Introduction to Self Coaching using TrainingPeaks

Introduction

I put this pdf together to assist self coached athletes in building structure into their programs. It assumes some basic knowledge of periodisation and experience in balancing training and recovery.

The instructions assume you have access to TrainingPeaks premium as it uses the algorithms and CTL and TSS calculations as the foundation for planning. I have also included links to calculators to assist in deriving training volumes and recommended training intensities.

My aim is to provide a means to build structure to training where a personal coach is not a viable option. My recommendation is to engage a coach or an experienced mentor but I recognise this is not always an option.

I also strongly recommend athletes do attend squad sessions to get guidance on proper technique essential for improving efficiency and avoiding injury.

As a professional coach I do offer a free athlete strategy session to assist you in getting started on your season plan. I am also available to assist through the following services:

- Structured programming, managing your program on an ongoing basis using the structures within.
- Season planning, assisting you in your assessments and formulating your season plan, training blocks and periodisation.
- Mentorship through regular online one on one sessions to guide you through the process and refine your program.

Include in the above services is access to a rich set of Swim, bike and run workouts covering aerobic, high intensity interval training and strength sessions.

Please contact me at paul.skelton@fitsets.com for a free strategy session.

I also acknowledge that this is an early iteration which I intend to mature. I would welcome any feedback and suggestions for the future.

Paul Skelton
Triathlon Coach.

What Is Your Real Goal?

Finding your Goal

The real challenge is not determining the result you want, but if you are willing to accept the sacrifices required to achieve your goal. Are you prepared to be the person you need to be to achieve your quest? Do you want the boring and ugly process, inevitable failures and learnings, the ups and downs, the application of your values that comes before realising the outcomes and growth of the journey?

For most completing an endurance event is not really about ticking a box or proving to others they are a superb sports person or stronger than average. Those who seek glorious recognition from others will inevitably encounter the IRONMAN blues, a recognised depression which follows in the weeks after achieving the goal.

The endurance event journey is one of self discovery. It is about gaining the experiences of the journey. It it is about you changing from who you are being to the person you need to be to achieve the result.

"The lasting outcomes are the new behaviors, habits, beliefs and values you develop along the way which you can retain for the rest of your life, beliefs and values you can pass onto others."

Having a target time, a qualification, a podium spot can form the basis of your training plan but keeping our true goals front of mind will ensure you balance your quest with the other priorities in your life.

Values

IRONMAN and 70.3 training takes a significant investment in time, discipline and physical effort, more time than most allow themselves in the modern lifestyle. You will inevitably need to sacrifice some luxuries along the way.

During the training journey you will face some tough choices and challenges. You will have times when you family needs you, your employer needs a higher commitment, when your body tells you that you need rest, when unhealthy foods become really attractive. Strong and clear values will allow you to make the right choice without the stress usually associated with such decisions.

Before starting the IRONMAN or 70.3 journey I highly recommend recognising your values so than when the challenges come, it is an easy choice. Share these with your family and work peers so that they understand and support the choices you are making. For my coached athletes I assume the following priorities in this order:

1. Sleep - eight hours per night average.
2. Family / Health / Friendships
3. Work / Career / Education
4. Sport and Hobbies

Sleep is number 1 as without enough sleep the rest WILL suffer. This is an average as there will be times you will need to forego sleep to achieve short term outcomes.

Values should be set-up to support these priorities. A simple example is that if your family need your time you forgo the training!

Needs vs Wants

When making choices I apply a needs versus wants test. Simply put, If someone wants my time but I need to train, then I train. If someone needs my time than I forgo the training! As you get closer to race day your need to train will increase and available family / friend time will reduce. I strongly recommend you pay attention to recognising when your family and friends really need you!

The Bottom Line

The IRONMAN and 70.3 journey is one of personal growth. Keep the whole picture insight and seek growth in health, beliefs, habits, values as well as the physical achievement.

“Race day is the celebration of a significant milestone, not a destination.”

Time and Volume Planning

The Greatest Challenge

The greatest challenge to IRONMAN and 70.3 athletes is time. Surprisingly it is not the time to train, but the time to recover. Many age groupers try to emulate the training time of Pro and Elite athletes not recognising the high volume training requires high volume sleep to recover to super compensate and become stronger and faster. A 30 hour training week requires an average of 10 hours sleep per day, 8 at night and 2 during the day, such time not usually available to those with a day job!

Ramp Rate

Our next constraint is ramp rate. If we increase our training load too quickly we will get fatigued and open to injury and illness. Training needs to periodised with a maximum of 8% increase in training stress per week with regular recovery weeks. When considering your target “A” race you will need to consider your goal and the time required to achieve that level of fitness within the ramp rate limits. Hence we choose our “A” race or target result according our current load and required load to achieve the result.

Available Time

The first step is to establish your available training time in line with your lifestyle and values. To work out your starting point we identify our prioritised time commitments with an honest assessment following this Training time calculator. This calculator will also provide your current and target peak critical training load (CTL) to be used for creating your annual training plan (ATP) in TrainingPeaks.

Calculating Target CTL

The next step is to calculate your CTL target for your desired race outcome. Using the IRONMAN CTL Calculator or 70.3 CTL calculator.

Using the calculated current and target CTL and time, and an honest assessment of your target, we can now use the power of TrainingPeaks annual training plan to create a personalised periodised plan.

Developing your season plan using training stress

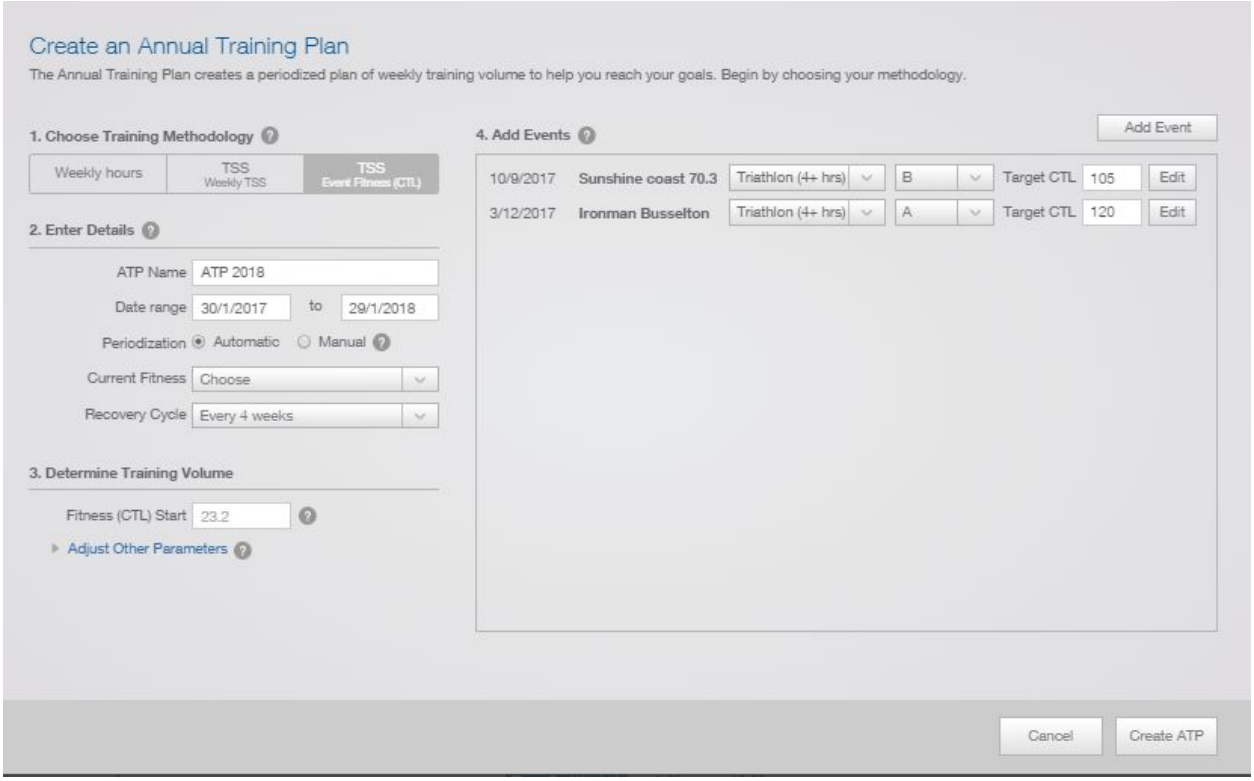
Before you start...

What you will need.

- Access to your TrainingPeaks Premium account.
- If you do not have 7 weeks history in TrainingPeaks, you will need to estimate your starting CTL. This can be derived using the FitSets.com Triathlon Training Hours and CTL Calculator
- Your peak race target CTL. This can be calculated using the FitSets.com Triathlon Training Hours and CTL Calculator
- The date of your target “A” race.
- The date of key preparation “B” races

Starting CTL		
Target CTL		
Target “A” Race	Name:	Date:
Key “B” Race 1	Name:	Date:
Key “B” Race 2	Name:	Date:

Create your new Annual Training Plan



1. Select ATP on the top of you TrainingPeaks Plan.
2. If you have a current weekly hours or weekly tss plan, you should delete it or shorten the period so that it does not overlap with the start date of the plan you are creating.
3. Add your planned events, specifically your “A” and “B” races.
4. Ensure the race profile settings are correct including sport type, race category “A”, “B” or “C”.
5. Add your target CTL as calculated using the Triathlon Training Hours and CTL Calculator. This is mandatory for your “A” race, optional for your “B” races.
6. Choose training methodology as “Event Fitness (CTL)”.
7. Edit your ATP name is desired.
8. Edit the start date as the beginning date of this plan.
9. Leave Periodization as “Automatic”.
10. Choose your current fitness. I recommend choosing “strong” if you have a year of consistent aerobic training, otherwise “weak” is suggested.
11. If you are over 45 years of age, on prescription medicine or have experienced recent recurring injuries then select a 3 week recovery cycle, otherwise go ahead and select “Every 4 weeks”.
12. If you have 6 weeks of training logged in TrainingPeaks the leave the Fitness (CTL) start as it is. If not use the start CTL calculated using the Triathlon Training Hours and CTL Calculator.

13. Press “Create ATP” to create your new Annual Training Plan.
14. If you experience a CTL ramp rate warning, accept the warning and proceed.

You ATP plan should look something like this.

Week	Weeks to Event	Event	Priority	Period	TSS	Completed	Ramp Rate	Details	Fitness (CTL) ATP	Fitness (CTL) Actual	Form (TSB) ATP	Form (TSB) Actual
1 - 7	0			Base 2 - Week 2	700	0	6.9		62.4	100.3	0.6	7.4
8 - 14	0			Base 2 - Week 3	780	0	7.2		69.5	84.7	-23.3	54.4
15 - 21	0			Base 2 - Week 4	610	0	2.7		72.3	71.6	-18.0	62.3
22 - 28	0			Base 2 - Week 1	730	0	5.0		77.2	60.5	-21.9	58.2
29 - Jun 4	0			Base 2 - Week 2	840	0	6.6		83.9	51.1	-28.8	51.0
June												
5 - 11	0			Base 2 - Week 3	890	0	6.7		90.6	43.1	-31.8	43.8
12 - 18	0			Base 2 - Week 4	610	0	-0.5		90.1	36.5	-11.0	37.2
19 - 25	0			Build 1 - Week 1	950	0	7.1		97.1	30.8	-25.0	31.5
26 - Jul 2	0			Build 1 - Week 2	950	0	6.0		103.1	26.0	-28.4	26.6
July												
3 - 9	0			Build 1 - Week 4	610	0	-2.5		100.7	22.0	-3.7	22.5
10 - 16	0			Base 3 - Week 1	840	0	3.0		103.7	18.6	-9.7	19.0

The plan will recommend your training phases in line with your race plans. These are colour coded and have session type recommendations.

Adjust your plan according to Ramp rate limits.

If you receive a ramp rate warning you will need to adjust the plan to avoid fatigue and injury risk associated with increasing training load too quickly. Weeks with a ramp rate greater than 8% will be highlighted with a red warning triangle in the table and on the chart. Follow the following steps to adjust.

- If your ramp rate warnings are only early on the plan, more that 18 weeks before your “A” race, these can be adjusted manually by editing the TSS for the weeks highlighted downwards. Try to keep the to the pattern in the chart adjusting a little, waiting a few seconds for the recalculation. Repeat until all warnings are resolved.
- If you rate rate warnings are within 18 weeks of your “A” race, I recommend editing the ATP and either selecting a “A” race later in the season, giving yourself time to reach peak fitness, or reducing your “A” race CTL target so that you do not carry a high risk of injury.

Review peaks weeks against your vacation and work commitments

Next we review your training plan comparing it against of work and family commitments. Should you have vacation or family event booked that will conflict with you “big” weeks, I recommend adjusting the program manually, maybe switching your recovery to have a 3 week cycle or four week cycle. This ensures you do take your recovery week and do not loose key training weeks.

Pre-planning Fitness Assessment

Pre-season we perform specific tests to establish a fitness baseline, threshold limits and zone which will guide our training intensity for key sessions and ensure to calculated training stress is accurate.

If you are new to TrainingPeaks I recommend you clear or lower your threshold values in TrainingPeaks well below your expected values and set your zone notifications to adjust your zones automatically. At the end of the week you zones should be correct. If you need assistance in calculating and setting these manually, request a consultancy session here and I can assist.

A populated test week plan can be found on my TrainingPeaks Page. Simply load it and drag it onto your TrainingPeaks Calendar.

Day One: The assessment week starts with recovery day were I suggest some light recovery exercise, made a light massage.

Day Two: Bike Lactate threshold heart rate test which doubles as a Functional Threshold Power test for those with power on the bike or electronic trainer.

Day Three: CSS Time trial. The CSS test involves two time trial swims - a 400m and a 200m. Before attempting these swims perform a thorough warm up and a small build set to get you used to swimming fast.

Do the 400m time trial first, it's less likely to affect the 200m than the other way around. Recover completely between each time trial with some easy swimming. Perform both time trials from a push off from the wall, not a dive. Try and pace the trials as evenly as possible, don't start too fast and slow down. If you're not sure get someone to take your 100m splits - they can be very revealing.

Calculate your Critical Swim Speed using the calculator: FitSets.com CSS Calculator

Day Four: MAF Test - Short warm up to get HR to 120+ Then 30 min at MAF heart rate.

MAF Heart Rate Calculator: MAF Formula

Wear a Garmin and record exact distance for the 30 min. Select a flat course if possible. You will repeat this test every 3 to 4 weeks. Ideally on the same course and conditions (time of day) to measure progress.

Planning Training Phases

The following training phases a relevant to all athletes in preparation for an endurance event. The make-up differs according to the athlete's history, experience and conditioning. An experienced athlete with years experience will still require aerobic training, however the will be more opportunity of speed and durability development.

Lasting the distance is is the first priority which is achieved through aerobic fitness, nutritional training and technical efficiency.

Once distance is in the bag then the focus becomes time. Time improvements are achieved through further aerobic investment and technical efficiency. Force development and higher intensity durability training now become key. Nutritional tolerance training is also needed to ensure the distance can be fuelled at race intensity.

Preparation Phase

The preparation phase is a period in which to get get your training affairs in order. Testing and trials should include the following:

- Session and training times. Does it work with your lifestyle and priorities?
- Physical prep. Get that rested body moving!
- Training equipment. Selection, procurement and maintenance.
- Baselines. Establish training zones and comparative metrics for progress measurement.
- Electronic equipment. set zones, configure upload and synchronisation
- Nutrition, Training and every day. Lock in your nutrition plan.
- Professional support. Find a coach, mentor, masseuse, nutritionist.
- Social support. Get you family, friends and work peers on side.

Base Phase

The base phase is all about creating a sound aerobic platform for performance. It is the necessary foundation which underpins sustainable performance for an endurance competition. In this phase the focus should be on the following:

- Aerobic training. Lots of volume at MAF (Heart rate of 180 - age)
- Power and force development. Strength and high intensity training.
- Technique training. Optimising efficiency through focussing on biomechanics and functional balance.
- Fat Adaptation. Controlled nutrition to ensure you can burn fat and carbohydrate for optimal performance.

Build Phase

In the build phase we place more focus on race specificity. We include sessions with race pace intervals, race simulation for terrain and climate. We also have a focus on build tolerance of race nutrition. After base you aerobic and force foundation should be pretty solid. In build you will leverage this foundation to build sustainable power and durability. Key focuses in build are:

- Threshold intervals to develop sustainable power.
- Long intervals at or just above predicted race pace.
- Bricks to simulate race stresses.
- Use of race nutrition at race intensity.
- Aerobic and HITT maintenance.

Peak Phase

Peak or transition is to optimise our training investment through recovery and nutrition. It is **not** about total rest and consuming as many carbs as possible! Quality sleep is paramount and is keeping your skeletomuscular system activated. As the training load reduced, your nutritional intake remains the same. There is no need to carb load as your food intake from your training day will be best given the training reduction.

“Many a race has been ruined by suddenly changing nutrition profiles in the last days before a race!”

Key focuses are:

- Sleep and recovery - no breakthrough sessions!
- Balanced nutrition including minerals, vitamins and electrolytes through real food.
- Training focus is on activation. Keep moving, short sessions slightly below race pace. Very short HIIT sessions.

Transition Phase

The transition phase period varies depending on the time to the next race, and the duration of the last period of training. It is a period of active recovery and reflection. A time to catch-up with friends, spend more time with family, invest in your career, catch-up on home duties. All those areas you have ignored due to the training load.

The 80 / 20 Aerobic Rule

A fundamental principle of endurance training is that 80% of sessions must be performed at or below the aerobic threshold. The aerobic system provides the majority of energy for endurance. Even sprint distance races are underpinned by 80% aerobic efficiency while ironman is closer to 98%. The reality is that the aerobic system only develops when we train below the aerobic threshold.

In events over 4 hours here is remarkable correlation between an athlete's MAF run pace and the average pace for their run leg. There are usually very close. An athletes IRONMAN pace has a significantly closer correlation to MAF pace than their half marathon time. This is why we frequently see fast 10km and half marathon runners have 5+ hour runs in IRONMAN. To go fast in 70.3 and IRONMAN you need superior aerobic fitness.

"Training above your aerobic threshold may increase durability and strength but it will not improve your aerobic fitness."

Determine your aerobic threshold.

There are three common ways to determine your aerobic threshold, by the MAF formula, using the lactate threshold heart rate zones or through a metabolic test.

MAF Formula: Your maximum aerobic function can be calculated by subtracting your age from 180 then adjusting by -5 if you have experienced recent injuries or are on prescription medication.

Try this calculator: MAF Formula

80% of Lactate Threshold Heart Rate: Your aerobic threshold is approximately 80% of your lactate threshold heart rate. Your lactate threshold for bike and run will be determine in your pre-season assessments using a 20 minute test protocol.

Metabolic Test: The most accurate way for determining your aerobic threshold, although costly, is through a laboratory metabolic test. This test is conducted on a treadmill or bike stationary trainer and determines your aerobic threshold at the intensity where your carbohydrate is the dominant fuel source.

Session planning around aerobic volume

As our aerobic sessions will always make up the bulk of our volume we plan these into our schedule first, scheduling our regular bike and run sessions in the plan then building the rest of the plan around these. Locking in 2 long run and 2 long bike sessions at a minimum per week. As you get closer to race day your brick sessions will be linked to one of your long bike or run sessions.

Endurance Session Types

Endurance training session types are catagorised according to the adaptation they are targeting or the learnings to be gained. Categories can be broken down as follows:

Physiological stress

Physiological stress is applied so that when to body recovers it will super compensate and get get stronger given that is has sufficient recovery time and sufficient nutrients to do so.

There are broadly four types of sessions. These being:

- Aerobic, targeting the aerobic cardiovascular system;
- High intensity interval training (HIIT), targeting the anaerobic cardiovascular system and power development;
- Threshold, targeting muscular durability;
- Force, developing muscle strength which underpins power.

Aerobic is the foundation of physiological training and forms the majority of volume in all phases of training. HIIT and force development is as important and is applied through all phases, however at lower volumes. Threshold training, although applied through all but the peak phase, becomes the focus during the build phase bringing force and aerobic system gains together.

Technique

Good technique is paramount to endurance sport success due to the repetitive nature of movements in the sport. Any inefficiencies can cause injury at worse, inhibit pace and increase energy use at best. Technique is an important inclusion in any athlete's training week, no matter the competency level. Face to Face technique coaching is strongly recommended.

Recovery

Yes it’s true, training overload our systems and weakens us, recovery makes us stronger. Recovery includes sleep, general rest and active recovery. The benefits of active recovery is frequently overlooked. Recovery should include:

- Hydration and electrolyte replacement
- Macronutrient and micronutrient replacement
- Low level activity to promote blood flow
- Adequate rest to allow for physiological compensation.

Psychological stress

Psychological stress sessions are generally reserved for the build phase when we use race specificity sessions get the athlete adapted to the foreseen stress of the race. This should include the physiological, climate and terrain stress. We simulate temperature, hills, headwinds, pace etc, etc.

Testing

Testing sessions are to monitor progress and assess if the training protocols are working. We also use these to reset thresholds and training zones and keep training optimal. Testing sessions are usually applied in recovery weeks or pre-season. It is important that the athlete is rested and prepared to give a all out effort.

Planning your training week

Planning a training week is a structured process taking into account the available time, phase of training, phase it periodisation and feedback from the reset weeks. I prefer to plan a week or two in advance rather than planning a block of four weeks so that I can adjust to feedback or events in the last week and late notice on weekly social or work plans.

Planning for the week is based on the recommended TSS in the TrainingPeaks annual training plan developed using the earlier chapter and using the 80/20 rule.

As you add sessions to you plan, ensure there is a TSS score in the planned column. This will assist you in balancing your sessions to meet target weekly TSS and meeting the 80/20 rule. If the TSS score has not calculated automatically from the duration and IF that you can apply manually by calculating as TSS = 49 / duration in hours. E.g. 30 min = 25 TSS, 2 hours = 98 TSS. (This assumes an IF of 0.7 which is an aerobic intensity average).

In the periodised recovery week, usually every 4th or 3rd week the training stress is reduced. This will be reflected in the ATP plan. It is a good idea to perform testing in recovery weeks as you will be more rested. I usually set MAF tests, threshold and time trials in the recovery week.

Training phase rules

The week rules differ a little depending on the phase:

- For the preparation phase it is about testing training options, morning or afternoon, commuting bike routes, nutrition options, finding HITT options, gym option, pool options etc.
- For Base phases it is about aerobic MAF volume (80% - 85%) , HITT sessions (5%), Threshold sessions (10% - 15%)
- For Build phases the focus on specificity increases. Aerobic (80%), Race Pace (15%), HITT (5%)
- In Peak we back off of durability and focus on activation with overall reduced volume. Aerobic (85%), Durability (10%), Short HITT for activation (5%)

Step by step setup

Filling in sessions is a structured process following the above percentages:

- The first step to planning the week is to honour the priorities and fill in and work and family time slots not available for training.
- Step two is to add in the long aerobic sessions, generally 2 runs and 2 rides and 1 long aerobic swim. Total TSS/hours should be 80%, 70% in build, of the weeks target.

- Step three is relevant to the build phase where we add in any specificity sessions. These are race intensity intervals totalling 25% TSS/hours.
- Next is to add any fixed coached sessions. These are generally squad swims, squad runs and bike intervals. Technique sessions fall into aerobic volume. Intervals fall into HITT volume.
- The last step is to add in high intensity sessions which include core, functional strength and HIIT intervals.

Review and finalise

Next review the plan to ensure you have a day of recovery. This could be a day off or a day focused on active recovery and technique.

Also ensure that you do not have high training stress days back to back unless you are specifically targeting overloading and fatigue simulation in the build phase.

Finally review to ensure you have the following allowed for in the week:

- Sufficient aerobic development (exercise at a heart rate below 180 - age)
- Technique improvement in each discipline.
- Force and functional strength development in each discipline.
- Durability and stamina development (especially in build phase)
- Time for sleep, family, work and fun!

Training nutrition and periodised carbohydrates

Here is the thing, the body prioritises carbohydrates ahead of fat for fuel. Although we always burn a combination of carbs, fat and protein, if carbs are in abundance, our system will consume these first. If we constantly consume carbs at a level we never deplete we will store excessive carbs, fats and proteins in the diet as fat, simple. Periodised Carbohydrates is the key.

Over time our ability to burn fat for refuel reduces, this leads us to low blood sugar when carbohydrates are low, bringing on suppressible hunger. That's right, a hunger for more carbs. And so we continually store fat, never burning it.

OK the next issue. When we exercise we have been conditioned to consume high sugar drinks and bars. This reduces our ability to burn fat, the reason why most of us exercise. Guess what, it's not working!

Traditional diet programs teach us that it is a simple calories in / calories out problem, so eat less, exercise more = healthy weight. Well this does not work. Simply put, most of our daily calories are used outside of exercise. that is breathing, thinking, digesting. Cut the calories and the first thing you lose is your vitality, metabolism and motivation.

For athletes, a dependency on carbs puts limits on your endurance sustainability. You can only digest a high level of carbohydrates for a limit amount of time. The higher the dependency, the short the digestive period sustainable. This is most relevant to athletes competing in events over 8 hours. Lower carb racing also has the benefit of reducing the volume of blood and water to digest carbs.

Carbohydrates aren't bad, the are just misunderstood and misused. Carbohydrates are great for high intensity exercise, allowing us to reach high levels of intensity and force. Great for sprints, gym workouts and developing force.

How to periodise Carbohydrates

To periodise carbs we look at our daily, weekly, and if we do endurance training, our training blocks.

Daily periodisation

To ensure we don't gain insidious weight through continuous slow weight gain we need to ensure our body remembers how to burn fat for fuel. To do this we eat three balanced meals a day containing a balance of Carbs, fat and protein which gives us our recommended calorie count. I recommend not counting calories as with the right balance we stop eating when full. We

then avoid eating for 4 to 5 hours until the next meal. In this time our carbohydrates will deplete and our bodies will begin burning fat. Initially this is hard as our bodies will not be fat adapted, but hang in there.

After two weeks you body will learn to burn fat and the mid meal hunger will disappear. Before long you will find snacking is not needed and quite often your desired meal sizes reduce too.

Weekly periodisation

For those not on a rigorous training program, it is good to go low carb (<50 grams for the day) once a week. This will re-enforce fat adaptations and consume some of those hard to move fat cells. It is important to replace the calories with healthy fats or else your vitality will drop and you will burn less!

Periodisation for endurance athletes

Athletes should follow the daily and weekly periodisation model with the weekly low carb day being on their recovery day.
Additional to these we a training block periodisation.

- Pre-season Keto phase – Pre-season I recommend a week for low carb (< 50 grams per day). It is important to replace the calories with healthy fats or else your vitality will drop and you will burn less! This period helps you drop some of that weight picked up in the off-season and primes the body to burn fat at low intensity.
- Block recovery phase – During recovery weeks of a periodised program I recommend spending 3 to 4 days on low carb (< 50 grams per day) to promote fat burning as a fuel and to reduce inflammation. As training volume is reduced, fat intake should stay the same as in training. In this period eat as much non starchy vegetables as you want to promote recovery. Exclude vegetable fiber from the 50 grams carbs count.
- Peak phase –This is taper. During this phase we do not reduce carbs, we keep these to a normal training level. As training is reduced we effectively carb load through training reduction, not increasing carbs!

Using Carbs in training sessions

I recommend using carbs strategically in training sessions. By strategically I mean when there is an adaptation benefit or you need to familiarise effects for racing.

General guidance is:

- Short aerobic sessions (Up to 2.5 hours) – No Carbohydrate before or during session. If this is a morning session, start fasted. Consume Water and electrolytes only. Post exercise continue normal daily eating plan.

- Long aerobic sessions (Over 2.5 hours) – 30 grams carbs per hour taken from start of session. Support absorption with water and electrolytes. Consume healthy fat meal with some real food carbs (fruit) on completion.
- Race simulation session – Consume you racing specific carbs, usually 40 to 60 grams per hour. Support absorption with water and electrolytes.
- High intensity sessions – Carbohydrates help us reach high levels of intensity. Consuming 20 grams of carbs before a HIIT , sprint or heavy gym session will assisting getting the maximum adaptation.
- Mixed Sessions – In sessions which are mostly aerobic with some hard intervals and surges I recommend adhering to the short or long aerobic protocol, but take 20 grams of carbs approx 30 seconds for surges or efforts which will last more than 10-20 minutes.

For longer aerobic sessions I recommend taking some carbs with you if you are not sure you are fully fat adapted. Adaptations can take a couple of weeks, be cautious!

Nutrient rich nutrition

Latest science has shown the high levels of processed food is nutrient poor due to the exclusion hundreds of thousands on minerals and vitamins found in real food, minerals and vitamins essential for recovery and healthy growth.

There is a lot of controversy out there regarding healthy eating. A lot of emotion and heated debate. My view is the we underestimate the body's ability to adapt to what the feed it. In my opinion real food nutrition plans of Paleo, Primal, LCHF, Plant Based and the many others are all valid with three non-negotiable rules;

- We focus on real, unprocessed foods as the primary source of food, that is 95%+, essentially limiting processed grains, processed sugars and hydrogenated oils.
- We get a broad spectrum of vitamins and mineral through a diverse profile of food. Colourful vegetables, fruit and multi source proteins.
- We consume sufficient calories to support vitality, an active lifestyle and a high metabolism.

I personally lean towards a primal way of eating as it helps my satiety. Whichever you prefer, I strongly advise a move towards a real food diet.

For clinical conditions it is recommended you seek the advice of a registered dietitian or your local general practitioner before significantly changing to diet.

I do not recommend crash diets or diets aimed at getting to goal weights quickly as these are unsustainable and generally lead to weight gain. The main aim is the tune in to a sustainable eating plan which satisfies hunger but will lead to weight adjustment over time to a natural, healthy balance. Usually around 15% body fat for men or 22% for woman.

Protein intake does need to be adjusted for athletes to ensure sufficient amount for recovery and regeneration. In recent times the general recommendations have been too high, in my opinion swayed by the marketing of large food companies. There has been much scientific research supporting this from the plant based, primal and traditional camps.

Recommended Carbohydrate, protein and fat intake is generally not an absolute number, but instead should align with obtaining dietary satisfaction at every meal. Although high-fat foods are calorie dense, they have a high satiety factor and do not stimulate an insulin response. By eating what amounts to a high-fat diet in comparison to the Standard American/Australian Diet, one can stabilize appetite and energy levels, and shed excess body fat without having to face the traditional struggles of deprivation and restriction.

For athletes I believe the periodising carbohydrates is important to ensure we maintain the capability to burn fats and carbohydrate optimally. Stress causes adaption, even with nutrition. Without periods of low carb we lose the ability to efficiently burn fat as a primary fuel at aerobic intensity. I do recommend a pre-season ketogenic period. I also recommend most recovery weeks have a period of very low carbohydrate to re-establish fueling from fat as a preference.

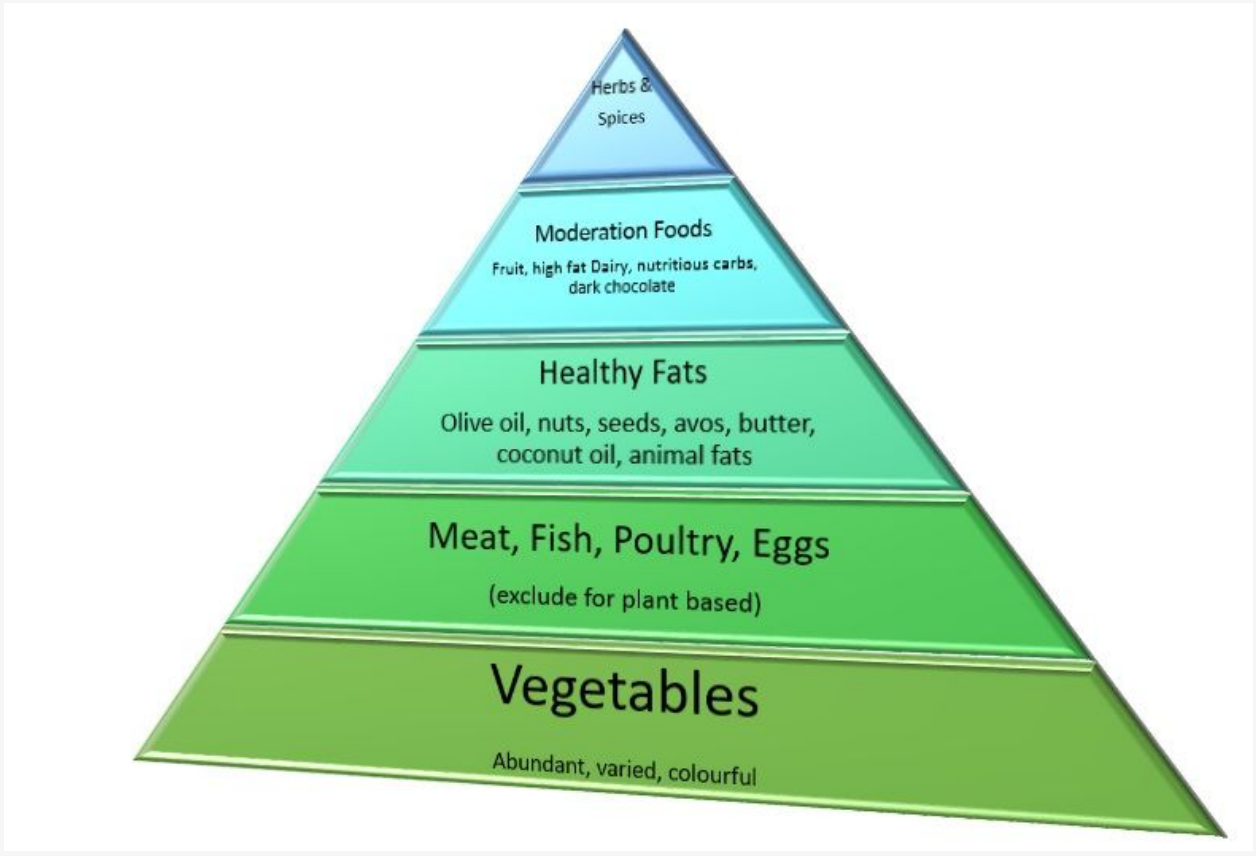
As a rule we need between 50 and 150 grams carbohydrates per day where 150 grams is for the highly active athlete training in excess of 20 hours per week.

Protein requirement is 1 to 1.3 grams per lean body weight in kgs. Lean is body mass less body fat percentage. A male with a lean mass of 65 kgs training 15 hours per week would need around 100 grams carbs and 65 to 87 grams protein per day.

To put these into perspective. A medium potato has about 31 grams of carbohydrate, a 300 gram steak has 75 grams protein. A 200g chicken breast has 62 grams protein.

To determine protein and carbohydrate requirements try this calculator as a guideline.

- Breakfast samples
- Lunch Samples
- Dinner Samples
- Snacks and Desserts


Herbs &
Spices
Moderation Foods
Fruit, high fat Dairy, nutritious carbs, dark chocolate
Healthy Fats
Olive oil, nuts, seeds, avos, butter, coconut oil, animal fats
Meat, Fish, Poultry, Eggs
(exclude for plant based)
Vegetables
Abundant, varied, colourful

Summary, getting the balance right

Endurance training is like watching grass grow. There is no short cut. Optimal gains are realised through a balance of applied stress and adequate recovery in an environment where inflammation a life stress is managed.

Endurance training does require a significant investment of time however finding time at the cost of sleep, family or career will limit returns and the associated life stress will impact recovery and limit returns. It pays to do plan time based planning, be honest to your priorities. I has seen time and time again that a IRONMAN on a 13 hour training week will be faster that one on a 20 hour training week with a lack of sleep or high life stress due to relationship or work trade offs.

“Do the planning, honour your priorities and get adequate sleep”

Today we have fantastic tools to collect data and analyse. Get for assessing a where we are and ensuring we are applying the desired physiological stress and recovery strategies. It is important, however, the realise that these tools just provide insights, it is absolutely essential that we listen to our bodies, our intuition and third party feedback of people who know us. These tools are great only if applied as build insights, not as a rule book!

Planning is essential to get us on the right path. A plan is never the most optimal path as you will make discoveries along the way. Challenging events will happen requiring adjustments to the plan. It is absolutely essential to constantly assess where we are, what is working, what is not and re-plan.

Last but not least, success comes to those who focus each session, each meal and each recovery on the goal. Loose the ego! Going fast and looking invisible at race pace of faster in every training session will not get great results. Go into each session understanding the Physiological adaptation targeted. Aerobic fitness comes from training at aerobic intensity and all Triathlons are 95 to 99% aerobic. Efficiency comes from practicing perfect technique at slower paces, force is developed through short maximal strength bursts, recovery is optimised by quality and adequate sleep and low inflammatory, nutrient rich nutrition.

The planning and analysis tools in TrainingPeaks, used correctly, help us optimise our season and session planning, enable us to track accumulated physiological stress and optimize periodisation better have before but should be used with one eye on the Psychological stress and the desired mindset needed for consistent training application and race day tenacity.