

The Tour du Mont Blanc: Training Guidelines

Revised and updated November 2023

Often referred to as the toughest one-day sportive in the world, the iconic [Tour du Mont Blanc](#) is a loop through France, Switzerland and Italy around the highest mountain in Europe. The route includes seven major climbs – the Montets, Forclaz, Champex, Grand Saint-Bernard, Petit Saint-Bernard, Cormet de Roselend and the Saisies - and totals 328km with 8,400m of climbing. These are huge numbers and the event is not to be taken lightly.

The Tour du Mont Blanc is one of the very few events during which many participants seriously wonder if they will be able to finish. Depending on weather conditions, up to 50% of the riders who cross the start line will not reach the finishing line. The event is above all an endurance challenge, and although all participants are timed, there is no official classification and all finishers receive a well-deserved “Gold” certificate.

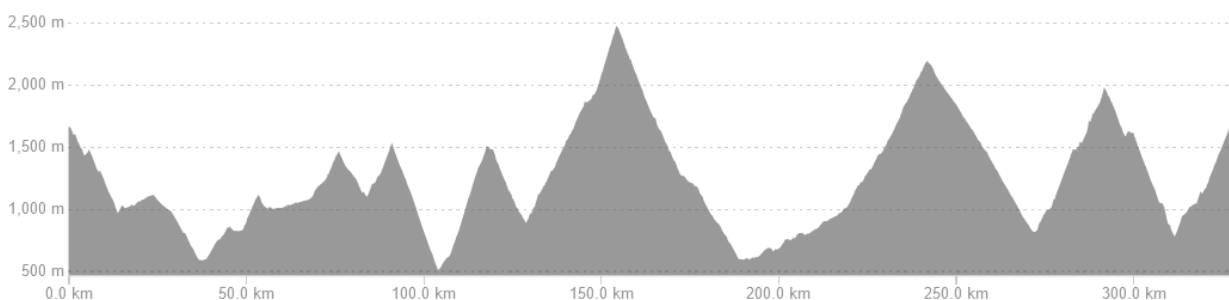
1. What does it take to do well – or simply finish - this event?

The start is at 5am and the finish line closes at midnight. Depending on your level, it will thus take you between ~12 and 19 hours to become an official finisher of the Tour du Mont Blanc. The challenge is at least as much mental as physical, if not more so. You will push yourself to your limits, and then have to dig deeper still, experiencing moments of euphoria followed by despair, revealing depths of character you may not have known you possess. Most participants think of quitting many times and yet manage to find the cursed determination they need to keep going.

An event such as this should be prepared over several years. If you are relatively new to cycling, we recommend you accumulate experience riding shorter events before tackling the Tour du Mont Blanc. Even if you are an experienced cyclist, we suggest riding an absolute minimum of 5,000km with at least 50,000m+ of climbing in the year before. The great majority of participants ride between twice and four times these amounts.

So how best to prepare for the TMB?

To answer this let's take a look at the demands of the event. From start to finish, the route is a constant succession of climbs and descents with very little flat road. The majority of the long ascensions are at an average gradient varying around 6-7%, but the col de Champex is harder, offering 10.5km at 8.2% with some long pitches at 10%. The longest climb, the col du Grand Saint Bernard from Orcières, is 24.8km and 1,580m of vertical, with the last 6.5km at close to 9%.



Tour du Mont Blanc profile

The weather is a major imponderable, and can turn an extremely tough event into a terrible ordeal if you are unprepared or lack the right clothes. Extremes of heat can be as challenging for some as heavy rain, sleet or even snow and the resulting risk of hypothermia for others. Even if it doesn't rain, you may experience temperatures varying from $\sim 0^{\circ}\text{C}$ to $\sim 30^{\circ}\text{C}$ throughout the day.

The riders who perform best at the Tour du Mont Blanc have the following characteristics:

Physiological

- Exceptional aerobic endurance
- A high power-to-weight ratio
- A high capacity to burn fat instead of glycogen while climbing steadily
- The ability to recover quickly on the descents between long efforts on the climbs

Psychological

- The self-discipline to stick to the optimum pace on the climbs (and let others go... perhaps to see them again later!)
- The ability to tolerate long periods of pain and discomfort
- The ability to stay positive and deal with inevitable setbacks and negative thoughts
- The ability to maintain focus, motivation and lucidity for the time it takes to finish, even when severely fatigued

Technical

- Excellent energy-efficient climbing skills, on long climbs and varied gradients
- The ability to refuel effectively throughout the ride
- Excellent descending and cornering skills
- The ability to change clothing or at least adjust for temperature while riding

It is certainly possible to reach the finish line of the Tour du Mont Blanc without being "excellent" on all these criteria. It will, however, take longer and feel harder... Each criterion is important and your particular combination will determine your overall performance, or indeed whether or not you are able to finish.

Before working on your personal training plan, take the time to analyse your current abilities against this list to identify your strengths and limiters.

Plan not only to develop your strengths, but also work on your limiters, at least to the point where they no longer handicap you.

As an example, if descending is a limiter for you, you might easily lose 5-10 minutes on each descent, adding up to as much as an hour and a half by the end and perhaps costing you the ability to finish within the time limit. This is a shame, because descending faster is a skill you can learn which has almost no extra energy cost!

Performance Data

The characteristics mentioned above are essentially qualitative. In this section we provide some quantitative measures of what you are up against.

The table below provides an approximate value for the average VAM (Vertical Ascent Metres per hour) and average W/kg a typical rider needs to produce on each of the climbs in order to finish in 12 hours, 16 hours or 19 hours.

Finishing time (hours)	Total time climbing (hours)	VAM ¹ (Vertical Ascent Metres/hour)	W/kg (climbs during TMB)
12	7.5-8	~1100	~3.9
16	10.5-11.5	~750	~2.4
19	13-14	~600	~1.9

The data can only serve as an approximate guide because the actual time taken will also depend on a rider's descending ability as well as the time spent stopped at feed stations or for other reasons.

Nevertheless, the performance data provides a useful reference. In particular, if you are unable to manage the climbs at an average VAM higher than about 600 m/h, you will need to descend fast and spend very little stopped if you are to finish within the time limit.

2. Your Training Plan: Principles

The best training plan for you is one that has been designed with your unique strengths, limiters, objectives, context and constraints in mind, and is constantly adapted for you when things change (as they inevitably do).

A very strong rider who expects to finish in less than 14 hours needs a different plan to someone who will struggle to finish in 19 hours.

A generic plan intended for all will be sub-optimum at best and potentially useless. This is why we are not providing a generic plan. The "plan" we propose below is in fact a set of guidelines and a framework for you to adopt and adapt as appropriate. Our goal is to give you the means to think carefully about the process and take responsibility for your own preparation.

HOWEVER, this is not a book and **we cannot possible explain here all the nuances** and individual variations inherent in the training process. We therefore strongly encourage you to use this document as an aide-memoire to **what** might be important, but then either to do your own research into **how** to apply it, or to find a coach to help you.

The **key principles** behind a strong training plan for the Tour du Mont Blanc are:

1. **Make the Tour du Mont Blanc a priority.** This should go without saying, but if you want to ride well on the day, you must commit to a serious effort of preparation. Our plan assumes you will train for 10-15h per week on average through the first part, rising to 15-20h per week on average during the final three months. Many people will train for more than this.
2. **Be consistent.** This is the single most important success factor. Of course your training load will vary from one week to the next but these variations should be deliberate in order to create overload and then recovery and super-compensation. If you are unable to train normally for a period you should keep this to an absolute minimum and find ways to compensate (e.g. leg & core strength workouts, walking, jogging, swimming...)
3. **Build the strongest possible aerobic base,** so you can keep riding for as long as it takes. To do this, we recommend you train predominantly at low intensity, below LT1², the point at which the lactate

¹ VAM is an extremely useful measure of performance on the climbs, especially if you don't have a power meter. It is easily calculated (vertical metres climbed per hour) and reported by numerous apps such as Strava.

concentration in your blood starts to increase above the baseline. This is quite likely to be much lower than the current level at which you train. It's important to understand that training at this low intensity provides the endurance adaptations you need without adding unnecessary fatigue, thus allowing you to train more.

4. **Develop your fat-burning capacity**, to conserve your glycogen stocks during the long climbs and thus your ability to climb hard for longer. Metabolic adaptation is a real differentiator between successful and unsuccessful riders at the Tour du Mont Blanc (as it is at Ironman™ triathlons). Given the need to maintain a decent pace on the climbs, it is extremely difficult to consume enough during the ride to fuel it adequately on carbohydrates alone. Therefore the more you can use your fat stores the better you will perform.
5. **Build your pain tolerance**. Endurance is *"the struggle to continue against a mounting desire to stop"*³. For many people this struggle begins in earnest on the col du Petit Saint Bernard, when there is still 100km left to ride and 3,000m to climb. There's no escaping the fact that the Tour du Mont Blanc is going to make you suffer. The better you can train yourself to tolerate the pain and discomfort as it becomes more and more pressing, the more likely you are to finish.
6. **Increase the load progressively**. Your body needs time to adapt to an increased training load. It's possible to go from an average of 10h per week to as much as 30h during a one-off training camp, but such a step increase is not sustainable and would lead inevitably to over-training. A good rule of thumb is to increase the average by between 5% and 10% per week.
7. **Rest and recover**, to allow your body to adapt and get stronger. Remember, hard training actually breaks you down and makes you weaker! You only get stronger when your body has the time to recover, adapt and rebuild. There should be a big difference between your hardest and your easiest training weeks.
8. **Monitor your readiness to take on high load**. The best way to do this is with HRV (Heart Rate Variability), which provides insights to the state of your parasympathetic nervous system and therefore the stress you are under. Research has shown that training when you are stressed (low HRV) provides little or no benefit and may even be harmful. We recommend monitoring your RHR (Resting Heart Rate) and HRV every morning as soon as you wake up. If RHR is significantly higher than normal and/or HRV significantly lower, train easy or not at all. For more on this [read here](#).
9. **Include exercises to develop your technical skills**, and not only physiological capacity. These might include low cadence while climbing, high cadence while riding on the flat, descending, cornering, taking clothes on and off while riding, etc.

Note that the Tour du Mont Blanc is an exceptional event in terms of distance, climbing and thus the time taken to finish. The training guidelines we give here are quite different from those we give for the Marmotte, for example. For the Tour du Mont Blanc, the focus is almost exclusively on building endurance and related skills.

Our training plan framework begins on November 1st. This is the traditional start to a new cycling season, and gives you a little over eight months remaining to finalise your preparations for the event, which, as we have already noted, should be worked up to over several years.

² Ideally, you should determine LT1 via a lactate test. Failing this, you can estimate it by paying very careful attention to your breathing while starting at a very low intensity and increasing slowly. Your LT1 will be the point where you first feel the need to start breathing more deeply. For the majority of people, LT1 will be in the range 60-65% of FTP or 60-65% of HRmax

³ Samuele Marcora, quoted by Alex Hutchinson in his book *Endure* (2018)

A key assumption is that you will continue to ride regularly on the roads throughout the period. If this is not possible, you will have to compensate by doing long rides on the turbo and ideally by joining a training camp in the early part of the year in a warm-weather location such as southern Spain or Portugal, Mallorca or Tenerife.

To finalise your preparations, plan a training camp in the mountains in May or June and ride as much as possible in hot weather to acclimatise. Alpine Cols is running training camps in the Canary Islands (27/01 to 03/02), in the Vosges (15/05 to 19/05) and in Provence (9 to 15 June): all of these are designed to help you prepare for sportives and GranFondos up to and including the Tour du Mont Blanc.

[Alpine Cols coaching camps](#)

3. Your Training Plan: Over view and Structure

Our suggested framework includes three phases: **Preparation**, **Pre-Competition** and **Competition**. Each phase is then broken down into 4-week cycles including 3 load weeks and 1 recovery week, with a target training load for each week. If you are over 50, consider adopting a 3-week cycle of 2 load weeks and 1 recovery week.

It's important to understand that such a structure is essentially arbitrary and takes no account of the total stress you will be under (life stress + training stress) on any particular day. Current best practice is to monitor readiness to train, using a combination of daily HRV (Heart Rate Variability) measurements with perceptions of fatigue and muscle soreness, and to adjust the plan accordingly. If you feel very tired, have sore muscles and your HRV is below the normal range, it would be better either to take a very easy day or not to train at all until you have recovered. Research has shown that training when you are stressed (low HRV) provides little or no benefit and may even be harmful. [Read here for more on how to use HRV to guide your training.](#)

Remember that hard training breaks you down: you only get stronger during recovery!

In terms of intensity distribution, we recommend that for all but the very strongest riders **you make your entire training for the Tour du Mont Blanc Polarised** (90% low intensity, 10% high intensity).

[Download the training plan](#)

4. Your Training Plan: by Period

4.1.1 Preparation Phase: November-April (week 37 to 17)

The key objectives in this period are to (re-)accustom your body to training 10-15 hours per week and to build a strong aerobic base. Given the exclusively aerobic nature of the Tour du Mont Blanc, there is a much lower emphasis on HIT than in most training plans.

The training intensity distribution during this phase should be **Polarised**, meaning 90% of your training should be at low intensity and only 10% at high intensity. The percentage split is calculated on the basis of training session hours, not actual time at high intensity. A typical HIT session will last one hour (and should be counted as such) even though the actual time at high intensity may be no more than 10-20 minutes. If you add 5-10 sprints in a 4h low intensity ride, count this as 3h LIT and 1h HIT.

In practice this means that only one ride per week (at most) should include any high intensity work.

You should completely avoid training at medium intensity (tempo or sweet-spot), because in this context it would create too much fatigue for too little benefit. Remember: your goal is simple: build your base endurance to the point where you can ride for 15h+ and finish the Tour du Mont Blanc!

4.1.2 Preparation Phase, on the bike training

1. **Aerobic endurance:** progressing to 6-7h rides at intensity below LT1, the point at which the lactate concentration in your blood starts to increase above the baseline (usually less than 60-65% of your HRmax or FTP). If in doubt, err on the cautious side. The rides should FEEL slow (and only become tiring after 3h or more. Aerobic endurance is by far the most important quality you need to build and you should spend ~90% of your training on this.

Riding slowly may sound incredibly boring and it certainly takes some adaptation, not least in your mindset. [Read here for tips on how to help the time pass on long slow rides.](#)

If you are unable to ride outside you will have to do long sessions on your turbo trainer. [Read here for suggestions on how to make these more tolerable.](#)
2. **Fat-burning capacity:** Progress towards this by limiting your intake of refined sugar and high glycaemic-index carbs, both on and off the bike. Do at least one long low-intensity ride per week partially or fully fasted, and only begin to eat on the bike after the first two hours (later three hours, then even four).

A good overall macro-nutrient split in terms of total kCal consumed has been shown to be 48% from carbohydrate, 24% from protein and 28% from fat⁴. Obviously each food item should be as high quality and as natural as possible. Avoid processed foods and simple sugars.

Finally, remember to adjust your food intake to your energy expenditure: eat more during high load weeks and cut back during recovery weeks. Keep an eye on the scales to be sure that any weight loss is slow and progressive: the priority at this stage is to fuel your training! [Read here for more on nutrition while training for the TMB.](#)

3. **High intensity:** multiple short efforts at intervals ranging from 7 second sprints out to 5 minutes. Some of these efforts should be done at low cadence and will help build leg strength and climbing ability.

The purpose of these HIT sessions targeting the upper end of your power distribution curve is twofold: (1) increase your power at longer durations, and (2) increase your pain tolerance.

You should do no more than one per week, for no more than ~10% of your training, and none during the recovery weeks.
4. **Technical limiters:** e.g. descending, cornering, etc. Take every opportunity on your long rides to practice technical skills. If you are not a confident descender, consider joining a training camp in the mountains with a coaching team qualified to teach you to do this. At an Alpine Cols camp we organise specific exercises to improve descending and cornering, using video recordings and individual feedback.

4.1.3 Preparation Phase, off the bike training

You may not be used to off-the-bike training. Nevertheless, it can have a significant impact on your performance. To cycle faster, you need to push harder on the pedals, which means you need not only stronger leg muscles but also greater core strength to stabilise and channel the extra force. The best way to strengthen your muscles is off the bike, using appropriate exercises and good technique. Furthermore,

⁴ See, for example, https://alancouzens.com/blog/improving_fat_burning2.html

adaptation depends on occasional changes in the training stimulation and the off-the-bike exercises are important for avoiding injury.

1. **Strength and conditioning:** one or two sessions per week, ideally guided by a Strength and Conditioning coach with experience in cycling.

If you are new to this, err on the side of caution to limit the risk of injury. Good exercises to begin with include squats, lunges, planks, bridges and roll-downs. All of these require correct technique to be beneficial. Once learned, you can do them at home.
2. **Flexibility and stretching:** two to three 20' sessions per week. Pilates or Yoga can be extremely beneficial.

Learning correct technique is vital so choose a practitioner who knows cycling and only takes small groups (or better still runs one-on-one sessions).
3. **Complement** occasionally with other sports: walking, running, swimming, etc. If cycling is your only sport you will build up imbalances and soft tissue problems over time.

4.2. Pre-Competition Phase: April to June (week 16 to 2)

The key objectives during this phase are to increase the training load to up to 20 hours per week or more and to reinforce your aerobic base by increasing the length of your long rides, while continuing to reinforce your fat-burning capacity. Unless you are a particularly strong rider, we don't recommend HIT during this period, since HIT will create too much fatigue for too little benefit.

4.2.1 Pre-Competition Phase, on the bike training

1. **Aerobic endurance:** continuing long rides at low intensity, progressing to a 10-11h ride by mid-June, with as much climbing as possible.

In spite of the low intensity, these long rides are exhausting so you cannot attempt too many, and there is no need to do more than ~60% of the event time and distance in any one training ride. Better to spread it over the weekend and work up to, for example, one 10h ride on Saturday and one 6h ride on Sunday (or vice-versa), followed by taking Monday, Wednesday and Friday off and doing no more than a short recovery spin on Tuesday and Thursday.

Either do these long rides alone or with an understanding training mate; best to avoid the weekend club run which will be too fast for what you need at this time.
2. **Fat-burning capacity:** continue along the lines laid out for the Preparation phase. It is important to keep your overall macro-nutrient balance close to the recommended split (based on kCal): 48% from carbohydrate, 24% from protein and 28% from fat.

It is equally important to ensure that you are fuelling your training adequately as well as not over-eating during recovery weeks. Keep a close eye on the kCal expended per ride (as reported by apps such as Strava) to guide how much you should eat.

Read here for more on [nutrition for the TMB](#).
3. **Recovery:** short rides, 60-90 minutes, strictly at a very low intensity. Make the easy weeks EASY. If the hardest weeks have pushed you close to your limit, then the easy weeks will need to be easier than normal, otherwise you will overtrain and lose the benefit.
4. **Test equipment and nutrition options:** your long rides are also the perfect opportunity to try out different equipment options under different weather conditions, and to test different nutrition and hydration choices. Better find out now what doesn't work!

4.2.2 Pre-Competition Phase, off the bike training

1. **Strength and conditioning:** one session per week, focused on maintaining the strength of your legs and core.
2. **Flexibility and stretching:** as in the previous phase it is vital to maintain these sessions to keep your body flexible. Do two to three 20' sessions per week.
3. **Other activities:** optional, as desired. We recommend an occasional swim or perhaps a 1-2h walk.

4.2.3 General

1. **Maximise your sleep.** This is essential for recovery and adaptation. You should aim at a minimum of 7h per night, preferably 8h, and try to wake up naturally, without an alarm-clock. Banish all screens from the bedroom.
2. **Minimum travel, minimum stress:** the more you can avoid adding to the stress on your body, the better off you will be. This is certainly easier said than done but it is possible to learn psychological coping strategies to reduce the impact of the most stressful events that life can throw at you.

4.3. Competition Phase: taper for the last 2 weeks

The key objective in this period is to eliminate fatigue without losing fitness, so that you arrive on the start line the fittest you have ever been, but also super-fresh and thus able to go the distance. The longer the event, the longer the taper: if you would normally taper 7 days prior to a typical event, taper 14 days for the Tour du Mont Blanc.

4.3.1 Competition Phase, on the bike

Progressively reduce your training volume by at least 50%. For example, if on the last weekend in June you do your final long rides, totalling 15h over two days, you might do two 1h recovery rides on Tuesday and Thursday, followed by riding 10h in two rides over the first weekend in July, a further two recovery rides during the week and no more than 6-7h total (in two rides) on the final weekend.

Ideally, you should arrive in Les Saisies 2-3 days before the start. Do a couple of short rides to spin the legs but nothing that will add fatigue.

4.3.2 Competition Phase, off the bike

The need for sleep, good quality nutrition and minimum stress are even more acute during the taper. The better you can plan to sleep well, eat well and avoid stress, the better off you will be...

5. SUPPORT FROM ALPINE COLS

[Download the training plan](#). Remember, it is up to you to adapt it depending on your personal situation. Apart from this, we can help you prepare in two complementary ways:

1. Sign up for a six-month [coaching agreement](#) to receive individual day-to-day coaching and one-on-one advice;
2. Join a one-week [coaching camp](#) to benefit from a big block of training as well as one-on-one coaching on your technical skills and of course plenty of advice and tips for your preparation and the event itself. The coaches ride with you on their own bikes and use both observational feedback in real time and videos to help you improve.