



Endurance Sports Training

Educating Yourself; Athletically

By Ben Wisbey

When you set yourself a goal to complete a particular event or do a particular time for a given distance, it is not just about getting yourself to peak physical fitness to compete in the event. There is another side to completing your goal.

Have you ever watched somebody doing a race? I have seen so many people miss their time goal because of poor pacing; aiming to break 25 minutes for 5km for example, by doing the first kilometer in 4:30, and then quickly fading because they spend their energy too early.

Then there are injuries. Injuries don't just happen. They are generally a result of poor training technique or lack of recovery, stability and flexibility.

This article will hopefully give a head start to all beginning runners, and even answer some of those mysteries for the so called experienced runner.

Basic Training Principles

General coaching or training principles are divided into 5 basic rules. While these rules do not provide all the answers, they do provide a solid base knowledge that will help all runners when applied correctly.

- i) Principle of Overload - for any training adaptation to occur, the body must be stressed in some way. If you are just starting out running, then obviously you will need to overload your body by running in order to get better. If you are an experienced runner, you will need to do training periods that overload you by manipulating volume or intensity, if you are to improve. As a beginner runner you do not want to have excessive overload. As a general rule of thumb, don't increase weekly training volume by more than 10% from one week to the next. The best method is to gradually apply overload by increasing training volume by 5-10% per week.

- ii) Principle of Reversibility - this is plain and simple. If you stop training, then detraining (a decrease in fitness) will occur. This means that during a training period overload is required to improve fitness; maintenance training is required to hold current fitness levels; and a lack of training will result in a decreased performance. This does not mean that rest periods aren't important- they are. You still need to allocate periods to have a break from training- this is important to allow both psychological and physical recovery. It is recommended that you have a full break from training for 2-4 weeks after a major competition or a long period of training. The good thing is that after your break you will get back to your previous fitness levels faster than it took you to get there originally.
- iii) Principle of Specificity - if you do not run, you will not become a better runner. Your training has to be specific to the demands of what you are trying to achieve. The best method of improving your running fitness is to run. There can definitely be value in cross training, but the majority of your training time should be spent on your principle sport, and if this is running, then run. The principle of specificity also refers to the energy system (or intensity) used during competition. For example, if you are training for a shorter event, you will need to do more intense training than if you are training for a marathon, for which longer endurance training is required.
- iv) Principle of Recovery - you need to allow recovery time so that your body can adapt to the training you have undertaken. If you train too much and recover too little, you will become run down and fatigued. Performance will deteriorate, not improve. This principle works in conjunction with the principle of overload. To get optimal results you will need to overload and recover. This needs to occur on a daily, weekly, monthly and yearly cycle. It is important to design your training to accommodate these important aspects of training. So try having at least 2-3 easy days per week, and a minimum of 1 easy week per month.
- v) Principle of Individuality - perhaps the most important principle to remember, and the one that is most often overlooked. Have you ever wondered, if I did Steve Monaghan's training program, would I run like him? Well unfortunately not. The principle of individuality is the same reason why you and your training partner perform differently despite doing the same training program. Everybody adapts and responds to training differently; recovers at a different rate; experiences different work and family commitments; responds to environmental conditions differently; and the list goes on. Basically, you are an individual, and need to customise your training to suit you and your commitments.

Warming Up and Cooling Down

Preparing yourself adequately for training or racing is important if you wish to achieve your best performance and prevent injury. An adequate warm-up will increase heart rate, body temperature, blood flow, loosen up muscles, allow greater muscle contraction, greater economy of movement, and ready your aerobic energy system for further activity. This is just a few of the physiological benefits of warming up, there is also the psychological aspect of preparing yourself for the training session ahead.

A warm-up should be undertaken prior to any long, or intense training session. If you are just going for a short easy jog, then the warm-up is probably not required as the whole session is of low intensity.

A warm-up should begin with at least 5 minutes of light and easy jogging. Some drills should then be completed to take your legs through a greater range of motion (dynamic stretching). Static stretching is not ideal during the warm-up but if you feel more comfortable doing a bit of stretching in the warm-up then after a period of easy jogging would be best. You should then complete a couple more minutes of easy jogging before doing a few short surges with an easy jog between each. All in all, the warm-up should take 10-20 minutes depending on your training background. If you are just starting running, then don't do any more than 10 minutes, otherwise you may be too fatigued before the session actually starts.

Just as a warm-up is essential prior to a running session, a cool down is important at the end of a session to ensure recovery from the session. A light active cool down such as 10 minutes of easy jogging/walking will facilitate blood flow- preventing blood pooling, and flushing elevated levels of catecholamines and lactic acid, etc, allowing for improved recovery. The cool down should then be completed by having 10-20 minutes of static stretching. This helps to prevent muscle soreness, as well as aiding in improved flexibility.

Pacing

Pacing and the judging of running intensity is one aspect of running that takes a lot of time, practice and thinking. It is important to be able to associate your perception of intensity with a pace- ensuring that you don't go out too hard, or too easy during intervals or a race. The difficult aspect of this is that as you get fitter, you will be able to run quicker at a given intensity, and essentially this is why it is so important to get a feel and understanding of the intensities you are running. This requires thought and association.

You need to think about how long you would be able to hold a given intensity, what sort of distance you could hold this for, to what extent you are fatiguing while running at this intensity. Then you need to associate this understanding of intensity with running speed. The reason for this is that at the start of a race you will generally be feeling fresh and ready to go. Therefore it is easy to get carried away early and run faster than you should because it feels easy initially. However, this will catch up with you at some stage of the race, and the small amount of time that you save by going out too hard can quickly be lost when you start to struggle towards the end of the race.

The best race tactics for most sub-elite runners is to attempt to maintain a steady state, even pace throughout the event. While elite runners are racing to win, and thus surging and recovering, this will just cause excessive fatigue for the sub-elite runner trying to run their best time.

Recovery

As the principle of recovery highlights, recovery is as important as actually training in the overall enhancement of performance. Recovery can be either active or passive. Passive recovery is the type of recovery most people are happy to do; sleeping, resting, and general lounging around. However it is active recovery that really enhances the recovery process. Examples of active recover include stretching, massage, completing hot/cold water submersion, rehydrating and replenishing glycogen stores. These activities should be undertaken during periods of heavy training to enhance recovery. This will lead to a greater training response, and better preparation for the next training session.

Tapering

Tapering is the period of training before an important race, during which training is backed off allowing you to be in peak shape on race day. It is the icing on top of the hard training cake. It can often make or break a good performance.

Some simple rules to follow when tapering include:

- maintaining training intensity but reducing volume during the taper period so that you stay sharp, but freshen up
- there should be a gradual linear reduction in training load
- the duration of the taper is greater for those who are:
 - o training for a longer event;
 - o have less of a training background;
 - o have been doing a higher volume of training.

Although you have these general rules to follow when undertaking your taper, it is important to find the type of taper that suits you best. This often involves a lot of trial and error. So when something doesn't work, refine and try again. Tapering will allow you to go into a race with no muscular fatigue, while being fresh and sharp.

Flexibility Training

Flexibility training or stretching is something that is generally overlooked by runners until they become injured, and stretching is recommended as one of the methods to overcome the injury and prevent future problems.

The truth is that stretching should be used an injury prevention tool, not as a means of cure and rehabilitation. Being proactive is always better than being reactive.

So what is the benefit of being more flexible? Well to mention just a few, improved flexibility will potentially reduce muscular fatigue, make movement more efficient, and economical, and reduce injury.

The best way to introduce flexibility training into your program is to firstly make it an essential part of weekly training, just like your running sessions are. By setting at least 3 twenty minute periods aside each week, as well as stretching after each running session, you will give yourself the best long term chance of improving flexibility. As with any form of training, it takes a while to see the improvements, so it is a matter of being patient. During each session complete at least 3 sets of each stretch on each side of the body, and include a wide range of stretches.

As muscular tightness varies between individuals, it is important that you try a wide range of stretches in order to find those stretches that give you the best stretch and the most benefit.

Some recommended areas to focus on include:

- hamstring
- ITB
- Calves (gastroc and soleus)
- Lower back
- Hip flexor
- Quadriceps
- Glutes

Hopefully by using this information to guide you through your running, you will have a more successful and enjoyable experience. The information provided is only a summary of some key issues, and will need to be adapted or further investigated on a case by case basis.

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