

Using Dynamic Warm-Up Exercises instead of Traditional Warm-Up routines



Modified: Sports Performance Bulletin: www.sports-coach.net

For years coaches and athletes have performed an old style warm up before all sporting events. This warm up has included light aerobic activity followed by static stretching. However over recent years, research has been provided stating that the old style warm up is not effective but for some reason coaches and athletes still use them!

A warm up is necessary to prepare athletes for training or competition both physically and mentally. An old style warm up would consist of 5-15 minutes steady cardiovascular work e.g. jogging followed by stretching. The stretching component means athletes would sit about stretching and usually chatting and by the time the session starts they are cold both physically and mentally.

Using the old style warm up technique athletes are no where near prepared for the dynamic activity they are about to undertake. And, although coaches used to constantly remind athletes about stretching to improve range of movement, is being so flexible really relevant to your sport.

The idea of **the "new" warm up** is that it **should be a much more dynamic**, focused routine which is **specific** to your sport. The various drills employed need to warm up our muscles specifically for the movements that will be required of them in the activity to follow.

This therefore allows nerves and muscles to be switched on and the functional range of movement developed. To be honest it seems obvious but to some this is an all new concept.

This new concept will be a challenge to get all coaches and athletes in a number of sports to turn their beliefs on their heads and use the idea of **dynamic warm up** instead of the old traditional style.

Although you may think that a dynamic, focused warm up is a new idea, it is not. Athletes from the former Soviet Bloc have been using these types of warm ups as far back as the 1970s, decades before they came to mainstream attention in the West.

A training course with former long jump world record holder and (at the time) Head Soviet Coach Igor Ter-Ovanesian in the early 80s, showed the idea of the new warm up, by athletes being put through a short, sharp warm up, comprising star jumps and various agility moves.

However, on receiving the instruction to warm up, all athletes attending the course began by plodding round the track, only to be called back by Ter-Ovanesian and instructed in the 'new way'.

However coaches beliefs were so strong that they failed to use this new lesson.

Performing The Dynamic Warm Up

How, then, should we warm up? The following guidance will work for runners and players of running based sport, who need to be flexible enough to run efficiently in terms of power, relaxation and injury avoidance and (in running based sports) to make quick changes of direction.

For such athletes, specific range of movement will be required in the shoulders, lower back, hips, hamstrings, quads, calf muscles and achilles tendons. But preparing these areas for dynamic activity does not require lengthy periods of passive stretching.

You first need to raise your body temperature with 5-10 minutes gentle cardiovascular exercise such as slow paced running. After all, running is specific to running based sports and the CV system also needs to be prepared.

The dynamic period of the warm up can be incorporated into the cardiovascular warm up by using the exercises below in between jogging. However, it is possibly better to move towards this technique over time especially if you have always used the more traditional style warm up.

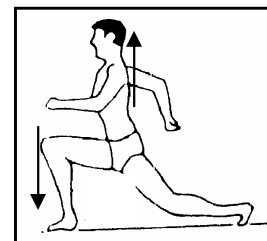
The speed of the dynamic exercises can also become faster as you become better at performing the exercises. This will allow your nerves to be fired up and increase the strength of your muscles for handling more dynamic contractions.

These dynamic drills can also reduce the risk of common running injuries, such as shin splints, and can 'protect' the knee and ankle joints. **Always think about being 'light' on your feet.**

Quality is more important than quantity; recovery is critical .. do **not** rush your training

Example Exercises

Each of the exercises below can be performed over a 10-15m distance, with a walk jog back recovery. 3-4 repetitions should be performed of each exercise.



- **Lunge walk** – for loosening up the hips, improving leg drive and strengthening the butt and hamstrings. Assume a lunge position and step forwards into another lunge. Keep your chest up, look straight ahead and coordinate your arms with your legs.
- **High knee lift** – for hip flexor and ankle strength. Extend up onto the toes and lift each thigh to a position parallel with the ground as you move forwards.
- **Elbow to inside of ankle lunge** – for hip flexibility, hamstring strength and stretching out the lower back. Similar to the lunge walk, but extend your trunk forwards over your front leg.

If your right leg was in front of you, you would take the right elbow down toward the inside of the right ankle.
Watch your balance!

- **Calf walk** – for lower limb strength and achilles flexibility. Extending the ankle on each step will warm up the calf muscles and achilles tendons.
- **Sideways and backwards skipping/running** – for lower limb strength, agility and flexibility.

Other useful warm up exercises include:

- **Simulated running arm action, standing or seated** - The seated version is also great for specific core stability, as you have to work hard to maintain stability on the ground. Perform for 15-60 seconds, altering your speed of movement.
- **Leg drives** - Lean forwards against a wall, with your hands out at shoulder level and your feet shoulder width apart and approximately a metre from the wall. Look straight ahead and keep your body straight.

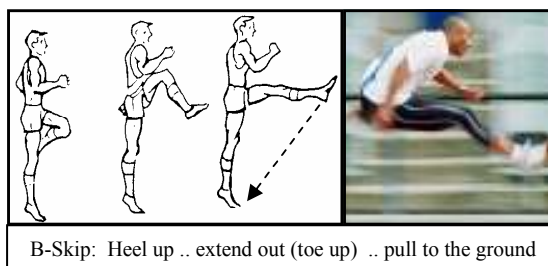
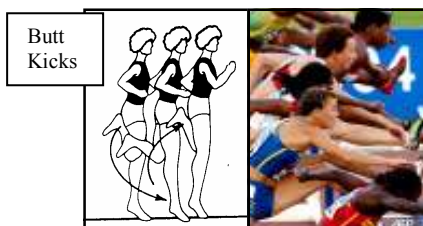
Lift your right leg, with the knee bent, until the upper thigh is parallel to the ground. From your hip, drive the leg back, so that your forefoot contacts the ground, then pull the leg back up to the starting position to complete one rep. Perform in sets of 6-10 on each leg, gradually increasing the speed of the drive .. use speed of execution as a guide to repetitions (don't practice slowness).

- **Leg cycling** - Assume the same starting position as for the exercise above, but this time, on driving the leg back, sweep it back up and behind you before pulling it back from the hip to the starting position.

Try to keep the foot dorsi-flexed (toes pointing up). Perform this exercise slowly at first, gradually building up speed as you become more confident.

A final thought is – don't wear shoes for these exercises! Don't complete your actual session in your socks; but, if weather permits (or you're training indoors), performing the drills described above over very short distances without shoes can be very beneficial.

Running shoes prevent the calf and achilles tendons, in particular, from optimally flexing. They also reduce the potential to specifically strengthen these areas. By increasing foot and lower leg strength can make you a more efficient runner.



Every athlete
is an experiment
of one

The Benefits of a Dynamic Warm Up

The summary below provides details of why adopting a dynamic warm up may improve your sports performance.

1. You'll save time and free up more specific training hours. If you were training five times a week for 250 days a year, warming up and stretching in the traditional manner for 30 minutes at a time would take up a total of 125 hours.

That is virtually five days of continuous training time that could be put to much more specific use.

- The dynamic warm up will also improve your running action and specifically strengthen and stretch your running muscles, so boosting your performance.

The lower leg is fundamental to running performance, and many of the drills described above will strengthen your legs and so, will do wonders for your power generation and force production.

- It has a psychological benefit and therefore you'll be better prepared mentally. This warm up means you have to focus at all times compared to a traditional warm up where during stretching your mind can drift away.
- Overstretching your connective tissue can occur from a traditional warm up which can impair dynamic sports performance.
- Research has indicated that the shine is knocked off dynamic activity by too much stretching in the warm up. Too much stretching and too great a range of movement can be a bad thing. Recent research indicates that plyometric training for distance runners will develop energy efficiency, but so, too, will a more specific warm up.
- Hyper mobile joints through too much stretching can also make you more injury prone, particularly in impact sports.

However, there are times when 'old school' stretching (static) is okay.

Stretching still has a very important role to play in an overall training plan. This should be done to reduce muscle shortening and the potential build up of muscle tightness. However this should only be done in separate training sessions away from your sport specific sessions.

Plan **your** warm-up / warm down; learn to read your body ; what do **you** need?

An outline of a **Dynamic Warm-Up** presented by **US Coaches Loren Seagrave and Kevin O'Donnell ..**
The activities often have coach/athlete/group-specific names .. can/**should** be adapted according to the needs of the athlete and intentions of the coach.

The Active Dynamic Warm-Up (Modified: Loren Seagrave .. *Speed Dynamics video series*)

- 2-3 Laps** of jog ► build up (50m) + walk 30 metres + selected exercises: e.g. Side Lunge, Jumping Jacks, Wide-outs, Thrusts, Speed Skater, Star Jumps, Crazy Hops, Karioka.
- Hip Mobility Circuit** x 10 reps. Select from (4-5) .. Ham Reach, Straight Leg Reach, SL Lift, SL Side Lift, SL Inside Lift, Prone SL Lift, Sky Diver, Trail Leg Circle Forward / Backwards, Fire Hydrant, Single Leg Hip Thrust on Wall.
- 3 x 90-100m Build-up** (50% effort): Body Position Focus.
Static Stretch Hold (15 secs.): Cross Leg Ham, Stork Stand, SL Calf Stretch, Low Skip and Stoop, Back 50 metres, Walk 30m.
- Dynamic Mobility Circuit** x 10 Reps. Select from (4-5) .. Head Circles, Trunk Circles, Hip Circles, Lead Leg Pick-up, Iron Cross, Scorpion, Groiners, (Inverted Bicycle, Rock Back into Inside Hurdle Seat ... 15 secs. between each) Parallel Leg Swings. Perpendicular Leg Swings, Trail Leg Windmill ... Forward and Backward, Hurdle Seat Change.
- 3 x 90-100m Build-ups** (75%): Recovery Mechanics Focus - Side slide back, changing direction every 30m
- Sprint Exercises:** 3 x 20 metres each. Ankling, Butt Kicks, A-Skip, Long Backwards Striding, Karioka, B-Skip.
For 30m: Shake-ups, Straight Leg Bounding. Single Fast Leg.
- 3 x 100m Build-ups** (85-90%): Recovery Mechanics Focus - side bound back, changing directions every 40m
- Jumps:** 6-10 x Standing LJ into pit; 6-10 x Standing R►R►L►L into pit; 6-10 x 5 Double Leg Hops (Flat Foot Landing)
- 100m-200m Athletes .. Hurdlers – Hurdle Specific drills (separate sheet)*
3 x Standing Start in spikes to 20m, breath point at 10-13 metres.
3 x Push-Up Start in spikes to 20m.
3 x Hop-Hop-Starts in spikes to 20m.
2 sets of 4 x Block Starts in spikes to 30m.
- Stretching Program** .. select (3-4) from DFK Stretches ..
(Separate sheet .. www.nwaswimaths.com ► PROGRAMS ► General Programs ► DFK Stretches)
Selectively apply to your circumstances

Why Drills?

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When the mind is stretched by a new idea,

It never returns to its original dimensions.