

Hansen Multisport

Proper Warm up – Track Workouts - Running

Physiological reason for a warm-up:

- To increase the core temperature at least one or two degrees Celsius
- To increase heart rate and blood flow to skeletal tissues which improves the efficiency of oxygen uptake and transport, carbon dioxide removal, and removal and breakdown of anaerobic byproducts
- To increase the activation of the Central Nervous System (therefore increasing coordination, skill accuracy, and reaction time)
- To increase the rate and force of muscle contraction and contractile mechanical efficiency (through increase muscle temperature)
- To increase the suppleness of connective tissue (resulting in less incidence of musculo-tendonous injuries)

The result of these physiological responses to warm-up activities leads to an athlete's increased ability to perform physical work. This is very crucial for the requirements of high intensity movements. Additionally, the improvement in the nervous system helps to perform high levels of complete body movement.

Elements of a Good Warm-up

1/4 - 3/4 mile easy run - This starts the warm up process in easy and safe way without any over-exaggerated movements. Movement is not dramatic and overly aggressive but provides good blood flow to working muscles so they are prepared for the next progression in the warm up where movements are more forceful.

Dynamic Stretches – helps to further increase core temperature while increasing the activation of the Central Nervous system.



High Knee Walk – walk 30 feet across the ground lifting the each knee up so they are parallel to the ground. Repeat.



High Knee Walk w/knee Hug – walk 30 feet across the ground pulling the each knee up so they are close to the chest. Repeat.



Straight Leg Walk – walk 30 feet across the ground lifting a straight leg off the floor until you feel the stretch in the hamstring-gluts. Reach forward with the opposing arm for balance. Repeat.

Strides or Pick-ups - 2-4, 50-75 yard strides or pick up – these efforts start out at a moderate effort 70% and end at 90% effort. They are designed to progressing the warm-up process from dynamic stretching. Strides help specifically to increase the rate and force of muscle contraction (through increase muscle temperature).

Running Warm up Drills - 2-4, 10-25 yard drills – In the warm up process, drills help specifically to increase contractile mechanical efficiency (through increase muscle temperature) and proper neural firing for better coordination.

Doing these drills will help you enhance your warm-up but also make you think about the way you run, making you concentrate on your technique and breaking down some of the key elements of your stride. This in itself is a good thing even if the drills provide no other benefit.

The Drills

1) High Knee Running / Quick Feet Drill

The aim of this drill is to increase leg turnover and improve your knee lift for when you need to pick up the pace a bit.

Start off jogging slowly, when you hit the point where you want to start your drill, increase your stride rate so that you take as many steps as possible over about 20 meters or so with a high knee action. You should be bringing your legs up in front of you and maintaining a nice upright posture. The aim is not to move forward quickly but to maximize the number of steps that you take; remember this one is about leg turnover not stride length.



You should feel fatigue from this drill in the front of your hips and thighs (hip flexors).

Technique Tip:

A good way to figure out how high your legs should be coming up is to do this drill a couple of times with your elbows at your side and your forearms at 90 degrees to your body, palms facing down. Your knees should come up and hit the palm of your hands, this is where you want your knees to come up to whenever you are doing the drill.



2) Butt Kickers

Butt Kickers have a very similar objective to the high knee running drill, to increase leg turnover. This drill however emphasizes the hamstrings and the recovery stage of your stride. The hamstrings are often overlooked by triathletes who have strong thighs from cycling so this one is good for getting a bit of balance back.

Once again begin by jogging slowly towards the spot where you want to start your drill and increase your stride rate, concentrating on getting your feet moving as quickly as you can and getting your lower leg to swing up behind you. Your heel should literally be hitting your butt. Continue on for about 20 meters.

You will feel the fatigue in your hamstrings so jog out of each repetition. Stretch gently if things are feeling a bit tight.

Technique Tip:

With this drill, your upper leg should remain reasonably still and you should be aiming to bring your leg up to your butt, not the other way around. This is important; otherwise you will sag and not be able to maintain good upright body position.

4) Straight Leg

This is a strange looking drill but very effective to develop a mid foot strike. The goal with this drill is to develop the timing and responsiveness of your foot striking the ground. The straight-leg bound drill



also increases your ability to generate power from the hips, hamstrings and glutes. The motion emphasized in this drill will help improve explosive power during the running stride.

Going from a walk in a nice upright position extend your leg out in front of you keep the knee straight and then snap your leg down to contact the ground in a powerful fashion. As your foot contacts the ground, drive your leg up again always keeping the knee straight and repeat. The goal is to minimize the amount of time the forefoot stays in contact with the ground. Complete 30 meters each repetition concentrating on your form. Complete 3-6 reps of 30 meters. Start with 3 reps and 1 rep each week peaking at 6. See video clip of the drill:

<https://www.youtube.com/watch?v=08lfQnN9JiE>

Technique Tip:

The key to this drill is to get a quick snap when bringing your leg back to the ground. It may be helpful to concentrate on arm swing and imagine you are doing a military straight leg march. To further help you visualize the mid-foot strike and its components, check out this video of Miranda Cafree (IM Kona winner) and Melissa Hauschildt (70.3 World Champion) on treadmills in a side by side comparison: Notice some of the differences in their form from your own, especially the hip drive, heel recovery towards the glute to aid in mid foot striking by both runners:

<http://youtu.be/uijwsa4zWGM>

Sample Warm up

See below for specific guidance with regards to putting to use the information about run drills and strengthening exercises, I provided you. I recommend doing the following sample moderate easy runs 2 x week that incorporate the appropriate drills:

- Run 1/2 mile as a warm up
- Dynamic Stretches – 3 exercises
- Do 4 x 75 yard strides - start at 70% effort finish the last 20 yards at 90% effort. Focus on good form at the faster speeds.
- 4 x 50 yards of high knee skip (25 skip - 25 run). Focus on high knee drive and opening the angle between the forward and trail leg.
- 4 x 50 yards of straight leg drill (25 straight leg - 25 run). Focus on stiff knees, landing on mid foot and quick rebound off the ground

