

# Ultratrail with Single-Session Training

How to tread long distances on foot  
With only workout per week



English version of: 'Ultratrail con il Monoallanamento'

!!!ATTENTION!!!

I can finally propose my first book in English. It's a long job. The ultratrail technique prepared with the weekly single-training method deserves, in my opinion, to be widespread all over the world and the English language allows it with a loud voice!

This is a completely independent translation and probably full of errors, but despite this I hope it is understandable to ultratrailers outside of Italy. Precisely because this work is not perfect, I give it as a free PDF to download freely.

In the hope that it will be appreciated, I wish everyone a good reading.

Prof. Bertinetto Bartolomeo Davide

The techniques and the dietary advice shown in this text have been partly ideated, used and perfected over the years by the author. The method here described, even without particular risks, requires the opinion of a doctor. The food indications in the text must be carefully evaluated and, according to own needs, discussed with a nutritionist.

To my paternal and maternal grandparents who with their healthy and simple lifestyle still place a "prodigious" work in the countryside at the age of ninety yaers

This little handbook will show you how to workout without usury the mileage in UltraTrail world, making you to change his mind that long walking distances "break" your knees, because that is not the case. The secret lies in the mental approach and techniques used to workout . Those who decide to start walking long distances, and who may prepare a marathon, will find that it is much more invasive to run an asphalt marathon than an ultratrail with walk alternating between racing on a rough terrain.

One of the conditions from which I started to write this book is that my reader be a neophyte in sport in general and that thanks to the weekly Single-session Training present here can succeed in achieving enviable sporting maturity in travel great distances on foot. A starting point, therefore, for all those who wish to start moving through vast geographical territories with their own legs and without special equipment. Many people who approach Ultratrail usually start exaggerating from the first workout: either they train too often or try to get too far out of the way. The consequence of these impromptu improvisations will be that at some point we will have to stop because of the induced overtraining. The intent of this manual is also to help you not to commit this type of error.

Respecting recovery times, avoiding injury, not improvising outputs out of reach and keeping up the motivation, are precautions along with others I have experienced over the years, which will become an integral part of your personal "cassette of tools" and that will allow you to make long journeys on foot. However, you need years of training in the UltraTrail and have traveled thousands of miles on foot to be able to say that you have accumulated the experience necessary for the perfect implementation of this exciting and adventurous discipline.

Traveling on foot with a small supply of food and liquids, traveling long distances (even for more than a hundred kilometers) is a "total" experience that allows us to know the limits of our body. The long distances that characterize this discipline are within reach of anyone who has the desire and constancy to prepare gradually and over the years their body and mind to the challenge of UltraTrail, learning to manage their physical and mental resources, trying and trying again. An enterprise, this apparently extreme, but which in reality requires only a careful and conscious use of its resources. The ultratrailer performs actions that may seem out of the ordinary for those unfamiliar with this sport. In reality any physically healthy person will be able to make the "big work" on foot with a wise and careful use of their psychophysical energies.

The ambitious but possible project that I propose to carry out with this manual is to guide a sedentary but healthy person, who is not used to travel for distances greater than those that can be covered within a modern shopping center, to travel up to 100 km and over with a single UltraTrail exit.

It will be a useful route for both the sedentary and the athlete who comes from

another discipline and they want to find out what distances can cover with a single exit.

Practicing the UltraTrail will allow us to perceive our body in a "new" way. We will become able to complete with our strength alone, great distances supported by a strong sense of self-control and with an unprecedented vision of the environment that surrounds us.

Note:

A sedentary and overweight person, before starting with UltraTrail, will have to seriously consider improving the relationship between his body weight, strength and endurance, seeking a common balance between these three factors. This is the only way to start the UltraTrail preparation without further burdening the joints of the lower limbs and the cardiovascular system. A sedentary but normal-weighted subject can instead start the program using the weekly Single-training without particular recommendations.

## **Workarounds and philosophy**

### **A book for everyone ... or almost**

I have not thought about writing these pages for the champions, they do not need many rules to follow. Their physical and mental condition will replace at any mistakes. This work, however, is designed for all those who are not champions and who want to learn how to cover long distances on foot relatively quickly. The UltraTrail boom is spreading this desire among athletes of all kinds and among racing enthusiasts in particular.

If these people followed the champion training strategies, they would most likely not achieve the same results, because the difference is rooted in the mental state, not just in physical training. I had the opportunity to talk and compare myself with some professional sportsmen to find out that they do not do anything different from beginners. The luck of these champions is that nature has endowed them with an exceptional body, which is why they can push beyond conventional thresholds.

Observing many ultratrailer practitioners, I have been able to isolate several errors, some of which borrowed from the "routine of champions": double daily training, repeated, fast rides and other solutions that are effective only if used sparingly, but counterproductive if used by athletes with average recovery capacity and who wants to use these techniques in his training program regularly, sometimes exaggerating. Before tackling a new workout one must always be certain that he has "recovered" from the previous one, under the danger of falling into muscle catabolism. Muscle catabolism leads to loss of lean mass and therefore to a decrease in strength, which in turn leads to a reduction in performance. The result is that too much workout becomes counterproductive. It's a bit like eating continuously without having metabolized and concluded the digestion of the previous meal, a common mistake, this, in body building, where the food program is based on multiple meals.

### **Running an Ultra Trail means...**

...leave early in the morning, as soon as the sun rises, or even earlier. In the backpack water, food and some spare garment, with the inevitable sticks... Venture through the hills, in the woods, every hour to grind kilometers for paths and dirt roads, away from the urbanized world, in total self-sufficiency.

The thoughts, during these long excursions, crowd the mind and we learn to know each other better because listen to each other more.

You are able to master your ability to resist already after 20 or 30 km, even if it becomes necessary to clench your teeth and continue after the first signs of fatigue. To fully enjoy the landscape around us it is necessary in our outings to learn how to "master" the legs and the resistance to pain a little at a time. After this, it will be a pleasure to move for long distances, passing from the plains, to

the hills, to the high mountains, to witness the sunrise to continue, running and walking, until late at night.

In my life I met many people from other sports who wanted to test themselves with Ultratrail. All those who have managed to complete one have not stopped practicing, year after year.

For those looking for agonism, UltraTrail must be managed at best, so it is good to be wise and "savers" of energy. It is useless to run in a frantic way for ten kilometers and then stop exhausted, is the average speed 2 that makes the difference. Knowing how to use water and food resources at your disposal sparingly, evaluating the step to be taken from time to time are just some of the important elements to consider in order to best tackle a UltraTrail. Many people who come from traditional competitions, such as those running, run without measure already from the Start, forgetting that the journey in the UltraTrail is long, very long, and does not end after 10, nor after 20 and even after 40 km!

In distances that exceed the kilometric length of the marathon, by duplicating or tripling it, you can not think of running without criteria and then drink, eat and rest only at a later time. Here everything is different and we need to know how to measure. For this it is essential to take liquids in small sips and frequently during the performance, as well as for food. Regarding speed, it must be ideal to allow us to continue for several hours (even more than 20), dealing with flat stretches, inaccessible climbs, uneven and steep descents. You always have to think about what could happen during the journey. It will not be rare, in fact, to start with a favorable weather condition and conclude with a very bad one: in the UltraTrail it is the norm, considering the many hours of travel and the relevant geographical displacement that this discipline entails.

Note:

The average speed in long distances is given by the ratio between the total time taken to close the entire journey and the distance in kilometers of the route. In the UltraTrail it becomes irrelevant to run a short stretch quickly and then stop and recover. The overall speed includes movements, breaks, running and walking.

### **The beauty of getting to the bottom**

I like talking to people who want to start doing UltraTrail, or they just started. I always listen to their opinions and their reflections. Many speak of positions in the standings, hard training, the first ten or twenty classified, the performance of the first qualified. Others, more cautious and realistic, do not lose their balance and are content to arrive in the first 100 or in any case not to arrive last. From here begins a series of very frequent and untargeted trainings towards the long

distance that often leads the aspiring ultratrailer to make mistakes and in some cases seriously damage feet, knees and back! In practice, getting ready for a UltraTrail is not so complex, but is often perceived by most as something difficult due to the long distances that characterize even the shorter races.

The neophyte should think only to close the race in the best way regardless of position, and enjoy the adventure of covering challenging distances. Then if you climb the ranking the better, otherwise it will still be a great satisfaction.

If you think about the position before you arrive you risk being dragged by those who run fast from the Start (usually beginners) and run out of time their physical resources jeopardizing the race. Yes, because there are not only the kilometers, but also the climbs and descents, the uneven terrain, the rain, the cold, the heat ... all elements that undermine the physical and psychological condition. Then there are the downfalls, in which it is easy to stumble at least once in such long journeys. So the spirit must be positive, not of resignation, but not even arrogance and exaggeration. The UltraTrail is a sport that more than others requires humility!

In training you need to focus on the key points for the most focused and effective solution. In fact, the prerogative of these sporting events are the kilometers to be reached with large differences in height, so it will be good to focus on the long, very long resistance, leaving all the rest to lose. Repeating for 10 kilometers or short and fast laps, are more athletic things that work for other types of races, but that have little effect on extreme distances.

In the UltraTrail you have to train by milling kilometers over kilometers. To achieve this we need ample recovery time to be always fresh and remove the spectrum of the accident. The rules described in this manual come into play decisively. To summarize, the concepts on which is based my idea of training are few and simple: the great importance of kilometers traveled on gradients and recovery.

With experience and slow physical adaptation, the average travel speed will progressively improve. We must know wait. I saw young guys exaggerate at the beginning with one or two years of intensive training on their backs, which come well to the races, but then they stop ruinously due to repeated injuries. Such a pity!

If these people had been able to wait and respect the right timing of physical adaptation, using a less invasive and more gradual workout solution, they would have become great athletes!

Note:

Thanks to the weekly Single-session Training, I've been an ultratrailer for over a decade without ever having just one injury. I have participated in many ultra competitions, even nearby to each other, I'm never ranked last, placing myself

between the mid ranking and the first third. All with only one release per week.

### **Philosophy of long distances on foot**

There is no single philosophy for this specialty. There are many incentives and motivations that can push a person to practice the UltraTrail: the sense of freedom that only open spaces can give, the pleasure of contact with nature, the desire to know and face their limits learning to discipline mind and body.

When you start to travel with your legs longer distances, the intent is to be able to do even better. In the mind of the practitioner the challenge is to get to overcome those extra miles at each performance. It is a virtuous circle in which the speed factor takes a back seat. Those who dedicate themselves to Ultratrail are more and more interested in practicing it, so much so that they continuously process information on the subject. The night before the competition and the same morning are the most important moments to find the right state of mind to start the business. Review each km in your mind, retrace your thoughts with the climbs and descents, check the tools, the backpack ... focus all this is really important. Prerogativa fondamentale, prima di affrontare nuovi percorsi, è studiare attentamente una cartina dettagliata dell'itinerario insieme al profilo altimetrico. Nelle gare questo materiale è racchiuso nel roadbook.

As long as the laps to go are short, under 20 km, we can take the luxury of going a little louder, but when our ability to resist increases, it becomes necessary to measure the pace, thus avoiding the failure of the enterprise. One of the most important moments in dealing well with a long route (more than 42 km) is the departure, which must be slow and quiet. For example, in my specific case I always start walking, regardless of the characteristic of the route. This is a rule that always works with me. The walk is a good tool to warm up and you can reach considerable speeds, 6-8 km / h, with reasonable ease.

During the last UltraTrail competitions I carefully analyzed the behavior of the other participants in the minutes before the start and I noticed a certain "enthusiasm" in practicing elongations, skipping, stretching, shots and kilometers of race before the race. I realized that this is mainly a trivial mistake borrowed from the experience of the most from very short foot races (from 5 to 20 km), which then transfer into an UltraTrail. In UltraTrail the distance is so long that you have to save every gramm of energy and it is wiser that the heating takes place on the way: it is better to start calmly, perhaps walking quickly from the start on, entering the heating from the start of the competition and not before.

The challenge in dealing a UltraTrail is more than anything else with oneself; the distance is really too long to claim to be lucky enough to keep the same pace as another competitor. Moreover, if you "attack" with the intent to overcome those in front of you, you risk, overtaking after passing, to remain without resources! It is better to continue most of the time with your pace: the athlete the slower will

be exceeded, the faster will have the better, with all due respect.

Note:

It is good to clarify that the solution proposed above is not recommended to the expert ultratrailer who normally starts with a medium speed and then maintains it along the entire route. If anything it is a speech, this, which is aimed at the beginner or the "average" practitioner.

### **How to avoid abrasions from rubbing**

The movements that take place during the movement for long stretches repeatedly involve arms, legs and back, and the oscillations of the backpack can cause more or less deep lacerations on the skin. It is normal that happen. However, there are some useful precautions that help us to contain these annoying inconveniences. Let's see how.

The first point suffering is that of the armpits. I could see that increased muscle development in the upper body intensifies the rubbing phenomenon. Curiously, however, I noticed that the use of the sticks prevents the problem, perhaps thanks to the different set of arms.

Another area of the body that suffers the negative effects of rubbing is the groin. Here it is good to reconsider, through a series of attempts, type and materials of the garments to wear. Also in this case those who have a very developed musculature run the risk of having the greatest discomfort from rubbing.

A pronounced breast in women and a sturdy chest in men leads to greater abrasion of the nipples. It will not be rare to see them deeply lacerated at the end of training. In this case, the microfibre T-shirt, despite having many advantages, cause the greatest damage due to the consistency of their fabric.

The backpack is the object that causes the most problems. Often, in the area of the shoulder, as well as in the contact with the back in the lumbar region, deep sores occur.

After months and years the body gets used to creating real skin calluses in the most affected areas. Nevertheless, with a very simple remedy, it is possible to postpone the occurrence of damage from rubbing over time. After identified the points of pain or at risk and immediately before the event, it will be good to sprinkle the areas of vaseline in cream. As for the teats, vaseline is not adequate. In this case, applying the common paper scotch tape is the ideal solution.

My advice is not to use these expedients in short training. If you always use lubricants and protections, your skin will not be able to "harden". For example, in sections with rain the tape will tend to shake off and the vaseline to melt. Here it will be useful to have a strong skin in those areas subject to rubbing.

I have seen many athletes abandon a race not for exhaustion but for not having treated these seemingly marginal details.

## The equipment

The beginner who approaches the UltraTrail often makes two mistakes when it comes to equipment: either he carries too many items with him or he carries too few. When it comes to being prudent it is always better to abound, considering that the unexpected in the UltraTrail is always lurking, but carrying too much weight can seriously compromise the success of our business.

Over time it will come eliminate the superfluous, as the knowledge of one's own abilities and individual needs will become greater and greater. The important thing is to complete the budgeted distance without imprudence and ingenuity.

Here are some tips to be taken seriously, especially if you are close to doing a long training in solitary:

- the first step, after having acquired the ability to travel long distances thanks to training, is to plan a roadbook before departure, memorizing it;
- write down a list of the necessary equipment, the clothes to take with you, the food and the liquids to be transported;
- check the weather forecast until a few minutes before departure;
- always carry a mobile phone with a charged battery and credit;
- to tell a friend or family member about the path you want to follow, indicating the approximate time of arrival and your mobile phone;
- rainproof materials, t-shirt and spare socks;
- shoes light and comfortable but robust, with a good one ramping for the dirt road;
- trekking poles;
- medical kit;
- front torch (with spare batteries);
- whistle;
- thermal blanket sheet.

The list is quite complete, although it could be integrated with further minor entries; much depends on the needs of the individual and the territory where the UltraTrail will take place.

**ATTENTION:** those who intend to take part in an UltraTrail race will have to make sure to bring with them the basic material imposed by the regulation, under penalty of disqualification from the race.

Note: All the material that I use is very cheap. For example it is a pity to use expensive shoes over their time just for their economic value. Using economic material allows more frequent spare parts without remorse. This choice certainly did not prevent me from taking part in the most difficult races of the world and

bringing them term.

## **Getting started**

The beginning is always the biggest obstacle. Organizing the weekly time to devote to training is not easy. This guide wants to put you in a position to immediately make productive your efforts, without running the risk of moving away from the final goal: the UltraTrail.

Failing your own preparation is easy enough. The typical example is to continue to train, for those who already run, maintaining the usual distances and then immediately take a long workout. A similar behavior can be traumatic for the physicist, considering that those who use this technique perform the "long" from time to time and complete it by resorting to pure running, without adopting the UltraTrail techniques. You are wrong if you intend this discipline similar to a marathon but longer, managing it like any athletic competition.

Always train for 10 km with three workouts a week and once a month to try a distance of 30 km, perhaps managing to complete it, does not mean being able to complete an UltraTrail of 100 or more kilometres . These races are very demanding, starting from the shorter ones, 43-50 km, to reach the very long, 170 km and more. We must then deal with all those unknowns (rain, snow, cold, fog, hunger, etc.) that is good to experiment in our preparatory outputs, the UltraTrail is also and above all this.

Later on I will present some preparatory techniques to face long distances that will allow you to train regularly and without wasting time. Gradually the training will fall on sunny days or bad weather, in a completely casual way. Progressively lengthening the distances will allow you to experience the movement in the dark with the only lighting of the front torch, and the preparation at high altitude, in the colder seasons, will allow you to test yourself with the snow.

Note: Marco Olmo, great champion and athlete of my province, wrote that in the UltraTrail it does not matter what is in the middle, between the beginning and the end, because you can do what you want in the part that separates the departure from the finish line. In his words is contained all the essence of the UltraTrail.

## **The mental approach**

Finding the right mental state is decisive for making the most of our physical condition before a race. Spending time in solitude thinking about the effort that awaits us is crucial to positively influence the result of our performance. Review the pace to keep in the various points of the journey, think of stops where to drink and eat ... Plan everything in advance can provide us with a security in the basic action.

The experiences lived in first person, together with other read on the web, magazines, video, had convinced me about the importance of mental state before and during the performance.

Many people think that in the UltraTrail most of the work is done by the legs, this is not entirely true. In fact, during a long UltraTrail trip, the mind influences our performance by working incessantly, processing disparate thoughts, paying attention to the perception of fatigue, evaluating the path.

Some time ago I read an interesting article on the perception of physical fatigue in relation to mental conditioning. During a state of limitation of suffering, the mind puts in place a system of protection in which the sensation of exertion is exalted and the threshold of pain is reduced. It will not be difficult to feel more tired at the 50th km in an UltraTrail of 100 than at the 90th km. Halfway through the race the stretch that separates us from the finish line is still long, while at 10 km from the goal the desire to close and the awareness that by now it's all done will considerably relax the mental brakes, allowing us to obtain a quality performance at the end best.

The mental reprogramming before a fatigue supported by a proactive vision ensures us a path to the best and keeps us at its at most at all times.

### **The UltraTrail and the run**

Is it really so fundamental to always run during a UltraTrail without using other strategies? The answer is no, unless you are naturally gifted to be able to run, for example, for distances close to or above 100 km, perhaps mostly in the mountains. If for an athlete with abilities above the average, the "100%" strategy can be the winning one, for a beginner or a "normal" athlete it is advisable to better manage his energy sparingly to be able to complete the 'company. It will therefore be important to wisely administer your uphill resources, take advantage of the advantage in moderate descents and in flat stretches and then dosing again in the steepest and most impervious descents.

I saw too many athletes convinced they could win by running "slowly" throughout the race and then fail miserably after a few kilometers. Even the strongest ultratrailers seem very slow for an inexperienced runner. See world-class ultratrailers being the first to cross the finish line at an average speed of 10 km / h, may suggest that the UltraTrail is easy. Nothing could be more wrong! An example will help us understand better. A marathon runner travels the distance of 42 km at a pace that is almost twice that of the ultratrailers, but compared to a much shorter distance, on a flat and regular surface. In the UltraTrail, in fact, often the ground is uneven, not to mention that in many cases the discipline is practiced at night and in adverse weather conditions.

## **The UltraTrail at night**

It is not easy to find a sport that provides for its continuation throughout the day. In the UltraTrail this is a recurring eventuality. At night everything is different and the perception of the landscape changes profoundly, and that is why the necessary equipment for the night hours is of fundamental importance. It is not just a matter of thinking of frontal light as the only indispensable element. The cold at night can become unbearable, seriously compromising our athletic performance. It then becomes essential to take a break when the sun's rays are close to fade to wear everything that can come in handy to continue in the dark, such as the front light and an extra garment to protect from the cold. In some circumstances it will be appropriate to wear gloves and headgear, especially if we are at high altitude. Establishing what to wear in one break is important, since the longer we stop the more we lose time and pace.

One of the major difficulties to face when running a UltraTrail at night is the crossing of thick vegetation. In fact, among the trees, the darkness intensifies and finding pebble and protruding and slippery roots on own path is quite common. Here the sticks, in addition to the due prudence, are of great help because of the support they provide.

If you want to plan training during the full moon, do not think about leaving your torch at home. Even in this case the unexpected is always lurking and if you were in the dark because of a sudden change in weather you would be really in trouble. Moreover, with the full moon, all the shaded sections are however not very visible. Not to mention the passages in the wooded areas where, if the vegetation is thick, the lunar rays filter with difficulty.

In the summer, if you are in the high mountains, it can be very cold at night. Finding yourself to face a cold summer night in a tank top and shorts above 2000 m is a risk that it is better not to run. Moreover, the presence of high altitude wind can critically bring down the perception of the actual temperature.

It is not worth risking your safety and your health to give up a few pounds of extra material, or to gain some moment of agility, jeopardizing the success of our performance and our well-being.

## **The UltraTrail on the snow**

Many times I decided to continue my training sessions despite the unfavorable weather forecasts, even with incoming snow.

Personally I do not decide my outputs according to weather conditions. The UltraTrail forge you, and it's not a problem if some rain falls, there's fog or it's snowing!

Today we are equipped with GPS navigators and mobile phones, always at hand, essential to ask for help in case of emergency. Be clear that it is always good to tell someone about our UltraTrail activities and the route we are going to take,

and when it is possible, a good idea is to organize the outing with someone (even if finding a mate is not so easy in this specialty).

Walking and running in the snow is not easy, even more if you venture to high altitudes, where the snow is not yet beaten. The fatigue on the snow for many is daunting. Furthermore, speed is reduced by a lot. These difficulties can be overcome with some small stratagems.

As I have already written elsewhere, I usually use mountain boots rather than the usual trail shoes, and this on mixed ground / snow routes is a strong point. In such circumstances a further instrument is needed in addition to sticks and rucksack: snowshoes. The snowshoes I use for training with snow are undersized for my weight: I use a women's model, lighter and more practical to carry, which performs its function very well...

To carry them comfortably, I hold them tight on the sides of the trail backpack with a rubber band, so that they can be quickly picked up and fitted according to the amount of snow. The solution to tie them to the backpack is in my opinion ideal, and if they are well anchored, you do not notice the extra weight. With a few inches of snow it is not appropriate to wear them immediately, because the boot protects the foot sufficiently and the sinking is almost nil. If the ground is covered with at least 20 cm of snow, it is advisable to use them.

When you wear snowshoes it is advisable to respect the rules dictated by this manual, if is walking uphill and gentle run downhill and plains. I noticed that for an easier smoothness in the step with the rackets on the feet, it is appropriate to lock the mechanism that allows the freedom of the heel, so as to keep the latter always in contact with the racket.

An advice

Here is a trick that I use in winter to protect myself from the cold: nylon bags on my feet. In fact, I noticed that wearing a sock in contact with the foot, then a bag and finally another sock, I can run even in cold temperatures keeping my feet always warm.



A few years ago, when it was still snowing in the "right" periods and in winter it was very cold, I made a specific program for winter training in view of a good race all on the beaten track, between Oulx and Sestriere: La Via Lattea Trail . A different trail event, where all my training in adverse conditions came in handy. In that race it was not allowed to use snowshoes because they competed on

beaten snow, so the foot was incredibly light! What a cold though: at the edition I took part in, sometimes at night it was less than eighteen degrees!

### **The UltraTrail at ... six legs**

The company of our four-legged friend is always a pleasure during long UltraTrail workouts. I had the opportunity to experience several times during a UltraTrail the experience of being accompanied by a dog, by chance encountering one on my path, or because some aggregate athlete had brought with him: every time it turned out to be a pleasant experience and positive! The dog, if accustomed, manages to travel considerable distances, almost like a human being. I write "almost" because on many occasions, despite being accompanied by "trained" animals and proceeding slowly in my ultra laps, the dog after 50 or 60 km in the mountains tends to stop. This is probably due to their survival instinct: it makes no sense to go on and on if they feel the need to rest (for dogs the time factor is certainly not a problem!).

If you have been training for long distances and your dog has just arrived in your life, you need to realize that he needs a gradual workout to accompany you on yours laps.

In these years of UltraTrail, I often liked to accompany friends with their dogs to complete the tour of Monviso, and watch their animals go back and forth while we were just going forward, see them drink where it happened and eat little or nothing to be in true self-sufficiency. Recently I had the pleasure of completing a lonely adventure on Mount Frioland with a cute dog with a brown eye and the other blue ... Really nice and of great company, and also very playful. Some parts of the return I did not know them very well and this animal, being "of the place", was a great help in the night descent, since it seemed to know the road perfectly. So all my GPS work the night before turned out to be useless. I think the company of dogs is really fundamental when our knowledge of the path wavers, because they succeed, it seems with ease, to orientate in places even unknown to them.

The preparation phase for your animal varies according to the age and the starting environment. If it is a puppy, first you will need to make small daily walks, starting from a few hundred meters up to 2-3 km in a few weeks, and then try their hand in real itineraries in the middle of nature with ever more challenging gradients. Passed the first ten kilometers, it becomes possible to run with our friends four legged pathway on trail lengths. Following a trend made of periods of increase and regression with the insertion of some pauses, and taking advantage wave progression, it will be possible in the space of a year to take it to UltraTrail. In the case of an already adult dog that lives outdoors, the subject changes. For these animals you can to pass over short walks to go immediately to cover distances close to 10 km.

I have to remind the reader that in many mountainous areas, especially natural parks, it is forbidden to leave animals free, for which the obligation to use a leash is required. Obviously at UltraTrail step the leash is awkward, so it will be good to choose a retractable that takes up little space in the backpack. Also, consider the possibility of using a muzzle. In some mountain areas, especially in the summer, passersby and children meet many, and the safety of others is a priority. It is important to remember that every tool necessary for our dog must be practical, light and ready to use. Regarding the food, the dog must be able to use it during the journey when he feels the need. So the bowl with some food will certainly not be a bad idea for its "sporting wellbeing", provided you do not overdo the weight to carry in your backpack.

### **Respect for nature**

Among all the sports specialties that require a high degree of performance, the UltraTrail is undoubtedly the one that leads us to come into contact with nature.

Each participant in the most diverse sports competitions, amateur or professional, is required to respect the environment that surrounds it while leaving intact at its passage.

It will therefore be appropriate to organize the contents of our backpack in the most appropriate way before each exit, so that any waste produced can be easily bring home and not abandoned in the places that host our adventures (I have seen in many competitions of UltraTrail provide every athlete is a container for waste to hook to the backpack, but there are still very few who actually use it).

Moreover, if the excursion is carried out as a couple or in a group, it is necessary to take care of people who have a poor sense of civic spirit, motivating them not to throw anything on the ground. Attention to the others who wishes to enjoy nature after our passage, both for all forms of animal and plant life must be in our UltraTrail excursions a priority.

## CHAPTER 2

# Feed well to address long distances

### **How and when to top up your energy reserves**

When we move to do sport or for a UltraTrail, our body draws from its internal reserves in order to function at its best. The use of glycogen is high in these cases and when the cellular reserves are close to the end one of the first warning signs is the collapse of the performance. What to do to restore the availability of glycogen without using digestion?

In the past years I had experimented with a solution with grape and apple juices but with little success: after the reserve was left dry.

Then a book by Dr. Speciani, Practical Guide to the DietGIFT, which talks about liquid nutrition in athletes engaged in long and very long runs. In the text it is suggested the continuous intake of glucose in liquid form in order not to activate the digestive process. The idea of liquid feeding during the long distance was thus presented in my mind and I decided that instead of the juice of grapes and apple I would have used refined sugar, easy to transport and always available in ultra events: water saturated with sugar to drink in small sips every 30 minutes or so.

It is important to take a few solid foods during performance. The digestive channel, when activated, requires the use of a considerable amount of resources for the decomposition of food and this process lasts for many hours. Much of the energy required during walking or running is thus intended for the digestion of solid food. Liquid food, on the other hand, is bioavailable already from the mouth and when it is found in the stomach it is metabolized without the intervention of elaborate digestive processes.

The food taken in its liquid form must have a very simple molecular structure, such as that of sugar, so to create a mix of products mixing them will not help because the body will have to intervene further to decompose the food with additional intestinal work. Personally, I used sugared water as a liquid support in many of my workouts (10 and more hours) and at the UTMB 2013 (Ultra-Trail du Mont-Blanc) with great success, postponing the glycogen drop considerably.

It is good to clarify the importance of not abusing this expedient during training because the more you make things "easy" during the preparation, the more you depend on those factors that simplify your work. In the race this can turn into a problem. Use the escamotage of sugar and water only when it is really necessary.

### **How to feed during an UltraTrail**

The choice of food to take with you while you are racing is one of the biggest problems for the ultratrailer and you need to get organized to the best starting

from the workouts, short or long, so as not to improvise anything the day of the competition. UltraTrail is a discipline with a "slow" rhythm that develops over the long, very long stretch. The dilated times of this activity imply the need to eat during the journey and to do so it is necessary to take the right measures by resorting to some appropriate solutions.

Many ultratrailers agonists do not stop to eat, if not to the refueling points prepared by the organization of the event. Do one's best to always have something to nibble or drink at hand can postpone decrease of glycogen that usually occur on the long stretch.

In this regard, the type of clothing plays a decisive role in making food stocks accessible. If the bottle is placed well and in the right place, it becomes easy to sip liquids during the race, perhaps thanks to a tube of the 'camel bag' built into the backpack.

As for the food, stretching the hand every hour to draw on some "handful of calories" can be complicated if you do not come up with a logical organization of space. So, choosing easy-access pockets to transport food can make the difference.

In my outings I tie in a strategic position a small bag that I fill with almonds. With this trick I always found myself well, if not for the momentary discomfort caused by the movement of the sticks necessary to free the limb for tap into the supply.

The fundamental concept, which is a bit 'the red thread' of the UltraTrail discipline, is to learn how to best dose our resources during the preparation, to effectively cope with the various problems that could arise during the journey.

Getting used to fleeting daily meals out of the competition can be helpful (however, every person needs specific foods. Contact your family doctor or a nutritionist will protect you from any doubt), while during the competition you should minimize risk of deficiency by taking small amounts of food - the aforementioned handful of calories - to avert energy losses that could become difficult to sustain and restore.

In addition to almonds, all dried fruit (apples, pears, blueberries, etc.) is an excellent source of energy. They are foods that provide a large quantity / nutritional quality in just a few grams of weight. Suffice it to say that 250 grams of dehydrated apples are equivalent to more than 1 kg of fresh apples!

### **A window for fruitarians**

The UltraTrail is a sorting activity that greatly commits our metabolic system. Sometimes it is thought that it is essential to take very "rich" foods to deal with UltraTrail activities. In reality, the preparation is a little more complex and takes place on two distinct fronts: on the one hand the need to support one's body with the correct nutrients, on the other the importance of energy saving in the

economy of the UltraTrail activity. In fact, as I have already said several times, "doing a lot with little" is not only the cornerstone of my Matevo ® method but it is also the cornerstone from which the UltraTrail starts.

Educate the body on a wise consumption of its energy baggage can turn out, thanks to food precautions, as the ideal conduct to be taken.

For many years now I have been nourishing me almost exclusively fruit (Ehret's texts have been decisive in my choice).

The supply of fruit only not only he allowed me to from participating in the most important UltraTrails in Europe with good results, but it supported my workouts, which are those described in this manual, those in the gym for fitness or for lifting weights.

From the point of view of macronutrients (proteins, carbohydrates and fats) fruit is a low-nutritive source, while it is high nutritious if we refer to its micronutrients (vitamins and minerals).

After years spent by body builder, following a particularly demanding diet made of foods of animal origin, supplements of all kinds, flour in profusion and above all meat, I realized that I had overloaded my digestive system, so much so that I could no longer digest nothing, not to mention the annoying related intestinal disorders. I felt more tired because of a very slow digestion, fatigue that was added to the fatigue produced by training. The consequence of this "substantial" diet was that I was not able to do anything without feeding frequently, because I had become so dependent on food that I was left without strength! My body was used to taking nutrients from the outside and assiduously, thus becoming unable to manage its internal resources properly. I realized that there was something to change in my diet and gradually, I arrived at fruitarian nutrition.

In all these years, interspersing my diet with short fasts, adopting a low-protein diet and using small precautions in the intake of fluids, my body has learned to no longer feel the need to eat and drink continuously during UltraTrail workouts . This conduct guarantees me greater self-sufficiency both in training and in the race.

Summing up, to complete a competition or a single activity, I plan snacks and I drink small sips of water at regular intervals, a solution that allows me to get the maximum benefit from my internal reserves. It can happen, in moments when the required performance is high, as for some UltraTrail event, to have to use the refreshment points prepared by the organization of the event, where there are always some varieties of fruit. This allows me to continue for long distances without further food supplements.

Note:

The content of this paragraph reflects my personal experience with the fruitarian diet. The concepts presented should not be understood as a practical example to

follow, given their particular nature. When it comes to nutrition in sports it is always good to seek the advice of a specialist doctor or a nutritionist.

Note:

A serious and precise source concerning natural and concentrated foods is the text *Natural Nutrition* by Valdo Vaccaro, Soul Editions.

Note:

I report as an example of what I just said one of my latest food behaviors in the context of a single performance: Revello-Savona, 133.2 km in 19 hours and 55 minutes. From Monday to Wednesday I ate large quantities of fruit, training normally in fitness and weight training. On Thursday I fasted, leaving my body to rest from training. On Fridays I hired a lot of fruit and on Saturday for breakfast before leaving I ate a couple of bananas. During the journey I fed every hour with five almonds and a few sips of water, so until the end of the enterprise.

## CHAPTER 3

# Less consumption maximum yield

### The movement technique in the UltraTrail

*Note:*

*One of Ultratrail's key concepts is to maintain a delicate balance between return and savings.*

Running or walking without any rules of reference can not be an effective solution to carry out long distances on foot. A translocation error carried out in the single step accumulates in the long exponentially, creating a considerable tactical disadvantage.

Let's take a closer look at the most significant measures to be taken to achieve good results.

If you use the sticks you need to be able to make the most of them, so during the step they should be able to develop performance from the propulsion of the upper limb towards the front. On the contrary, many maintain the support of the stick always in front of the body, limiting its functionality to the sole support to discharge part of the body weight. The stick must be able to produce propulsion benefiting the ultratrailer on the arms even 20%! To succeed in the enterprise it is necessary to maintain the support of the stick on the ground always behind the feet. So you hold it with energy, sticking the point in the ground, and push it with your arm towards the back. From here the recovery starts, where the hand loosens the grip, then the tip is brought forward, keeping the extremity anyway behind the foot. A new push is made and the cycle is repeated, step by step.

Another aspect to keep under control is the progress of the step. Performing long and wide strides can prove to be a counterproductive solution in the practice of Ultra Trail. The speed in this specialty is moderate, a prerogative that allows a whole series of precautions to save precious resources. For this reason, the step taken by the ultratrailer must be "low", almost as if you were skateboarding on the ground, without rubbing your feet on the ground (this action would entail a useless consumption of energy). In conjunction with the use of the stick, which must participate in the frontal movement allowing to obtain both a gain and substantial savings, the thrust of the foot must be projected forward and slightly upward. Always with regard to the step, it is good that it is the least noisy, a precaution that will allow us to ward off wear and trauma of the lower limbs. At

first the pace will be a little forced and then become spontaneous; at that time they will be, especially in the long stretch, our joints.



Note:

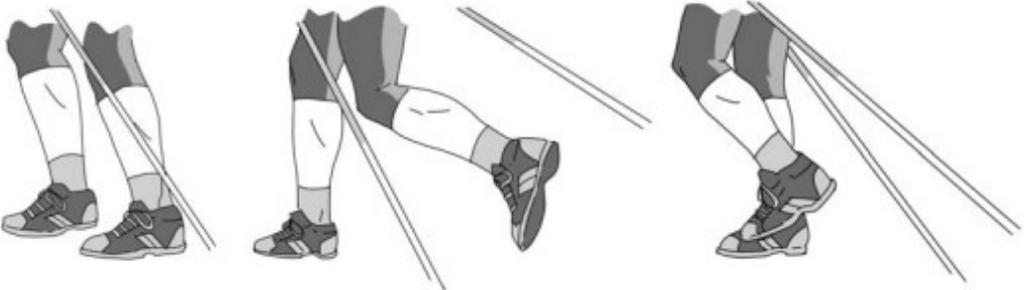
The use of sticks

The thrust provided by the sticks derives from an asymmetrical kinetic arrangement between upper and lower limbs. During the recovery of the right arm, which is moved forward, the foot passes backwards completing the push. Then the left arm is completely projected backwards, ending the thrust, to finally have the right foot forward and start a new step.

The "silent step" technique is applicable throughout the plain and downhill. To check speed in the steepest stretches is crucial to avoid over-braking. In the descent you should never get away too much from the average ideal speed, at most a couple of km / h more. Bang your feet hard can mean

excessive speed and / or useless upward movement. As a result, the early reduction of the performance.

### *The elenc of the step of foot*



1) With a small lift from the ground of the right foot, only the necessary to bring it forward, the translocation begins.

2) The right foot is in front, assuming the condition of support, then the back one starts the recovery coming off the ground.

3) In the new step the right foot is exceeded by the left one, which now moves forward always with a minimum lift from the ground.

Nella ripida salita è necessario dosare il passo accorciandolo, aggiungendo una spinta produttiva proveniente dagli arti superiori, facilitata dall'uso dei bastoncini. Nella corsa, dove le condizioni sembrano essere più facili, devi comunque dosare bene la tua forza.

What has just been said makes us understand how to travel a the long distance on foot in the shortest possible time is not easy. However it would be an illusion to hope to spend more time running to get to the finish line soon, crossing mountain heights, at night and day, with variable weather conditions.

Note:

Often some of my friends ask me to be accompanied in the UltraTrail excursions. Many of them do not have the least experience in this specialty, despite being excellent runners in short distances. Well, to these people I immediately express my desire to be able to take the step and each of them manages to close paths with lengths never reached before, by following the simple advice described in this paragraph.

## CHAPTER 4

# UltraTrail and training strategies

### **The preparation in the gym combined with Ultratrail**

My job is the fitness instructor, and weight lifting at the gym is my other big passion. I have been practicing and teaching for many years a technique that allows you to increase your muscle strength without burdening your joints: Matevo®, that is the ideal solution to improve the physical condition without incurring overtraining and injury.

Many try to prepare with the solution in the gym to get a more efficient and fit body. It is not easy to dose the work with overloads to produce a benefit, again because of the persistent overtraining condition. Several fitness / body building runners claim that their legs "harden" after lifting weights. The problem is not the weights, if anything they as are used.

The Matevo® system, on the other hand, uses mathematical rules of progression and "evolutionary" movements, that is, of all those actions that the human being performs in a natural and instinctive way, like pushing, pulling, lifting. In the Matevo® system the progression of the loads follows a precise mathematical criterion which determines the exercises consequently. Everything is at single series, with loads that follow a wave of weekly effort without ever leading to muscle breakdown. A newcomer to the method can expect an improvement of his performance in the order of 20 - 30%. It is no coincidence that my UltraTrail workouts are one every seven days, precisely because system Matevo® which supports my body by also strengthening it in the "long resistance".

Note:

Matevo ® is a training system aimed at the progressive increase of physical strength that exploits some innate actions for the human being such as pushing, pulling and lifting an object from the ground, all administered by precise mathematical rules. For further information: [www.bertinettobartolomeodavide.it/MATEVO](http://www.bertinettobartolomeodavide.it/MATEVO)

### **How to set up workouts**

An important rule to follow in training is their coherence to the goal you want to realize.

Carefully planning your workouts in advance to get an effective result is the basis to start from. In this regard, there are several effective solutions that allow us to gradually get to adapt the body at maximum sustainable effort. However, everyone must choose the most congenial road according to their ability to

recover and time available.

In the next paragraphs I will propose two training solutions that have different objectives. The first, linear training with increasing length, helps to increase the distance traveled little by little. It is the most intuitive and immediate, but requires a wise disposition of recovery times when the workouts are longer. It is not uncommon that in this option overtraining becomes a constant. You will complete really great distances with the certainty of having the "kilometers in the legs" ready for the imminent competition, but the performance will be the one that will suffer the most. In fact, focusing solely on pure resistance to face long distances, the speed will be compromised. Who opts for this solution will learn to appreciate the resistance over long distances, spending a lot of time in the middle of nature at a slow pace, without considering too much the speed of travel.

Another effective technique, albeit with a slower progression, is that of the increase in resistance and speed wave with increasing distance that allows an increase of the speed on the same distance for a certain number of outputs. The distance will then be increased gradually start from a lower speed and it will start to increase in proportion, again on that distance, after a large number of times.

Both solutions have their effectiveness in UltraTrail terms. It is up to you to understand what is the most effective strategy based on the time available to you and your personal recovery skills.

### **The linear training with increasing length**

The idea of increasing linear length training (ILLT) is to conduct a single weekly session UltraTrail, starting from the short distances and incrementing them little by little....

Despite being a solution with some weaknesses, I have nevertheless experienced it for many years with good results. The biggest advantage of the ILLT is that we consider only the distance factor excluding the rest (speed, time taken, etc.), thus guaranteeing us a greater probability in reaching the final goal.

Here the physical adaptation to be able to travel more and more kilometers must be stimulated and supported with the maximum graduality. If you overstep the stages you risk making mistakes, moving away the desired goal rather than approaching it.

A condizione che le sessioni siano condotte a una velocità sostenibile per noi, dopo ogni periodo di recupero (una settimana) sarà possibile aumentare la distanza nella sessione di allenamento successiva.

The training schemes that follow are an example of how to use this technique profitably. I recommend to those who approach this technique, starting from a condition of sedentariness, to add another week of rest between a block of

training and the other. This will allow you to achieve complete physical compensation.

To begin with, assuming that you are people with only a slight overweight and without a day of training behind you, you can get a good improvement of resistance by following this technique of initial increase, always going slowly on a flat surface:

Week	1	2	3	4	5	6	7	8
Km	1	2	3	4	6	8	10	riposo
Minutes	7	13	20	26	39	45	64	“

Thanks to this first block of training you will succeed, by tightening your teeth a bit, to progressively complete a distance of 10 km over a period of 8 weeks. My advice is to carry out the workouts just mentioned on flat areas and at a very slow pace. Those that follow, however, I recommend to take them on a slightly hilly territory:

Week	1	2	3	4	5	6	7	8
Km	5	6	7	8	10	12	14	riposo
Minutes	32	38	43	48	59	70	81	“

In this last block the distance, always traveled with a slow pace, begins to be remarkable, considering the development with slight climbs and descents. From this point on we will begin the linear increase towards the distance extreme in mountain.

Already in the 8 weeks just described it will be good to use the style UltraTrail exposed in the first part of the book to ensure adequate resource savings....

The first group of 8-week workouts serves to sketch a first resistance pattern, allowing us to reach the psychological threshold of 10 km.

The second 8-week tranche is important to "take flight" to the practitioner. From here on, it will be sufficient to continue with weekly increments on the distance.

I state that the eight training blocks that follow base their success especially on the psychological component, so to do the best you will have to seriously commit.

In the following diagram, the increments will take place on a mountain path:

Week	1	2	3	4	5	6	7	8
Km	8	15	25	35	43	51	69	riposo
Minutes	105	153	223	315	335	408	565	“

In the cycle just described, the distance traveled on foot is considerable. The result achieved in the seventh week can already be considered a distance greater than many UltraTrail competitions.

At this point we have come to fulfill with sole force of our legs a distance equal to more than half of what separates us from the goal of 100 km.

Even though the 50km threshold has already been exceeded in 24 weeks, the starting "base" obtained may not yet be sufficient to tackle a 100km UltraTrail competition, so training must continue.

We continue with strength training for a few weeks, always at a very slow pace:

Week	1	2	3	4	5	6	7	8
Km	35	43	51	69	85	riposo	25	35
Minuti	313	338	408	565	690	“	Active recovery, reduced distance	

In the twenty-ninth week, we crossed the 80 km threshold. From here on we will be able to complete ever greater distances. Perhaps we are not entirely aware of it, but it is in our potential to travel the distances described above. After all, the sedentary man is an "anomaly", not the sporting one. After a significant mileage progression, it is good practice to program two weeks of stoppage before carrying out a new cycle of increments and then follow a session no longer than the half reached and resume sessions, perhaps at a slightly faster pace.

In case you were planning to participate in an UltraTrail event I suggest you to experiment this pregara sequence, always taking advantage of the weekly Single-session Training method:

Week	1	2	3	4	5
Maximum training distance			Rest	1/4 of the maximum distance	Competition
		Maximum distance in half			

Thanks to the increasing linear training you will have the dowels needed to complete an UltraTrail distance and participate in an event of this discipline. Do not forget that much of the work is based on your will and your physical condition of departure.

Note:  
The mileages shown in the box represent the real distances on a sequence of

routes that I use in my workouts. If any reader is interested in experimenting them, he can follow the instructions on my website [www.bertinettobartolomeodavide.it](http://www.bertinettobartolomeodavide.it)

### **The increase at wave of resistance and speed**

It is not easy to increase simultaneously and successfully two characteristics such as pure resistance and speed. But there is a training that allows us to advance the performance on two fronts: the wave of training.

Defining the structure of this strategy is as complicated in words as it is surprisingly simple in practice. I will try however to be clear so that even those who have no affinity with workout theories can understand.

Let's take a brief example using some schemes:

#### First wave on the same distance

Week	1	2	3
km	8 slow	8 medium	8 fast

#### Second wave on the same distance

Week	1	2	3
km	15 slow	15 medium	15 fast

#### Third wave on the same distance

Week	1	2	3
km	24 slow	24 medium	24 fast

and so on...

In the proposed scheme the distance does not increase from every time, but they are carried out for a few weeks, "blocks" on the mileage to focus on travel speed. This technique creates an increase wave over three different steps (slow, medium, fast) and then increases the mileage only in the next step (1st -2nd -3rd wave / 8-15-24 km). If you stay on a single weekly training session, you will develop a greater distance only after each cycle.

Let's take a closer look at these three steps for identical mileage.

- **Slow speed**  
Displacement characterized by quiet pace, with stroke only when there is a descent. These slow-speed "patrol" outputs will stimulate the physical adaptations necessary for future outputs at a faster pace.
- **Average speed**

During this stage, some small adjustments to the pace will be sufficient to increase it. With the average speed the UltraTrail technique will be able to express itself in a complete way: gentle pace in descent and flat land with walk in the ascent.

- High speed

Among the three is the most challenging passage. In fact, it is at this point that it becomes necessary to provide maximum thrust. Giving the maximum, however, does not mean accelerating beyond their possibilities and then slowing down exhausted from the middle of the journey on ... The step must be vigorous in the climbs, using the sticks in the propulsive phase, without running. On the plains it will be good to run at an average speed. Downhill I could see that adopting a gait too fast will be more force required in braking than pushing, a factor, this, traumatic for our hips, knees and ankles. Finally, the uphill sections will be tackled with a light run for a few tens of meters. All these little tricks will allow you to increase the speed with respect to the middle segment without falling into exhaustion, which otherwise leads to an inevitable collapse in the long distance.

### **Cover large distances ultratrail over several days**

The UltraTrail is more and more in vogue, and often races that seemed imposing before, now are not anymore. Thus the search for ever-increasing mileage has become the norm. Just think of the Tor des Geants, which is really difficult to sign up his because of the large number of pre-registrations from around the world. A 330-kilometer race that develops in a single stage: a real challenge for each participant. However, a precise strategy is needed in dealing with events that last more than two days. Without a doubt, the best solution must take into account the relationship between performance and distance to plan the time in a rational manner on the days necessary to complete the race. It is essential to take into account that something may not go the right way, so you must have a little margin to reach the finish line.

It is superfluous to say that "overdoing" in events of over 300 kilometers makes no sense because the runner it would end up surrendering prematurely. So how can we have a fairly precise idea of work and rest times to end up such a demanding race like the Tor des Geants?

The trick is simple: turn it into stages. You will have to convert a competition born to be finished in a single solution as if it were to go traveled over several days. So, if I have 330 kilometers of the Tor des Geants with a 6 day duration limit I will plan to end it in 5, so I will still have one of security. I will simply divide the 330 by 5 and get 66: the kilometers to run across at day. So, gradients

permitting, I will be able to expect to conclude the daily route fraction from me pre-set in an estimated time of 12-18 hours. In this way every day of activity I will always have at my disposal at least 6 hours to devote to sleep and rest. I am sure, however, that the distance will reach an average of about 15 hours. Resting properly every day is the key to to be serene at the end of the race, with a sustainable relationship between work and rest.

Many athletes, however, adopt an "extreme" strategy: 2 or 3 days of competition without sleeping an instant, and then stop for 24 hours for the unmissable recovery with the result of losing much more time and effort. Yes, because after a similar effort, where the body and the psyche are very tired, it is impossible to catch up using one day and a night of complete rest. If you reach the limit then it is difficult to get up.

Therefore if I organize well the time available to me, compatibly with my sporting resources, I will be able to travel long distances having the certainty to sleep adequately a certain number of hours a day.

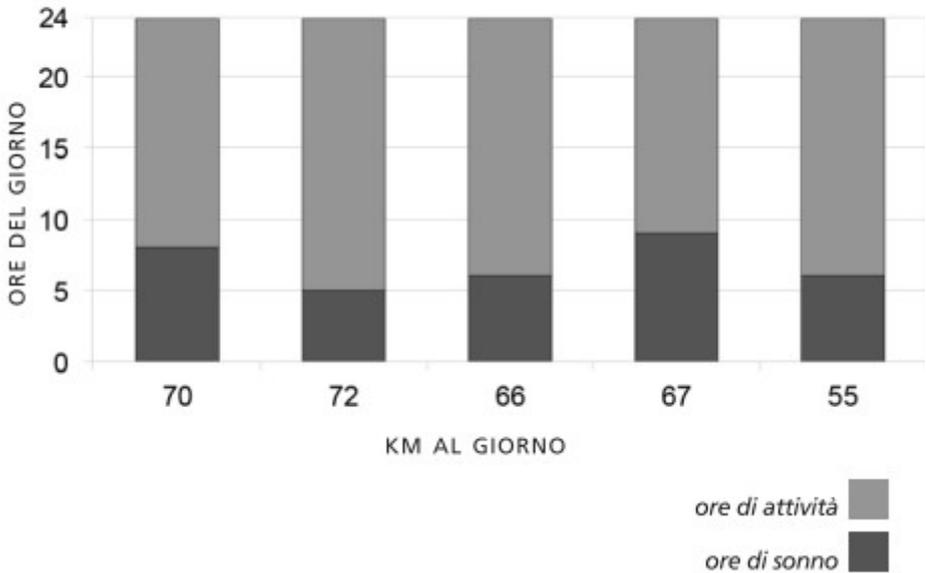
I still remember the first videos on these pioneering races where a team of scientists studied an interesting and bizarre phenomenon: some athletes fell asleep literally during the race! Really impressive ... something similar happened to me during my first UTMB, when in the second night of travel I no longer distinguished the dream from reality. In those days I had improvised "dabbing" with cycles of micro-sleep. The micro-sleep molestation can not be applied to competitions that last almost a week since the body would fall into a catatonic state continuing to postpone sleep, forcing the athlete to recover it all together.

I believe that the best strategic compromise in a long distance UltraTrail race is that of Sleep of moderate duration, day by day, so as to be as rested as possible the next morning.

Some may not agree with me, but all the athletes who work in such enterprises, postponing sleep for days, eventually find themselves having to stop and recover the lost sleep by paying with interest all the sacrifice made, with excruciating pains in the legs that reduce the pace after rest.

Is not it better to prevent the problem and use the recovery of organized it sleep as an integral part of the competition?

## Gara di 330 km svolta in 5 giorni



### UltraTrail and opposing training

To prepare to travel long distances, it is often necessary to pursue a hard training. Every time the problem is to reckon with the recovery factor and the degradation of the travel speed.

Several times I have happened to conduct long training periods every single week with increasingly increasing distances. Despite the efforts, the biggest problem was the obvious loss of speed, training after training. It is easy to think that everything is due to the progressive increase in kilometers. Only in part is true: some times, in fact, I happened to have to shorten the stretch to complete in one of my outputs noting with amazement that the speed remained mostly the same as that incurred in longer workouts. Thus, after various reflections and experiments, I was able to benefit substantially from the 'solution opposed' to alternate weeks. What does it consist of?

To implement this particular training solution, made of speed and strength, it is sufficient to select a fairly short route (for UltraTrail terms), ie a ring with a length between 12 and 16 km, which contains all the possible variations of a distance longer: climbs, descents, dirt, asphalt, plains ... all concentrated in those few kilometers. This will be a fundamental and constant element to be included in the training program, and to be used as a continuous test of the speed to be

increased, exit after exit.

So suppose you have reached a distance of 35 km on foot: further increasing the distance, you would lose the pace and in parallel, with the increase of kilometers, the training will benefit more from the recovery between a week and the other, with a resultant compromise.

At this point it would be useful to insert the speed component every other week (as opposed to the short / slow and short / fast)....

Now, if my longest lap is 35 km, and I have found another ring of 16, I can start the 'opposing preparation' to maximize the yield by focusing on speed, endurance and sustainable recovery times.

### An example

Every other week I will opt distances of 35 and 16 km. If my Saturday in the first week is 35 km, in the second week I will focus on the 16 km. In the 35 km I will try to get to the end with free pace. On the contrary, in the 16 km I will push with great emphasis on the speed of travel, trying to close with the best time.

This approach will allow two week intervals between one type and another. This will allow you to keep your desire high in favor of a renewed "aggressiveness" in the different outputs.

If on the one hand point on speed on the other I try to increase kilometers to go, depending on the goal that I have set (for example the race).

The progression scheme will be as follows:

- Week 1 -> 35 km free step
- Week 2 -> 16 km fast pace
- Week 3 -> 42 km free step
- Week 4 -> 16 km fast pace with a slight increase in speed compared to the week 2
- Week 5 -> 51 km free step
- Week 6 -> 16 km fast pace with speed increase compared to week 4
- ... and continue until the objective is reached.

In this way, spontaneous improvements in gait on long mileage will be obtained, even if at this juncture this variable is not sought.

I often hear some athletes claim that speed goals can not be achieved with the single workout. But when they try the strategies combined with the method they quickly change their mind, making the weekly Single-Training their ideal, non-invasive solution, to improve performance in the longest UltraTrail and trail sections.

## “Sawtooth” training

"Sawtooth" training is a solution born out of pure chance after a period of intense work stress. I felt tired in all the daily chores, including training. So I thought: if I prolonged an active recovery period in three-week cycles with a fourth additional training in pure UltraTrail style?

At the end of the first cycle I had foreseen another beginning, giving way to a new cycle with distances that restarted each time from the beginning. So, having overcome the fatigue of the long distance, I felt motivated to continue because I knew that for the weeks to come the mileage would be less demanding. Proceeding in this way I could increase the distance on the very long stretch every fourth week. In the shorter stretches I have tried in faster journeys. I persevered with this system for a few months and then resume with the original Single-session Training program, start my racing season, that is with four UltraTrail races (it was the summer of 2015). A small personal satisfaction and a new confirmation that if everything is managed with balance everything works perfectly.

Summary diagram for the "sawtooth" training of twelve weeks:

### CYCLE 1

Week	1	2	3	4
	Km 8 at the maximum speed possible	12 to the maximum speed possible	16 to the maximum speed possible	35 free step

## CYCLE 2

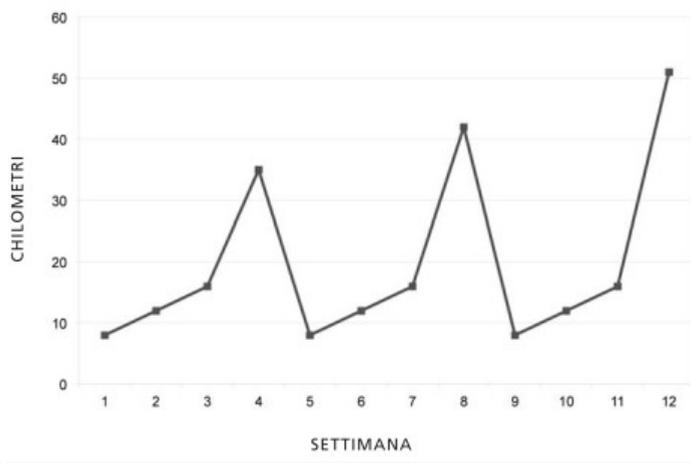
Week	1	2	3	4
	Km 8 at the maximum speed possible	12 to the maximum speed possible	16 to the maximum speed possible	42 free step

## CYCLE 3

Week	1	2	3	4
	Km 8 at the maximum speed possible	12 to the maximum speed possible	16 to the maximum speed possible	51 free step

On my website you can view the chronicles of my adventures UltraTrail along with the competitions of the summer 2015. Although it was a hard period from the working point of view, I could equally feel myself realized in sport thanks to the weekly Single-session Training and the integration of the sessions with the "sawtooth" method.

*Allenamento a "dente di sega"*



## **Physical activity between one Single-session Training Ultratrail and the other**

So far, we have supported the importance of UltraTrail training once a week, but it is important to point out that in the lapse of time between a long exit and the other it will be good to keep an active and healthy lifestyle. The training in the gym could be a solution, perhaps assisted by the Matevo® system, which allows you to deliver a lot of strength in complete safety. However, this is not the only solution. Depending on your preferences and needs, the preparation axis will be moved in the desired direction.

I think the varied movement is the best way to work on your body in a complete and healthy way. In fact, a person who is dedicated to a single physical activity will certainly get a high specialization in the use of some areas of his body, but at the expense of others.

With the weekly Single-session Training in the UltraTrail it will be possible to benefit from an active recovery, obtaining further advantages from the practice of other sports activities.

The following are three examples, where we chose to carry out the Saturday UltraTrail activity:

### • First solution

Monday	weights in the gym
Tuesday	rest
Wednesday	weights in the gym
Thursday	rest
Friday	weights at the gym
Saturday	UltraTrail (Weekly Single-session Training)
Sunday	rest

### • Second solution

Monday	swimming
Tuesday	rest
Wednesday	swimming
Thursday	rest
Friday	swimming
Saturday	UltraTrail (Weekly Single-session Training)
Sunday	rest

- Third solution

Monday	volleyball
Tuesday	rest
Wednesday	Volleyball
Thursday	rest
Friday	volleyball
Saturday	UltraTrail (Weekly Single-session Training)
Sunday	rest

The possible solutions are many and customizable, each has different advantages, as well as allowing the already mentioned active recovery for the UltraTrail, which remains the main discipline on which the rest of the sporting activities revolves. Better to avoid thinking in terms of days dedicated to a certain sport by isolating it as a preferential one. It is true that in the examples shown, the UltraTrail takes place only on Saturdays, but the number of dedicated hours and the effort required will be higher than all the other sports put together!

The next scheme that I propose is the one I personally use, both for my work in the gym and for the preparation for Ultra Trail:

Monday	at 12.00 Matevo® 7.00 pm Spinbike
Tuesday	at 12.00 free body 6.00 pm Pilates 7.00 pm Cardio Combact at 20.00 Fitness Cross
Wednesday	at 12.00 Matevo® 6.00 pm Pilates 8.00 pm Spinbike
Thursday	at 12.00 Pilates 7.00 pm Spinbike
Friday	at 12.00 Matevo®
Saturday	4.00 am UltraTrail
Sunday	rest

### **How to get back into shape quickly: preparation schemes for advanced ultratrailers**

It happened to me with a certain frequency of having to prepare an event by burning the stages. Calendar adjustments are a must in these cases to match all training sessions, skipping as few as possible. Forcing time is never a good thing,

but sometimes it is necessary to reach a compromise between performance and recovery times, always in relation at the deadlines....

Only experienced athletes can afford the luxury of upsetting the various stages of preparation. The "cure" infused by gradual training must instead be an obligatory step for beginner ultratrailers. The solution I provide in this paragraph is a hybrid between linear and wave preparation. This training program will allow an advanced ultratrailer, with a training of a few weeks, to participate in an event after a longer or shorter pause period (I assume that those wishing to implement the proposed preparation scheme have already completed in the past a distance of 100 km).

The following example is completely customizable. Remember that a beginner should never put it into action, since only experienced ultratrailers can hold so high amount of kilometers in such a short time.

100 km race in 8 weeks

- Week 1 -> 25 km
- Week 2 -> 50 km
- Week 3 -> 75 km
- Week 4 -> 50 km slow
- Week 5 -> 50 km average
- Week 6 -> 50 km fast
- Week 7 -> average 25 km
- Week 8 -> 100 km Competition

Thanks to the strategy just described, you will not encounter particular difficulties when the time comes for the competition, just as if the training had been conducted with the "classic" timing. It will be enough to stabilize on a gentle gait and endure fatigue!

### **The contrast technique between high and low volume**

This is another hybrid solution that contemplates some of the periods with multiple weekly workouts.

Compared to other workouts, this is much more demanding in terms of time required, but the mix between high and low volume will give rise to new advances in physical compensation. It will be evident, already after the first training cycles, how this technique is able to provide the athlete with superior results compared to others exposed in the manual....

But be careful not to overdo it by going to overtraining, which involves a situation before stalling and then regression. The user would fall into the deception of the "more is better" and, indeed, in the overtraining syndrome. Remember: what gives a lot in the short takes away in the long run.

Below is the training program to be performed in 3 weeks and repeated cyclically, increasing speed and kilometers until reaching its maximum level.

	Week 1 (multiple workouts)		
Training	1	2	3
km	10 lenses	10 lenses	10 lenses

#### Week 2

Unique training per week with increased speed of 10-15%

#### Week 3

Unique training per week with increased speed  
an additional 5-10%

With this training mode I was able to get new results thanks to the combination of "high volume / low speed" and "low volume / high speed". You will more excellent results using it, I remember that it is an advanced technique, so it would be good to first move towards other less demanding solutions (for example the increase of the linear distance) if you are a beginner.

The increased frequency of work during the week with multiple workouts should be dosed according to the length reached in the sessions. As long as the mileage will remain between 20 and 30 km, some daring will be able to complete it more than once a week. However, if this threshold is exceeded, it becomes a real challenge. Therefore we must think in other terms. When the mileage exceeds, for example, 30 km, in the week with multiple training sessions it will be wise to make sure that the sum of kilometers in the various workouts is slightly higher than the distance reached of the individual. The following diagram will help us to better understand this concept.

	Week 1		
Training	1	2	3
km	15 lenses	15 lenses	15 lenses

#### Week 2

Unique training: average 35 km

#### Week 3

Unique training: 35 km fast

During multiple workouts it is very important measure the speed you are in order not to fall into overtraining. Subsequently, in the following week, you can start to increase the pace, with a single and middle session. It will then close with the third week at a very fast pace, always in a single exit. The cycle thus exposed can be repeated.

If everything is carried out wisely, the speed of the gait will improve spontaneously and gradually. Never force yourself in the long distance. The "cost", if one were to incur the injury, would be very salty.

## CHAPTER 5

# Practical advice

### **Long, endless plains...**

Recently I have had to go through long and monotonous plains in my solitary ventures. One of these was the Revello-Superga, 70 km. If you exclude the last 5 km climb, it is a flat surface that I have covered in almost 10 hours of running and walking. What to do to prevent the lack of motivation in these endless sections of the plains?

Clack on your wrist and go, you start with a sustained walk using the sticks as a support of the motor gesture. Continue for about 30 minutes, then switch to a light stroke for as many minutes holding the poles in hand, but without using them for pushing. This goes on as long as the lowland lasts. The alternation of the two techniques allows to obtain kinetic variety, creating a different muscular involvement that allows to set aside certain districts to recruit others, without ever stopping. The nervous system is also stimulated differently with each change.

A few years ago I tried to reach the Ligurian coast on foot with my friend Sergio. For weeks we planned and studied all the circumstances that could have been present along the way. To save energy we thought to use pure walking with sticks for the whole stretch (180 km, of which 75 on asphalt and in the plains). On paper, the solution seemed good to us, since we had in mind to actively promote the saving of our energies. Well: it was a disaster! Those first 75 km of asphalt in the plains and of only walk ruined the whole trip. Already from Borgo our ankles and feet were in flames and swollen, and our mind was out of order. The mistake was to always use the walk without ever changing the pace.

In December 2012, when I made the Turin-Superga on foot starting from Revello, I analyzed well the dynamics of the precedent route "missed" towards the sea and decided for the whole journey on the plain to alternate 30 minutes of walking with sticks and 30 slow run . Everything went well and ended the 70 km

in 9 hours and 54 minutes. Only the last 5 km uphill I did them using just walking with poles.

Performing a walking part will cause the foot to rest and push it in a certain way, while going of the run at a later time will give more freedom to those points of support to urge others. In both cases they will take place on a muscular level and articular specific changes, peculiar to the imposed push. In this way an alternation between running and walking on the plains will be obtained, maintaining a constant shift and promoting an active rest both physical and mental.

Of crucial importance is to set as targets small goals to be reached every 30 minutes of the route: resist until that threshold every time and then move on to the following... these fixed points have the ability to create a constant motivation that will help us to keep a good pace, guaranteeing us to conclude the long distances on the plains in the best way. The feel that you will experience using this technique will be that able to concretely complete any long distance in the plain and in a short time, thus removing the specter of monotony and fatigue.

We analyze better how to use this technique in order to increase the average speed again through simple precautions.

- 30 minutes of walking, 30 minutes of run

It represents the basic formula of the strategy for long journeys on the plains. It could be the first step to prepare for a longer workout.

- 20 minutes of walking, 40 minutes of run

Without varying the speed of movement in the two phases but only their duration, it is possible to improve the average speed in the hour, moving the axis more towards the run and less on the walk.

- 15 minutes of walking, 45 minutes of run

With this last solution you get a good gait for a few tens of kilometers in the plains. This mode is indicated for those who already have an advanced preparation.

*Example*

*I remember when, still young, I had made up my mind to complete the distance between Cavour, where my parents used to live, and Revello, where I had just inaugurated my fitness center (about 20 km). I had not succeeded! At that time I came from athletics and physically I weighed a lot (my obsession was body building), this greatly limited my physical and technical possibilities making the displacement over long distances difficult.*

*Today, on the other hand, I manage to travel tens of kilometers at high speed easily, with more years on my shoulders and tens of kilometers even without training.*

## **The heat and the asphalt. Tricks and good practices**

During my journey on foot from Revello to Savona, 133 km, I had the opportunity to experiment with some tricks to be used in the hottest stretches of the day on asphalt. On that occasion I had chosen to leave on Saturday, the weather was torrid and to cover the stretch from Trinità to Vicoforte during peak hours was a real challenge. With the passing of the hours the temperature put a brake on my run. On that occasion I had planned to cover the entire distance using half an hour of alternate running and half an hour walking with sticks. So how do you keep that threshold in those difficult conditions? With just walking I would have spent too much time to close the adventure, considering that without change of pace it became difficult for me to get to the end. It was necessary to come up with something immediate. During the first heat, I checked how well I managed to run without suffering too much. I decided that 10 minutes was an acceptable time, so instead of moving for 30 whole minutes with the run I decided to split the value bringing it to 10 minutes of walking. In this way, always taking the time as reference one hour, I would have run for 30 minutes overall and walked for as many.

Serious problems arose between noon and 2 pm. It was no longer possible, in fact, to keep even 10 minutes of continuous running due to the sultry heat. Optai for a further splitting of time, that is 5 minutes of run and 5 minutes of walking. This stratagem allowed me to maintain a constant average pace. After the period of the hottest day I began to feel that while I was running I no longer needed, after 5 or 10 minutes, to slow down to walk, but I could return to 20 minutes, then to 30 and finally, towards the late afternoon, to 30 continuous running and 30 minutes of walking with poles.

Note:

Every challenge must be faced and tenaciously tamed, learning to handle physical and psychological discomfort wisely. However, take care to always do this while respecting your safety and your well-being

In those situations, while I was running, I regretted having an chosen for a 133-km asphalt road. But now I'm happy because I understand how to move with the uncomfortable climate and the plain.

Sweating a lot means significantly compromising your mineral reserve. Losing a lot of liquids involves the elimination of large quantities of sodium, potassium, calcium, etc. The body, in addition to working to move, also works to provide for its own cooling. Furthermore, with high temperatures, blood pressure suffers a dramatic drop, causing a general feeling of exhaustion.

The most important thing in these cases is to cool off at each fountain you meet

on your path and wear a wet hat on your head. Drinking lots of fluids is essential, do it in small sips and regularly, without exaggerating. Be careful not to swallow too much cold water at the same time: if the heat is excessive, you risk congesting the digestive system. If you drink a lot at one time it will be good to stop and rest in a shady place until the water is metabolized. During Cro Magnon, I concluded the race prematurely to have drunk too much and in a short time, ending to throw up everything back on as I carry on. **So hydrate little and often if it is very hot!**

### **To sleep and to run!**

I do not know if you ever read or hear about athletes falling asleep while running. I always thought it was all a strategy to make the UltraTrail to appear a sport harder than it actually is. It was during my participation in the 2013 UTMB that I had to change my mind. In that race, during the second night, I fell asleep repeatedly while running, and without realizing it!

At a certain point I realized that my mind was "turn off", as if it were paused. It was a strange situation, in which I realized I had just slept (and dreamed!) And I could not understand when and how the sleep period had started.

The dangers of being in activity but with the "head turned off" are clearly very many. I remember a Portuguese in front of me who was "sleeping" while he was running. At a certain point I heard him scream in terror: he had awakened on the edge of a precipice!

On that occasion I decided that I would resort to microsleep every time I found myself in a heated base camp.

On that occasion many athletes went to bed at high altitude. Given the temperatures of that night I doubt they managed to complete the UTMB. While you sleep your metabolism slows very much, especially if the body is at the end and if it is very cold. When possible, it is better to choose a warm and sheltered place to sleep, and the supply tents on that occasion were providential. I programmed the alarm of the of the wristwatch for a microsleep of 10 minutes. So I lay down in a corner not too haunted and with the backpack behind the nape I fell asleep immediately, despite the confusion of the place. It was a short but intense sleep. Once I was awake, I felt renewed and I had bought some autonomy. For the next three hours I no longer fell back into sleep, so as to overcome a new hill of 2000 m high.

At the next base camp I repeated the microsleep to see the sun rise and continue beyond, passing another hill, towards the Chamonix finish line.

### **The UltraTrail and the evolutionary base**

Tackling a UltraTrail takes us back to an almost mythical dimension where man and nature are one thing, because the UltraTrailer is running, walking, taking

with it the material necessary to better face his walking path, stop and drink eat, all outdoors and for whole days. And then again plunge into nature with its heights, plains, paths, streams, endless descents... To deal with the night, with the cold, the rain, the sun. Resisting to reach the goal... a full-blown adventure.

We should do like wild animals and return to experiment, even if for short periods, that natural condition that we have forgotten with the passage of time, in which living in the open air and adapting to the surrounding environment was part of everyday life. The UltraTrail brings us back for a period of time limited to that condition of total harmony with nature. Those who start this sport immediately realize how easy it is to get away on foot for long distances. Some, realizing they have put a certain distance between them and the comforts of the "civil" world are panicked, while others live the new dimension with euphoria and continue with greater tenacity. Our distant ancestors certainly did not have the advantages of modernity, yet they succeeded in activity that today, seem to us "extreme": drink everywhere source water(sooner or later water in the water bottle will end), to use your arms to stand and to climb, jump to cross a stream or an obstacle, bend or deviate to cross a fallen tree, orient yourself observing the landscape and follow the best direction, decide whether to walk or run, look for a shelter when it rains...

There are many similar actions to be taken in the UltraTrail beyond the linear stroke, and I do not believe there is a discipline linked to the athletic race that has so many variables! The complete use of one's body, the continuous changes of pace make this activity unique, complete and safe for every articulation of the body. Nature has shaped us so, adaptable and strong, we have only forgotten.

24-hour continuous runs, marathons, 5-10 km running races, half-marathons are all sporting activities that deteriorate the body, because they run from start to finish without breaks and gait variations, on surfaces that are too hard and at prohibitive speed, for our health. Not to mention the track races with curves always on the same side, detrimental to the joints of the lower limbs and the lumbar region.

On the evolutionary level, man has learned to run to flee or to reach something quickly, but only for short stretches. The prevalent translocation mode for long distances it has always been the walk. Running without slowing down and without pauses for long stretches involves an anomalous forcing, and over time the body will present us with a very expensive account to pay for our exaggerations.

It has happened to me often in my activity as a trainer and athletic trainer to hear people who after 10, 20 or even 30 years of pure running, complain about knee and back problems. These people they do not understand their big mistake: too much racing. How many times have I heard from athletes with painful knees: "Which bad luck this problem articular. I have always trained with the run, it

should not have happened! ". Usually I stand in front of these statements, even if I start to prepare the ground to explain them, calmly, that they should continue to run but alternating the race to the walk. Usually all the problems of joint inflammation after a little rest and some exercise in the gym disappear without returning.

### **The practice of the Ultra Trail from the second year onwards**

Who will have the constancy to practice for more than a year the UltraTrail will be able to found a solid base to continue with profit in this sporting activity. The change that the UltraTrail stimulates in the central nervous system in raising the pain threshold is remarkable, as is the better management of energy by the metabolism and the change on a cellular basis for the musculoskeletal structure. The physical improvement induced by the very long resistance is lasting and if you follow the solutions for the weekly Single-session Training, you will also avoid the joint injury, because your body will benefit from the many recovery days available between sessions.

To continue for years with a sport, are required new and continuous stimuli. The first thing to do is to frequently change route once you have become experts and with a solid foundation to manage long distances. Take the map or go on the Internet and build your new routes, then organize you to carry out the field test. It will be fun and stimulating. Do not think too much about speed, but focus on the path and your spirit of exploration. I strongly suggest taking the GPS with the chosen preloaded route and the mobile phone. Remember to warn someone about your itinerary before leaving: the pitfalls on new routes are always lurking. Many take satisfaction in repeatedly trying out a certain route to improve closing time. It is a gratification that will soon exhaust its appeal. Savoring the spirit of adventure by experimenting with a new journey is another matter.

An additional precaution to continue for a long time and with satisfaction in this discipline is to vary the distance mileage frequently. Very often it is important to reduce it and then increase it again. If you listen to yourself you can not be wrong about the length of the lap to complete. The day will come when you will not want to train; well, that will be the time to reduce the distance, while other times you will feel euphoric and full of energy and on those occasions you can cover longer distances.

It may happen that you feel in some periods not very motivated to practice the UltraTrail every week. In these cases it is advisable not to force the hand and simply to do the workouts every other week. Do not worry about the possible repercussions just because you lost some training, in the UltraTrail it is not such a vital issue, I can guarantee it. At the base, however, must remain a healthy and sporty lifestyle. There are many other ways to train to maintain shape during

break periods. Your legs need a certain number of days to recover and even your mind. Changing physical activity will allow you to continue to keep your body efficient between a long exit and another. You could use the Matevo® method, or choose work in the gym, by the pool, by bike, but not the ride very fast, it could damage you instead of helping you. Even walking is fine. What's the purpose of exaggerating, intensifying sessions, to gain that little speed in the following month and then have to stop two whole months because of a problem articular? If you proceed with caution, you will still earn that extra kilometer, if it is within your physical possibilities. Maybe it will take time, but at least you will be sure not to get injured.

If your goal is to play sports for a lifetime, you will have to do it wisely and consistently, without forcing your performance too much, to reach your personal sporting goals little by little.

I started running in 1990 with the offroad runs, without the slightest knowledge of a technique that supported me. Then my sporting baggage came from Karate. Instinctively I thought that the more I trained the better it was. Also in the day before the race, with the result of being tired dead to face the event and getting the effect of being much faster in training than in the competition!

Now, however, by adopting a varied and less "pushed" workout, I enjoy it more, both during training sessions and in competitions, and joint problems are only a distant memory. If by chance some annoyance arrives, then I jump a session and reducing the mileage for a while.

### **"Re-educate" the knees with the Single-session Training**

I can not say how many times I have recommended using the method of the single weekly output to reduce joint inflammation. There are many people who email me confirming that thinning out the outputs have fully solved long-term joint problems in knees and ankles!

When I touched on the subject of the overtraining injury in one of my conferences on the preparation of extreme distances in UltraTrail style, the questions they arrived in abundance! Many already sensed that the source of the problem lay in overtraining, but they did not know how to deal with it; others, however, were amazed to learn that sport, if not properly practiced and dosed, can cause serious joint problems.

Below I propose as an example a diagram of Single-session Training that I have drawn up for a guy that I personally followed in my fitness center. The approach that followed made a knee pain that had haunted him for months completely disappear.

- Week 1

- Program oriented up 2 sessions in the gym
- No outdoor activities
  
- Week 2
- Program oriented up 2 sessions in the gym
- No outdoor activities
  
- Week 3
- Program oriented up 2 sessions in the gym
- No outdoor activities
  
- Week 4
- Program with 1 session in the gym
- A walk-only exit with sticks in the open air (20 minutes)
  
- Week 5
- Program with 1 session in the gym
- A walk-only exit with sticks in the open air (20 minutes)
  
- Week 6
- Program with 1 session in the gym
- A walk-only exit with sticks in the open air (20 minutes)
  
- Week 7
- Program with 1 session in the gym
- A walk-only exit with sticks in the open air (15 minutes of walking + 5 minutes of jogging)
  
- Week 8
- Program with 1 session in the gym
- A walk-only exit with sticks in the open air (15 minutes of walking + 5 minutes of jogging)
  
- Week 9
- Program with 1 session in the gym
- A walk-only exit with sticks in the open air (15 minutes of walking + 5 minutes of jogging)
  
- Week 10
- Last session in the gym
- Start of the uphill activity with progressive lengthening of the distances

maintaining the alternation

Within a few weeks the problem of this boy resolved thanks to the weekly Single-training method, maintaining a moderate speed and avoiding rough terrain.

The sticks are one of the key elements in the Single-session Training, as they allow to preserve the joints by divide the load and the impact between the arms and legs. In this discipline, in fact, the use of sticks is always provided: in the walk they are used to support the propulsion, while in the race they are kept on the flanks with their arms relaxed.

*Note:*  
*The sticks are one of the key elements in the Single-session Training, as they allow to preserve the joints by sharing the load and the impact between the arms and legs.*

Compromised knee rehabilitation: example of training program



Heating with a bike, high saddle

10 minutes

This introductory exercise minimizes work in flexion on the compromised knee joint. The stationary bicycle saddle should be positioned high enough depending on the problem severity. Furthermore the intensity of the pedaling must be initially tranquil. The work commitment will be increased over the following weeks, as will the saddle that will undergo height changes.



Contractions quadriceps tense leg

Set 12x3

It is important to strengthen the muscles of the quadriceps while keeping the lower limb completely taut with the hammer foot, slowly moving up and down with entire leg without ever resting the heel on the ground, and going up the waistline a few inches more. All while sitting on a

bench, keeping balanced with the help of the arms firmly on the support surface.



### Circles with the leg

Set 12x3

Work that stimulates, remaining seated, from different angles the quadriceps muscle thanks to the rotation movement that starts from the pelvis. The action is completely dependent on the muscle without traumatizing the knee joint.

The movement is circle, slow and controlled, both clockwise and counterclockwise.



### Openings with elastic at the espalier

Set 12x3

Standing with the body weight on the healthy limb and the hand that firmly supports us on the stake of the espalier, an opening movement is carried out that makes the external musculature of the lower limb compromised. The elastic opposes a resistance increasing proportionally to the opening level. The foot is always at hammer with stretched limb, never touching the floor during exercise.



### Adductor machine closure

Set 12x3

This machine is a "classic" present in every fitness center. With the adductor machine it is possible to recruit the muscles of the lower limbs with maximum comfort, freeing the knee joint from any stress. The action must be slow and controlled, aimed at maximum openness.



### Synovial hydration intermezzo with bike 8 minutes

The knee joint, like any other joint capsule, is not directly sprayed by the blood stream but through pressures that continuously "feed" the cartilage and impregnates it with each action. The bike, due to its action at low load with the weight of the person distributed between the saddle and pedals, facilitates re-education of the compromised articulation, directing the direction of the joint play with a circular movement on a fixed trajectory.

### Crunch + Ball

Set 12x3



In this exercise for the abdomen is used a sponge ball placed in the middle of the knees, which allows recruiting a good part of the muscles of the pelvis and lower limbs. At each crunch movement a muscular contraction is made by forcibly closing

the ball.



### Knees in the chest

Set 12x3

The action of raising the knees to the chest activates the compromised knee that involves the long extremity of the quadriceps intensively. In addition, the knee undergoes the action of the upper movement also emphasizing the work of the abdomen low and the musculature of the pelvis. The movement in antigravity "is slow and controlled, with the thighs that in the push at the top are parallel to the ground and in the descent undergo a partial distension.



### Inverse Sit up, with Swiss ball

## Set 12x3

This exercise is considered useful for the development of the lower abdomen, but effectively involves the pelvic muscles and the hip flexors. Added to these are the recruitment of the quadriceps and adductor muscles due to the tension caused by the support of the Swiss ball between the ankles. The lower limbs must remain tense, performing a slow and controlled movement without ever touching the floor.



## Joint stabilization with the proprioceptive platform

### Set 12x3

Stimulation of balance thanks to the unstable surface created by the proprioceptive platform. The platform stimulates the proprioceptors at the peripheral level that through a series of reflex and unconditional mechanisms cause multidirectional stabilization of the joint. It is ideal to do this work with the eyes closed, partially helping with the back, trying to leave the socket every now and then carry all the load in favor of the compromised articulation.



## Localized electrostimulation

### 10 minutes

The passive muscle contraction induced by the electrostimulator allows a targeted work on the muscular bundles of the quadriceps without loading the knee joint. The solution of the stimulator can be a valid complement to a targeted gymnastics, not a substitute, since an active but light work on the joint that involves the muscle groups as a whole is always desirable.



## Final cool-down with bike

### 5 minutes

Once again the cyclette is useful in restoring the knee joint. At the end of the program, in the gym it is good to take a few minutes to "re-adjust" the motor coordination with a symmetrical action between the two limbs, by impregnating with this last gesture the cartilaginous tissue with the hydration of the synovial fluid to accelerate the complete recovery process. A gentle pedaling with low

load is recommended in this closing phase.

### **Interval training applied to the Ultratrail**

Having reached the goal of preparation for long journeys on foot, the curiosity is to explore other aspects related to walking, such as speed, for example, although to obtain a significant result it is good to choose an appropriate line of work. I believe that the strategy of interval training applied to Ultratrail can provide a marked reduction in travel time in athletes with years of experience.

Suppose we can easily complete a 25 km trail at any time of our athletic life (even without having trained for a few weeks). Starting from this basic hypothesis we can introduce interval training.

In interval training we will start with a minimum mileage. We will then proceed with dividing the route into different fragments (for example 8 km), proceeding with one minute of travel and one minute of recovery. It will be easy to see how the traditional times for that specific distance they have already been reduced from the first session.

The technique is divided into three basic steps, one for each exit on the same distance, and then increase the distance from the fourth exit on, a solution already adopted in the wave of effort.

Based on what has just been said, the 8 km route will be divided as follows:

- 10 minutes of heating walking
- 1 minute fast changes with 1 minute recovery with walking slowly
- cool down

The times set in this way must be respected, regardless of climbs, plains or descents.

Let's see the next training:

- 10 minutes of heating by walking
- 2-minute fast ride with 1.5-minute recovery walking slowly
- cool down

In this second output the intensity will be slightly greater than the first. Go from one to two minutes on the fast side is a big step forward! But we should not expect a doubling of the average speed, as the recovery time will change from one minute to one minute and a half. We certainly could not only increase the active time without including a slightly longer time for recovery. In the long distance it would result a bankruptcy solution after a few tens of minutes and not sustainable for the entire journey.

Below, the scheme of the third workout:

- 10 minutes of heating by walking
- run of 3 minutes fast with 2 minute recovery walking slowly
- cool down

With this third example, the effort wave close. Three levels of intensity: easy, medium and difficult, always for same distance. It will only be possible in a second time to increase the kilometers by starting a new wave and starting from the "easy" solution, that is, one minute fast and one very slow.

Already after two waves of effort you will notice a noticeable increase in average travel speed. It will be enough to verify it by testing an itinerary already carried out with the classic UltraTrail technique to notice the improvement.

Note: The interval training solution consists of traveling short "high intensity" sections separated by a rest period. Many intermittent stimuli induce a cumulative improvement of the overall gait.

### **UltraTrail trip with overload**

For a long period of time I used in my UltraTrail preparation of the overloads, both in the backpack and applied to the sticks. This technique is really effective and stimulates the body to withstand a greater amount of physical effort. I wanted to get used to a condition of greater weight and a consequent facilitation when it was removed for competitions. In fact, when the overload was not there, I had the feeling of "flying".

However, this practice was not without its drawbacks. The first was undoubtedly the slowing of the average pace which, using the technique for a prolonged period of time, remained so even when the weights were removed. Secondly, I noticed that after a while the weights, especially those applied to the sticks, created joint problems of my shoulders, elbows, wrists and knees.

Non è una tecnica scartare la corsa con carichi a priori, a condizione di non esagerare. Può essere efficace inserirla periodicamente nel programma di allenamento per alcune settimane e poi tornare alla condizione "vuota", altrimenti si dovranno affrontare i processi articolari in fiamme e rallentare la velocità media.

However, it is an excellent solution to improve endurance over the long haul. If you manage to run well 20 km with an overall overload of 6 kg (sticks and backpack included), then your body can reasonably get to run 40 with the same effort, but without weights.

Here are some hypotheses for training with loads:

- Week 1

25 km with 1 kg on the sticks + 1 kg in the backpack

- Week 2

25 km with 2 kg on the sticks + 2 kg in the backpack

- Week 3

25 km with 3 kg on the sticks + 3 kg in the backpack

- Week 4

25 km with 4 kg on the sticks + 4 kg in the backpack

- Week 5

25 km with 5 kg on the sticks + 5 kg in the backpack

New distance:

- Week 1

35 km with 1 kg on the sticks + 1 kg in the backpack

- Week 2

35 km with 2 kg on the sticks + 2 kg in the backpack

- Week 3

35 km with 3 kg on the sticks + 3 kg in the backpack

- Week 4

35 km with 4 kg on the sticks + 4 kg in the backpack

- Week 5

35 km with 5 kg on the sticks + 5 kg in the backpack

After these two cycles it will be good to remove the weights from the preparation, thus avoiding the loss of the ideal gait even when we are "empty". Therefore it will be appropriate to refer to the solutions already explained previously in the manual.

I was able to experiment with some variation of this technique with some success, these are alternate workouts of which one with load and the other without, going on like this for a few weeks and returning immediately before some event to practice training running without additional loads. Warning: abusing this technique could cause you tendinitis in your arms.

Perhaps some of you will have wondered why weights are applied to sticks and not to anklets. The answer is simple. Thanks to the kinetic chain, by applying weight to the extremity of the upper limbs, this will be distributed to each body district. The arms will weigh more, the shoulders will have to bear a greater weight, the trunk and pelvis also, therefore legs and feet will support a heavier body as a whole. All this would not occur with the application of the load to the ankles only because in the upper part of the body a substantial change of state

would not occur. The extra weight in the backpack has the function of educating the management of a greater load on the shoulders and back than the norm, so that when the backpack will be emptied by the ballast a real functional advantage will manifest itself.

Personally I have used this strategy from the beginning and above all in the initial phase of my preparation, even before becoming an ultratrailer, since I have always believed in the use of overloads.

The use of overloading in walking or running is in effect a functional training that can anticipate the times for the development of long distances.

### **The weekly Single-session Training for endurance disciplines**

I have always been passionate about many sports activities, but carrying them all out is not easy. With the weekly Single-session Training I was able to achieve this goal. By training with the Single solution you will always be fit even in similar sports activities. In some cases it will be necessary to plan some specific training for activity that you are interested in practicing.

One of my passions is the very long fast-paced walks that so much support me in UltraTrail.

Thus, especially in the winter months, "I transform" the Single-session Training weekly designed for the UltraTrail, in fast walking. I therefore plan all my sessions based on very fast walks in the plains with a limit of 10-11 km/h. Using a correct technique that starts from the arms, you can reach very high speeds. After all, this is a non-competitive specialty, even if during the course of events the "fight" between the first participants is really to the death!

It is a great satisfaction to start fresh and rested, perhaps over the weekend, after a week of sports rest, and catch every particular along our way.

For the beginner it will be good to start with short mileage and increase gradually:

- Sitting 1 -> 2 km
- Sitting 2 -> 4 km
- Sitting 3 -> 6 km
- Sitting 4 -> 8 km
- Sitting 5 -> 10 km
- Seat 6 -> 13 km
- Seat 7 -> 15 km
- Seat 8 -> 20 km

At this point you can consider yourself "advanced" walkers. From now on, your commitment will be to maintain the degree reached so far. I could see that once the 20 km threshold is crossed, it is possible to cover any mileage on foot

without too much inconvenience. For this you will be able to alternate, to preserve your stadium, distances greater than 15 km interleaving from week to week.

Follow this scheme:

- Exit 1 -> 15 km
- Exit 2 -> 20 km
- Exit 3 -> 15 km
- Exit 4 -> 20 km
- Exit 5 -> Rest
- Start again with output 1

You should skip the fifth exit to let your body and mind rest, so as to avoid falling into overtraining syndrome. In any case, it is good to be provident to renew motivation thanks to a scheduled period of "abstinence".

The walk is not the only possible action in the weekly Single-session Training. In fact, I know many cyclists who go on long rides on their bikes on Sundays. Without flowing into competition, long cycling routes can be completed and country roads. Even in mountain bike it is possible to complete large rings of whole days in the midst of woods and along climbs.

I myself, a long time before writing the first edition of this book, spent a lot of time cycling for just one morning a week, covering uphill rides over 50 km in a few hours, many of them on dirt roads. Memorable was a trip of 280 km, with no breaks and only one day, between Revello and Ceriale (I thank my friend Luca again for having accompanied me on this daring adventure).

As can be guessed, the solution I codified in the weekly Single-session Training is widely applicable to every sporting circumstance in which the very long resistance is involved.

### **GPS tools to plan routes**

Today the technology helps the athlete in many ways, and above all the very long distance sports, like the ultratrail, attest to its usefulness. Not by chance in many competitions, from the shortest to the longest, it is allowed to download from the Internet the GPS track to be used, for example, on one's wristwatch.

If the route development map remains a fundamental point of reference, it is in some cases impractical, since during the race it could happen that you lose precious time, for example, for those who have taken the wrong road and must retrace their steps. Furthermore, not everyone has the technical bases to interpret a map properly. Here the wrist instrument comes into play, which in a few moments allows us to find the correct direction. Indeed, if the instrument is checked regularly, the possibility of making a wrong turn is almost nil.

What is therefore a possible disadvantage?

The most frequent problem is the exhaustion of the battery. It is true that many instruments have an autonomy of at least 7 hours, enough to complete almost every trail layout, but some races also require several days to be completed. Lately I've seen wrist instruments with a range of up to 45 hours! However, they are insufficient to close the longest competitions in the sector. One way to remedy this problem is the practical USB travel chargers, which allow you to double or triple the autonomy of the instrument by taking advantage of possible refills at refreshment points (stops, refreshments ...).

Furthermore, a sudden malfunction can always occur. Or the break caused by a fall or a blow (which is anything but rare). At this point the map returns to be irreplaceable (remember to store it in a plastic-insulated case and in a safe place protected in your backpack, always essential in ultra events!).

In addition to competitions, even workout, if monitored electronically, provides a wealth of valuable information. In the past, it often happened to me to estimate distances based on travel time.

Almost always erroneous attempts, even in a rather evident way, due to the presence of many factors: the path is not accessible, the gradients and other components that make the hypothetical measure very inaccurate. The technological tool gives a clear idea of the situation, even in remote and inaccessible places.

Constantly controlling the speed of gait allows you not to lose too much pace even in moments of fatigue. Monitoring distances in new routes makes it possible to verify the level of training achieved. As well as the possibility of knowing the total difference in level comparable with any imminent competition.

In addition to competitions or workout, the use of GPS can be used for pure fun on long distances on foot, to discover new "worlds" with solo adventures.

Venturing onto new paths is not an activity to be taken lightly, and the GPS device can in some circumstances even save your life. Think of journeys in the mountains at high altitudes, where the wrong road can be a serious problem, even with serious consequences. We continue for hours in the wrong direction, thinking we are right, perhaps with the coming night, without ever meeting anyone. An error of 20 km, for example, with steep slopes and a long journey behind it, would put a strain on anyone, even the most trained athlete.

## CHAPTER 6

# The decalogue of UltraTrail

### **1. Single-session Training**

*Performing only one UltraTrail workout per week*

Part of the philosophy of the weekly Single-session Training for long distances is linked to the concept of recovery of one's physical and mental energy after the scheduled weekly release. It is a delicate balance between work and "healing" times. Not allowing the body to restore its energy will only cause damage to the damage, forcing us to stop for a long time.

### **2. Lifestyle**

*Maintain a healthy and active lifestyle through the practice of different sports*

Between one UltraTrail session and another it is good not to remain inactive and maintain a dynamic lifestyle in recovery. Working with your body using motor disciplines other than UltraTrail is the key factor in achieving the structural strength needed to practice great distances on foot.

### **3. Graduality**

*Start the preparation gradually*

The risk of exaggerating when it comes to extreme distances is always around the corner and is the spectrum to be avoided at all costs. UltraTrail's long journeys are not improvised overnight. It is essential for the athlete to know that in order to face long distances and increase his resistance it is necessary to act in "small steps" and in a progressive manner. There is nothing to be ashamed of and it is not a failure to start each season with very short distances and then increase them a little at a time.

### **4. Performance**

Manage your performance wisely, saving energy in the toughest stretches and accelerating only where it is possible: uphill walk, gentle run on the plains and downhill

Managing the pace using one's energies sparingly is crucial to continuing on a journey of 100 or more kilometers in the mountains. This reasoning is even more valid if the ultratrailer is facing a path or parts of a route that it does not know.

### **5. Speed**

Measure your energy taking care never to "attack" other competitors in the race. Each participant will exceed or be exceeded over the long haul in relation to the

average individual speed

Forced overtaking often quickly exhaust reserves available to the ultratrailer. It can be frustrating to overtake people who are stronger than us and then find them in front of you again after a few kilometers ahead. It is much wiser to keep the average pace that is more congenial to us.

## **6. chopsticks**

Use sticks over long distances to decrease joint wear on the lower limbs, distributing the propulsive effort even on the upper ones.

In extreme distances, protecting lower limbs becomes an absolute priority. A repetitive movement lasting many hours on rough terrain can lead to an inevitable long-term joint wear. The constant use of the sticks redistributes both the load and the propulsive thrust between the upper and lower parts of the body.

## **7. Heating**

Avoid departures too fast, typical of the races, and opt for a brisk walk that will allow us to obtain an active body warming from the 'Start' on, creating the ground for a more efficient performance in the kilometers that will follow. The competitive UltraTrail, unlike more traditional races, does not end after 5 or 10 km or even after 20 or 30. Warming up too fast with the intention of facing an aggressive start is often the first step for a premature stop of the race. It is not uncommon to see athletes in the top positions for the first 25 km and hear their retirement at the 40th kilometer afterwards. Better then an active warm-up from the 'Start' onwards, and then increase the pace along the path. In the UltraTrail a sprinter performance is not important in the short term. Better to be able to maintain a bland speed for a very long stretch.

## **8. Route**

Examining the route to follow on a map is fundamental: in this way the most challenging and slow stretches will be studied together with the smoother and faster ones. This arrangement becomes essential if the path to follow is completely unknown to us.

A support map provides greater security to the ultratrailer, avoiding making mistakes by adding kilometers to a journey that is already very long in itself. Moreover, it gives the possibility to foresee which gaits to adopt even before facing the journey.

## **9. Food**

Eat during the duration of the performance with moderation but frequently, choosing easily digestible foods that do not disturb

the normal gastro-intestinal activity

Avoiding binge eating at the refreshment points on the route helps us to continue serenely on our route without "unpleasant" surprises. It is not uncommon to see some athletes stopping to throw up due to a heavy meal. Events of this kind affect not only the final result of the race but even its completion! Small meals every hour, to be taken without stopping, and every 4-5 hours making a stop at a refreshment point is the best solution to always have new energy available.

## **10. Backpack**

Carrying a space-saving backpack with all the necessary equipment to best deal with an Ultratrail

In UltraTrails it is normal to face sudden climatic changes: you can go from the sun to rain over 30, 40 km of route. Moreover, long distances on foot oblige us to stay outdoors for many hours, also at night and the thermal shock can be considerable. Overcoming the problem by bringing with it the minimum essential material to put in a backpack is therefore a safety important for the athlete. In addition to clothing and frontal torch, it is necessary to stock up on food and liquids.

## **Acknowledgments**

I thank fate for allowing me to come up with the technique of Single-training for ultratrail