



C25K Week 3: Importance of a Dynamic Warmup

Before you exercise, think about warming up your muscles similar to how you would warm up your car. It increases the temperature and flexibility of your muscles, and helps you be more efficient and safer during your workout. A warm-up before moderate- or vigorous-intensity aerobic activity allows a gradual increase in heart rate and breathing at the start of the activity. Overall, this helps prepare the body for activity ahead and prevents injuries from occurring.

Warm-Up Tips:

- Warm up for 5 to 10 minutes. The more intense the activity, the longer the warm-up.
- Do activities you plan to do (running, walking, cycling, etc.) at a slower pace (jog, walk slowly) in the warm up.
- Use your entire body. For many people, walking on a treadmill and doing some modified bent-knee push-ups will suffice.

Dynamic Stretching

One of the best ways to warm up before a workout is to perform dynamic stretching. Dynamic stretching is a form of stretching utilizing momentum in an effort to propel the muscle into an extended range of motion while not exceeding one's static stretching ability. Dynamic stretches are active movements where joints and muscles go through a full range of motion, allowing flexibility and muscle activation to occur.

Dynamic stretches can be functional and mimic the movement of the activity or sport that you are about to perform. They can be a series of movements to get the body moving before any type of exercise. Some examples include trunk twists, walking lunges, or leg swings against a wall. For a sport specific example, a swimmer may circle their arms before getting into the water.

Ultimately, dynamic stretching prepares the body for physical exertion and sports performance. Before sports or athletics, dynamic stretches may be beneficial for athletes who will be running or jumping, including basketball players, soccer players, and sprinters. Before weightlifting, dynamic stretching may help with leg extension power and improve performance, compared to static stretching or no stretching. Before cardiovascular exercise, dynamic exercises can get your muscles warmed up and ready, which may improve performance and reduce risk for injury.

How will runners benefit from doing a dynamic warm up before a workout?

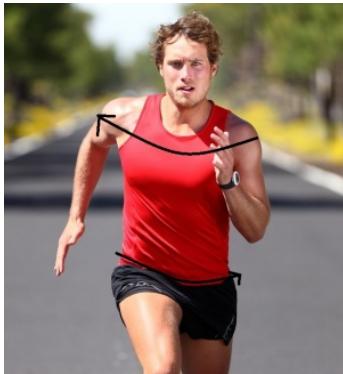
Running is a single-plane motion (sagittal plane—running straight ahead). By adding some multi-planar running maneuvers within a dynamic warm up, clients can stimulate the muscles and joints in ways that can transfer to better mechanics when running straight ahead. Runners can better protect themselves from the repetitive, single-plan impact that is inherent in running by moving through the foot, ankle, hip and spine in a three-dimensional, multi-planar fashion.



Multi-Planar Dynamic Stretching Examples for Runners

The following exercises are examples of dynamic stretches that are beneficial to a running warm up. Perform each exercise for 10 to 20 reps/steps or 10 to 20 seconds. Runners may also separate each exercise by a walk or light jog in between.

Rotation Runs



Running straight ahead, but with rotations every couple of steps by looking backwards. This can help reduce stiffness and mobilize the hips and spine in the transverse plane. If one side feels tighter, spend more time on that side. It should not be a head turn, but a torso turn.

Butt Kicks



At a light jogging pace, stay on the balls of the feet and exaggerate the knee motion by kicking the heels to the glutes. This can increase spring and absorption of mid-foot landing and can dynamically mobilize the quadriceps.

Back Peddling



Back peddling is a great way to influence foot mechanics. By making contact with the toes first, the toe motion will be exaggerated and help enhance the toe-off. The foot can "loosen" functionally and with stability. When turning around to move straight again, stepping and impact should feel different and more in-tune.

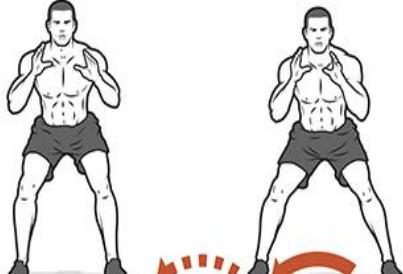
High Knees



At a light jogging pace, stay on the balls of the feet and exaggerate a high-knee action. Emphasize springing off the balls of the feet through soft landings. This can increase absorption and reflexive power in the mid-foot strike.



Side Shuffles



This move works the foot/ankle from eversion into inversion of the lead/pulling leg and inversion into eversion of the trail/push-off leg. Hip adductors and abductors activate, move and stabilize the hips. This move is helpful with lateral stability and neuromuscular efficiency.

Hamstring Sweep



Take a short stride forward keeping the heel firmly on the ground. Keep the front leg straight and bend the back knee sinking your bottom towards the ground as though you're about to sit in a chair. At the same time as keeping the front leg straight, sweep down with your hands towards the ground creating a dynamic stretch on the hamstring group. Switch to opposite leg after one sweep.

Cariocas



Leg crossovers (or cariocas) work from toe to neck, requiring the feet to dynamically decelerate and accelerate and help mobilize the hips and spine.

Ankle and Calf Mobilization



This is an alternative calf raise and lowering drill. The idea is to place the foot on the ground with the toe and the ball of the foot first. Then lower your weight through the foot eventually allowing the heel to return to the ground. Think of it as the opposite to walking, going toe to heel as opposed to heel to toe.



Leg Swings: Side-to Side



Keep your trunk and torso strong with good pelvic alignment. Head up and swing one leg across the body to end of range on the medial side and then back across to the lateral side.

This movement is controlled and close to one swing per second with no forced effort. Be careful not to rotate the trunk or pelvis. This will release tension in the abductors and adductors of the legs.

Leg Swings: Forward and Back



Keep your trunk and torso strong with good pelvic alignment.

Head up and swing the leg forwards and backwards engaging the hamstrings and hip flexor groups. Be careful not to lean forward or back keeping the pelvis in a strong and fixed position. This will release tension in the hamstrings and the hip flexors.

What should I avoid during the warm-up?

Our goal in a warm up is to prepare the body and muscles for activity ahead. If done prior to activity, static stretching may actually inhibit the muscle's ability to fire, which can overall decrease performance and increase chance of injury. Although runners should avoid these stretches during the warm up, static stretches are important after a workout for muscle recovery,

Static Stretching

Static stretches are stretches that help to elongate and loosen the muscle that are achieved by holding a certain stretch for an extended period (usually anywhere from 15 seconds to a minute).

- The best time to use static stretching is post-workout. Using static stretches as part of your cool down will help relieve any muscle tension caused by exercise and provide better blood flow to aid in recovery.
- This type of stretching will alleviate any tightness that you may have, decreasing the chance of delayed onset muscle soreness
- Static stretching also helps to increase flexibility and your range of motion
 - Ex: The hamstring stretch, straddle, quad stretch, and head bend, are all examples of static stretches.

Difference between Static and Dynamic Stretching

Dynamic

- Perform before exercise occurs
- Prepare your muscles for exercise

Static

- Perform after exercise occurs
- Relaxes muscles for muscle recovery