

Training for Veteran Athletes

A discussion of ideas relevant to the training of veteran athletes.

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Table of Contents

Introduction	2
Flexibility & Postural Control	3
Enhancing Recovery	4
Muscles & Strength	5
Weight Training for Veterans	5
Abdominal Training	7
Injury Treatment & Prevention	8
Nutritional Ideas	8
Sprint Training For Veterans (100m & 200m)	9
Getting started.....	9
Types of Sessions.....	10
A Yearly Plan for Veteran Sprinters	12
Middle Distance Training For Veterans	18
Veteran Middle Distance Program.....	18
Middle Distance Questions	25

Introduction

Many purchasers of the other Oztrack e-books have requested that I write something specifically designed for veterans. So here it is.

This e-book will grow over time so stay in the database to be notified of updates which will all be free to registered users.

To determine the best way Veterans can be prepared to improve their performance & gain more enjoyment from their participation requires an identification of the main differences between veteran athletes and younger senior athletes.

As athletes age many changes take place that need to be taken into account:

- Athletes will lose flexibility with an overall loss of elasticity.
- Recovery from exercise will be delayed & there is accompanying overall drop in the volume & intensity of training that can be performed to produce positive adaptation.
- Total muscle mass will tend to decrease resulting in less strength & power.
- Injuries that have been accumulated over the years will tend to hamper training & may even prevent participation.
- Medical conditions that emerge may make participation dangerous. Regular physical check-ups by Doctors are essential.
- There may be a general slowing of metabolism producing increased fat storage.



Author Steve Bennett with 3 year old daughter Abby.

Flexibility & Postural Control

The best way to have good flexibility as a Veteran Athlete is to have maintained good flexibility since the age of 21. It is much easier to maintain flexibility than to improve once it is lost. It is well worth visiting a good physiotherapist so that deficient areas & a plan for improvement can be designed.

Static Stretching

Small duration stretching does almost nothing to improve flexibility but it will help maintain what is already there. Researchers have suggested that to improve flexibility it is important to stretch regularly & for longer periods than 1min even if the intensity of the stretch is low. e.g. stand on a wedge to stretch calves gently for 10min.

Dynamic Stretching

Many researchers suggest that Static Flexibility does not necessarily relate to the flexibility that is needed for performance. What is needed is mobility and ease of range of motion. This can be best be improved & maintained by moving the joint through its full range of motion. Doing Dynamic movements of great variety is the best way to improve & maintain specific flexibility. Static stretching should contribute to mobility but really the most important thing is to maintain body familiarity with a great variety of movements. This means performing a good range of exercises in training. These could be things such as:

- Pilates exercises – athletes could go to a pilates studio, a pilates floor class or follow a DVD or Video floor class. Pilates is great for learning postural control & can contribute to good improvements particularly in hip mobility.
- Swiss Ball exercises – athletes can go to Swiss Ball classes or follow a Video class.
- Speed & Posture Drills in every session.
- Performing a mixed warmup – which involves the integration of a large range of exercises into the running that is the warmup.
- Gym sessions with weights
- Circuit training – involving the performance of a range of exercises.
- Yoga
- Swimming or Deep Water Running.

Some flexibility limitations come about as a result of problems with sliding nerves. It is essential that athletes identify areas where they need to do nerve stretches. These are often the most unpleasant exercises of all to perform, but big gains can be developed with their use.

Many athletes use acupressure methods to release muscle spasm. This involves the use of tennis balls or golf balls placed at the correct places and used to provide pressure to certain parts of the muscle. The target areas often called trigger points are accompanied by a painful sensation that often goes away after 1-5min of gentle pressure. Turning off trigger points is often accompanied by a level of relaxation in the muscle that is far beyond what is produced by stretching alone. Turning off trigger points & nerve stretches are skills that should be learned by all Veteran athletes. I believe many injuries can be prevented by the use of these techniques.

Enhancing Recovery

As we age we tend to get sore easier & stay sore for longer. Some have suggested that for Veterans there should be a 72 hr rule between high intensity sessions rather than the usual 48hrs. All athletes can benefit from speeding up recovery. There are many ways to do this and they are summarized below:

- Good nutritional intake particularly getting enough protein & carbohydrates. But also staying in good status with minerals. Not drinking enough water can make it easier to injure muscles as well.
- Regular massage – can prevent athletes who have already tight muscles making them sorer. It is worth learning self massage techniques also.
- Contrast Baths – these involve the use of warm water for 3min then cold water for 10-30s repeated 3 times. This can be done in the shower for the warm and the bath for the cold(maybe using some ice to cool it more)
- Recover activities – light exercise on soft surfaces or relaxing in a pool or a float tank.
- Sleep - Sleep enough and with good quality, not getting enough sleep can decrease the amounts of growth hormone released in the early phases of sleep. Growth hormone promotes recovery. Almost all improvement in performance happens when we rest so resting poorly will inhibit the positive adaptation effects we are aiming for.
- Stretching – gentle stretching post-exercise can help recovery.
- Familiar activities – activities the body is used to are tolerated well & recovered from quickly. It is important to recognize that any new activity needs to be eased into.
- It is better to do less volume of any training element than to do too much & spoil the quality of the next session. So carefully monitor the intensity & volume of any activity. Select the amount you know your body can tolerate well. E.g. I have seen some of my athletes run very good 400m races off nothing more than 4 x 150m rest 8min-8min-2min rests. The session was done with high intensity but the volume was easily tolerated. For the given athlete more might be better but in some cases it is not worth the risk.



Sydney International Athletics Centre with Olympic Stadium in the background.

Muscles & Strength

Veteran athletes should aim to increase up to optimal levels their total muscle mass & maintain it. A study was done on elderly men who were compared between groups who did no exercises , those who did weight training , those who did aerobic training and those who did both weights & aerobic training. The latter group was by far the healthiest with the weights only group placing second ahead of the aerobic exercise only group. The men who did weight training through-out their lives had been able to maintain a remarkably high percentage of their young adult strength.



Weight Training for Veterans

Weight training for veterans should take into account the longer recovery. Running athletes who have many other activities to do should aim for 2 weight training sessions each week for almost all year. The recommendation is to keep total volume small enough that the athlete can get used to the session & not have the next days sessions effected by soreness. I would recommend strongly the use of free weights rather than machines. This is because it is far too easy to lift loads that cant be stabilized using a machine. But free weights challenge stability which is more specific & at the same time deficiencies in stability will limit the load. Often gains in stabilization are very valuable for athletes.

A simplified plan would involve performing larger sets in the Base Phase with lighter loads initially and progress toward heavier loads with smaller sets in the Specific Preparation Phase. Heavier loads are more stressful on the nervous system and will usually effect the quality of running sessions more than when the athlete is training using larger volume (and therefore lighter sets).

Two sample sessions for the Base Phase

Session 1

Warmup

Weighted Step-ups 3 x 8 each leg (stay tall, keep lower leg close to vertical, use glutes)

Standing Upright Row 3 x 10 (stand tall)

Incline Bench Press 3 x 10

Stiff Legged Dead Lifts 3 x 8 start very light (people with bad backs may find this exercise unsuitable)

Hip Machine 3 x 15 movements each direction

Reverse Hyperextensions 3 x 15

Session 2

Warmup

Half Squats 3 x 10

Bench Press 3 x 10

Lunges 3 x 8 each leg (weighted – minimize any increases in lumbar curve – stay up tall)

Standing Vertical Dumbbell Press alternate arms 3 x 10 each arm

Back extensions 3 x 15

Two sample sessions for the Specific Preparation Phase

Session 1

Warmup

Weighted Step-ups 3 x 4 each leg (stay tall, keep lower leg close to vertical, use glutes)

Incline Bench Press 3 x 5

Power Cleans or Hang Cleans 3 x 6

Hip Machine 3 x 15 movements each direction

Reverse Hyperextensions 3 x 8

Session 2

Warmup

Half Squats 3 x 6

Bench Press 3 x 4

Lunges 3 x 6 each leg (weighted – minimize any increases in lumbar curve – stay up tall)

Standing Vertical Dumbbell Press alternate arms 3 x 6 each arm

Back extensions 3 x 8



Abdominal Training

It is important that the athletes are doing a variety of other exercises for the mid-torso. The plans above do not include abdominal work because it is best to do it at the end of the gym session or in other separate sessions.

Abdominal Session content depends on the level of development the athlete is at with them.

Basic Abdominal exercise examples:

Crunches

Sit-ups bent leg

Leg lowering (maintaining a constant natural lumbar curve)

Static holds in the pushup position

Advanced Abdominal exercise examples

Hanging leg holds at near 90 degrees

Russian Twists

Med Ball catches in an inclined position

Resisted crunches

Leg lowering (at lower angles)

It is recommended to work the whole variety of abdominal exercises with both high rep low intensity movements & also with low rep high load movements (done well). They need to be both strong & have good endurance.

There is a tendency as athletes get stronger in the abdominals that their hip-flexors also get very strong but short. It is essential that the hip-flexors are targeted for stretching & loosening as they are a problematic muscle which can inhibit hip mobility if they are short. Tight hip-flexors contribute to many back & hamstring injuries. They can pull the back into excessive anterior rotation which puts extra pressure on the discs and also on the hamstrings.

Injury Treatment & Prevention

Veteran athletes need to have optimally treated their injuries by working closely with a physiotherapist & be pro-active about preventing injuries in identified problem areas. Veteran athletes need to learn to know their bodies well & look after them as well as possible. They also need to be sensible in a number of other areas notably:

- The number of events that are participated in a given meet.
- The total volume of training being attempted. Less can sometimes be the only way to stay healthy.
- The choice of events. e.g. Hurdles, Steeplechase, Triple Jump are all higher risk events.

Nutritional Ideas

There is a great need for any athlete to follow a good healthy diet. The section below will simply introduce a few ideas that may be worth considering & implementing.

- Get enough carbohydrates.
- Limit fat intake but consider supplementing to have an intake of good fats which are called Omega III. The best source is Fish Oil or Flaxseed Oil. Consuming more fish is probably a good idea. I have noticed with my squad that this can help athletes lower their levels of stored fat.
- Make sure you are getting enough Calcium as it is needed for healthy bones.
- Make sure you are getting enough Protein at least 1.3g/Kg a day from a range of sources.
- Creatine is worth considering supplementing even just in a low dose of 3-4g a day. It is an amino acid which can lead to increases in CP stores in the muscle and result in optimized performance. It is probably best to ignore the idea of loading at a higher dose for a few days as often this method can lead to rapid fluid gain & tightened muscles which are more easily injured. It is important to maintain appropriate fluid intake especially if you consider loading with creatine. That is why I prefer the idea of a low dose over a long period of time. Creatine is in normal meat but cooking destroys it so it is nothing unnatural. It can make a difference especially in the ability to maintain muscle & performance of repeated sprints.
- Maintain appropriate fluid intake. Aim to never train or compete dehydrated it is dangerous for muscles & will result in sub-optimal performance.
- Optimize especially Zinc, Magnesium, Vitamin Bs, Vitamin E, Folic Acid.
- Also monitor Iron stores status by making sure Ferritin is mid range normal. This may mean tuning the amount of Iron supplementation to a level that maintains a good Ferritin Status. Low Iron stores even without anaemia can destroy performance. Many athletes are totally unaware of their low Iron storage status.

Sprint Training For Veterans (100m & 200m)

The best way I have found to train sprinters is to double periodize the year and keep varying everything in training but all year be working at improving speed over at least the first 30m. A year plan follows the section explaining the types of sessions.

Maximum speed sprinting puts a heaps of stress on muscles & tendons with hamstring injuries being very common. However it is possible to avoid hamstring problems by being careful in a number of ways:

- Never add soreness to soreness.
- Learn muscle loosening techniques such as trigger point therapy. E.g. lay on back with both legs bent at about 90 degrees with the side of the right foot resting on the knee of the left leg. This will cause the glute muscle in the right leg to be statically stretched. Underneath this muscle place a tennis ball or golf ball and put some weight on the ball. By moving the positions slightly it is possible to find places that create a peculiar type of spreading pain this may be a trigger point. By providing pressure on a trigger point for 1-8min may cause the trigger point pain to dramatically decrease & it is often accompanied by a significant decrease in muscle tension.
- Make sure dynamic flexibility is good.
- Stay well hydrated.
- Take great care with anything new – more volume of anything is often worst. Aim to do enough & do it really well.
- Warm-up well with a mixed activity warm-up

Getting started

When veterans are starting out sprint training it is a very high risk time of injury. It is best to work consistently with a physiotherapist who may be able to provide guidance also on the suitability of training sessions. It is best to do less volume & at a lower intensity than is expected. Most athletes start off too intense & do too much too quickly.

Here are some starting off guidelines:

- Exercise Tempo sessions are the best starting basis for training.
- Never sprint flat out in first few weeks or accelerate at maximum effort.
- Hill sessions are also good but minimize volume of bounding.
- Do plenty of variety at a low intensity.
- Start off training in racing flats (light joggers) not spikes.
- Start training in Middle Distance spikes not sprint spikes.
- Develop speed slowly and initial experience of high speeds should occur during relaxed accelerations over 40m.
- Learn to relax & run fast before trying to run at maximum velocity.

Our brains will develop a technique that suits our bodies capabilities. It is very important to improve our bodies dynamic flexibility & mid torso strength before doing volumes of sprinting at maximum speed. This is because if the athlete has poor mid-torso strength & dynamic flexibility the athlete will develop a restricted range technique to suit their deficiencies & it will be hard to change the habit that has developed later. It is best to get the body first then the technique to suit it.

Types of Sessions

All sessions should be preceded by a mixed warm-up of about 1000m and then some sprint drills as well as about 4-6 relaxed buildups over 40m. All activities should have at least 90s rest between them. The sessions should be followed by a warm-down that may include 4-6 x 60m relaxed at 75% of maximum speed or some easy jogging then gentle stretching. Post session it is a good time to have some intake of hi GI carbohydrates and some protein. Drinks such as sustagen sport are a great idea.

Speed Development Sessions

Initially is made up 30m sprints from a 3 point start. (which is like a standing start with one hand touching the ground slightly in front of the front foot & the other one up in the air. Sprints can be timed by an observer by always starting the watch at the same point of the athletes movement. It is usually easy to observe the mid-swing of the back leg. Only as many 30m sprints should be performed at maximum effort as can be done without any performance decrease. The moment a significantly slower run is performed the athlete should then only continue in the session with sub-maximal effort runs. Usually athletes can only do 2-3 x 30m at maximum speed before they will become slower in the session. Athletes who are used to these sessions may be able to do more than 3 at maximum performance. An athlete will usually be able to reach a higher maximum speed with longer sprints but it is best to start with 20m or 30m sprints and build toward longer sprints up to 60m as the competition phase gets closer. All sprints should have 3-8min rest in between & the athlete should stay ready by performing light activity i.e. not sit down.

Other variations from the 20m-60m sprints are to perform flying start runs. This may involve a sub-maximal acceleration over 20-30m & then a maximum speed zone of 15-30m.

Many sessions may simply look like this

3 x 30m from 3 pt start at 100%

3 x 60m relaxed at 90%

5 x 4 bounds & a jump into sandpit (all measured) from a standing starts.

Med Ball Throws

Speed Endurance Sessions

I have found it is best to keep speed endurance sessions very small in volume & at a high intensity. The best way often to develop good endurance of race speed for 100m or 200m is to race often when fresh. Some good sessions all with running starts are:

- 300m rest 12min 300m at 90%
- 150m rest 8min 150m rest 8min 150m rest 2min 150m
- 200m rest 8min 150m rest 2min 150m
- 150m rest 8min 100m rest 8min 100m rest 2min 100m
- 100m rest 8min 100m rest 8min 100m rest 2min 100m
- 80m rest 2min 80m rest 15min 80m rest 2min 80m

Exercise Tempo Sessions

A Charlie Francis idea of integrating exercises into a low nervous system stress session. These sessions replace jogging for sprinters & functions to boost conditioning as well as providing recovery from higher intensity sessions. Exercise Tempo should be done on grass in joggers. All runs should be slower than 75% of maximum speed for the distance, going faster than this will spoil the session. Examples of exercise tempo sessions are:

- 4 x 6 x 40m. Each rep is preceded by a set of two exercises. 1min after each rep to the start of the next exercises. 5min between sets to the start of the exercises. Some examples of exercises are push-ups, sit-ups, crunches, bridges, supermans. You can do 2 different
- 5 x 5 x 60m. Each rep is preceded by a set of two exercises. 1min after each rep to the start of the next exercises. 5min between sets to the start of the exercises.

- 2 x 10 x 100m. Each rep is preceded by a set of two exercises. 1min after each rep to the start of the next exercises. 5min between sets to the start of the exercises.

Speed Technical Sessions

These sessions can be an opportunity to work on improving technique at acceleration, starts, maximum speed, baton changes etc. It is also a good session to do some plyometric activities or time trials.

Hill Sessions

Hills sessions are best to be done on grass & mostly be sessions of 60m hills with maybe some part of each hill to involve alternate leg bounding. Hill sessions can also be done with integrated exercises just like exercise tempo sessions. Early in the Base phase longer hills can also be done.

Examples of Hills sessions are:

- 3 x 3 x 80m hills with 20m bound then 40m run then 20m bound rest 1min & 5min between sets
- 3 x 3 x 60m hills with 20m bound then 20m run then 20m bound rest 1min & 5min between sets
- 3 x 3 x 40m hills with 20m bound then 20m run rest 1min & 5min between sets
- 6 x 100m hills rest 3min
- 4 x 200m hills rest 8min



A Yearly Plan for Veteran Sprinters

44 weeks

Conditioning Phase A

8 weeks

Every 4th week is recovery.

Weight training initially targets hypertrophy & general conditioning. It is usually performed 2 times per week. Interestingly when athletes lift in sets of 8-10 they stay much fresher in terms of their nervous system than later in the year when they are lifting more intensely with sets of 3-4. This means that during the conditioning phase it is much easier to perform quality running without it being effected by flatness from the weight training sessions. Late in the phase sets should decrease from maybe 3 sets of 10 to 3 sets of 8. Athletes should lift upward fast & down slow, they should not lift to the same tempo as a body builder even though the aim of this phase is to attain some muscular hypertrophy.

Plyometrics in this phase should aim to develop power with the longer contact varieties. Standing start bounding e.g. 4 alternate leg bounds & a jump into a sandpit can be performed. Standing long jumps & standing triple jumps can also be performed.

Hill training can be performed over distances of 60-100m and some can involve alternate leg bounding. e.g. run 60m bound 20m.

Athletes should perform two relaxed tempo sessions on grass per week & total between 1200m-1600m in each session. It is essential to keep tempo sessions slow so that they do not effect the quality of training the next day. This means running 100m reps not within 4s of maximum effort. A good tempo session may be something like 4 sets of 6 x 60m with a set of pushups & crunches before each rep. Athletes can rest after each run for 30-60s then start the exercises & have 5min between sets. These sessions build good general conditioning & are a much better alternative for sprinters than jogging for 20min.

Speed development sessions initially focus on improving performance over 30m from a 3 point start. Often what happens is the athletes will find that improvements in strength, bounding & 30m times will happen concurrently throughout the phase.

Example Week Plan

Mon - Exercise Tempo

Tue – Max Speed then Gym

Wed – Recovery day – massage, triggers & stretching

Thu – Exercise Tempo

Fri – Speed Technical then Gym

Sat – Hill Session

Sun – Recovery day – massage, triggers & stretching

Strength Phase A 6 weeks

During this phase weight training changes to smaller sets e.g. 3-5 sets of 4-6 reps to target the development of maximum strength. This move can easily negatively effect the quality of running that can be performed the next day. It is ideal to be able to do fast track sessions in the morning & then weight training straight afterward or later on in the same day. In this way it is easier to balance the recovery in the week to maintain quality in faster track sessions. Weights should be continued 2 times a week.

Maximum speed work should expanded to include as well as the 30m runs longer distances of 40m, 50m & 60m. It is best to slowly shift emphasis to 40m then to 50m then to 60m. In the second period the emphasis can start longer. Speed sessions can be performed twice a week if not racing. Make sure the athlete can back up from the session to the next one & still perform good quality. If the athlete is finding that they can't back up for the next session do less reps, do the runs sub-maximally or do less volume of weights. Balancing this area is a key problem with all sprinters.

Plyometrics should progress toward varieties that have shorter duration ground contacts. A good way to do this is by performing running start bounding. e.g. 10m running start then 4 alternate leg bounds & a jump into a pit. They should continue to do longer contact bounding as well. Plyometrics should be done once a week. Simply performing 5 attempts of 4 bounds & a jump into the pit from a standing start is enough to create considerable improvement in power output.

Hill training can be continued but decreased to once every 2 weeks. The hill session should be of less volume of shorter hills with some bounding e.g. 2 x 3 x 40m hills with run 20m then bound 20m these can be done like a tempo session with exercises in between sets. It is also a good idea at this stage to start getting used to some speed endurance on the track by doing just 2 fast relaxed 150m reps on the track after the hill session. This will make it easier to transition to more work on the flat in the next phase.

Athletes should continue performing two simple tempo sessions on grass per week & total between 1200m-1600m in each session.

Example Week Plan

Mon - Exercise Tempo
Tue – Max Speed then Gym
Wed – Recovery day – massage, triggers & stretching
Thu – Exercise Tempo
Fri – Speed Technical then Gym
Sat – Speed Endurance or Hills
Sun – Recovery day – massage, triggers & stretching

Power Phase A 4 weeks

Weight Training 2 times a week moves toward a power focus. A small volume of strength lifts are maintained. One gym session a week is aimed at developing power with exercises such as:

- stiff legged bounces with a light weight e.g. 20kg
- jump up onto a box with less than 30% of 1RM half squat.
- stomping step ups with less than 30% of 1RM half squat.
- power cleans

These are often done in a circuit type situation with some heavy squats included for a contrast effect.

Plyometrics should progress toward even quicker ground contacts. This is done with the performance of alternate leg speed bounding. These are done with a 10m running start and the aim is to get as much power into the track as quickly as possible e.g. taking the minimum number of strides to go 20m but also in a minimum time. The athlete needs to aim to strike the ground well underneath the body.

Hill training is replaced with small volume speed endurance sessions e.g. 150m rest 8min 150m rest 8min 150m rest 2min 150m.

Maximum speed sessions should be expanded to include sprints of up to 60m. They can also start to include some over-speed either using a strong tailwind.

Athletes should continue performing two simple tempo sessions on grass per week & total between 1200m-1600m in each session.

Example Week Plan

Mon - Exercise Tempo

Tue – Max Speed then Gym

Wed – Recovery day – massage, triggers & stretching

Thu – Exercise Tempo

Fri – Recovery day – massage, triggers & stretching

Sat – Speed Endurance or Race

Sun – Speed technical + Gym



Competition Phase A 3 weeks

Weight training sessions can be performed once a week with a very small amount of a complex lifts just to maintain strength e.g. power cleans as well as ½ squats are performed to maintain strength.

Plyometrics are stopped to enhance the athlete's nervous system freshness.

Maximum speed sessions are performed of the same variety as the power phase but the emphasis needs to be on racing. The 72hrs leading into the race need to be free of anything that could effect the nervous system on the day of the race. This means almost no intense high cadence training, plyometrics or heavy lifting.

Tempo sessions once to twice a week with 800m-1600m in each session.

Competition.

Example Week Plan

Mon - Exercise Tempo

Tue – Max Speed then Gym

Wed – Recovery day – massage, triggers & stretching

Thu – Easy Speed technical

Fri – Recovery day – massage, triggers & stretching

Sat – Race

Sun – Speed technical + Gym

Conditioning Phase B 6 weeks

Similar to Conditioning A but the athlete should be entering this phase with higher levels of speed. They should do the smaller volume hill session from the strength phase e.g. 2 x 3 x 40m hills with run 20m then bound 20m with full recoveries and exercises between sets.

Maximum Speed Development can be of a greater variety between distances of 20m & 60m. But most work should stay at 30-40m.

Plyometrics should be of the long contact variety and can be combined in a session with block starts.

Some alactic capacity speed sessions should be performed involving the use of larger numbers of short repetitions e.g. 3 x 4 x 60m at less than 95% effort with 2min between reps and 10min between sets.

Example Week Plan

Mon - Exercise Tempo

Tue – Max Speed then Gym

Wed – Recovery day – massage, triggers & stretching

Thu – Exercise Tempo

Fri – Speed Technical then Gym

Sat – Hill Session

Sun – Recovery day – massage, triggers & stretching

Strength Phase B 6 weeks

Similar to Strength A. The athlete should aim to become even stronger in this phase. Hills should be replaced in this phase with speed endurance sessions that are initially longer repetitions e.g. 2 x 300m but progress toward shorter repetitions of 100-150m. Maximum speed development should stay the same as in Conditioning B. Plyometrics should progress toward quicker contacts. Some alactic capacity speed sessions should be performed involving the use of larger numbers of short repetitions e.g. 3 x 4 x 60m at less than 95% effort with 2min between reps and 10min between sets.

Example Week Plan

Mon - Exercise Tempo
Tue – Max Speed then Gym
Wed – Recovery day – massage, triggers & stretching
Thu – Exercise Tempo
Fri – Speed Technical then Gym
Sat – Speed Endurance or Hills
Sun – Recovery day – massage, triggers & stretching

Power Phase B 8 weeks

Similar to Power A
Plyometrics is speed bounds & some higher intensity plyometrics in low volumes e.g. over hurdle bounces.
Maximum speed work should increase in distance.
It is important to do block starts & reaction time practice during this period.
Speed Endurance should focus on progressively shorter repetitions down to sessions like 2 sets of 2-3 sets of flying start 60m-80m runs with rests between of 3min and 20min between sets.
Some competition but not so frequent that the training plan is disrupted.

Example Week Plan

Mon - Exercise Tempo
Tue – Max Speed then Gym
Wed – Recovery day – massage, triggers & stretching
Thu – Exercise Tempo
Fri – Recovery day – massage, triggers & stretching
Sat – Speed Endurance or Race
Sun – Speed technical + Gym

Competition Phase B 8 weeks

Mental & physical freshness for races is the highest priority.

Gym once a week should focus on maintenance of strength with a small range of complex lifts e.g. Hang Cleans.

Speed sessions should focus on technical aspects.

Speed Endurance should be enhanced from appropriate amounts of racing.

Tempo sessions of 800m-1600m should be continued once a week.

Example Week Plan

Mon - Exercise Tempo

Tue – Max Speed then Gym

Wed – Recovery day – massage, triggers & stretching

Thu – Easy Speed technical

Fri – Recovery day – massage, triggers & stretching

Sat – Race

Sun – Speed technical + Gym

Summary

The aim is to perform the following simultaneously as the competition phase approaches during each half of the year:

- decreasing contact times of plyometric activities.
- decreasing total volume of weights & aim finally for improvement in power.
- extending the distance of sprints from blocks.
- decreasing the distance of speed endurance.
- decreasing the volume of relaxed tempo sessions.
- decreasing total volume of all training for major races.
- build confidence & mentally preparedness for racing with block starts, reaction drills etc.

Middle Distance Training For Veterans

Middle Distance races involve running quite quickly for an extended distance. It is very important to practice running at race pace & slightly above quite often. This is because relaxation at race pace is developed & this impacts upon running efficiency which extends the distance that the athlete can maintain that exact speed. Many veterans I believe over-train by doing too much training at the expense of simply aiming for quality training that could improve their running efficiency. The e-book [Maintaining Running Form During Middle Distance Racing](#) has many ideas in it that are critical to implement in any athlete & especially veteran runners. There needs to be much more to Middle Distance training than doing large volumes of continuous running all year especially for Veteran athletes.

I believe with Veteran Middle Distance should double periodize their year just like the sprinters so that they can maintain more familiarity with speed. It takes far too long to get back speed that has been lost after the athlete has stayed away from race pace training for very long in the year.

Veteran Middle Distance Program

The following program could be repeated twice per year with the benefits of each cycle transferring to the next.

24 week program

Base Phase A 12 weeks

Every 4th week is recovery.

Warm-up & Warmdown

All running sessions should be preceded by a 1-2km warmup and followed by a 1-2km Warmdown. It is also a good idea to integrate exercises into the warmup.

Weight training

Weight training initially targets general conditioning. It is usually performed 2 times per week. Athletes should lift upward fast & down slow. Perform a range of exercises. Aim for typically 3 sets of 10-15 reps.

Plyometrics

Plyometrics should aim to develop power with the longer contact varieties. Standing start bounding e.g. 4 alternate leg bounds & a jump into a sandpit can be performed. Standing long jumps & standing triple jumps can also be performed. Steady improvement can occur from simply performing about 5 attempts of each once a week most weeks.

Hill training

Hill Training can be performed over distances of 60-200m and some can involve alternate leg bounding. e.g. run 60m bound 20m. A common session could be something like 3 x 5 x 80m hills with 20m bounding 40m run 20m bounding with rests 90s between each and 5min between sets. The bounding sections can be steep. Another good session would be 10 x 100m hills with a slow jog or walk down between each performed on a moderate slope. It is a good idea to perform two different hill sessions on alternate weeks.

Exercise Tempo

Athletes should perform a relaxed tempo session on grass each week totaling about 1600m-2200m in each session. It is essential to keep tempo sessions slow so that they do not effect the quality of training the next day. This means running at no faster than 75% of maximum speed for the distance. Examples of Exercise Tempo session are:

- 2 sets of 11 x 100m with a set of pushups & crunches before each rep. Athletes can rest after each run for 30-60s then start the exercises & have 5min between sets.
- 6 x 5 x 60m with 1min before start exercises, 5min between sets. A set of each of two exercises before the start of each run.

Aerobic Development

Should consist of moderate paced 4-6km runs performed after a warm-up & then followed by a warm-down. These runs could be performed a few days a week & sometimes be combined with a hill session. It is a good idea to perform 4-6 x relaxed 800m pace 60m runs after the completion of each run. This helps maintain smoothness of race speed.

Longer Runs

Long runs promote increased fuel storage and should be performed in interesting locations preferably in a group of people.

Depending on training background aim for 45-75min about once a week for 3 weeks of 4.

Longer Reps

All are performed at a high intensity & it is best to aim for about 6000m of volume performed at a manageable intensity. These sessions should be done on grass. Possible examples are:

- 2 x 3000m rest 5min
- 3 x 2000m rest 5min
- 4 x 1500m rest 5min
- 5 x 1200m rest 5min
- 6 x 1000m rest 5min
- 4 x 1200m hills rest 8min

Race Tempo Session

These sessions aim to improve running efficiency by giving the athlete the opportunity to run relaxed at near race pace. All sessions are done on the track in flats or middle distance spikes.

Examples of these sorts of sessions are:

- 4 x 4 x 150m rest 90s between reps, 5min between sets. With exercises performed before each set. 150m reps at about 800m race pace or a bit faster.
- 3 x 3 x 200m rest 90s between reps, 5min between sets.
- 8 x 200m rest 3min

Week 1-3 may look something like this:

Mon

Track Session

– Plyometrics 5 x 4B+J into sandpit

- Race Tempo Session 4 x 4 x 150m rest 90s between reps, 5min between sets. With exercises performed before each set. 150m reps at about 800m race pace or a bit faster but they must be performed relaxed. Do session on track in racing flats not in spikes

Tue

Gym I then 6km run on soft surfaces or 6km run in morning then Gym in evening.

Wed

– Longer Reps on Grass

Thu

- Longer Run 60min

Fri

- Gym II
- Exercise Tempo on Grass

Sat

- Hills & solid 4km run

Sun

- rest

Week 4

The Recovery week should be considerably less in volume. With just 1 Gym session performed.

Mon

- Race Tempo Session 4 x 4 x 150m rest 90s between reps, 5min between sets. With exercises performed before each set. 150m reps at about 800m race pace or a bit faster but they must be performed relaxed. Do session on track in racing flats not in spikes
- Weights

Tue

Gym then 6km run on soft surfaces or 6km run in morning then Gym in evening.

Wed

- Faster 4km run

Thu

- Recovery Day

Fri

- Exercise Tempo

Sat

- Time Trial over 3000m or Cross Country Race

Sun

- rest

Preparation Phase 8 weeks

Every 4th week is recovery.

Warm-up & Warmdown

All running sessions should be preceded by a 1-2km warmup and followed by a 1-2km Warmdown. It is also a good idea to integrate exercises into the warmup. Hurdle Drills are also good.

Weight training

Weight training shifts more toward maximum strength. It is usually performed 2 times per week. Athletes should lift upward fast & down slow. Perform a range of exercises. Aim for typically 3 sets of 6-10 reps.

Plyometrics

Plyometrics should aim to shift toward shorter contact varieties e.g. 10m running start then 4 alternate leg bounds & a jump into a sandpit can be performed. More relaxed bounding over distances up to 60m may be performed once a week on grass also. Steady improvement can

occur from performing low volumes of these activities. It is a good idea to measure anything that can be measured & as long as improvement is occurring it is worthwhile.

Hill training

Hill Training should be performed once every two weeks. It should alternate with a solid speed endurance sessions. But aim for 2 Hill Sessions in each cycle.

Exercise Tempo

Athletes should perform a relaxed tempo session on grass each week totaling about 1600m-2200m in each session. It is essential to keep tempo sessions slow so that they do not effect the quality of training the next day. This means running at no faster than 75% of maximum speed for the distance. Examples of Exercise Tempo session are:

- 2 sets of 11 x 100m with a set of pushups & crunches before each rep. Athletes can rest after each run for 30-60s then start the exercises & have 5min between sets.
- 6 x 5 x 60m with 1min before start exercises, 5min between sets. A set of each of two exercises before the start of each run.

Aerobic Development

These 4-6km runs should be performed with increasing intensity. It is a good idea to find a set 4km course & aim for improvement in the time it is able to be completed with a solid effort not maximal. These runs should be performed a few days a week & sometimes be combined with a hill session. It is a good idea to perform 4-6 x relaxed 800m pace 60m runs after the completion of each run. This helps maintain smoothness of race speed.

Longer Runs

Long runs promote increased fuel storage and should be performed in interesting locations preferably in a group of people.

Depending on training background aim for 45-75min about once a week for 3 weeks of 4.

Longer Reps

All are performed at a high intensity & it is best to aim for about 6000m of volume performed at a manageable intensity. These sessions should be done on grass. Possible examples are:

- 2 x 3000m rest 5min
- 3 x 2000m rest 5min
- 4 x 1500m rest 5min
- 5 x 1200m rest 5min
- 6 x 1000m rest 5min
- 4 x 1200m hills rest 8min

Middle Distance Specific Session

It is important to perform race specific sessions once per week. It is useful to repeat certain sessions but it is also refreshing for the athlete to have variety in the sessions that are completed.

Some examples are:

- 10 x 400m rest 1min
- 3 x (400m rest 1min 400m rest 1min 400m rest 1min 150) 5min
- 4 x 600m rest 5min
- 4 x 800m rest 5min
- 2 x 2 x 300m rest 30s/ 12min
- 3 x 500m rest 12min
- 3 x 3 x 200m rest 1min/ 3min
- 5 x 300m rest 5min

Race Tempo Session

These sessions aim to improve running efficiency by giving the athlete the opportunity to run relaxed at near race pace. All sessions are done on the track in flats or middle distance spikes.

Examples of these sorts of sessions are:

- 4 x 4 x 150m rest 90s between reps, 5min between sets. With exercises performed before each set. 150m reps at about 800m race pace or a bit faster.
- 3 x 3 x 200m rest 90s between reps , 5min between sets.
- 8 x 200m rest 3min

Example Cycle From Preparation Phase

Week 1

Mon

Track Session

– Plyometrics 5 x 4B+J into sandpit

- Race Tempo Session 4 x 4 x 150m rest 90s between reps, 5min between sets. With exercises performed before each set. 150m reps at about 800m race pace or a bit faster but they must be performed relaxed. Do session on track in racing flats not in spikes

Tue

Gym I then 6km run on soft surfaces or 6km run in morning then Gym in evening.

Wed

– 4 x 800m rest 5min

Thu

- Longer Run 60min

Fri

- Gym II

–Exercise Tempo on Grass

Sat

- Hills & solid 4km run or Race & 4km run

Sun

- rest

Week 2

Mon

Track Session

– Plyometrics 5 x 4B+J into sandpit

- 3 x 3 x 200m rest 1min/ 3min

Tue

Gym I then 6km run on soft surfaces or 6km run in morning then Gym in evening.

Wed

– 4 x 600m rest 5min

Thu

- Longer Run 60min

Fri

- Gym II
- Exercise Tempo on Grass

Sat

- 800m 12min 400m 12min 800m 12min 300m
or Race

Sun

- rest

Week 3

Mon

Track Session

- Plyometrics 5 x 4B+J into sandpit
- Race Tempo Session 4 x 4 x 150m rest 90s between reps, 5min between sets. With exercises performed before each set. 150m reps at about 800m race pace or a bit faster but they must be performed relaxed. Do session on track in racing flats not in spikes

Tue

Gym I then 6km run on soft surfaces or 6km run in morning then Gym in evening.

Wed

- 3 x (400m rest 1min 400m rest 1min 400m rest 1min 150m) 5min between sets

Thu

- Longer Run 60min

Fri

- Gym II
- Exercise Tempo on Grass

Sat

- Hills & solid 4km run or Race & 4km run

Sun

- rest

Week 4

The Recovery week should be considerably less in volume. With just 1 Gym session performed.

Mon

- Race Tempo Session 4 x 4 x 150m rest 90s between reps, 5min between sets. With exercises performed before each set. 150m reps at about 800m race pace or a bit faster but they must be performed relaxed. Do session on track in racing flats not in spikes
- Weights

Tue

Gym then solid 4km run on soft surfaces or solid 4km run in morning then Gym in evening.

Wed

- Race Tempo Session e.g. 6 x 200m at 800m race pace rest 3min then a 4km solid run.

Thu

- Recovery Day

Fri

- Moderate 4km run

Sat

- Race or Time Trial over similar distance

Sun

- rest

Competition Phase 4 - 12 weeks

Mental & physical freshness for races is the highest priority. It is important to arrive at races free from physical or mental fatigue. This means the final 3 days before races must be easier than usual.

Gym once a week should shift toward a small range of complex lifts that are much lighter & power producing.

Speed sessions should focus on technical aspects.

Cease all plyometric activities this will enhance freshness of the nervous system for races.

Race Form should be enhanced from appropriate amounts of racing. Aim to produce peak form from the effects of races rather than trying to produce maximum intensity only at the track. But it is important to always train with the focus that the athlete would like to have in a race.

Example Race Week

Mon – 3 x 2 x 300m rest 30s between reps and 12min active circuit recovery between sets

Tue – 4km solid run

Wed – Race Tempo session e.g. 6 x 200m rest 3min

Thu - 3km solid run

Fri – warmup drills and warmdown

Sat – Race & 4km moderate run

Sun – Bouncy Gym session

Middle Distance Questions

What can I do to be able to improve my ability to finish off races better?

- Improving aerobic power will assist.
- Pacing the early stages slower can help save more speed for the final stages.
- Develop more strength endurance from hill training & gym
- Decrease over-striding in the final stages by minimizing contact times and not striving to bang the ground harder. Often this feeling is evidence of over-striding. Over-striding can be reduced by doing some downhill strides over 40-60m in a way that the athlete notices reduced impact shock. This happens when they strike the ground well under the body.

How can I improve my ability to accelerate and change pace?

- Plyometrics can make a huge difference in this area. Bounding 4 bounds and a jump into a sandpit from a standing start or a 5-10m running start repeated 4-5 times about every 10 days can help. Also bounding up hill on grass is safe and great for developing power. Do these activities regularly throughout the year & they will provide gains in performance in a safe way.
- Athletes need to practice changing gears to have gears. It doesn't take much.
- Improve core strength and stability – many athletes have hips that drop the moment they try to accelerate and this causes them to have less power in their first step acceleration.
- Improve strength in legs and mid torso by doing exercises like step-ups, lunges and half squats. Build up the load and always remember the goal is to develop sustainable power.

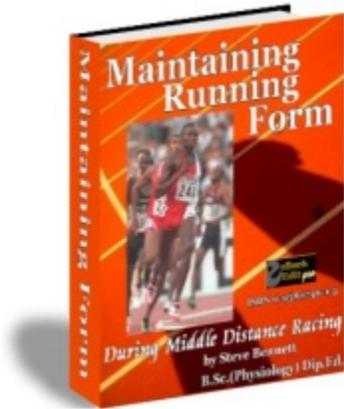
In an 800m race how can I make it easier to go through the first lap faster and easier?

- The ideas outlined above will all contribute to development of ease of race pace.
- Athletes need to practice running relaxed to be efficient. Far too many athletes only ever run at race pace when they are too tired to run smoothly. This can "train in" bad habits.
- Rehearse the first 300-500m of a 800m race in training and perfect your ability to run smooth.

How can I avoid developing injuries especially when I try to train faster?

- Do plenty of conditioning exercises to help prevent injuries e.g. walking in sand to condition the muscles of feet, walking on heels and toes to condition the lower legs. (Ideas are outlined in Maintain Form)
- Optimize your running form. Maintain high hips, tall, land midfoot when at high speeds. Make sure you are not pointing your feet down before impact. This is a common cause of foot & lower leg problems.
- Train on your race surface so that you don't get sore from racing on it.
- Never add soreness to something that is already sore.
- See a physiotherapist for a check up not just when you are injured.
- Have a massage as often as possible and learn self massage. Also use of ice bath and ice post workout is very valuable.

- Do not rely on stretching as an injury preventative. Stretching is not warm-up. Also never stretch a potentially injured muscle.
- Maintain good running form – using limbs outside of ideal angles can cause injuries.
- Hills on grass are a safe way to train when your body is warning you about the dangers of running fast.
- Avoid running fast downhill when tired. Many cross country courses invite injury that arrives from this activity.
- Have easy days after hard days generally. This will prevent you from introducing high risk from soreness and then making it worst.
- Have a good diet with enough protein, calcium etc.
- Maintain good fluid intake – many athletes tear hamstrings when they are partially dehydrated. Your massage therapist can tell when you are low on fluid, they can feel it in your muscles.
- Stay off the roads as much as possible. Find grassy areas and trails they will help you by providing a softer and more varied surface.
- Do strength training especially to target postural strength and stability. This will make a big difference to the risk of injury.
- Do plenty of mobility work i.e. moving stretches. Pilates is great for hip mobility and stability. Athletes who are tight in the hips usually have heaps of injury problems.
- Look after your Achilles tendon it is a very important and also a very a weak link. Keep your calves loose and do plenty of lower leg conditioning. Also make sure your ankle joints are mobile at all times. Get a physio to check their looseness and teach you how to loosen them up.
- Add new elements to training slowly.
- Take great care after a break – there are many problems that may appear because your body has lost condition e.g bone density decreases from rest may make it easier to get stress fractures.
- Be patient. Impatience is the cause of many injuries.



Maintaining Form During Middle Distance Racing

Presents a large range of Modern Training techniques that will improve athletes Running Form and help any athlete maintain more speed in the closing stages of races.

Training to improve "**ease of speed**" is the missing factor in many training programs. This e-book will help put people on the right path toward developing the ability to finish races in the way displayed by the likes of **Haile Gebreselassie** , **Wilson Kipketer**, **Hicham El Guerrouge** and **Michael Johnson**.

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