

# Winter Training Tips and Information



## Active Recovery Day

### Days off vs. Active Recovery

You have heard it many times and you know that you should follow the common guidance. Nevertheless, the thought that keeps nagging at you is – if I don't workout, my competition will get the edge on me.

The holy grail of the Day Off. To be honest, in all my years of competing and all my years of coaching I NEVER scheduled a day off. Do not get me wrong. That is not to say I did not take a day off. Just that I never scheduled one. By the way, I also never suffered from an injury that required an extended layoff.

You are probably asking yourself, what is your point? Well, for almost all adult athletes life is a juggling act, between our passion for sport and our job and family. How many times have you had a hard workout planned, only to have your boss tell you that you have to work late? Alternatively, you have that long run or ride planned for Saturday, when you significant other tells you that you have a family obligation out of town!

First, know this – days off are critical to a sound training program. All that work you do to get fitter and faster stresses your body. If you do not give it a chance to recover and adapt, you will stagnate – you will reach a plateau and not improve. You will also greatly increase your risk of injury. You see, there are two parts to training – progressive stress and recovery. We all get the progressive stress down pretty well. It is intuitive. If you want to go further and faster, you have to push your body further and faster.

However, that is only half of the story. Physiologically, your body will not adapt fully to the workout stresses unless you back-off the stress and allow your body to rebuild and grow.

So, if you never schedule a day off how do you recover and get stronger and faster? After every hard or long workout there should be at least one recovery day scheduled. The two days are linked. Never do a long or hard workout unless your can do a recovery day after.

Now, you have scheduled that long ride for Saturday and a recovery day on Sunday. When your life interferes with your planned workout, just shift everything forward a day. You will get a day off, but you will only lose one day of training.

The alternative is to have scheduled a day off on Monday, a long ride on Saturday and a recovery day on Sunday. You take Monday off. Saturday's long ride is cancelled because of family obligations and now you have two days off during one week!

### Active Recovery Days

The fastest way to recover from a race, hard workout (or a long workout) is not with rest! **Active Recovery** will speed the healing processes and shorten the period of soreness. A hard or long workout (or race) creates microscopic tears in your muscles and produces large amounts of waste by-products. The healing process can be sped up by an Active Recovery workout.

After a hard workout, long workout or race you should go for an easy jog. The Active Recovery increases your heart rate slightly, increases your blood pressure and speeds along the healing process. By bringing extra blood to the muscles, they are able to rebuild and repair quicker. In addition, the waste by-products are flushed from the muscles faster too.

## Winter Training Tips and Information



It is important to remember that you are actively recovering and not doing another workout. The muscular exertion must be kept extremely low. Otherwise, you will be adding to the soreness and not speeding the recovery process. A 2 to 3 mile jog or brisk walk is perfect.

So, instead of taking a day off after the hard workout or race, go out for an easy jog. You'll feel much better for taking an **Active Recovery Day**.

## Winter Training Tips and Information



### Off Season for Building Speed (from October 2008 MetroSports NY)

Psst! You want to go fast? I mean really fast, faster than you ever imagined was possible? You don't need to buy anything. You don't need to take any special esoteric supplements or drugs. You don't have to do any special Kenyan workout. It's very simple, and yet it's very hard.

Let's start with swimming. Swimming is different than cycling or running. Swimming is mostly technique, so, step one is to improve on that. All swimmers focus on technique during the off season, including Michael Phelps and Dara Torres. Enter a swim program that focus on technique improvement. Even better – find one that offers underwater video analysis. Find a coach that understands how adults learn to change their movement; it's very different from the way kids learn to swim.

Next, swim fast. That sounds both simple and counter intuitive. If you are trying to swim fast, how do you swim fast? Practice technique, do drill specific to what your technique goals. Learn where your stroke is breaking down. Then swim fast. Really fast. For a short distance. Start with 25 yards. Take 15 to 30 seconds to recover after each effort. Remember, you are trying to swim fast and in order to do that, you need really good technique. If you are tired or stressed your technique will breakdown. Focus before each repeat. Think about two or three parts of your stroke and try to hold onto those parts of your technique while swimming your fastest.

Now, cycle fast. Off season presents a problem as the weather doesn't always cooperate. Thankfully, much of this work can and will be done indoors. A spin bike is better than a trainer, because you can apply a lot more force and use a lot more resistance. There are two things you need to improve over the off season to become a fast cyclist: first, be able to turn the pedals really fast. A spin bike is great for this because the weighted fly wheel will build up inertia and help you turn the pedals fast – really fast.

Next, increase the resistance, lower your cadence, and stand. Use muscle, not cadence or finesse. Work hard against a lot of resistance. Don't try to turn the pedals fast; keep the cadence slow and work to build muscles, the muscles that turn the pedals.

Keep your work intervals short, 5, 10, and 15 seconds. You do not need to allow full recovery, since this is not a technique-intensive skill. You want to build muscle. You also want to learn what it feels like to work really hard on the bike.

Finally, running fast. While running is the least technical of the three sports, there is technique involved. But, technique can be acquired by developing explosive strength and by improving your neuromotor coordination – that is, learning to move your feet fast, very fast.

Spend equal amounts of time doing strength work and speed work. The strength work includes Plyometrics, core strengthening and balance-muscle strengthening. The speed work includes a few simple drills and running very fast for short distances.

Start with butt kicks, skipping and bounding. Focus on getting your feet off the ground as high and as fast as possible. You want to be in the air more than on the ground. Next, run really fast, but, for very short distances – 20, 30, 40 and 50 yards. Do short, fast bursts. You do not need a lot of recovery, just enough so that you can continue to move fast.

That's it. Easy ideas, lots of hard work. Spend the off season focusing on these skills and come spring you will be a faster triathlete.

# Winter Training Tips and Information



## The First Two Steps of a New Season

The first two steps of a new season (or year) should always be Recovery and setting a Goal for the next season/year.

### Recovery

Your first steps to prepare for next season is to recover from the season that just ended. This is a part of training many athletes skip. But, it is a critical aspect. The Recovery Phase consists of reduced training – fewer sessions, significantly less volume and significantly reduced intensity. Physiologically the processes involved in training are: Stress, adaptation and progression. The Recovery Phase is your annual Adaptation period. Your body should be allowed to FULLY recover from the prior year's training. The benefits of this phase will only be noticeable after you start up training again. Our bodies need an "off" season. This should be a two to four week period.

This is a part of training many athletes skip. But, it is a critical aspect.

### Goal Setting

The second, Goal Setting, is also a part of training many athletes neglect. Start the year or season with a clear goal. Your goal will help you plan your training and make decisions on individual workouts.

The less specific your goal for the year is, the less effective your training will be. Before you can plan your training year, you must know what you are training for. There are five aspects of a goal that are important:

1. Specific
2. Attainable
3. Challenging
4. Measurable
5. Public

**Your goal must be specific.** Saying your goal is to do an Olympic distance event is not specific. Saying you want to do the NYC Triathlon is a bit more specific, but still not specific enough. Saying you want to finish the NYC Triathlon in under 2 hours is specific.

**Your goal must be attainable.** If your prior Olympic distance events have been completed in 2 hours and 30 minutes, will make breaking 2 hours for the distance unrealistic.

**Your goal must be challenging.** If you have completed an Olympic distance event in 2:00:05, setting your goal as breaking 2 hours, is not much of a challenge.

**Your goal must be measurable.** Saying you will finish and feel good is not a measurable goal. Setting a time goal is measurable. Setting your goal as finishing in the top 5 in your age group is also measurable.

**Make your goal public.** Tell your family and your friends. I suggest using three 3x5 index cards. Write your goal on the three cards. Put one on your refrigerator, one on your bath room mirror and one at work. This way you will be reminded of your goal first thing in the morning, through out the day and last thing at night.

Plan your training according to your goal - time your various workouts so that you will peak prior to your goal race. Your volume and intensity should be in line with your goal and goal date. Don't forget to include necessary skill sessions in your training.

## Winter Training Tips and Information



Finally, every workout should have a purpose. Know what each workout is designed to accomplish.

As Arthur Lydiard once said: "If your coach can't tell you why you are doing a particular workout, get yourself another coach."

## Winter Training Tips and Information



### The Two Key Words for Winter Training

There are only two words to keep in mind when training - whether a novice or an expert - **Consistency** and **Miles**. More than anything else these two training focuses will improve your conditioning, strength and skills.

During the winter months especially, these two words are all you need to think about - effort, hard workouts, drills, hills are all great, but without consistency and without the miles they aren't worth the effort of pulling on your windbreaker.

The two universally distinguishing features of the training programs of world class athletes and even top Age Groupers is consistency and volume. The world class athlete doesn't miss a workout and their volume is significantly higher than even the best Age Grouper athlete.

Fred Matheny added, "Consistency and training volume are both important. This is especially so in the winter when building (or maintaining) an aerobic base is so important. I would like to add one more key element to this list: **intensity**. We now know that training is highly specific."

If you want to go fast, you need to train fast. If your goal is fitness and non-competitive running or cycling, the intensity aspect to your training is not as important. If you plan on racing – running, cycling or triathlon – then adding intensity is critical.

My advice is to set out a training schedule, stick with it (no excuses), increase your mileage and after four to six weeks of winter training begin adding intensity to your training schedule. These do not have to be the gut wrenching workouts of the Spring and Summer months. Simply adding hills and "Fartlek" (speed play) during your workouts will help prepare you for your racing season.

An added benefit of adding intensity, for those of us "older" athletes, is that it will slow the loss of aerobic capacity.

# Winter Training Tips and Information



## Winter Training Focus

### Base Building

Winter training is the time to build your aerobic base. This means increasing both your weekly total and your long workout mileage. Much of this work should be done at an aerobic level, especially the long workouts. While it is fine to add occasional moderate to hard efforts and to do an occasional race, the bulk of your mileage should be done aerobically.

### Swim Skills

Swimming is the exception. For most multisport athletes, swimming is the most difficult of the three sports. Winter should be spent working on swim technique. Take a stroke clinic, get one-on-one training and focus on your swimming technique. Your goal should be to become more efficient and more effective in the water.

### Strength Building

The second phase of training is strength building. Strength building must come before any attempts to improve speed are taken. For new multisport athletes, the entire base building phase should be completed prior to starting strength work.

For returning and advance multisport / endurance athletes, with 2 to 3 years of continuous training, strength building can be started during the base building phase.

#### Supplemental Strength Work

The first way to build strength is to supplement your training with weights. Then using planks and Plyometrics in addition to build specific areas – core, legs, shoulders.

#### Running Strength

After base building is should results – fitness level is noticeably improved, you can add hills, and some racing to your training plan. Hills are the single most important aspect of running strength.

#### Cycling Strength

Since winter riding in the northeast is difficult at best, indoor riding – on a trainer, rollers or a spin bike – is the way to build strength. While running strength involves hills, cycling indoors makes hills impossible. But, high resistance work on your trainer or spin bike will provide an excellent way to build leg strength on the bike.

#### Swimming Strength

For advanced swimmers – those who's swim technique is solid – should also build swimming strength. The best way to do this is with supplemental strength work, using free weights. Work on shoulder, rotator cuff and core strength. If possible add Vasa trainer / ergo work, and stretch cords.

### Plan your season

Lay out your training plan for the season – Base Building Phase, Strength Building Phase, Speed Building Phase, taper and goal race. Use a calendar and work backwards from your goal.

### Use a variety of workouts

## Winter Training Tips and Information



Plan your workouts on a weekly basis. Change your workouts regularly. Repeatedly doing the same workout will cause boredom and loss of focus.

### Write it all down

Write down your goals, training plans and maintain a daily training log. This will help you stay focused and on track. Looking back on your training log and your training plan will help you made necessary modifications.

Know what your planned workout is and stick to it. Not only the details of the workout, but the focus of each workout is important to keep you on track.

## Winter Training Tips and Information



### Five Tips for the New Year

1. Keep your workouts:
  - Specific – have a goal for each workout and stick to it
  - Varied – mix up your workouts, don't keep doing the same workout
  - Interesting – do something different
  - Challenging – challenge yourself once a week
2. Provide scheduled recovery periods in your training.
3. Know and accomplish your goal for each training session.
4. Stay your course during training and racing.
5. Keep it fun!

# Winter Training Tips and Information



## Heart Rate Training – Effort Based Training

### Introduction

Research has shown that modifying the effort of your training sessions has a positive effect on the results. Knowing how hard you are training is a key to a successful training program. Effort Based training has been around for many years. With the arrival of inexpensive and accurate Heart Rate Monitors (HRM), the average athlete can monitor their effort levels and improve their training.

Before you begin, you need to know two numbers: Resting Heart Rate (RHR) and Maximum Heart Rate (MHR).

### Resting Heart Rate (RHR)

Each morning you should take your pulse. Use a HRM or simply count your heart beats for 10 seconds and multiply by 6. Take your resting pulse while lying down without any distractions – no TV, music and be certain that you have recovered from the shock of your alarm! Use a 5 Day Rolling Average. Record both the daily RHR and your 5 Day Rolling Average.

### Maximum Heart Rate (MHR)

There are two ways to determine your MHR – measure your HR at the end of a 5 Km race or run 1 mile three times and measure your HR at the end of each mile. Use the highest number you record.

### Working HR Range (WHR)

Calculate your Working Heart Rate Range (WHR) as follows:

$$\text{WHR} = \text{MHR} - \text{RHR}$$

For example, if you measured your MHR as 180 and your 5 Day Rolling Average of your RHR is 60, your WHR is 180 minus 60, or 120. To work at a 70% HR effort, take 70% of 120 (84) and add back your RHR (60). So, a 70% effort workout would be at a HR of 144.

### Energy Systems

We have three energy production systems:

**Phosphagen System:** does not require oxygen, immediately available, only lasts about 8 to 10 seconds. This energy system is used almost exclusively by weight lifters and sprinters, events that last less than 10 seconds.

**Glycolysis System:** takes about 8 to 10 seconds to be available, does not require oxygen, produces Pyruvic Acid and Lactic Acid, only last about 2 minutes. This energy system is used by athletes that need to produce a large amount of energy in a short period of time – sprinters.

**Aerobic System:** takes about 2 minutes to be available, requires oxygen, occurs in mitochondria, lasts as long as oxygen and glycogen are present. This energy system is used by all endurance athletes.

The confusing part is that by raising the level of the Aerobic Energy System and improving the Glycolysis Energy System we will improve our speed over long distances. The point at which we begin to tap the Glycolysis Energy System will limit the speed we can perform at. Remember,

# Winter Training Tips and Information



this energy system will only last for about 2 minutes. If we can improve our efficiency and economy so that we are moving at a faster speed before we need to tap this energy system, we have succeeded in improving our speed.

## Heart Rate Zones

There are five levels of exercise we need to train at:

**Active Recovery** – 50% to 70% effort, this is NOT a workout. This is recovery, so your effort level must be low enough not to produce a training effect and to allow recovery. Your respiration rate should be low (conversational). Uses the Aerobic Energy System.

**Aerobic Workout** – 70% to 75% effort, this is the primary workout of endurance athletes. This is an easy to moderate effort. This workout lasts no more than 60 minutes. Your respiration rate should still be low, but it is okay to occasionally allow it to become slightly more rapid. Uses the Aerobic Energy System.

**Long Aerobic Workout** – 70% to 85% effort, this is a key workout of endurance athletes. This workout lasts more than 60 minutes. Your respiration rate should be the same as the “Aerobic Workout” except towards the end of the workout; fatigue will force your respiration up a little (still conversational). Uses the Aerobic Energy System.

**Threshold Workout** – 80% to 95% effort, this workout taxes both the aerobic and the anaerobic energy systems. Your respiration should be noticeably higher than during either of the Aerobic workouts (single word responses). Uses the Aerobic Energy System and the Glycolysis Energy System.

**Anaerobic Workout** – 95% to 100% effort, this workout taxes both the aerobic and the anaerobic energy systems, with the anaerobic producing the greatest amount of energy. Your respiration should be rapid, deep and difficult during these workouts (grunts). Uses the Aerobic Energy System and the Glycolysis Energy System.

By improving our Anaerobic work we will push up our aerobic capacity – we will be going faster at a lower energy cost.

## Training with HR Zones

The majority of your training should be divided between Aerobic and Recovery days. Two to three days a week you should do a Threshold Workout. After doing 4 to 8 weeks of Threshold workouts you can substitute Anaerobic workouts for the Threshold workouts.

## Typical Week

Plan your training in the following manner:

**Long Aerobic Workout** – one per week, or one every two to three weeks, duration over 60 minutes.

**Aerobic Workout** – when not doing a Long Aerobic Workout, duration up to 60 minutes.

**Threshold Workout** – two to three per week, duration 30 to 40 minutes.

**OR**

**Anaerobic Workout** – two to three per week, duration 20 to 30 minutes in bouts of 4 to 8 minutes each.

# Winter Training Tips and Information



**Active Recovery** – all remaining workouts, duration 15 to 30 minutes.

**Sample Week:**

You may want to alternate weeks – Run week = 4 run and 3 cycle workouts, Cycle week = 3 run and 4 cycle workouts. A second option is to add a second workout on Tuesday and / or Thursday.

**Monday** – Active Recover Workout – Run

Skills / Aerobic Workout – Swim

**Tuesday** – Threshold or Anaerobic Workout - Cycle

**Wednesday** – Active Recovery Workout – Run

Skills / Aerobic Workout – Swim

**Thursday** – Threshold Workout or Anaerobic Workout – Run

**Friday** – Active Recovery Workout – Cycle

Skills / Aerobic Workout – Swim

**Saturday** – Long Aerobic Workout - Cycle

Or Threshold Workout or Anaerobic Workout – Cycle

**Sunday** – Long Aerobic Workout – Run

Or Threshold Workout or Anaerobic Workout – Run

# Winter Training Tips and Information



## Periodization, Cycles, Days Off

Much has been discussed and written on "off seasons", down time. It's all about Periodization and training cycles. Arthur Lydiard first talked about training cycles. Tudor Bompa wrote about and coined the word "Periodization". Bompa originally did his research on weight lifters, but has since extended it to runners and triathletes.

Back in the day (don't you either love to use that phrase, or hate it?), the popular approach was "hard – easy".

The basis for all of these approaches, theories, plans is the same – stress your systems and then allow them to recover. Run hard, then for at least one day run easy. Run long, then for at least one day run short. The hard – easy cycle has mostly been talked about in terms of days. But, it applies to longer cycles - weeks, months and years. Run hard and long for some period of time - depleting your energy stores, inducing muscle fatigue and growing weaker and having less endurance. Then, the real training starts - shorten your runs, avoid hills (if you can) and run slower. Hold on to this recovery period long enough for your muscles to recover and grow stronger, replenish energy stores and gain in endurance and strength.

The changes take place at the cellular level and you can very easily mask the fatigue and weakness for a period of time - months actually. But, ultimately it will catch up with you. Your improvements will plateau and you'll start to get slower and weaker. Your susceptibility to illness and injuries will increase.

So, build in the cycles – alternate hard and easy days, long and shorter weeks, more intense months with more relaxed months. Learn how your body reacts – some of us require only one day to recovery from a long or hard run. Others require a few days or longer. This important point is to have recovered enough that the next hard or long workout will not injury you, but will stimulate your systems to grow stronger and faster.

On a larger scale - yearly - you need to take some recovery time. Usually this occurs at the end of your season of racing. But, with global travel and the increase in races, this is hard to see. There's always a race to enter, some where. Force yourself to slow down and shorten your runs. Be less committed – skip a workout every once in a while (if you already skip one, skip two!). Take as much time as you need to become eager again.

A good sign is your resting HR. Use a five day rolling average. If your resting HR is 10 beats higher than your five day rolling average you need a rest! Shorten your scheduled run, cut out the hills, slow the pace down, or take the day off.

When the workouts become a chore, you've gone on too long. Take a recovery period while you are feeling strong and eager. It's best to plan a year in advance. Plan your race schedule, build in the recovery cycles (hard – easy) and then find the natural recovery period. Athletes that follow this cycle or Periodization, come back from that "off season" faster and stronger for the next cycle.

Allow your body to rebuild, replenish and get stronger.

The temptation is to do another race, run another long run. Especially when you are feeling strong and racing well. The danger is doing one too many races, one too many long runs or one too many hard workouts and getting sick or injured.

## Winter Training Tips and Information



Karl King – Ultra runner: "Amongst lots of good advice from Neil Cook, a couple items jumped out.

"Take as much time as you need to become eager again. "

This is very much related to endocrine system fatigue. Very few runners have the diagnostic tools to assess endocrine system status, so we need to use indicator parameters that are a function of endocrine system status and so act as measuring sticks we can all understand.

Anyone can have an off day, but if you have days or weeks of low motivation to run, it's a sign that your body needs some rest. Rest and when the body has recovered, the desire to train again will signal that your body is ready for more work.

"The temptation is to do another race, run another long run. Especially when you are feeling strong and racing well. The danger is doing one too many races, one too many long runs or one too many hard workouts and getting sick or injured."

This seems to be a problem with really good runners who are also driven hard to excel or just get the most from their body most of the time. Over the years I've seen great runners push for one more race, one more set of long runs (again and again) and burn themselves out with endocrine system fatigue and/or injury. It's the best or most competitive runners who run into this wall; the more average runners have come to terms with the fact that they won't be winning any races and are better able to take a rest when they really need it."

While I agree with Karl, the top runners are most susceptible to over doing it, pushing when rest is needed. The average runner is not immune. The feeling of "invincibility" that almost every runner feels after accomplishing their goals - run a 5 Km, run a marathon, run an ultra, get faster - is the danger. We learn to withstand and accept pain. Running is not without pain. Longer distances especially involve pushing through the pain. That skill, learning to run when your body tells you to sit down and stop, is the same skill that will cause any runner to do the extra workout, the extra long run, when they should be resting.

Two points I tried to make - build in the recovery cycles - day to day, week to week and over the course of a year or season, and listen to indicators - 5 day rolling average for your resting HR. Run a performance test workout regularly - a 5 Km time trial or three times one mile. Track your times, pace, average and max HR. When you see changes - not positive changes - you need a recovery period, you've hit a plateau. If you don't rest, injury and illness are your rewards. If you do rest - a couple of days, a couple of weeks - and then return to the base cycle, you'll be stronger and faster.

It's the second hardest lesson to learn. The hardest lesson is getting out the door and putting one foot in front of the other.

The changes are: increased mitochondria, increased muscle cells and fibers, increase storage of energy, increased flexibility - muscle fiber elasticity, changes to endocrines (Karl pointed this out today). Increased ability to take-up lactates and convert to energy, and ability to convert free hydrogen atoms.

But, it really doesn't matter what's happening at the cellular level. We run at the system level - whole body. Follow your 5 day rolling average resting HR and your periodic performance testing - or just your time, average HR and max hr on your favorite running route. Graph the numbers and you'll see the cycle. Test your self by varying the recovery time and you'll learn how to be super compensated for your big races.

## Winter Training Tips and Information



Or, just run how you feel - easy when tired, hard when rested.

Actually, its during the recovery period that these changes take place. When you are training hard you are breaking down cells - check your Bilirubin levels during hard training they will probably be in the "liver damage" range! It's the recovery phase – day or week - that you get stronger and faster. You need to leave enough time for the cells to rebuild and refuel.

I see three additional issues:

1. racing
2. streaking
3. training

First, racing. Put a number on and all bets are off (or all bets are on!). My earlier comments are about training in order to race well. There is no sense in periodizing a race. Or is there?

Second, streaking. In the late sixties this had a totally different meaning. But, within this context there are three components to training, and therefore being able to streak. First, the athlete's abilities – how fast and how far he can run under race or "test" condition. Second, intensity. The ability to run for many days, weeks, months or years in a row, depends on varying the intensity. Or, just keeping the intensity below hard. Of course, running easily for long periods of time will reduce ones ability to run fast. Third, distance. If you are able to run for 100 miles a week, running 5 to 6 miles in a day is actually a recovery day.

Third, training. What ever you do – run once a week for 30 minutes or 14 times a week for 150 miles – you are training. If you do not stress your body, you are not improving your fitness, endurance, strength or speed. If you do stress your body – varying the intensity and or distance – you must allow your body to recover before you stress it again, otherwise you will be just preparing for a breakdown – injury, illness, staleness.

That's a narrow line and one that is very hard to see – fatigue during a workout.

There are points when you are extending your fitness – speed or distance – that require that you continue past the typical point of fatigue. Otherwise, progress will be extremely slow.

But, the line is so narrow, so fine and so hard to see, many cross over and continue to train when they should stop. It's what separates the injured from the successful.

## Winter Training Tips and Information



### Limits, sort of like giving 110%

I really love listening to coaches and athletes talk about a particular performance - "they gave 110% out there today, I'm really proud of them!" or "I knew it was up to me, so I dug deep and came up with 110% effort."

What the heck are they talking about? 100% is all there is, there is no more!

So, how do you know your limits? How do you know you've given 100% of yourself. Very simple, you probably never know, because you probably never have given 100%. I'm not trying to be argumentative or trying to put people down. Endurance sports are tough that way - they take a long time. And the more you do them the more places you find in the effort to give a bit more, to better manage your effort, to get just a bit more out of your body and your performance.

Ignore for a moment the argument that there's improvement with experience. And also ignore for that same moment that age first improves your performance and then diminishes it (I'm on the diminishes it end!).

Think of something you've trained for, for at least 12 months, an event you've done at least three times before (preferably on the same course). Think about your training and preparation. Has it improved over the time you've trained? Have you gotten better at the sport?

Now think about your race performance. Have you learned more about what's needed to improve - like when to push harder, when to relax, how better to handle a segment of the course, how better to handle the conditions - road surface, water conditions, etc.?

So, what is 100%? The best effort you can muster on a given occasion? How many times have you crossed the finish line and realized that, as good as your performance was you knew there was a way to improve? I won a 10 Km race on Fire Island in the 1980s. I was a few minutes ahead of second place. But, in mile one I didn't know where the first turn was, so I had to stop and ask directions (I was already in the lead)! As I crossed the finish line I said to myself, I could have gone faster - if I knew where to make that first turn, I'd have a faster time.

No matter how satisfied you are with your performance, looking for a way to improve it is what being an athlete is all about.

# Winter Training Tips and Information



## Training Short Cuts ... Beware!

**“He finished in the top 10 in his age group, so the way he trains must be good!”**

I view most things with a bit of healthy suspicion. Not distrust, but analytic suspicion. It's not that I think people intentionally put out incorrect information. It's just that there is so much information and much of it is second hand or anecdotal.

In addition, much of the research done is very technical and hard for the average athlete to understand and apply. Add to that, many coaches use “tried and true” training methods, techniques that have been used for years, approaches that are not based on scientific evidence.

The interesting thing about human exercise physiology is that any form of training will produce results. If you want to be a runner, the one thing you need to do is run. It is really that simple. To become a faster runner, just keep running. Your body will adapt and you will gradually be able to run further and faster.

The same is true for cycling and swimming. Even though these sports involve more skill than running, the simple act of running, cycling and swimming will make you better at all three sports.

No, it's not rocket science. The basic principles of exercise physiology are:

1. Stress
2. Recovery
3. Adaptation
4. Progression

Instinctively, our bodies understand these principles. We instinctively go further and faster as we become fitter. We rest when we are tired. Simple and instinctive stuff.

Actually, it is more difficult to design a scientific training program than it is to put a rocket into space. Getting a rocket off the ground and into orbit is all about known and measurable forces. Besides, NASA has a big budget.

Most adult athletes are in the sport for personal enjoyment. We all have a bit of competitiveness flowing through our veins. We all want to be the best we can be. Most of us have some limit on the time and money we can spend on our sport.

So, we look for short cuts. Instead of understanding the physiology, the implications of a particular workout, an approach to training, we look for a “quick fix” to make us faster, help us go longer. One thing is certain. There are no short cuts, no “quick fixes.” Training takes time, effort, sweat and understanding of physiology.

The problem is that it is hard to measure everything that effects our performance. The effect of a stressful workday, the wrong lunch, too little sleep, too much hard training, all effect our performance, but how? And, what can we do about them?

It all gets complicated when we enter a race and put a number on. No longer are we satisfied with the instinctive and simple. Friendly or not, competition changes our desires dramatically and does not always lead to smart decisions regarding training. We may feel that the natural progression is not enough. A reasonable amount of stress is not enough. And rest, recovery? Forget about it!

**“If 10 are good, 20 must be better!”**

# Winter Training Tips and Information



There are two typical responses to physiology and training questions – “Well, he did it and he ran xx:xx:xx” and “if 10 are good, 20 must be better.”

If you ignore the second principle of exercise physiology (Recovery), the third principle is negated (Adaptation)! We all have physical limits. These can not be ignored when you apply the fourth principle (Progression).

Here are some questions you should ask yourself before you start on any training plan or attempt any workouts:

1. Your goals – race date and distance – does your training fit with your goals?
2. Your fitness – cardiovascular, strength (MaxVO<sub>2</sub>, Aerobic Threshold, Anaerobic Threshold, Lactate Threshold – is your body prepared for this?
3. Strength – are you strong enough for this workout?
4. Injuries and susceptibility to injury – are you injured? Have you been injured doing a similar workout?
5. Skills – are your skill levels up to the demands of this workout?
6. Fun – will this be fun?

Let's start in reverse order:

Will this workout or training plan be fun? Sure, preparing to run a marathon or complete an Ironman triathlon will be hard work and long hours. But, without an element of fun, why are you doing it? If you are not being paid to compete, make sure your training plan and each workout has an element of fun.

Do you have the necessary skills to do this workout or training plan? Are you attempting to cycle a technical course, when your bike handling skills are not up to the demands of the course? Are you attempting an ocean swim when you have only been swimming in a pool? While it is necessary to extend your capabilities, attempting a training program or a workout that is beyond your skill level is risking injury or disaster.

Do you have lingering injuries? Have you been injured attempting a similar workout or training plan? Again, while you have to add extra stress (progression) to your training in order to improve, you need to listen to your body. Existing injuries need to be healed before you attempt to increase your workouts. If you have been injured while doing a similar workout, avoid this one!

Do you have sufficient strength to attempt the workout? While a training partner may be prepared to do long hilly run, if you do not have the leg strength for the hills, doing a long hilly run (or ride) will not produced the hoped for benefits. Follow the progression of endurance building, strength building and then speed building.

Do you have sufficient fitness for the workout? Attempting a workout that is significantly longer than you have been doing will risk injury and excessive fatigue, preventing continued training.

Does this workouts or training plan fit with your goals? If you are training for an Olympic distance triathlon, or for a half marathon, doing a long run with an Ironman triathlete or a marathoner will put unnecessary stress on your body. Also, if your goal race is three months after your training partner's goal race your training phases will not match and one of you will suffer.

## Winter Training Tips and Information



Ask objective questions. Be somewhat skeptical of “free” advice. Remember the four principles of exercise physiology (stress, recovery, adaptation, progression). And ask those six questions about every workout and training plan. Finally, have a goal for each and every workout, write it down and stick to it!

# Winter Training Tips and Information



## Supplemental Strength Workout

**Strength Training** – Work with free weights and/or pulleys, not machines. Vary your weight workouts from week to week. Do two to three workouts each week. They should last between 30 and 45 minutes – no longer.

Do one exercise in each of the following areas:

- (1) **Arms pushing** – extend (straighten) elbows against resistance, press (standing, seated with barbell or dumbbell), bench press (flat, incline, decline), dips, pull-ups
- (2) **Arms pulling** – flex (bend) elbows against resistance, row (seated, bent-over, one arm with barbells or dumbbells)
- (3) **Abdominal** – static (Side Lying Bridge, Prone Plank, Supine Plank) or concentric/eccentric (crunch). Increase resistance, rather than increasing reps.
- (4) **Lower back** – back extension (45° or 90°), Good Mornings, stiff-leg dead lift
- (5) **Squats** – step-ups, lunge, leg press

Do one to three sets of 6 to 8 reps for each exercise. Do all exercises with FULL range of motion. Use a weight of 80% to 85% of 1 Repeat Maximum (1RM) for 6 to 8 reps. You can also use 130% of your 10 Repeat Maximum (10RM).

Use full range of motion and multiple joint exercises.

## Planks

Planks are an excellent way to build core strength. Do one to two sets of these four Planks, holding each for up to 60 seconds. When you can hold a position for 60 seconds, remove one arm as support. When you reach 60 seconds remove one leg as support also.

### Prone Plank:

Facing the floor, on your toes, supporting upper body with elbows and forearms, palms flat on the floor (fingers pointing towards head), elbows directly under shoulders. Back must be kept straight. (push-up position, but supporting your upper body with your elbows, forearms and hands).

### Supine Plank:

Facing the ceiling, back facing the floor, on your heels, supporting upper body with your elbows and forearms, palms flat on the floor (fingers pointing towards feet), elbows directly under shoulders. Back must be kept straight.

### Side Plank (do right and left sides):

Facing the wall, one side facing the floor the opposite side facing the ceiling, on the side of one foot, supporting upper body with one elbow and forearm, palm flat on the floor (fingers pointing towards the wall you are facing), elbow directly under shoulder. Back must be kept straight, do not allow hips to drop towards the floor.

### Prone Plank Arm Raised:

Prone Plank with one arm raised and extended directly in front of the shoulder.

### Prone Plank Leg Raised:

## Winter Training Tips and Information



Prone Plank with one leg raised and extended (knee kept straight and foot higher than hips).

### Supine Plank Arm raised:

Supine Plank with one arm raised and extended with fingers pointing towards feet.

### Supine Plank Leg raised:

Supine Plan with one leg raised and extended (knee kept straight and foot higher than hips).

### Side Plank Leg raised:

Side Plank with one leg raised and extended (knee kept straight and foot higher than hips).