



Why dynamic stretching is important and how to implement it into a 2-week preseason training camp environment, including specific movements.

By Scott Vallow

Everybody knows that before any type of physical activity, you need to stretch. You can hear it from almost every coach at every level for every sport. I'm not sure many of them know that the reason is because athletes need to get their core body temperature up and to get their muscles ready for physical activity. The disconnect among many coaches is that as times have changed, so have the ideas for stretching and getting your body ready for physical activity as well as reduce the risk for injury. At the end of the day, athletes need to take care of their bodies, and it is our obligation as coaches to make sure our athletes are maintaining a healthy lifestyle both on and off the field.

I can remember as a kid reaching toward a point of tension and holding the stretch for an extended period of time, this is known as static stretching. We would count to 10 as a team and then move to a different muscle group. Many studies have shown now that static stretching is counter-productive to the athlete prior to physical activity as well as does not reduce the risk for injury in athletes of all ages and genders. According to 'Warm ups for soccer, a dynamic approach' new research has shown that static stretching decreases eccentric strength for up to an hour after the stretch. Static stretching has been shown to decrease muscle strength by up to 9% for 60 minutes following the stretch. (1) This is obviously not good for any athlete, especially a soccer player that may be on a full sprint or have to quickly change direction immediately after warming up.

Studies show that dynamic stretching is superior to static stretching prior to activity. Dynamic stretching is a technique where muscles are stretched while the body is in motion and according to Matthew Brown (2), here is the science:

Your body has many mechanisms that need to be activated and stimulated. When you put your body through a series of stretches while in motion, it sends signals from the brain to the muscle fibers and connective tissues in that area to prepare to do work. Your body's temperature begins to rise and blood is pumped to the working areas of the body. Getting good blood flow to the area of the working muscles is very critical in order to supply the area with energy needed to do work. Along with getting proper blood flow to the working area, the muscle fibers and connective tissues will gain more flexibility and range of motion.

Many studies have shown that dynamic stretching can help increase power, improve flexibility, and increase your range of motion.

In the Department of Physical Therapy of Wichita State University, L. Parsons and his research team wanted to find out how dynamic stretching, static stretching, or no stretching differed in performance when used before vertical and standing long jump testing. Their findings showed that those participants who did a series of dynamic stretching before vertical jumping showed significant increases in performance than compared to static stretching, or no stretching at all.

In a Human Performance Laboratory in Hokkaido University, Japan, Taichi Yamaguchi and Kojiro Ishii wanted to find out how dynamic stretching, static stretching, or no stretching differed in power output of leg muscles when participants participated in leg extension exercises. Their findings showed that those participants who did a series of dynamic stretching before doing leg extension exercises showed significant increases in performance than compared to static stretching, or no stretching at all.

As soccer players, it's also important to warm up with the dynamic exercises that are sport specific. According to Dr. Paul Cialone, MD (3), dynamic stretching prior to activity is crucial to the athlete and the following dynamic stretching routine is used for the soccer athletes he trains (and the one we will use for our team):

- 1) 3 minute jog at a low intensity
- 2) 30 seconds of skips, driving knees and arms
- 3) 30 second shuffle, small steps and not clicking heels
- 4) 30 second of carioca with quicker steps and arm movements
- 5) 30 seconds of High knees
- 6) 30 seconds of 'butt kicks'
- 7) 30 seconds of forward lunges
- 8) 30 seconds of side lunges
- 9) 30 seconds of walking straight leg toe touches
- 10) 30 seconds of walking quad stretches
- 11) 30 seconds of walking knee to chest holds
- 12) Fast high knees, then 10 yard sprint out
- 13) Fast 'butt kicks' then 10 yard sprint out
- 14) Fast shuffle then 10 yard sprint out
- 15) Fast carioca then 10 yard sprint out

Dr. Cialone says this routine typically takes 10-12 minutes and is adequate before physical activity to get the heart rate up, get the muscles ready for soccer specific movements and reduce the risk for injury.

Now that we can see that there is a serious importance for incorporating dynamic stretching prior to activity - for getting the core body temperature up, the muscles ready for physical activity and to reduce the risk for injury - here's how we are going to implement it into our 2-week preseason training camp environment:

- 1) The first few dynamic stretching sessions will be lead by a coach who is familiar with the above routine, to make sure all the players are familiar with each exercise.
- 2) Subsequent dynamic stretching sessions, prior to every training session/game, will be delegated to the players of the team and monitored by the coaching staff. This will give ownership and responsibility to the team...2 important qualities of any team.
- 3) To avoid monotony, the coaching staff will select a different player to lead the dynamic stretching portion of each training session.
- 4) After training, the same player will lead the team in a cool down/static stretching session

Static stretching is also important to the soccer athlete. According to Sports Fitness Advisor (4), static stretching helps with recovery and flexibility, rather than as part of a warm up, and requires a different approach.

Here is the static stretching routine:

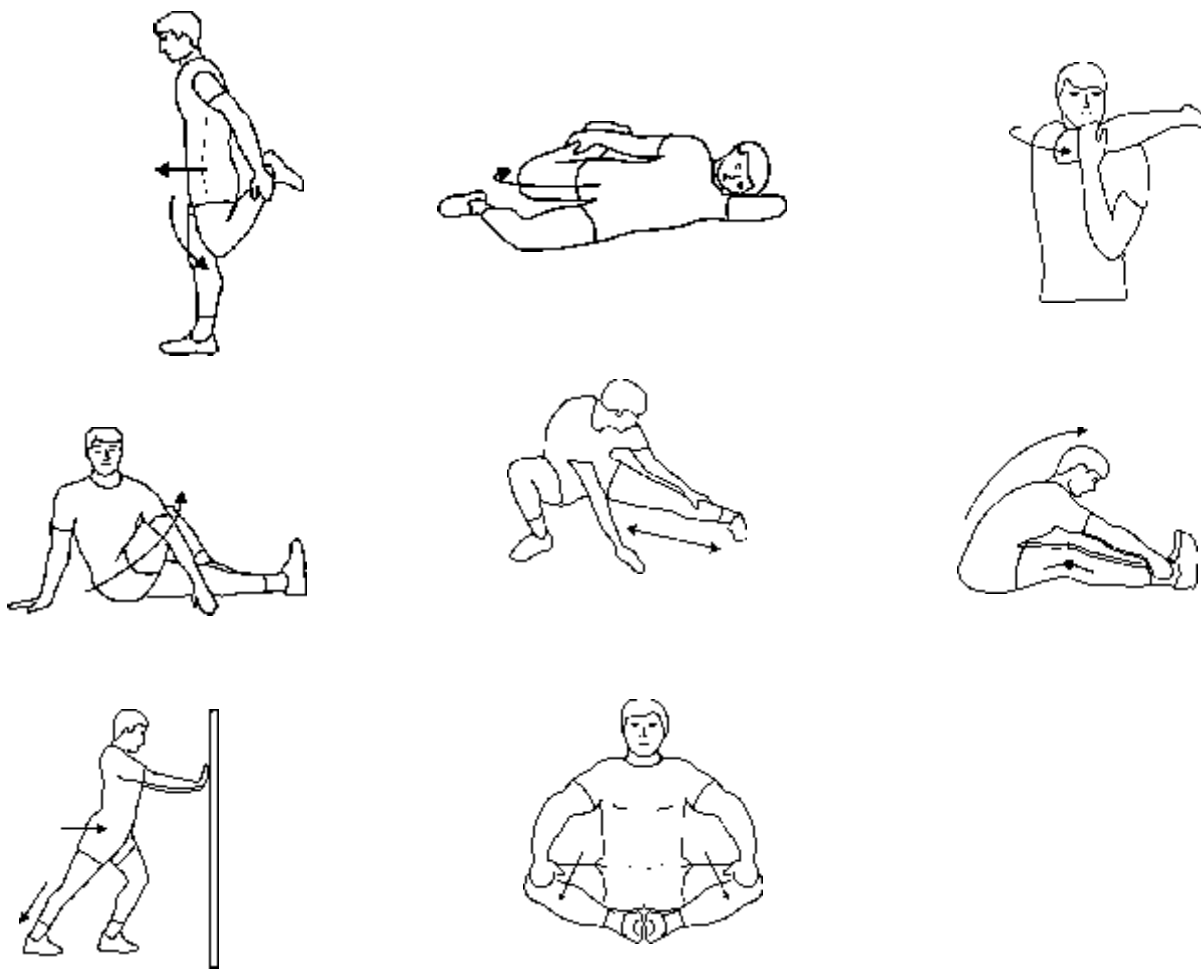
Each stretch should be held for 20-30 seconds and should be repeated at least twice (preferably three times).

Here are some general, but important guidelines to bear in mind:

1. Do NOT hold a stretch that is in anyway painful. It should feel tight and that tightness should diminish as you hold the stretch.
2. Breathe! Avoid breathing holding as you stretch as this can raise blood pressure and leave you feeling dizzy.

3. For optimal results try to stretch every day or at least 3-4 times a week
4. Hold each stretch for 20-30 seconds. "Shake out" the limb and joint and repeat for a total of 2 to 3 sets.
5. Don't expect results overnight. It can take up to 6 weeks to see measurable improvements. Be persistent - they will come.

Examples of static stretches:



These exercises can be done in any order following training, with the main consideration is to perform several sets back to back and to hold the stretches for at least 20-30 seconds.

In conclusion, as you can see, both dynamic stretching and static stretching should be incorporated into every soccer training session or game.

Dynamic stretching should take place BEFORE physical activity to get the core body temperature up, get the muscles ready for activity and reduce the risk for injury. Static stretching should take place AFTER physical activity to help the body recover and to help with flexibility. At the end of the day, what we are trying to do is give our athletes the best chance to perform at the highest level...and incorporating a quality stretching routine will not only give our athletes the opportunity to excel, but also help reduce the risk of injury.

Reference Page:

- (1): Mick Critchell: Warm ups for soccer, a dynamic approach, page 5
- (2): Matthew Brown, Norcal Strength and Conditioning Coach who hold a Masters Degree in Kinesiology with an emphasis on Exercise Physiology (norcalsc.com)
- (3): Dr. Paul Cialone, Partner-Athletic Republic of Rochester, Speed/Acceleration franchise (athleticrepublicrochester.com)
- (4): Phil Davies, Sports Fitness Advisor, Scientifically Backed Fitness Advice for Sport and Life (sport-fitness-advisor.com)