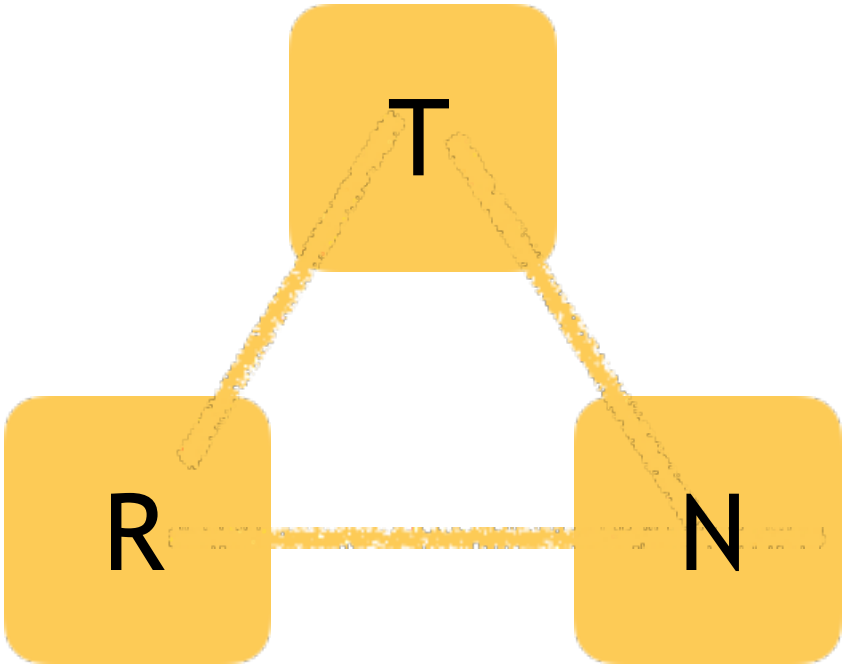
Periodization: Planning, Patience & Progression

Nick Anderson, England Marathon Lead

2017

Planning, Patience & Progression

- Effective planning and progression is about training & adaptation **BALANCE**



Planning, Patience & Progression

- Plan and consider your long term goals, look at your physiology, your training age, your ‘recovery profile’, your life and work demands, conditioning and nutrition.
- Compare these to the physical demands of the event or the goals you are training for.
- Work backwards to plan your intermediate goals and in turn your macro, meso and eventually micro cycles of training.
- Make your plan realistic & sustainable.
- Plan your campaign, your week, your day and your recovery!

Planning, Patience & Progression

- Accept where you are now – patience is key to success
- Consistency is should be the number 1 goal
- Training takes 2-3 weeks to bed in
- Focus on building the base in the early weeks and getting more race specific as you move through your plan.
- Use cross training as a tool to allow you to progress without injury

Planning, Patience & Progression

- Focus on the Key elements – Threshold, hills, race pace, long runs
- Work to time and effort or heart rate, not pace and miles – recognise the value of physiological testing
- Be race specific and recognise the key energy systems and demands of the race you are training for
- Threshold work as the cornerstone of the plan. Long runs should include race pace and progressions when ready.
- Progression is about adaptation – get your recovery profile right!
- Easy week every 3-4

Energy Systems

60-70%

- Conversational pace
- Recovery running
- Easy pre-breakfast runs
- Early long runs
- Improves fat metabolisation
- Develops capillary density & mitochondria

70-75%

- 'Steady running'
- Can become 'junk' if included too often
- Can be the effort runners base all their training on
- Marathon paced efforts

80-85%

- 'Threshold' & tempo runs
- 3-4 word answer effort
- 'Golden zone' of marathon training
- Builds lactate tolerance & improves lactate gluconeogenesis
- Develops speed endurance & running economy

90+%

- 'VO2 max' and speed work interval sessions
- Running at 5-10km pace or faster
- Anaerobic effort
- Less marathon specific and the 'icing on the cake' fi running 4-5 x week +

The Key Elements

Easy Running

- Don’t get greedy on the pace and ‘junk mile’ your easy runs
- Fully conversational 65-70% MHR
- Allow active recovery and the base of your endurance house
- Run pre breakfast at least once a week

The Key Elements

Long Run

- Puts the ‘tiger in the cat’
- Work to time not miles – not ‘chase’ pace
- Likely for experienced runners 30-60 secs a mile slower than race pace
- For less experienced work at ‘the speed of chat’
- Builds mitochondria, capillary density & fat oxidization
- Max long run of 3 hours – 3:15-30 minutes for marathon
- Include race pace in the final 6-8 weeks

The Key Elements

Threshold & Tempo Running

- The ‘golden zone’ of your training - 3-4 word answer effort, ’controlled discomfort’ – 80-85% MHR
- Still aerobic but at the top end – 10km to half marathon pace for most
- Crucial to developing running economy
- Can be completed on hills & included at least once a week

The Key Elements

Interval Running

- Ideal for building speed and vo2 max
- Max sure you include intervals with enough volume to generate a vo2 response e.g. 800-1200m (2-4 mins)
- Shorter faster sessions good for staying in touch with pace during marathon phases or when sharpening
- Consider adding threshold or even marathon pace to keep specific

The Key Elements

Recovery & Adaptation

- Full days off as well as active recovery
- Periodsized rest phases after key races
- Focus on sleep, nutrition and stress management

Conditioning & Cross Training

- Core should be daily ‘bread & butter’ for runners
- Running specific strength work also critical focusing on trunk stability, single leg work, glute strength and postural strength (chest and back)
- Cross training can get RESULTS – e.g. Nicola Duncan, Andrew Leveson. Keep it specific to HR in the right zones

The Key Elements

Example Key Sessions: 5-10km racing

- Threshold running still vital and the foundation
  - 5 x 5 min, 5 x 6 mins, 3 x 10 minutes, 45 minutes w/ 25 mins etc

- Short fast hills to develop power
  - 6 mins threshold on flat + 10-12 x 45s fast hills + 4 x 2 mins hard on flat

- Fartlek session & XC racing provide great building blocks
  - E.g. 4 x 3/2/1, 6/5/4/3/2/1, 10-20 x 1 min 'on', 1 min 'off' efforts of mixed terrain

- Long runs of 90 minutes to develop endurance

- Sessions to get your used to race pace and faster;
  - 800m, 1km, 1200m efforts for efforts between 2-4.5 minutes sustained at 5-1km effort e.g. build up to 5 x 1km at goal pace
  - 300m, 400m and 600m at 3km effort for speed

The Key Elements

KEY SESSIONS: Half Marathon Racing

- Lots of ‘running economy’ at or near anaerobic threshold
  - 5 x 5 min, 5 x 6 mins build up to cope with sustained efforts such as 45 minutes with final 25 @ threshold, 60 minutes with final 30 etc

- Mix short fast hills with ‘threshold’ efforts
  - 8 minutes @ threshold + 10 x 45-60s fast hills + 8 minutes @ threshold

- Long runs of up to 1.45-2 hours including in the final stages race pace running e.g.;
  - 1 hour 45 minutes including 10-12 minutes at HMP in final 45 minutes
  - 90 minutes with the final 45 alternating 3 minutes ‘threshold’, 3 minutes steady

- Sessions to get your used to race pace and faster;
  - For experienced runners 800-1600m efforts once you have the threshold and long run in place and 400m sessions to sharpen up in towards the race. Or ‘sandwich sessions e.g;
  - 10-15 mins HMP + 5 x 800m @ 5km + 10-15 mins HMP
  - 8 x 3 minutes alternating threshold effort and 5km pace

The Key Elements

KEY SESSIONS: Marathons

- Weekly threshold work still critical as per other slides

- Continuous or 'Kenyan' Hills in the first half of prep

e.g. 3 x 8 minutes, 3 x 10 minutes etc

- Long runs of up to 3 hours - 3 hours 30 minutes including in the final stages race pace running e.g.;

- 3 hours with final 60 @ MP
- 20 mins easy + HM at goal MP + 20 mins easy
- 35km progression of 10km easy, 10km MP, 5km easy, 5km faster than MP, 2km hard, 3km easy

- Mid week longer run

- Building to 75-90 minutes to include blocks of MP or threshold running e.g. 90 minutes with 3 x 3km at 'threshold', 75 minutes with the final 30 at MP, 90 minutes with 45-60 alternating 3 minute efforts

- Pre breakfast easy running of up to 60 minutes

Andy Vernon

- Old school & new age approach
- Volume, threshold + Vo2
- Consistency
- Very strong/physical
- Fantastic racer

Andy Vernon

ENGLAND ATHLETICS

St Mary's University College Twickenham London

Centre for Health, Applied Sport and Exercise Science

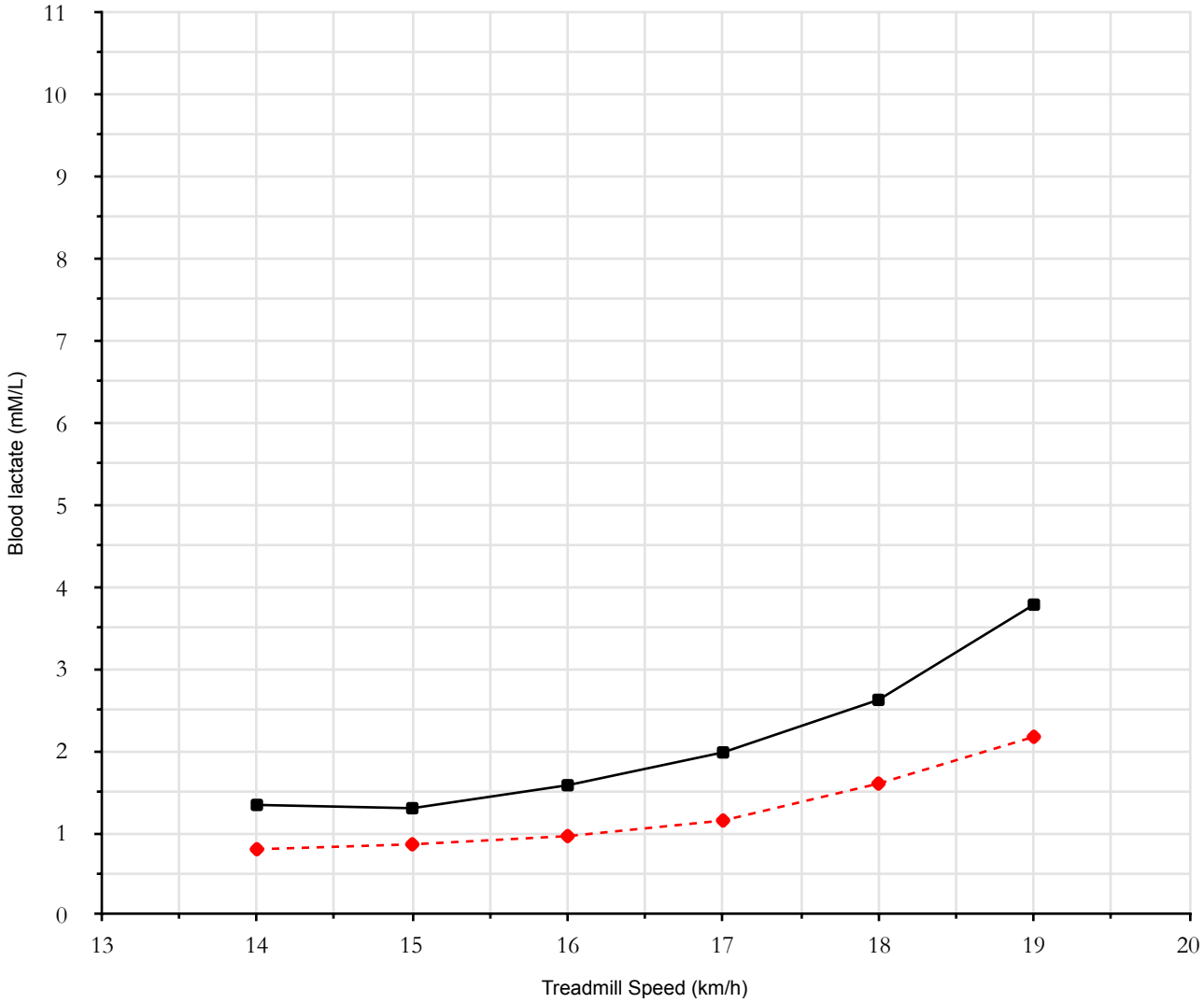
PHYSIOLOGY TEST DATA

Name		Andy Vernon		Physiologist:	Charlie
Date of Visit		28/1/10		Time:	8.30am
Sport		Athletics		Lab:	St Mary's
Event		5-10k			
Age (yr)		24			
Date of Birth:		07/01/1986			
Body composition: *height, weight, skinfolds*				Nov-06	Apr-06
Height (cm)		182.0		179.8	
Weight (kg)		71.1		67.6	
Sum of Skinfolds (mm)	(4-sites)	15.1			
Sum of Skinfolds (mm)	(7-sites)	28.1			
Estimated Fat free weight (kg)		67.3			
Estimated Fat weight (kg)		3.8			
Blood test data: *earlobe blood samples at rest*					
Haemoglobin (g/dl)		17.3	(14.0 - 18.0)		
Haematocrit (%)		53	(41 - 53)		
MCHC (%)		32.6	(30 - 36)		

Comments:

- Slightly heavier than previous tests, but exceptionally lean with very low 'sum of skinfold' values.
- High haematocrit and haemoglobin scores, therefore iron stores likely to be adequate – this is a positive adaptation to endurance training
- First increase in blood lactate occurs at 17km/h, with a sustained increase occurring after 19km/h
- This is a dramatic improvement on previous tests
- Lower heart rate throughout – another positive adaptation to endurance training

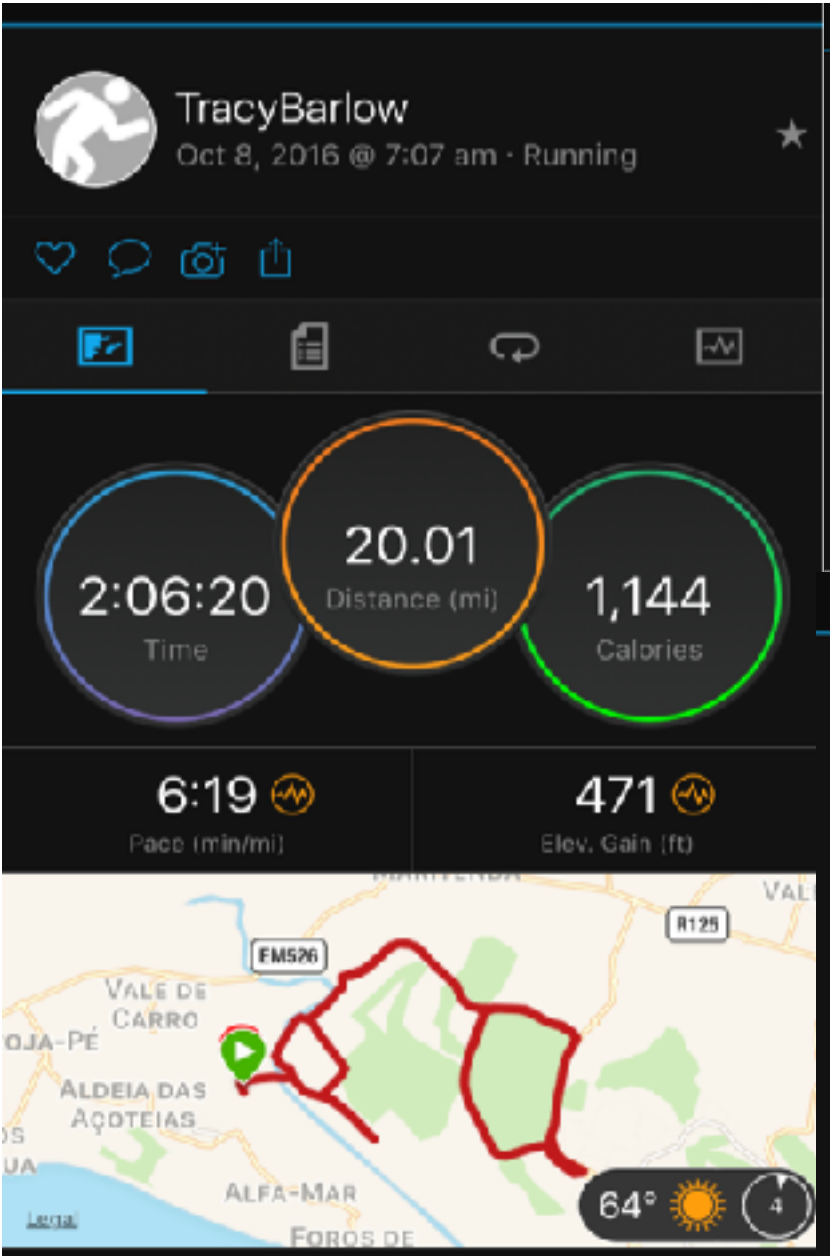
Andy Vernon

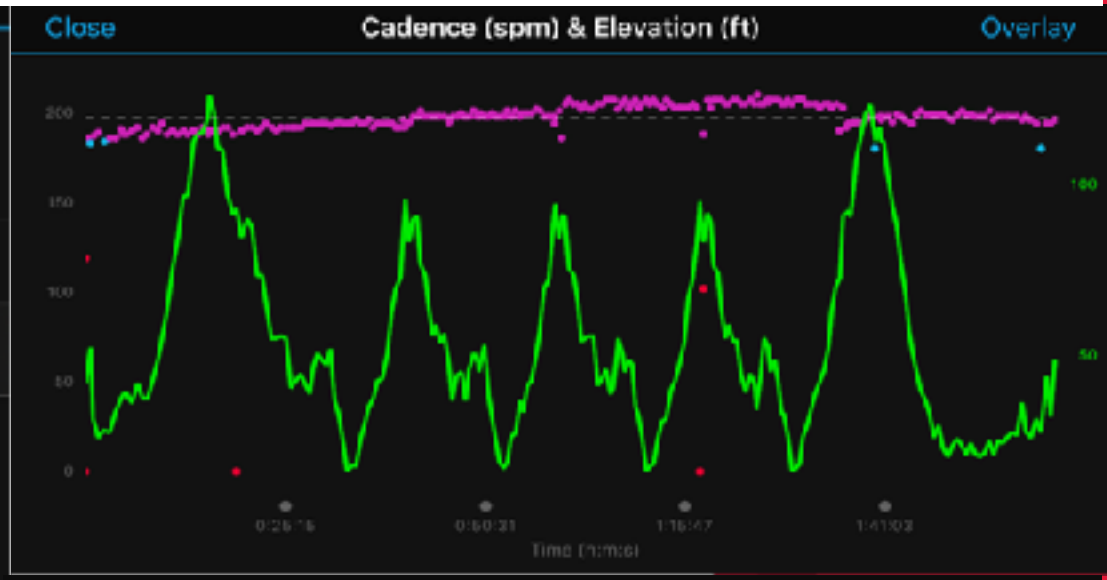

11
10
9
8
7
6
5
4
3
2
1
0
Blood lactate (mM/L)
13
14
15
16
17
18
19
20
Treadmill Speed (km/h)
heart rate 11.06
lactate 11.06
heart rate 04.06
lactate 04.06

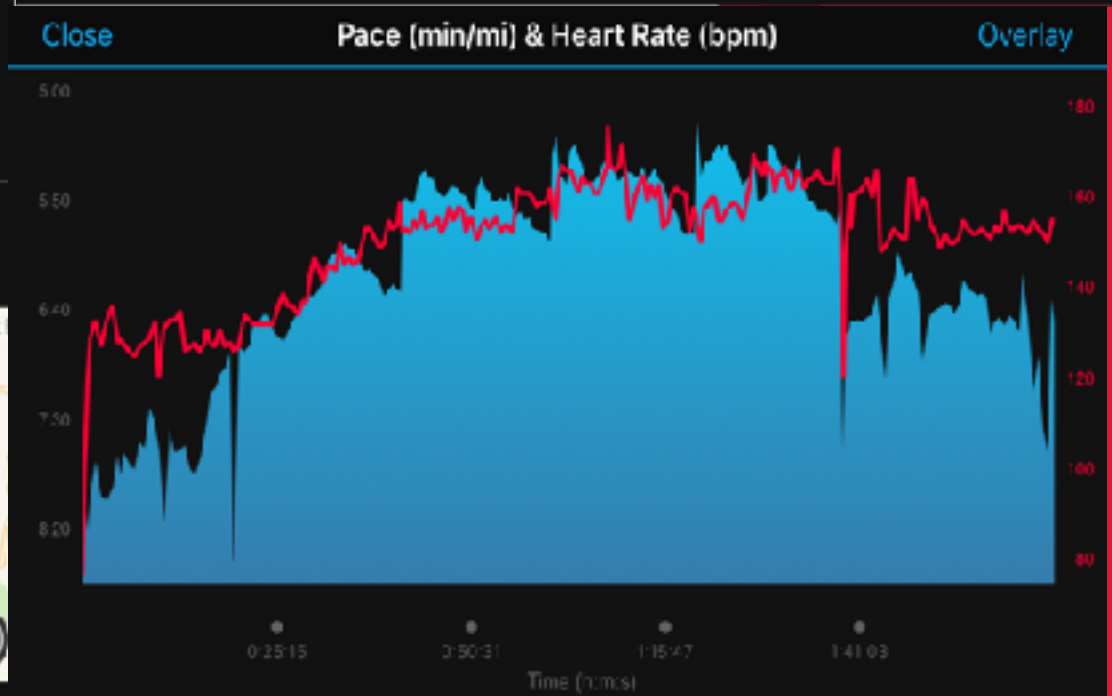
Tracy Barlow

- Consistent training
- Running economy critical to success
- Quality long runs
- Balancing training, nutrition & recovery
- Hills to develop power
- Warm weather training
- 3:50 marathon >> 2:30 marathon

PRE FRANKFURT 2016. PORTUGAL. TEMP RISING TO 25 DEGREES.
5KM STEADY, 5KM MP + 10 SECS/MILE, 5KM @ MP, 5KM MP - 10 SECS/MILE







Tom Craggs – Run

9:36 AM on Thursday, February 4, 2016

With Tracy Barlow - 85 mins w/ final 60 alternating 3 mins tempo / 3 mins steady.

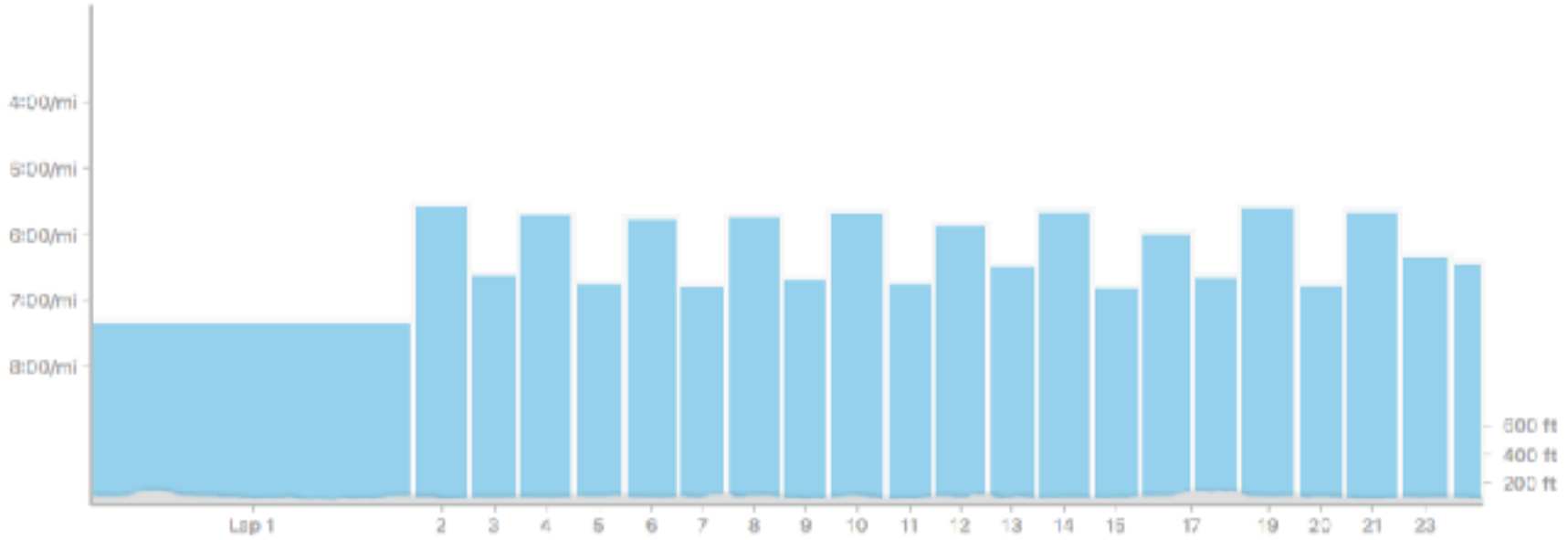
Add a description

13.1 mi	1:24:05	6:25 /mi
Distance	Moving Time	Pace

Elevation (?)	285ft	Calories	1,634
Elapsed Time	1:28:05		

Pace Analysis

Set your pace zones to enhance this Premium feature.



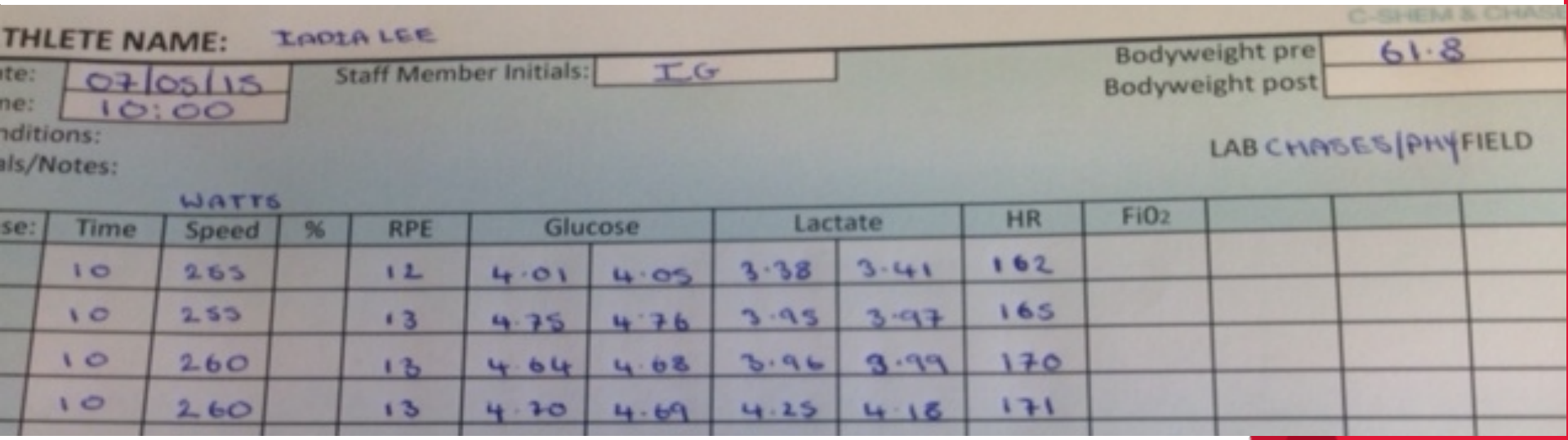
India Lee

- Runner to elite European Triathlon Champion
- Lab testing and monitored session critical to progression

- Power & aerobic miles on the bike increased economy on the run

- Tailored and individualised nutrition planning

07/05/15: Bike – 4 weeks before breakthrough 3rd in ETU race



THLETE NAME: IADIA LEE

te: 07/05/15 Staff Member Initials: IG Bodyweight pre 61·8

ne: 10:00 Bodyweight post

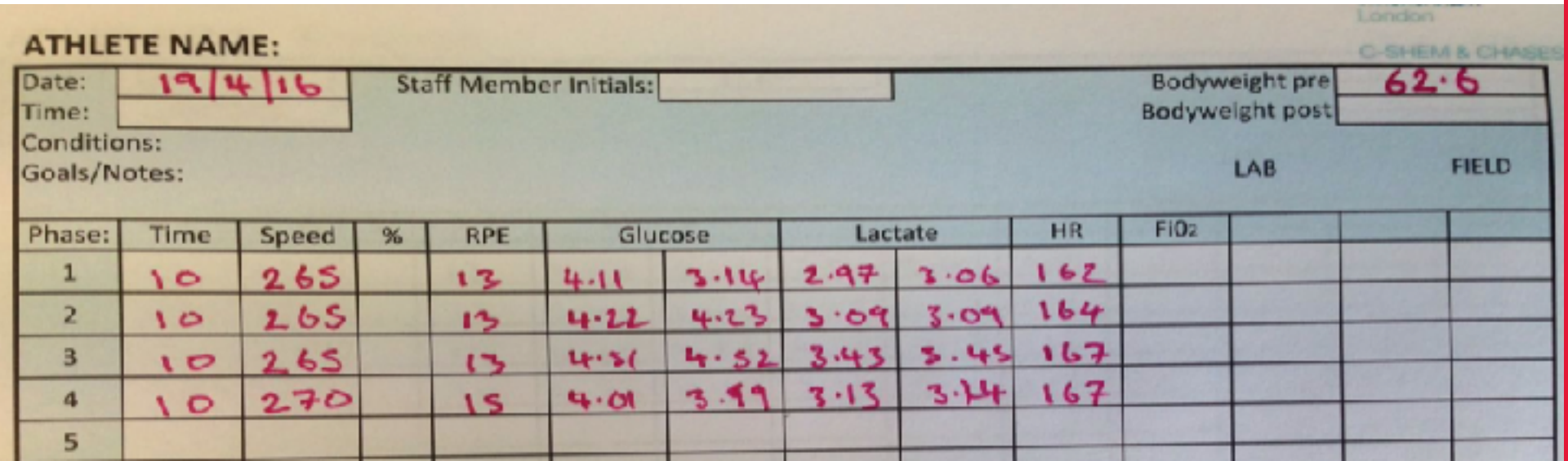
nditions:

als/Notes: LAB CHASES/PHY FIELD

WATTS

se:	Time	Speed	%	RPE	Glucose		Lactate		HR	FiO2			
	10	265		12	4·01	4·05	3·38	3·41	162				
	10	255		13	4·75	4·76	3·95	3·97	165				
	10	260		13	4·64	4·68	3·96	3·99	170				
	10	260		13	4·70	4·69	4·25	4·18	171				

19/04/16: Bike - 6 weeks before Euros…power up, lactate down



ATHLETE NAME:

Date: 19/4/16 Staff Member Initials: Bodyweight pre 62·6

Time: Bodyweight post

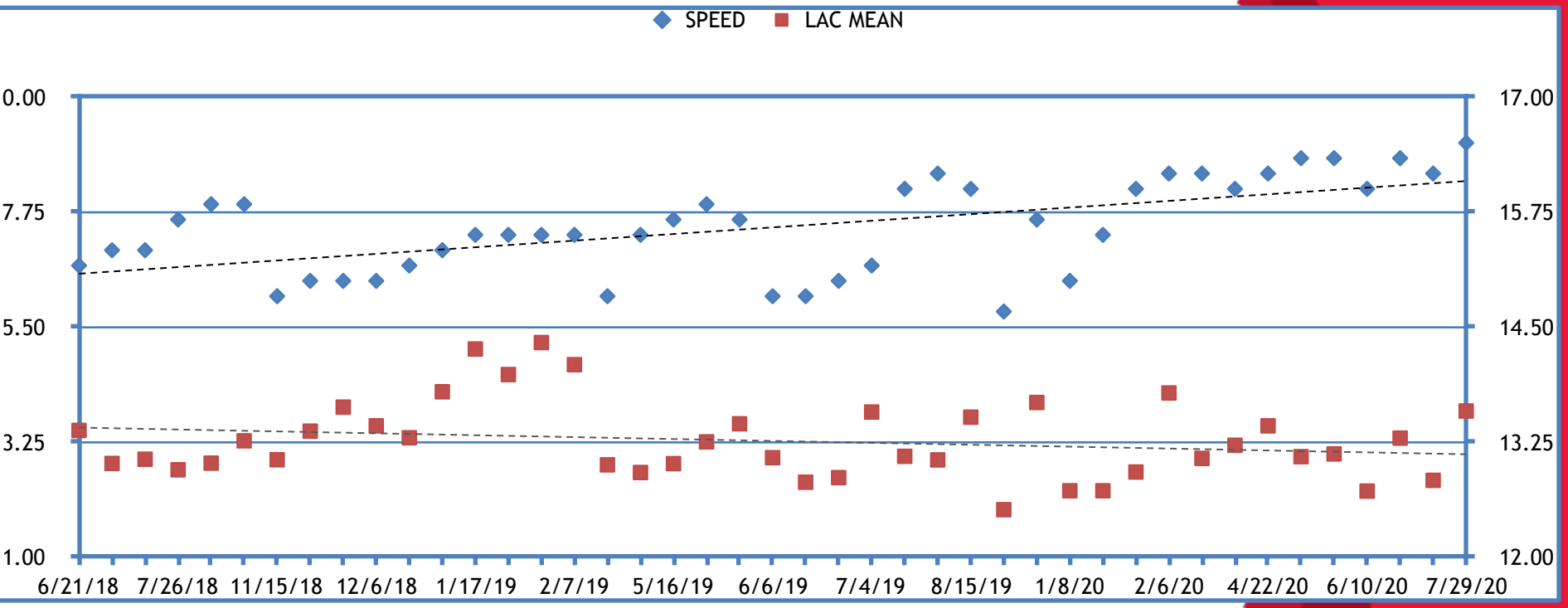
Conditions:

Goals/Notes: LAB FIELD

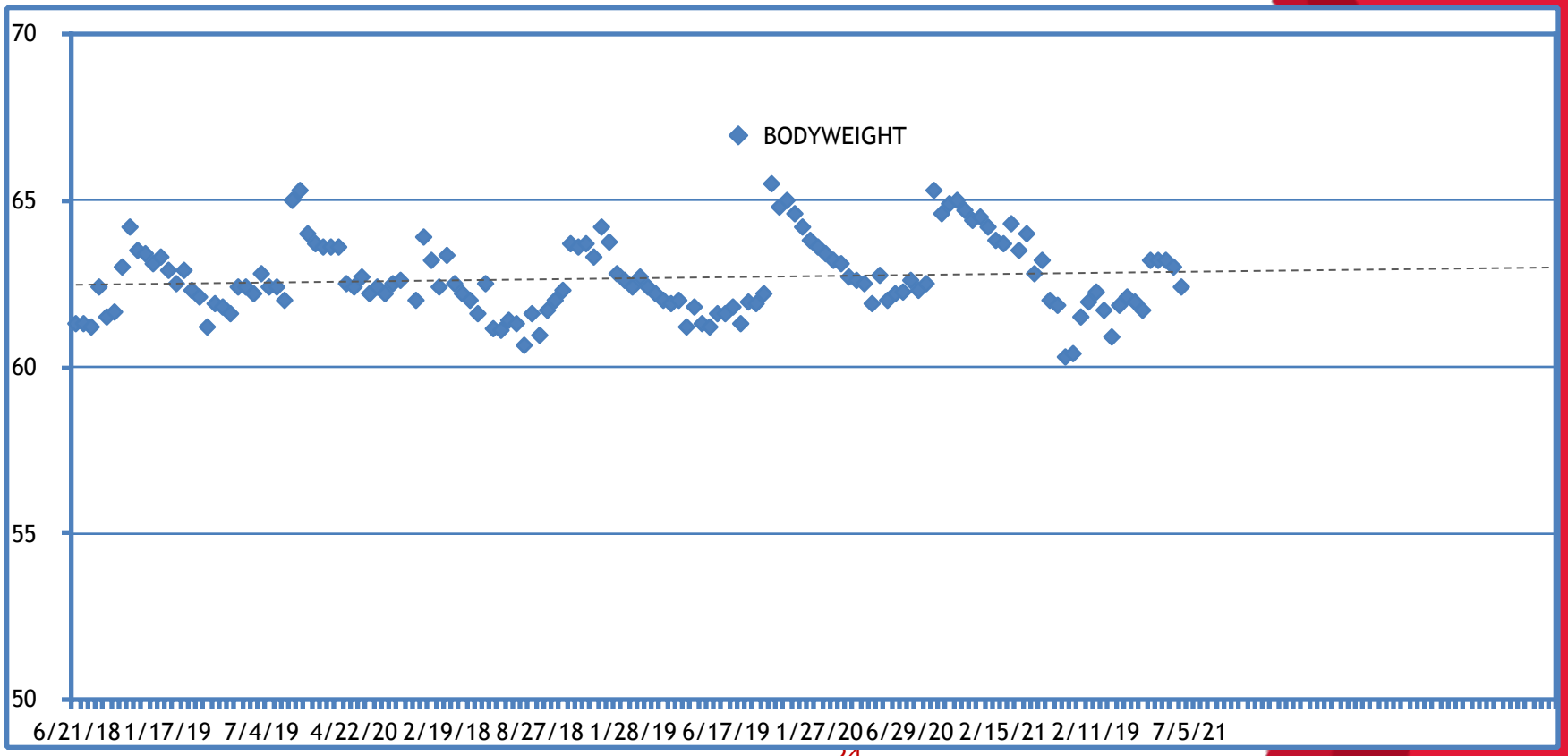
Phase:	Time	Speed	%	RPE	Glucose		Lactate		HR	FiO2			
1	10	265		13	4·11	3·14	2·97	3·06	162				
2	10	265		13	4·22	4·23	3·09	3·09	164				
3	10	265		13	4·31	4·52	3·43	3·45	167				
4	10	270		15	4·01	3·99	3·13	3·14	167				
5													

Running economy progression

Lactate down…pace up!



Racing and competition weight…not year round!



Nicola Duncan

- 3 year progression:

83 min half marathon >> 72 minutes
2:58 marathon >> 2:33

- Limited running & plenty of cross training
- Lactate threshold sessions & bike volume

Nick Anderson

nanderson@englandathletics.org
@nickandersonrun