

Integrated Performance Programme

2017-2018
SEASON

UEA TRIATHLON

Contents

1. OUR TRAINING PHILOSOPHY

2. INTEGRATED PERFORMANCE PROGRAMME

3. INTRODUCING THE I.P.P MODEL

- STRONG FOUNDATIONS
STRENGTH AND CONDITIONING RECOVERY AND NUTRITION.
- FUNDAMENTAL STRUCTURES
SWIMMING CYCLING AND RUNNING.
- FIXTURES AND FITTINGS
RACE SKILL AND MULTI-DISCIPLINE TRAINING

4. TRAINING THEORY AND TERMINOLOGY

5. STRONG FOUNDATIONS

- STRENGTH AND CONDITIONING FOR TRIATHLETES
- RECOVERY FOR TRIATHLETES
- NUTRITION FOR TRIATHLETES

6. FUNDAMENTAL STRUCTURES

- TRAINING FOR SWIMMING
- TRAINING FOR CYCLING
- TRAINING FOR RUNNING

7. RACE SPECIFIC SKILLS AND MULTI-DISCIPLINE TRAINING

8. TRIAL: AUTUMN MESOCYCLE

Our Training Philosophy

WHERE IT ALL BEGINS

UEA Triathlon takes immense pride in it's ability to take novice performers with a great passion for the sport and produce high performing athletes; competing both nationally and internationally at age group level.

Founded upon the principles of inclusivity, community and the dedication towards progression, the club has experienced great success in its relatively short history.

In the future, the club hopes to further extend all of these foundational values through the growth of membership and the development of new and existing members into competitive athletes through the delivery of exceptional training sessions.

Integrated Performance Programme

ITS REVOLUTION TIME

Through the unification of the club's aforementioned interests in growing club membership and developing competitive athletes from our new and exiting members 2017-2018 represents an opportunity to construct the first UEA Triathlon Integrated Performance Programme (IPP).

At the heart of an IPP is the integration of all three disciplines of triathlon; drawing together training for swimming, cycling, running and the often forgotten discipline of strength and conditioning. Furthermore as a dedicated performance programme all training becomes entirely orientated towards athletes execution of the major triathlon and duathlon events within a season.

The fundamental principles which would underpin the Integrated Performance Programme are Functionality, Continuity, Inclusivity and Economy in training. Functionality is ensuring that all training sessions are specific to the sport of triathlon. Moreover, training must be Economical in design, taking the form of time efficient sessions with clear aims and objectives. In partnership with this economical approach is Continuity; specifically concerning the frequency of training and the amount of variety included in our sessions. Most importantly however is that training must be Inclusive, enabling all members to train as an athlete if they so choose.

Introducing the IPP Model

BUILDING A TRIATHLETE

Producing a successful competitor in the sport of triathlon through the adoption of an Integrated Performance Programme can be considered analogous to constructing a house.

• STRONG FOUNDATIONS

In constructing a house we would begin by laying suitably strong foundations on which the main structures can in-turn be built upon. For a triathlete three foundational pieces can be identified in Strength and Conditioning, Recovery and Nutrition.

STRENGTH AND CONDITIONING

At its very simplest S&C is the work an athlete must do in order for their body to be in a fit state to train and ultimately perform in a triathlon. We may divide S&C into four areas of equal interest in laying the foundations of a triathlete. Metabolic Conditioning is the development of the aerobic and anaerobic energy systems which are employed across all other training sessions. Strength Training, although often neglected by triathletes, focuses on muscular strength, endurance and explosive power. Strength work is often the final piece in an athlete's puzzle, reducing injury and aiding performance. Injury reduction is additionally correlated to Core Strength, our third area; another essential component for a high performing triathlete.

Each of these three areas will be incorporated into weekly circuit and yoga sessions.

The final area of Strength and Conditioning is Flexibility and Mobility, including movement quality training. Greater flexibility is often incorrectly correlated with injury reduction, although it is in-fact positively related to performance quality in swimming and cycling only. Interestingly, in a study of elite runners it was found that greater running economy was achieved with a lower level of flexibility; despite this a flexibility programme is still considered beneficial. Mobility and flexibility training will be included in the weekly stretch session.

RECOVERY

At the core of Recovery is injury reduction and rehabilitation. This is achieved primarily through the inclusion of weekly rest days and recovery microcycles during base building, thereby allowing the body to adapt to training and recover from physiological stress.

Introducing the IPP Model

BUILDING A TRIATHLETE

RECOVERY CONT.

Additionally, stretch sessions will provide an opportunity for guided soft tissue work including static and dynamic stretches and myofascial release.

NUTRITION

Nutrition is of course an essential cornerstone of recovery and can have a substantial influence on performance optimisation. Our principle focuses should be the introduction of nutrition periodisation- "aligning a triathletes daily nutrition plan with his or her physical training programme" - and the better education of legal supplements and consumption timings for maximum performance enhancement. In the best possible scenario we would have meal plans available for vegan, vegetarian and meat-eaters on the MI TRI section of the website, thereby providing members with a valuable source of reliable information.

• FUNDAMENTAL STRUCTURES

Once a sufficient foundation has been laid down, and is undergoing continuous improvement, we can then progress to building of the main structures. For a triathlete, there are again three fundamental structures; Swimming, Cycling and Running.

Although each of the three disciplines composing a triathlon bring there own unique challenges, we can consider a generalised training format that should be consistent across all three. All training sessions will belong to one of three very distinct categories in Endurance, Speed and Recovery.

An Endurance training session will take the form of low intensity aerobic activity. Specifically, these sessions will seek to improve athlete's aerobic endurance, economy and metabolic efficiency. These sessions have been roughly incorporated into previous training programmes and are therefore recognisable as 'Monday Miles' and 'Sunday Long Ride' for example. The crucial adaptations taken from Endurance training will be the increase in glycogen stores, changes to the percentage muscle fibre type, greater VO₂ max and increased fat utilisation.

A Speed training session conversely, will take the form of a selection of Skill Development Drills, followed by a low intensity aerobic set, included in which are progressive high aerobic/anaerobic intervals. Our focus here is the development of aerobic capacity, muscular endurance, power and of course speed. Similarly to the Endurance sessions, Speed sessions have been incorporated loosely into former programmes as 'Track' and 'Turbos' for example. A further adaptation taken from anaerobic interval training is an increase in VO₂ max, which subsequently aids performance as a whole.

• **FUNDAMENTAL STRUCTURES CONT.**

A Recovery training session is included as a part of a Recovery Microcycle during the base building period or alternatively in approach to a major competitive event when a pre-race taper is employed to increase performance.

Recovery sessions may be characterised by the reduction in training volume, whilst conserving intensity levels. They principally function is to reduce risk of injury from overtraining and allow adaptation from the previous base building microcycles.

An Integrated Performance Programme would deliver one Endurance and one Speed training session per discipline each week.

• **FIXTURES AND FITTINGS**

At last we have a strong building in which to live, however we do not have a comfortable home in which we can thrive. In the same regard, we now have a strong swimmer, cyclist and runner, yet this is not the same as a successful triathlete.

Our final feature of the Integrated Performance Programme would be Race Specific Training. This area of training is entirely focused about the sport of triathlon and developing the competencies needed to compete during races throughout the season. Simply put, the primary goal of Race Specific Training is to mimic the conditions and stresses of racing to the point that the event itself feels like a regular intense session.

Two essential components of Race Specific Training are Brick sessions and Transition training.

Brick Sessions are training sessions which combine more than one discipline and therefore emulate the stresses of a triathlon in a training setting. Brick sessions can be divided broadly into Land - combining cycling and running together- and also Water- combining swimming with running generally. Brick sessions have been very successful in the past, for instance the annual aquathlon, however we need them to feature more regularly in the future, especially when approaching a key race event.

Transition Training is the second component of Race Specific Training. Here, we could produce introductory sessions for new triathletes and more progressive sessions for those wishing to develop their transition (for example mounting the bike with shoes already attached). Again these training sessions would be appropriately included prior to a race event during the Race Specific Skills microcycles.

Training Theory and Terminology

THE SMARTER WAY TO TRAIN

• PRINCIPLES OF TRAINING

1. Principle of Overload- For a tissue or system to adapt it must be exposed to stress that is greater than that to which it is otherwise accustomed.
2. Principle of Specificity- For a tissue or system to adapt to a specific requirement it needs to be stressed in a manner similar to that requirement.
3. Principle of Reversibility- After the stress is removed the adaptation that was elicited will be lost "use it or lose it"

Collectively, the three foundation principles of training lead us to conclude that for a training programme to be successful it must be both progressive and designed specifically around the demands of a triathlon.

• PERIODISATION

The Periodisation Theory arrived as a product of the work of Hans Seyle, in particular his model of General Adaptation Syndrome. In the model he proposes that any system exposed to a stress can undergo adaptation whereby the body becomes more fit, or resistant to this stress (Seyle, 1978). Seyle further concludes that adaptation would only be possible with a sufficient recovery period.

In short, the subsequent theory of Periodisation represents the systematic planning of training over a relatively long period of time (such as a season) in which the larger time scale is then subdivided into smaller periods referred to as cycles. There are three different cycles of descending duration, one rather novel way to consider this is the 'Russian Doll model' with one larger body composed of increasingly smaller ones.

Macrocycle: The longest timeframe for the given training objective in our case one academic year or season.

Mesocycle: Subdivisions of the macrocycle that typically take the form of generalised Base Building, specialised Race Training or Competition. In our case traditional periodisation would be adapted to form three Mesocycles (Autumn, Winter and Spring) which concluded with one of the major race events of the season.

Microcycle: The smallest divisions of organised training apart from the individual sessions. In our case a microcycle would be a one week period.

Training Theory and Terminology

THE SMARTER WAY TO TRAIN

• IN PRACTICE: AUTUMN MESOCYCLE

For the Autumn mesocycle, we can consider the eight microcycles that comprise the period to be broadly belonging to one of two groups; Generalised and Specific Training.

Generalised training weeks 1 - 6

Week 1: Base Building Phase I A (25th Sept - 1st Oct)

Week 2: Base Building Phase I B (2nd - 8th Oct)

Week 3: Recovery Phase I (9th - 15th Oct)

Week 4: Base Building Phase II A (16th - 22nd Oct)

Week 5: Base Building Phase II B (23rd - 29th Oct)

Week 6: Recovery Phase II (30th Oct - 5th Nov)

Specific training weeks 7 - 8

Week 7: Race Specific Prep. I (6th - 12th Nov)

Week 8: Race Specific Prep. II + Taper (13th - 19th Nov)

In general, Base Building is focused upon increasing a triathlete's work capacity, while Race Specific Prep. is designed to mimic the stresses of race day, developing of tactics and race strategy. The exact anatomy of each of the disciplines general and specific training sessions and their individual progressions can be found in chapter 8.

During Week 8, the second week of Specific training, an exponential taper will be included prior to the BUCS Duathlon race on the 19th November. A taper is an intentional reduction in an athlete's training load in the final days approaching an objective competition with the aim of optimising performance. Considerable evidence has demonstrated that an exponential taper in which the volume of training, rather than intensity, reduces by a constant exponential factor is the most effective for optimising performance.

Training Theory and Terminology

THE SMARTER WAY TO TRAIN

• INTRODUCTION TO TRAINING ZONES AND TIME TRIALS

Perhaps the greatest challenge facing the effective delivery of an Integrated Performance Programme, following the Periodisation approach, is maintaining consistency across our training sessions and amongst our student and professional coaches.

By designing each of our sessions around Training Zones, we could ensure that our individual disciplines are integrated to better enhance the performances of our members. Attached is a guide for Training Zones, which hopefully through the collaboration of our members and coaches will become the 'language' with which we describe and discuss our training sessions.

Description	Heart Rate (% max)	Relative Perceived Exertion	Intensity	Accumulated
Z1 Recovery	55-70	<2	Easy	1-6 hrs
Z2 Endurance	70-75	2-3	Steady	1-3 hrs
Z3 Tempo	75-80	3-4	Comfortable	50-90 mins
Z4 Threshold	80-88	4-6	Uncomfortable	10-60 mins
Z5 VO	89-100	>7	Hard-Very Hard	12-30 mins

An important advantage of incorporating Training Zones is that a single training session may present an equivalent challenge to members of all abilities since the zone targeted will be unique for every athlete. In further recognition of the naturally occurring strengths and weaknesses of our members, the main set of each session could be designed in two variants.

One variant would be 'relatively easier' in its duration or work to rest intervals, whilst the second would be more challenging; focused towards those members who already consider the discipline a strength. In line with our desire to promote inclusivity in training, however, we would present these variant as the 'normal' set and a more advanced set rather than words such as 'easier' and 'harder'.

Ultimately, regardless of the session variant chosen, it is of great importance that the general form of the training session remains the same; enabling both novice and experienced triathletes to train together without division.

Training Theory and Terminology

THE SMARTER WAY TO TRAIN

• INTRODUCTION TO TRAINING ZONES AND TIME TRIALS

Accompanying the introduction of Training Zones we will offer members access to Time Trial (TT) sessions. At its heart a TT session is designed to give both the club and the individual triathlete means by which to measure and assess progression. Complementing a major event occurring at the conclusion of a mesocycle, TT sessions would be strategically positioned prior to the event and post Base Building, that way members can identify further areas in need of development in preparation for race day.

• KEY TERMS FOR GENERALISED TRAINING: BASE BUILDING

In anticipation of the discussions in Chapter 8 regarding the anatomy of Base Building training sessions, below is a table of the nine fundamental abilities targeted and their associated training technique.

Ability	Training Technique
Aerobic Capacity	Interval Training above or at VO total training volume.
Aerobic Endurance	Long slow endurance training at 60% of VO up 60% of total training volume.
Economy	As above, whilst also including skill development drills and strength training where necessary.
Metabolic Efficiency	As above, with additional influence from nutrition.
Flexibility	Routine stretching post exercise and during recover periods.
Speed	Cadence drills and overspeed training.
Force	Intervals with low cadence and strength training where necessary.
Power	Strength training and intervals above VO
Muscular Endurance	Intervals of 2 to 12 minutes in length at highly aerobic intensity.

Strong Foundations

LAYING THE FOUNDATION OF PERFORMANCE

• STRENGTH AND CONDITIONING FOR TRIATHLETES

At the foundation of a successful Integrated Performance Programme are functional Strength and Conditioning sessions; delivered by engaging student coaches. Once the IPP is established, S&C will be accessible through one Circuit session per microcycle, one Stretch session per microcycle and additionally via the MI Tri S&C pages of the club website.

From the earlier introduction of Strength and Conditioning as apart of an IPP, we introduced four fundamental areas in need of development, these are Metabolic Conditioning, Core Strength, Strength Training and Flexibility and Mobility.

The weekly Circuit session will address **Metabolic Conditioning**, **Core Strength** and Strength Training through a redesigned structure for the 2017-18 season.

- ANATOMY OF A CIRCUIT SESSION -

- * **WARM UP** - A selection of simple exercises designed to reduce resistance in the triathletes body through the warming of the body (Active Warm Up). In general, a warm up of **10 mins** duration at 60-70% of VO₂ max should elevate blood and muscle temperature sufficiently.
- * **MAIN CIRCUIT** - A 12 station circular circuit in Congregation Hall. The circuit itself follows a pattern of one **Metabolic Conditioning** station followed by one **Core Strength** station and one **Strength Training** station for four repetitions. **30 mins**
Metabolic Conditioning Exercises (Designed to develop aerobic and anaerobic energy systems) include: Skipping, Burpees, Broad Jumps, Press Ups and Shuttle Runs for example.
Core Strength Exercises include: Front Plank, Crunches, Bicycles, Leg Raises, Side Plank and Glute Bridges for example.
Strength Training Exercises include: Weighted Squat, Cleans, Overhead Press, Tricep Dips, Leg Press, Hamstring Curl and Seated Row.
- * **TRI CHALLENGE** - Each week a new Tri challenge, drawing upon the three elements above, will be attempted. Examples include: Plank challenge, Wall Sit challenge, Push Up-Squat challenge. **10 mins**
- * **COOL DOWN** - Active cool down, gradually reducing the exercise intensity for **10 mins**.

Strong Foundations

LAYING THE FOUNDATION OF PERFORMANCE

• RECOVERY FOR TRIATHLETES

In partnership with effective S&C sessions, the preparation of a triathlete's body to train additionally requires sufficient rest and recovery. An IPP delivers this recovery through a rest day each mesocycle, alongside a Recovery microcycle following Base Building Phases. Furthermore on the rest day each week a guided Stretch session will be available to all triathletes. Alternatively members could compose their own stretch sessions using MI Tri pages.

From the earlier introduction of S&C and Recovery as a part of an IPP, we introduced both **Flexibility and Mobility** and **Soft Tissue Work** (myofascial release) as key features in optimising performance through sufficient recovery.

The weekly Stretch session will address **Flexibility and Mobility** and **Soft Tissue Work** through a redesigned structure for the 2017-18 season.

- ANATOMY OF A STRETCH SESSION -

- * **STATIC AND DYNAMIC STRETCHING** - A selection of both Static and Dynamic stretches focusing upon fundamental muscle groups under considerable use by triathletes. Examples include calves, hamstrings, shoulder and glute stretch exercises. Stretch sessions may also take a Periodisation form, focusing on muscle groups that have had exposure to considerable stress in the previous week.
- * **FLEXIBILITY AND MOBILITY** - Through the use of resistance bands primarily, flexibility and mobility will be improved through movement quality training. Here we address movement patterns essential for triathletes for example increasing range of motion about the shoulder joint and strengthening the rotator cuff for swimming.
- * **SOFT TISSUE WORK** - Incorporating foam rollers into a stretch session allows adoption as myofascial release to aid recovery. Key areas of interest include calves, hamstrings and of course the infamous IT band (a common runner's injury site).

Strong Foundations

LAYING THE FOUNDATION OF PERFORMANCE

• NUTRITION FOR TRIATHLETES

For a triathlete to train, recover and ultimately perform to their full potential the essential ingredient in the recipe of success is an efficiently designed nutrition programme. Here, efficiency refers to the 'use of the proper nutrients stored in the body at the right times throughout training based on duration and intensity' (Seebohar, 2013).

The simplest way to achieve the aforementioned benefits of good nutrition is to adopt Nutrition Periodisation. In short, nutrition periodisation is the alignment of a triathletes daily nutrition plan with their physical training programme (Seebohar, 2010).

- NUTRITION PERIODISATION -

- * **BASE BUILDING PERIOD NUTRITION PLAN** - At the centre of Base Period nutrition is body weight/body composition changes. Nutrition Consumption is dependent upon Body Weight Goals.
- * **RACE SPECIFIC PREPARATION NUTRITION PLAN** - As training transitions from predominantly aerobic intensity with progressive intervals to triathlon specific training at approaching race intensity energy expenditure increases. Consequently a triathletes nutrition consumption must reflect the greater demands being placed upon them in training.

BASE BUILDING	Body Weight Goal	Carbohydrate	Protein	Fat
	Weight Loss	3 to 4 g /kg	1.6 to 2.0 g /kg	0.8 to 1.0 g /kg
	Weight Management	5 to 7 g /kg	1.2 to 1.6 g /kg	0.9 to 1.2 g/kg

RACE SPECIFIC	Training Load	Carbohydrate	Protein	Fat
	Low	5 to 8 g /kg	1.6 to 2.0 g /kg	1.0 to 1.2 g /kg
	High	7 to 12 g /kg	1.4 to 1.6 g /kg	1.2 to 1.5 g/kg

Fundamental Structures

LETS GET TO WORK

• TRAINING FOR SWIMMING

In Chapter 3 a generalised training format applying to all three disciplines was introduced; explaining that all training sessions of any one discipline will belong to one of three categories in Endurance, Speed or Recovery. Moreover, it was established that one of each of the Speed and Endurance training session would feature in every microcycle.

In the boxes below the anatomy of each of the Speed, Endurance and Recovery sessions is explored for swimming during the Base Building Period. Chapter 7 is dedicated to how each of these sessions further evolves during the Race Specific Preparation period.

- ANATOMY OF AN ENDURANCE SWIM SESSION -

- * **WARM UP** - A selection of simple exercises in the pool designed to reduce resistance in the triathletes body through the warming of the body (Active Warm Up). In general, a warm up of **10 mins** duration at 60-70% of VO_2 max should elevate blood and muscle temperature sufficiently. **Zone 1**
- * **SKILL DEVELOPMENT DRILLS** - Positioned at the beginning of each training session such that the CNS is in an optimum state for the adoption of new skills, an Endurance session begins with several drills directly targeting the reduction of drag or increasing propelling efficiency in a swimmers stroke. **15 mins Zone 1-2**
- * **MAIN SET** - A composition of 200m to 800m in length, amounting to a long distance aerobic set. Further Skill Development Drills or changes of stroke could be included within the set also. For example, (400m Front Crawl, 50m Kick, 200m Front Crawl, 50m Backstroke) x 3/4 dependent upon ability. **30 - 40 mins Zone 1-3**
- * **COOL DOWN** - Active cool down in the pool, gradually reducing the exercise intensity for **10 mins. Zone 1**

Progression: Training zone relative intensity remains consistent throughout the base building period, although distances increase by 10% per microcycle.

Recovery Microcycle: Distances of the Main Set reduced by 50% with training zone intensity unchanged.

Fundamental Structures

LETS GET TO WORK

- ANATOMY OF AN SPEED SWIM SESSION -

- * **WARM UP** - A selection of simple exercises in the pool designed to reduce resistance in the triathletes body through the warming of the body (Active Warm Up). In general, a warm up of **10 mins** duration at 60-70% of VO₂ max should elevate blood and muscle temperature sufficiently. **Zone 1**
- * **SKILL DEVELOPMENT DRILLS** - Positioned at the beginning of each training session such that the CNS is in an optimum state for the adoption of new skills, a Speed session begins with several drills directly targeting the reduction of drag or increasing propelling efficiency in a swimmers stroke. **15 mins Zone 1-2**
- * **MAIN SET** - A composition of 100m to 300m in length, amounting to a moderate distance aerobic set. Embedded within the Main Set are high intensity intervals, which will progress in duration throughout the Base Building Period. For example, (200m Front Crawl tempo, 100m HI Interval, 200m Front Crawl recovery) x 4/5 dependent upon ability. **30 mins Zone 1 - 4/5**
- * **COOL DOWN** - Active cool down in the pool, gradually reducing the exercise intensity for **10 mins. Zone 1**

Progression: 4 Week HI Interval Progression- 5x100m on a 2:15 send off, 5x100 on a 2:10 send off, 5x100 on a 2:05 send off and 5x100 on a 2:00 send off. (All at 1:46 or better pace)

Recovery Microcycle: Unchanged.

Fundamental Structures

LETS GET TO WORK

• TRAINING FOR CYCLING

In Chapter 3 a generalised training format applying to all three disciplines was introduced; explaining that all training sessions of any one discipline will belong to one of three categories in Endurance, Speed or Recovery. Moreover, it was established that one of each of the Speed and Endurance training session would feature in every microcycle.

In the boxes below the anatomy of each of the Speed, Endurance and Recovery sessions is explored for cycling during the Base Building Period. Chapter 7 is dedicated to how each of these sessions further evolves during the Race Specific Preparation period.

SUNDAY LONG RIDE

- ANATOMY OF AN ENDURANCE CYCLING SESSION -

- * **WARM UP** - A short spin at higher cadence at the start of the Long Ride, designed to reduce resistance in the triathletes body through the warming of the body (Active Warm Up). In general, a warm up of **10 mins** duration at 60-70% of VO_2 max should elevate blood and muscle temperature sufficiently. **Zone 1**
- * **MAIN SET** - A longer distance ride in the Norfolk area at aerobic intensity including a selection of climbs (out the saddle work), descents (technical skill development) and changes to pace and cadence. For example, a 45km ride with multiple repetitions of a hill section throughout. **60 - 120 mins Zone 1-3**
- * **COOL DOWN** - Active cool down on the bike, spinning to gradually reduce the exercise intensity for **10 mins. Zone 1**

Progression: Training zone relative intensity remains consistent throughout the base building period, although distances increase by 10% per microcycle.

Recovery Microcycle: Distances of the Main Set reduced by 50% with training zone intensity unchanged.

Fundamental Structures

LETS GET TO WORK

TURBOS

- ANATOMY OF AN SPEED CYCLING SESSION -

- * **WARM UP** - A short spin at higher cadence at the start of the Long Ride, designed to reduce resistance in the triathletes body through the warming of the body (Active Warm Up). In general, a warm up of **10 mins** duration at 60-70% of VO₂ max should elevate blood and muscle temperature sufficiently. **Zone 1**
- * **SKILL DEVELOPMENT DRILLS** - Positioned at the beginning of each training session such that the CNS is in an optimum state for the adoption of new skills, a Speed session begins with several drills directly targeting the promotion of higher cadence and improving pedal stroke efficiency. For example: Single Leg Drill, Scraping Drill and 100+ RPM Hold **15 mins Zone 1-2**
- * **MAIN SET** - A moderate distance aerobic ride on a stationary bike. Embedded within the Main Set are high intensity intervals, which will progress in duration throughout the Base Building Period. For example, a 25 minute tempo ride Z3 with 5x3min high intensity intervals seated every 5th minute. **30 mins Zone 1 - 4/5**
- * **COOL DOWN** - Active cool down on the bike, spinning to gradually reduce the exercise intensity for **10 mins. Zone 1**

Progression: 4 Week HI Interval Progression- 5x3mins and 1min recovery, 5x4min and 1min recovery, 4x5min and 1.5min recovery, 3x6min and 2min recovery, 3x8min and 2min recovery. (All efforts zone 4-5 and all recovery in zone 1)

Recovery Microcycle: Brick Session retaining the intensity and similar duration to the previous week.

Fundamental Structures

LETS GET TO WORK

• TRAINING FOR RUNNING

In Chapter 3 a generalised training format applying to all three disciplines was introduced; explaining that all training sessions of any one discipline will belong to one of three categories in Endurance, Speed or Recovery. Moreover, it was established that one of each of the Speed and Endurance training session would feature in every microcycle.

In the boxes below the anatomy of each of the Speed, Endurance and Recovery sessions is explored for running during the Base Building Period. Chapter 7 is dedicated to how each of these sessions further evolves during the Race Specific Preparation period.

MONDAY MILES

- ANATOMY OF AN ENDURANCE RUNNING SESSION -

- * **WARM UP** - A short jog and dynamic stretching at the start of the session, designed to reduce resistance in the triathlete's body through the warming of the body (Active Warm Up). In general, a warm up of **10 mins** duration at 60-70% of VO_2 max should elevate blood and muscle temperature sufficiently. **Zone 1**
- * **MAIN SET** - A longer distance run through Eaton and Colney area at aerobic intensity including a selection of hill climbs, descents and changes to pace and terrain. For example, a 10km tempo run including three hill climbs of varying gradient to be attacked at faster pace. **60 mins Zone 1-3**
- * **COOL DOWN** - Active cool down returning to a jog, thereby gradually reducing the exercise intensity for **10 mins. Zone 1**

Progression: Training zone relative intensity remains consistent throughout the base building period, although distances increase by 10% per microcycle.

Recovery Microcycle: Distances of the Main Set reduced by 50% with training zone intensity unchanged.

Fundamental Structures

LETS GET TO WORK

TRACK

- ANATOMY OF AN SPEED RUNNING SESSION -

- * **WARM UP** - A short jog and dynamic stretching at the start of the session, designed to reduce resistance in the triathlete's body through the warming of the body (Active Warm Up). In general, a warm up of **10 mins** duration at 60-70% of VO_2 max should elevate blood and muscle temperature sufficiently. **Zone 1**
- * **SKILL DEVELOPMENT DRILLS** - Positioned at the beginning of each training session such that the CNS is in an optimum state for the adoption of new skills, a Speed session begins with several drills directly targeting the promotion of higher cadence running, reduced braking and contact time for a mid foot strike and developing a proud posture. For example: Stride drill, Hands on Head drill, Strides and Cadence drills **15 mins**
Zone 1-2
- * **MAIN SET** - A moderate distance aerobic set on sports park track. Embedded within the Main Set are high intensity intervals, which will progress in duration throughout the Base Building Period. For example, 1500m tempo run in which a HI interval of 3 mins is included at the 750m stage. The remaining 750m is at lower intensity enabling full recovery.
30 mins **Zone 1 - 4/5**
- * **COOL DOWN** - Active cool down on the track, jogging and then walking to gradually reduce the exercise intensity for **10 mins**. **Zone 1**

Progression: 4 Week HI Interval Progression- 5x3mins and 1min recovery, 5x4min and 1min recovery, 4x5min and 1.5min recovery, 3x6min and 2min recovery, 3x8min and 2min recovery. (All efforts zone 4-5 and all recovery in zone 1)

Recovery Microcycle: Speed Production and Speed Maintenance session at unchanged intensity.

Race Specific Skills and Multi Discipline Training

ITS RACE TIME

• SPECIFIC RACE PREPARATION PERIOD FOR TRIATHLON

Upto the point at which Specific Race Preparation makes its entrance into the Integrated Performance Programme, a triathlete has solely been dedicated to growing their work capacity and broadening their skill set. In a similar manner to the 'Constructing a Home' analogy used to first illustrate the IPP, the Base Building period fundamentally exists to lay the foundation for the Specific Race Preparation that follows.

To re-emphasise the discussions of early chapters, Specific Race Preparation's overall aim is to mimic the conditions and stresses of race day and develop tactical awareness in triathletes, such that the event itself feels like a routine, intense workout.

SPECIFIC RACE PREPARATION SESSIONS

Swimming:

1. 10x100m at race intensity leaving every 2 mins
2. 750m TT
3. Open Water sessions

Cycling:

1. 2 x 15 mins at 95-100% threshold power with 5 mins of recovery
2. 30 min TT at race intensity
3. Lotus Loops TT

Running:

1. 4 x 1 mile at race intensity with 1 minute rest
2. 5K TT
3. 10 mins off the bike as apart of a Brick session at race intensity.