your right shin with both hands and pull your knee to your chest, then repeat on the opposite side of your body.



When online take a look at my site there is plenty more information for you absorb.

www.martialartandsportsscience.com.au

INDUSTRY EDUCATION

Leith Darkin Qualifications

I hope you find the information provided here both interesting and informative. I've personally been involved in martial arts for over 19 years.

I'm currently a 4th degree blackbelt in Zen Do Kai Martial Arts, a 5th degree trainer in BJC Muay Thai and a Victorian Martial Arts Board Licensed Kickboxing trainer. I currently run my own senior & kids Karate classes, Muay Thai classes and Submission Wrestling classes.

Over the years I've also trained in traditional Karate, Brazilian Ju Jitsu, Submission Wrestling, Boxing and Kickboxing. When I'm not participating or teaching martial arts I'm working as a Strength & Conditioning coach and a personal trainer.

I'm registered with Vic Fit as a Personal Trainer and I'm registered with the Australian Strength and Conditioning Association and the Australian Coaching Council as a Strength and Conditioning Coach. To keep these qualifications up to date and to further my education I've done courses in the following:

Fitness Leadership Certificate 4 in Personal Training

Personal Training

Level 1 Strength & Conditioning

Level 2 Strength & Conditioning

Level 2 Coaching Principles

Nutrition

Core Strength and Post Injury Fitness

Paul Chek Swiss Ball Training

Bio Design (biomechanics)

Pilates

Programming for the pregnant woman

Cross training

Attended the 2000 SMX

Victorian Conference of Science and Medicine in Sport and exercise.

Attended the 2001 SMX

Victorian Conference of Science and Medicine in Sport and exercise.

Attended the 2002 SMX Victorian Conference of Science and Medicine in Sport and exercise.

Attended the 2002 SMX Australian Conference of Science and Medicine in Sport and exercise.

Attended the 2003 SMX Victorian Conference of Science and Medicine in Sport and exercise.

Attended the 2004 SMX Victorian Conference of Science and Medicine in Sport and exercise.