

LMFA Warm-up/Cool Down protocol

Warm-up

It has been shown, in studies, that teams who provide a PROPER warm-up have seen 30-40% less injuries than teams that don't. The following protocol is based on the proven "11+" Fifa warm-up protocol, as this is the most tried and true method of warm up; however, I have adapted the exercises to be American Football appropriate. The information below is meant to help guide you in creating your own warm up. It is appropriate for most age groups; however I leave it up to you the coach to decide what exercises are best for your particular team and age group.

There are three parts to this warm up.

Part 1: Exercises at slow speed combined with active stretching with the goal to increase heart rate and blood flow to the muscles and joints;

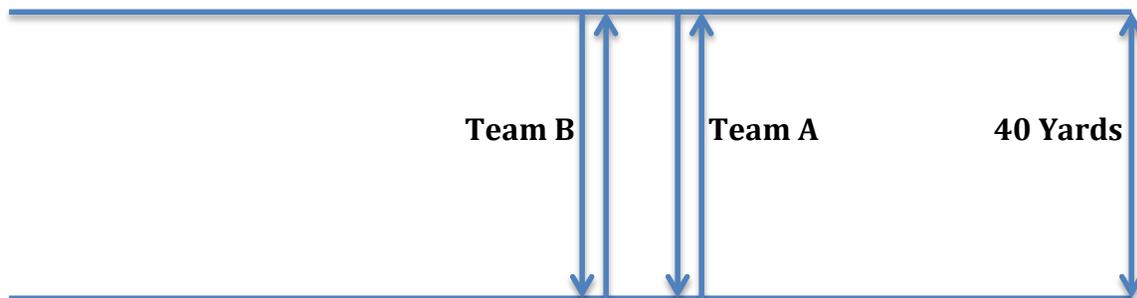
Part 2: Exercises focusing on core, leg, upper body strength, balance, and agility; and

Part 3: Running at moderate to high speed with planting and cutting, to get the heart rate back up and ready for positional/team drills.

Part 1: Elevate your team's Heart Rate (5-8 Minutes)

The goal of the first 5-8 minutes is to get your team's heart rate up. This is typically achieved through running, while mixing in some easy dynamic movements (Walking lunges, Hips In/Out etc).

Set up will consist of splitting your team into two equal groups (Team A/B) and having them line up facing each other 40 yards apart. Adding cones to delineate each 5 yards will help to make the drills easier for players. There are seven stages in Part 1.



Stages

1. **RUN** - With your team split in two facing each other, have them run to the other side at a moderate pace 60-70% of max speed, stop, turn around and run back.
2. **HIP OUT** - Jog 5 yards, lift knee up, rotate knee to the side and put down, jog 5 yards and repeat with opposite leg and so forth. (Do twice)
3. **HIP IN** - Jog 5 yards, lift knee out to the side, rotate it inwards, jog 5 yards and repeat with opposite leg and so forth. (Do twice)
4. **CIRCLE** - Jog out and meet partner halfway, circle around partner without changing the direction you are facing and then finish the jog. (Do twice)
5. **JUMPING HIGH TEN** - Jog out and meet your partner halfway. STOP! Jump and do a high ten, then continue to the other side. (Do twice)
6. **FORWARD/BACKWARD** - Run out 10 yards, backpedal 5 yards, then run 10 yards and repeat until you reach other side. (Do twice)
7. **WALKING LUNGE** - With feet hip width apart, lunge forward, and bend your hips and knees, so that your leading knee stays behind your toes and makes a 90-degree angle. Drop your back knee to just above the ground then push off with your back leg and go straight into a lunge with the opposite leg. Continue until you have reached the opposite side. (Do twice)



Part 2: Get the muscles warm and filling with blood, while increasing the teams base strength. (8-10 Minutes)

1. **PLANK** - Lying on your stomach with your weight supported on your elbows, which should be directly below your shoulders. Then lift your pelvis off of the ground, so that your body is as flat as a plank. Have your athletes hold this position for a count of 20-30 seconds, rest for 10-15. (Do twice)



2. **PUSHUP** - Start in a similar position as **PLANK**, except with your hands under your shoulders. While keeping the body aligned push into the ground and raise your body until your elbows are almost straight, then lower your body until your upper arm is parallel to the ground (elbow is making a 90 degree angle) and repeat. Have your athletes perform as many pushups as they can in 30 seconds rest 10-15 seconds. (Do twice)
3. **HAMSTRING CURLS** - Kneel with knees hip width apart. Partner kneels behind you with both hands holding down your lower legs just above the ankles, while pushing down with their body weight. Your Body should be completely straight while doing the exercise. Slowly lean forward while controlling your fall with your hamstrings. Once you cannot hold yourself up any longer break your fall gently with your hands. Gently push yourself back up. Repeat 3-5 times for beginners and 10-15 for advanced.



4. **SINGLE LEG BALANCE** - While standing arms length away from partner and each on one leg. Bend knees and hips slightly to allow a slight forward upper body lean. Hold the raised leg slightly behind the stance leg. Keep your balance while each of you try and knock the other off balance in turn (Stress to your athletes that they're trying to knock each other off balance, NOT OVER). If you need to change your stance do so and reset back to the start position. Perform exercise for 30 seconds and then repeat with opposite leg.



5. **SQUAT WITH TOE RAISE** - Standing with feet hip width apart and hands in a front and ready position. Slowly push your bum down and back until your knees are flexed to 90 degrees. Keep your back straight while raising back up to standing position, and then rise up onto your toes. Repeat for 30 seconds. (Do twice).



6. **JUMPS** - Perform the same squat mechanics as from above. Once at the bottom, hold this position for 1 second, and then jump as high as you can. Land lightly on the balls of your feet. Repeat for 30 seconds. (Do twice)

Part 3: This part is meant to increase the heart rate again to prepare for more rigorous agility or position drills. These runs should be performed across the field between the Hash marks.

1. **SPRINTS** - Run at 70-80% max pace from one side to the other, reset and run back. (Do twice)
2. **BOUNDING** - after 3-4 warm up steps, take 6-8 bounding steps and then jog the rest of the way. (Do twice) A Bounding step is a mix between high knees and a skip.
3. **PLANT AND CUT** - Run at 70-80% to opposite Hash mark, after 5-6 steps, plant on either foot and cut left or right, run another 5-6 steps and plant and cut on opposite foot. Continue until you reach opposite Hash Mark. (Do Twice)

Your players are now Warm and ready to have a safe and productive practice. For more information on Warm up please see the references below.

Cool down

Cool down is an opportunity to provide your players with the time to increase their flexibility and decrease their soreness after practice. It should consist of a 5-10 minute light run, followed by stretching of the major muscle groups that have been used in practice. Following are a couple of examples.

1. Quad stretch

Holding onto a partner grab your left ankle with your left hand. While keeping your knees together, slowly pull up and back with your hand until you feel a slight pull in the front of your leg. Hold for 30 seconds and repeat with the other leg.



2. Hamstring stretch

Cross your right leg over your left leg and while keeping your left knee straight bend down and hold for 30 seconds. Then cross your left over your right and repeat.

3. Calf stretch

While in the pushup position, lift your right leg over your left leg. Push your bum backwards and upwards, while attempting to get your left heel to the ground. Hold this for 30 seconds then repeat with the opposite foot.

4. Gluteus Stretch

While sitting on the ground put your left leg straight ahead, and put our right foot on the outside of our left knee. Then, grab your right knee and pull it to your chest. You should feel the stretch in your right buttock. Hold this stretch for 30 seconds, and then repeat with the other leg.

5. Hip Flexor Stretch

Go into the lunge position, and drop your back knee down while pushing your hips forward. During the stretch do not let our forward knee go over your toes. You should feel this stretch in the front hip area of the back leg. Hold this stretch for 30 seconds and then repeat with the other leg.



6. Triceps stretch

While standing reach your right hand behind your head. Using your left hand, grab your right elbow and pull it left behind your head. Hold this for 30 seconds then repeat with you're opposite arm.



7. Chest stretch

With a partner, hold your hands out directly to the sides. Get your partner to grab your hands and gently pull both of your arms back until you feel a stretch in your chest. Hold for 30 seconds and then switch partners.



Just like the warm-up, the cool-down can and should be easily modified for your specific team's needs. The above is just a guide to assist you in creating a plan that your team follows. You can find more stretches at the same websites where I found the above pictures;

http://www.teachpe.com/stretching/arm_stretching_exercises.php

"The "11+" A complete warm-up program to prevent injuries" was used as the basis for the warm-up and can be found at:

<http://www.fifa.com/aboutfifa/footballdevelopment/medical/playershealth/the11/index.html>.

Further reading on warm-up and cool down can be found in the following articles;

Katherine Herman, Christian Barton, Peter Malliaras and Dylan Morrissey. The effectiveness of neuromuscular warm-up strategies, that require no additional equipment, for preventing lower limb injuries during sports participation: a systematic review. *BioMed Central*.2012;10(75):2-12

Renato Barroso, Carla Silva-Batista, Valmor Tricoli, Hamilton Roschel, and Carlos Ugrinowitsch. The effects of different intensities and durations of the general warm-up on leg press 1RM. *Journal of Strength and Conditioning Research*. 2013;27(4): 1009-1013

Roberta YW Law and Robert D Herbert. Warm-up reduces delayed-onset muscle soreness but cool-down does not: a randomised controlled trial. *Australian Journal of Physiotherapy*.2007;53:91-95

Olav Olsen, Mona Sjøhaug, Mireille van Beekvelt, Paul Jarle Mork. The Effect of Warm-Up and Cool-Down Exercise on Delayed Onset Muscle Soreness in the Quadriceps Muscle: a Randomized Controlled Trial. *Journal of Human Kinetics* .2012;35:59-68