

How did we get from.....

Renfrewshire XC Championships

Rio 2016 Olympic Games





Format

- Background/History
- Route to the Marathon
- Training for the Marathon
- Rio Preparations

Background

Derek.....



-or "smiler" as he was known!!
- Has won 16 Scottish titles at Road, Track and Cross Country since U/13 age group
- Has medaled at Scottish Cross Country Championships at every age group and has been champion 5 times
- In 2004 became the first person in 32 years to retain the U/15 Boys Scottish XC Title
- XC Season 2003-2004 Unbeaten in Scotland....3rd Inter Counties XC
- You could argue he's been a high performing athlete since age 11

Derek.....

- Problems at U/17 Level
 - Dominant athlete at U/15 level who's not so dominant anymore
 - Always better at top end of the race distances......but thinks he's a 1500m runner!!
 - Hard to reconcile the fact that just because you're the Scottish U/15 1500m
 Champion, it doesn't mean that you are actually a 1500m runner
 - Almost left the sport
- Change of Coach.....Lawrie Spence 2008
 - Change of Training Group
 - Right Coach at the right time......gave honest and sometimes brutal feedback
 - Turned Derek right round....Scottish U/20 Cross Country Champion....one of his best ever performances and a real turning point.
 - GB International at European, World & World University XC Championships

Scott.....

- The one that got away......
- 10 Scottish Titles at Road, Track and Cross Country
- 3rd U/17 Inter Counties Cross Country
- Pro Youth Footballer and trying to juggle both sports
- The annoying family member who's good at everything!!!!



Callum.....



- Coached by me since age of 12
- Scottish Primary Schools XC Champion
- Has won Scottish Cross Country Championship in every age group from U/15 – Senior
- Inter Counties and British Schools Cross Country Champion 2007 & 8
- 3 x Celtic Games International Champion Track and Cross Country
- European and World Cross Country Representative Honours at 17
- European Youth Olympic 3000m Champion 2009 at 17
- NCAA Great Lakes XC Champion and All American Honours at 19 + a sub 30Min 10K Cross Country
- Has won 14 Scottish Titles at Road, Track and Cross Country

All 3 were very active children.....particularly Callum

Have been high performing athletes since a young age

 Often forgotten how difficult it is to perform year after year at that age....and.....

......How stressful it is on a youngster.

Inter Counties XC 2007



Nottingham, 24.2.07. CALLUM HAWKINS wins the under 15 boys' race. photo by Mark Shearman.

- Race that changed my approach
- Realised he was "different" and would probably need more experienced/knowledgeable coach/coaching
- Talked it over with him & he wanted me to coach him
- I needed to "up my game" and stay one step ahead of him

My Response

- Level 2 Completed
- Level 3......two parts to it. Only held once per year and not designed for shift workers!
- Due to re-organisation of UKA Coach Ed, stuck at Level 2 but had to keep one step ahead of athlete
 - Starting reading
 - Pestering people....Mike "Speed dial 1" Johnston
- Try and do the right things at the right time
- Long Term Plan
- Performance Planning

Endurance Athlete Development Model (V1.2)



	Developmental Age +/-															
Chrono. Age 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26								26+								
_	Stage of Development Pre-Puberty Puberty Post-Puberty					Adulthood										
Sports Focus			fulti-	Sport	ort Multi-Event Endurance							MD, LD , STEEPLECHASE				
	MD								200m, 400m, 800m, 1500m, CC (200m), 400m, 1500m, 12			osm, 866m. LiskLoc 400m, 800m, 1500m, 3k, (CC)				
Comp. Focus	LD	100m*, 150m*, Hurdles* 600m*, 800m*, 1200m*			100m*, 200m* Long Hurdles*, 800m*			, 1500m, 3	lk, CC	CC (990m), 1500m, 3k, 5k, 10k track & road, CC		(800m), 1500m, 3k, 5k, 10k track & road, Mar, CC				
	SC	1500m, CC*							500m, 3k, :C, SC	1500m, 3k, 5k, [10k], CC, SC						

Development Focus	Alactic Speed & Aerobic Capacity	Alactic Speed, Aerobic & Lactic Capacity			Event Specific Endurance		
	Running Mechanics & General Physical Pre	paration	Running Mechanics, General Prepartion & Tactics			Running Mechanics, Specific Strength, Tactics	
CE	N/A	Broad range of Specific Endurance work spread across MD, LD, SC			Specific Endurance work dedicated to a specific event focus		
SDE	Alactic Speed Aerobic Development	Aerobic Dev erm Anaerobic Dev Development of full anaerobic system			All Methods inc. Altitude Training		
SPE	Athlatice 745 Cara Wark				e, General Strength, Ancillary Strength, d Extremity Conditioning, Core Work etc.		
GPE	Covered by other event groups & Athletic	Special Strength (inc. MJs & MTs)			Max Strength, Special Strength, all alactic generic work including Mobility & Extremity Conditioning etc		
Running Drills	As part of Athletics 365	Learning technique Perfection of technique			Perfection of technique		

* = Preferred competition distances given current physical attributes









Week	Phase	Week	Week	Week	Races	Target	Averene	Actual	Average
Number	Phase	Number	Beginning	Ending	Races	Mileage	Average	Mileage	
1		1	8/31/2008	9/6/2008		0		0.00	19.04
2	Active Rest	2	9/7/2008	9/13/2008		30 21.33	21.33	22.00	
3		3	9/14/2008	9/20/2008		34		35.11	
4		1	9/21/2008	9/27/2008	27/09 Cummings Relay	38		40.20	41.95
5		2	9/28/2008	10/4/2008		42		43.84	
6		3	10/5/2008	10/11/2008	10/10 - Holiday	44		43.05	
7		4	10/12/2008	10/18/2008	Holiday	46		46.00	
8	General Preparation	5	10/19/2008	10/25/2008	25/10 Scottish XC Relays C/Nauld	35	41.10	36.00	
9	General Preparation	6	10/26/2008	11/1/2008		44	41.10	46.50	
10		7	11/2/2008	11/8/2008		46		39.00	
11		8	11/9/2008	11/15/2008	15/11 Gateshead	35		38.00	
12		9	11/16/2008	11/22/2008		46		48.60	
13		10	11/23/2008	11/29/2008	29/11 Liverpool	35		38.30	
14		1	11/30/2008	12/6/2008	06/12 West Districts Irvine	38	46.00	38.00	39.59
15		2	12/7/2008	12/13/2008		50		42.50	
16		3	12/14/2008	12/20/2008		50		15.00	
17	Specific Preparation	4	12/21/2008	12/27/2008		50		50.00	
18		5	12/28/2008	1/3/2009	03/01 Antrim	50		51.05	
19		6	1/4/2009	1/10/2009	10/01 Inter Districts - Edinburgh	38		41.00	
20		1	1/11/2009	1/17/2009		38		38.46	
21	Dec Commentation	2 1/18/2009 1/24/2009	18/01 Celtics - Cardiff	48	48	25.00	10.13		
22	Pre-Competition	3	1/25/2009	1/31/2009		48	44.50	49.00	40.12
23		4	2/1/2009	2/7/2009		44		48.00	
24		1	2/8/2009	2/14/2009		36		48.00	39.63
25		2	2/15/2009	2/21/2009	21/02 Scottish - Falkirk	rk 30]	38.00	
26	Competition	3	2/22/2009	2/28/2009		36	33.00	42.50	
27	4		3/1/2009	3/7/2009	07/03 Inter Counties	30		30.00	
					Total Mileage	1061		1033.11	
				Average Mileage		39.30		38.26	

MILEAGE: Ways to progress over seasons

Average Weekly Mileage

Age on 1st September

	Summer	Winter
Under 17	30	35
Officer 17	30	33
Under 18	40	45
Under 19	50	55
Under 20	60	60-80

5 Year Event Plan

- Focus of plan is to identify the event which athlete is most likely to succeed.
- Martin & Coe:
 - Identify target time reduction
 - Identify sum of age difference between starting and finishing ages
 e.g. 5 year plan gives a sum of age difference of 15
 - Divide target time reduction by sum of age difference & multiply by individual yearly age difference to get targets for each year.

FIVE YEAR IMPROVEMENT PLAN AGE 14 - 19

	2006 - 14	2007 - 15	2008 - 16	2009 - 17	2010 - 18	2011 - 19
Year	0	1	2	3	4	5
	РВ	Target	Target	Target	Target	Target
800m	2.15	2.08	2.03	1.59	1.56	1.55
1500m	4.32	4.18	4.06	3.58	3.52	3.50
3000m	9.54	9.21	8.54	8.34	8.21	8.15
5000m	18.00	16.46	15.48	15.03	14.34	14.20

Benefits

- Allows Coach and athlete to objectively assess which event they are likely to be best suited to
- Allows coach and athlete to analyse event in terms of what's required to deliver performance and align training towards achieving objectives over season/career
- Provides weighted targets and removes the guess work.

Analyse the Event

Olympic 1500m Final

Centrowitz's splits:

400m: 66.9

800m: 2.16.7 (69.8)

1200m: 3.12.0 (55.3)

1500m: 3.50 (38)

Last 400m: 50.5s

Olympic 5000m Final

Mo's splits

1000m: 2.38.6

2000m: 5.16.8 (2.38.2)

3000m: 7.57.3 (2.40.5)

4000m: 10.39.4 (2.42.1)

5000m: 13.03.3 (2.23.9)

Last 800m: 1.52.6

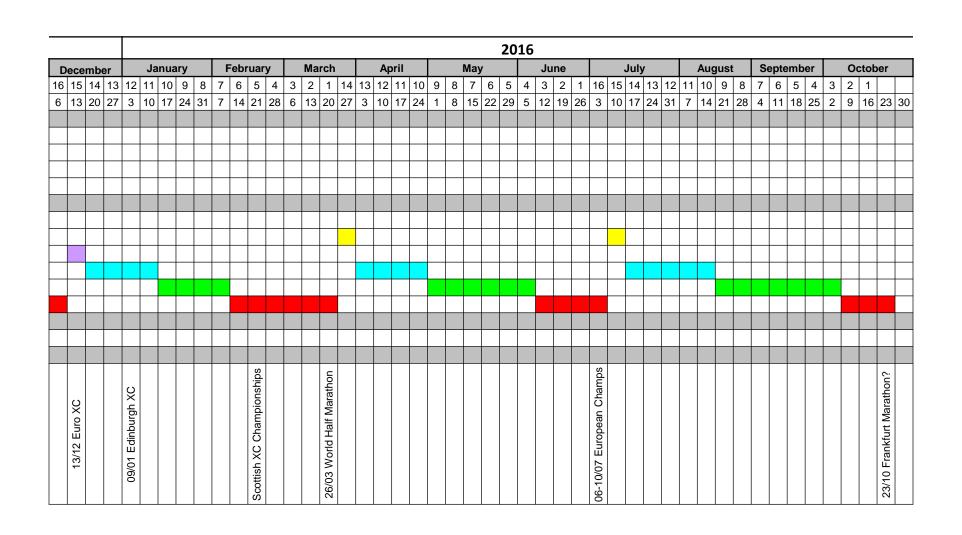
Last 600m: 82.1

Last 400m: 52.7

"You can't polish a ****!!

Terrence Mahon circa 2013

Race Targeting V Long Term Development



Other Considerations......

- Where will they be at Under 20?
 - At home
 - University
 - America?
- What workload will they be expected to do?
- Are they best suited to another event?
- Are they best suited to another Coach?



Butler University

On the surface

- Butler University 4th Team NCAA
 XC 2004
- Seemingly strong programme
- Scottish Assistant Coach
- Bespoke S&C Programme
- On campus Physio
- On campus massage
- Mandatory supervised study

Reality

- Current team not as good as paper form suggested
- Assistant Coach didn't have as much authority as initially thought
- S&C was squad based core stability programme – beginner – "if it interferes with running it doesn't happen"
- Physio wasn't what we understood to be a physio and was shared with basketball (No 1 sport at Butler)
- Massage off Campus and had to make your own way
- Supervised study actually added to the fatigue

Butler University

- Despite signing up for Mech Eng and Physics degree.....finds himself studying French, Music in Action and critiquing the impact of Science Fiction Movies on American Youth Culture!
- Day was structured in a way that he was on the go from 6.00am 10.00pm and not getting to bed until midnight. Overly fatigued for training
- Started sleeping in and missing classes......GPA plummeted
- Taking longer to answer Whats app messages and skype calls become almost non existent
- Callum "50 Cent" Hawkins

Parental Intervention......TWICE!!!!

However.....

- Friends for life
- Coach changed things up 2nd year
- Callum got head back in the game.....athletically!
- Great Lake XC Champion.....one of his best ever performances!
- Learned new things re training and what made him tick.....
 - "the moderate run"
 - Single daily runs
- This is where we caught sight of the potential at Marathon
- Basically learned all the lessons that needed to be learned both athletically and in life

Route to the Marathon

DEREK

Situation 2011

- 22 years of age and 3 Years to Commonwealth Games
- Although a Senior GB XC International at European and World Champs his 5000m Pb 52s slower than projected qualifying standard and hasn't ran a track 10,000m.
- Road 10K Pb 1min 35s slower than projected qualifying standard
- Starting to show form again after some lean years
- Decides 10000m probably best bet for Glasgow 2014

COMMONWEALTH GAMES IMPROVEMENT PLAN

	2011 - 22	2012 - 23	2013 - 24	2014 - 25
3000m	8.27	8.11	8.01	7.56
5000m	14.25	14.07	13.55	13.49
10000m	30.35	29.40	29.03	28.45
1/2 Mar	67.30	65.23	63.59	63.17

Athlete Situation: Spring 2012

- Finished winter season as:
 - European U/23 Cross Country Team Silver
 - Scottish Senior Cross Country Champion
 - Home Countries International Cross Country Champion
 - 3rd all time fastest long leg at Scottish 6 Stage Road Relays
- Improved Road 10K pb by 48s (29.47)
- Half Marathon Debut: 65.24 (Sept 2011)
- On target and confident of making further progress

Summer 2012

• One target.....10000m Olympic Trials

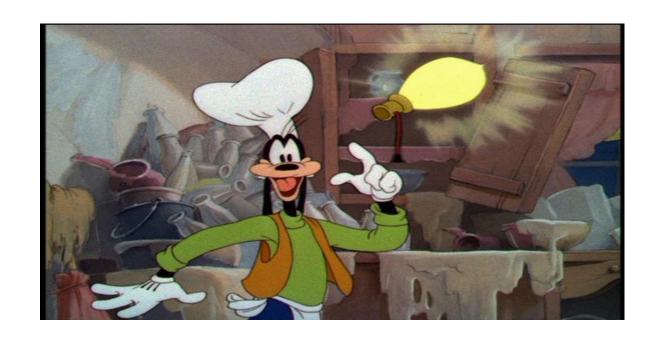
The Plan – Progress

Road 10K Pb down to 29.41.....should have been faster.....pace judgement!!!

Training going well and indicated further improvement

What actually happened......

- Campylobacter two weeks out from trial.....symptoms lasted for 10 days.
- 30.47 performance at Olympic Trials.....over a minute slower than Road 10K Pb and nearly 2 mins slower than Commonwealth Games Qualifying Standard
- Mid Season Review.....started the day after on the way home
 - Very quiet race programme in July and August due to Olympic Games.....no more track 10K's available
 - Long gap until winter season starts



Why don't you try a marathon....what is there to lose?

Plan B

- Frankfurt Marathon 28th October 2012
- 18 Weeks to train
- 2 weeks to get entries confirmed and get up to speed with what's involved.

Problems or Challenges?

- Wanted me to direct the programme
- Limited mileage and background
- Limited coach knowledge
- Lack of training partners

Solutions

- Crash course to address coach knowledge
 - Pete Pfitzinger
 - Jack Daniels
 - Don McGregor
 - Renato Canova
 - Speed Dial 1
 - Pester the life out of anyone else I could think of
- Big jump in weekly mileage.....one year only.
- Get bike out of the garage

Frankfurt - Result

- 2.14.04 debut marathon
- Almost 3 minutes faster than Delhi 2010 Qualifying Time
- Time would have medaled at previous two Commonwealth Games
- Moscow 2013 World Championships Qualifying time
- 12th Scottish All Time List
- London 2012 Olympic B Standard
- 2nd 2012 UK Rankings
- Big negative split



Callum

- Situation 2014.....
- Commonwealth Games Athlete
- 5th Place European U/23 Cross Country Championships
- Still not quick enough at 5Km
- Few issues still to be addressed following lengthy lay off in 2012-2013
- Wants to target 5Km and 10Km on the track....
-with possibility of Gold Coast 2018 target being the marathon (Aged 26)

Callum.....

• 2015 Plan.....One objective.....

Get faster at 5000m

- Started off promisingly at Scottish 5Km Road Champs 14.17
 Course Record on very windy night
- Season didn't progress much after that
- Very flat in races and training
- Needed a change in focus



- Frankfurt Plan......
- Toe in the water.....guide for Gold Coast 2018. Never intended as a full move to the marathon!!
- Same overall plan as Derek used
- No requirement for excessive jump in mileage
- Training Camp in Boulder with Steve Jones
- Races.....Great North and Scottish Half Marathons



• 12th Place in 2.12.17 – Olympic Qualifyer.

Splits:

5Km: 15.52

10Km: 31.25 (15.33)

15Km: 46.58 (15.33)

20Km: 1.02.53 (15.55)

Half: 1.06.22

25Km: 1.18.31 (15.38)

30Km: 1.34.05 (15.34)

35Km: 1.49.48 (15.43)

40Km: 2.05.25 (15.37)

Finish: 2.12.17 (6.52) – 1.05.55

Avg 5Km: 15.40



Key Learning Points

Seize your opportunities

Don't be afraid to challenge the "Norm"

Training for the Marathon

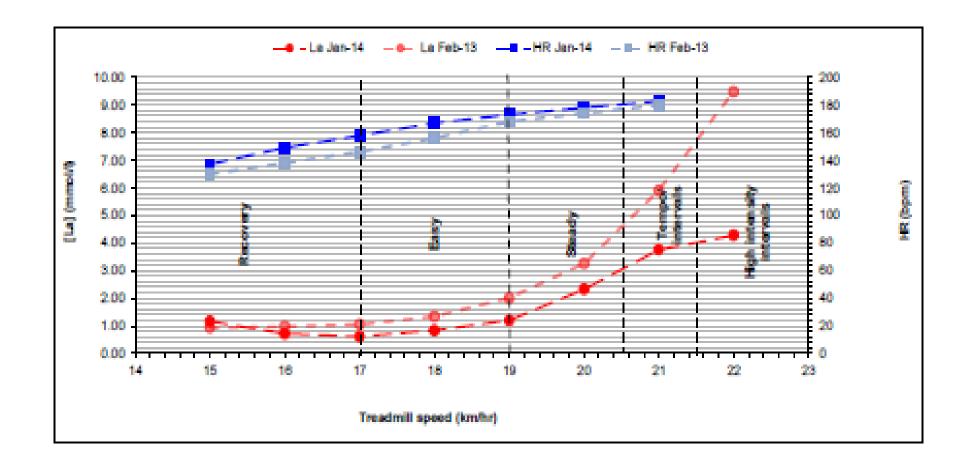
Planning Considerations

- Max two per year.....if you want to maximize performance
- Championship Marathons....Realistically only 3 shots at achieving qualifying time......but.....
- Only two shots if wanting to run well at Championships
- London Marathon now seems to be the trial for Major Champs and normally around 17 weeks before August Championship (Only 15 Weeks before London 2017)
- Spring Marathons are not easy to train for when you live in Scotland

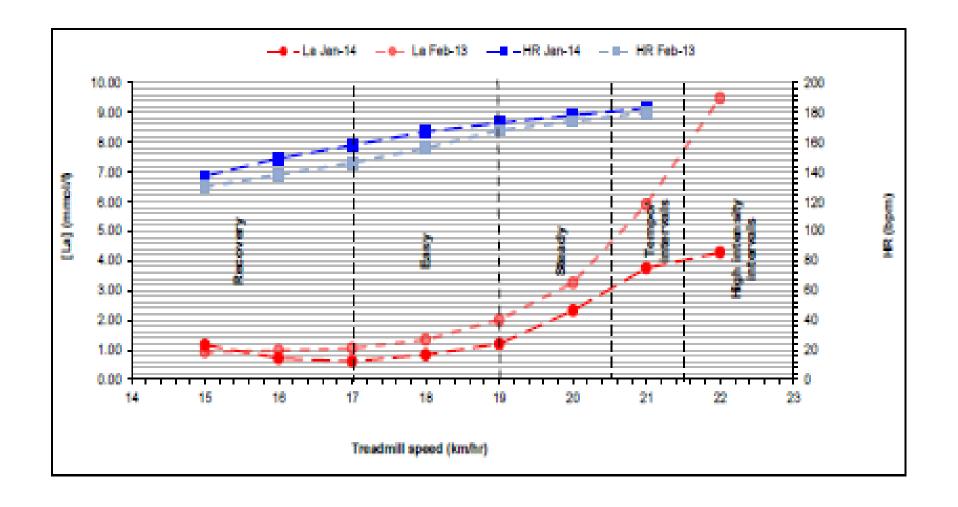
- 4 Phases (Canova)
 - 1. General Preparation
 - 2. Fundamental Preparation
 - 3. Specific Preparation
 - 4. Taper
- EACH TRAINING BLOCK MUST PREPARE THE ATHLETE FOR THE NEXT BLOCK

- General Preparation
 - Concentrating on aerobic conditioning and increasing muscle efficiency through drills and S&C
 - Typical Sessions:
 - Long Runs, Progressive Runs, Continuous Rolling Hill Run, Long Runs with pace variations
 - Pace: 80-105% of target marathon pace
 - Callum: 6.00 4.45 min/mile
 - Derek: 6.05 4.50 min/mile

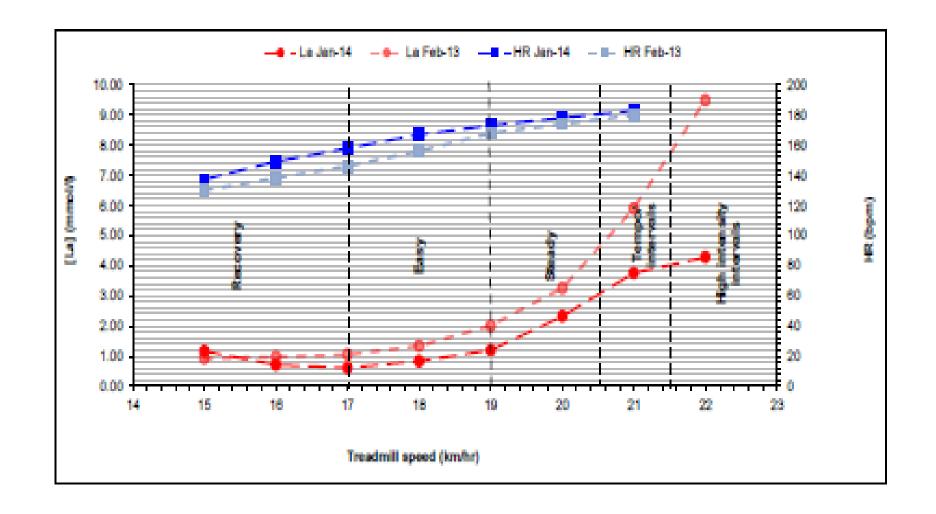
(top end near to Half Marathon Race Pace)



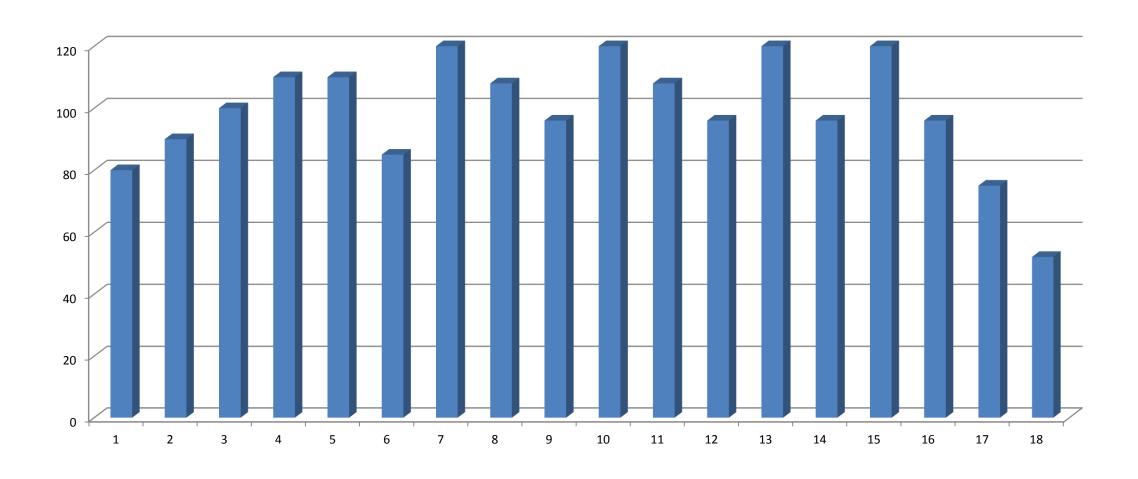
- Fundamental Preparation
 - Concentrating on Aerobic Power Basically get 10K fit
 - Maintenance of Aerobic Conditioning Work
 - Typical Sessions:
 - Fast Continuous Run, Fast Progressive Runs, 10Km Paced and faster Sessions, Races
 - Pace: Anything up to 112% of marathon pace
 - Callum: 6.00 4.24 min/mile
 - Derek: 6.05 4.28 min/mile
 - Top end near to 5Km Race Pace



- Specific Preparation
 - Building on everything that's gone before and focusing work in and around target marathon pace whilst maintaining everything else
 - Typical Sessions:
 - Intensive Endurance, Extensive Endurance, Specific Endurance Long Run
 - Pace: 95 103% of marathon pace
 - Callum: 5.15 4.51 Min/Mile
 - Derek: 5.20 4.55 Min/Mile
 - Either side of Marathon Race Pace
 - Occasional Session at 5Km Race Pace usually as part of a race taper



Training Mileage



Taper

- Hard to get right and is very much dependent on the individual
- 2-3 weeks is considered optimum time for taper
- Reduction in volume to 80%, 60% and 40% of max
- Can result in detraining effect, increase in weight and illness
- Pre Race Diet
- Athlete will suffer from "marathon fever"

Preparation Races & Warm Up

- Early races done as marathon specific sessions
- Full effort Half Marathon around 6 weeks out......sort of!
- 10K 2-3 weeks out Train through. Used as 10K specific session
- Don't stick rigidly to race format.....sometimes you have to just go with what's available

The Plan

	June				July					August				September					October			
No of weeks from peak	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Week Beginning Sunday	3	10	17	24	1	8	15	22	29	5	12	19	26	2	9	16	23	30	7	14	21	28
Training Emphasis																						
Period																						
Macro												OI	NE									
Meso				ONE				TWO				-				THREE				FOUR		
Micro				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Recovery/Regeneration																						
General Preparation																						
Fundemental Preparation																						
Specific Prep Stage																						
Taper/Competition																						
Competitions																						
			<u>S</u>							10K						Run			10K			ر
			22/06 Olympic Trials				16/07 Irvine 5 Mile			05/08Scottish Gas 10			26/08 Paisley 10K			16/09 Great North Ru			07/10 Great Edinburgh			Frankfurt Marathon

Warm Up...How do you warm up for a marathon?

- Purpose: Prime the aerobic system to work optimally from the start and prepare the body to run at race pace.
- Challenge: Any warm up will slightly reduce glycogen stores so minimal amount of warm up to do the job required.
- Solution:
 - 5 min run starting slowly and increasing pace until finish about 1 min per mile slower than race pace.
 - Stretch/drills for 10 mins.
 - 5 min run gradually picking up the pace until at race pace for last 30s.
 Finish warm up no more than 10 mins before start + Gel

Typical Training – Marathon Specific

- Two Week Cycle
- Week 1:
 - Sun: 22- 24 Miles Long Run
 - Mon: 2 x 6-7 Miles Recovery Runs
 - Tue: 7 Miles Progressive Run (11.5 Miles) + 6 Miles Recovery Run
 - ─ Wed: 14 ─ 16 Med Long Run with faster effort
 - Thur: 11 x 1K @ 103% of MP with 1K recovery @ 97% MP (3.00/3.12) + 4
 Miles Recovery Run
 - Fri: 4 Miles Recovery Run
 - Sat: 12 Miles Hilly Run

Typical Training – Marathon Specific

Week 2

- Sun: Marathon Specific Long Run: 4 Miles Easy + 8 Miles @ MP + 1 Mile @
 Tempo + 4 Miles @ MP + 1 Mile @ Tempo + 2 Miles @ MP + 2 Miles Easy
- Mon: 2 x 6-7 Miles Recovery Run
- Tue: a.m. 6 Miles Recovery Run p.m. 8 Miles Recovery Run
- Wed: 14-16 Miles Med Long Run with faster effort
- Thur: 4 x 5K @ 102% MP with 1K at 85-95% MP Recovery (15.12/3.15-3.34)
- Fri: Recovery Run or rest
- Sat: 12 Miles Hilly run

Key Indicators

- Long Run
- Marathon Specific Sunday Runs
- Extensive Endurance Sessions
- Intensive Endurance Sessions
- Half Marathon Race 6 weeks out

Lessons Learned

- Fundamental Block at beginning of marathon preparation is vital
- Altitude?
- Marathon is unforgiving.....need to do the work and be fully committed
- Need to have sufficient background work to do back to back marathons
- S&C + Physio + Massage are vital
- Coaches......Get a good bike!!!!

Lessons Learned

- Athletes are selfish and won't wait on you no matter what happens!!!!
- When fitness improves don't rush into doing marathon specific work faster....think about going longer
- Don't swear in front of elderly dog walkers....they remember!!!
- Practice running at race time as well as drinks/gels
- Buy ebooks....they don't hurt when thrown at you!!

Some Thoughts on Strength and Conditioning & Running Technique

Ground Reaction Forces

- Scenario:
- 60Kg Athlete running 2hrs 11mins for marathon
- Approx 170 180 foot contacts per minute
 - = 22,270 23,580 foot contacts per race
- @ 3 x Half Body Weight going through each leg every foot contact

Implications of GRF

Equates to:

668,100Kg - 707,400Kg per foot/leg per marathon

Implications

Substantial metabolic demand

Substantial mechanical stress

 Effective - force generation, application, reduction and stabilisation

Efficient - minimise energy wastage

Therefore......

Endurance athletes must develop:

- Greater Force producing capabilities
- Greater Force <u>application</u> capability...
 - 'not always about developing maximum strength, but it is about a better quality of force generation' Zatsiorsky & Kraemer 2006
- Greater Force <u>reduction</u> capability
- Greater Force <u>stabilising</u> capability

Ground Contact Time

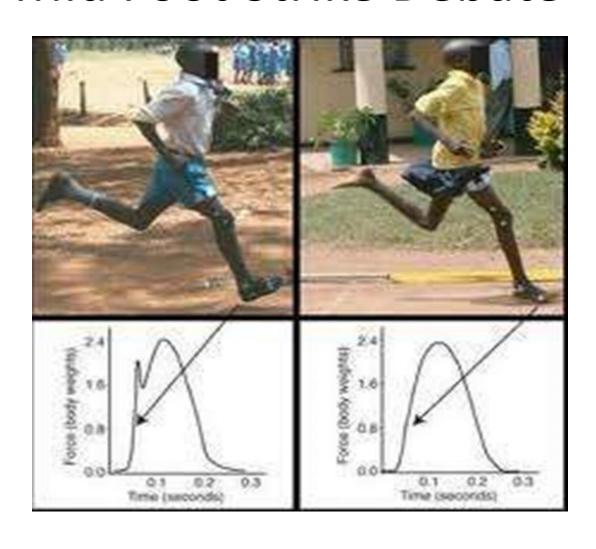
Ground Contact Time

The time frame during which a foot is in the stance phase of the running technique from the point of initial contact through to toe off

Factors affecting Ground Contact Time

- Foot strike....how and where
- Posture
- Leg Strength
- Trail Leg Recovery

Mid Foot Strike Debate



Implications for Improving Ground Contact Time

- Example
- 2 Min 800m Runner
- 2m Stride Length
- = 400 strides = 400 Ground Contacts @ 0.2s per contact
- Improvement of 0.01s in Ground Contact Time

Equates to 4s Pb

And for the Marathon.....

- 2.11.00 Marathon Runner
- Approx 180 steps per minute at race pace
- = 23,580 ground contacts @ approx. 0.2s per contact
- Improvement of 0.01s in Ground Contact Time equates to......

3min 55sec PB

FOOD FOR THOUGHT!

What Could Possibly Go Wrong!!

2012: THE SITUATION

- December 2011 March 2012...19 years of age; College in USA: Best ever XC Season – Sub 30 for 10K XC, Indoor 5000m 14.03
- March 2012 Torn left lateral meniscus
- June 2012: Returns to UK for good
- Two Operations April and December 2012



ATHLETE SITUATION 2013

- Restricted Cross Training in between operations
- Return to track racing June 2013 two years after last outdoor track race
- Aug 2013 still 31s off 5000m pb: 1 minute behind 2014 qualifying standard <u>AND</u> 4s slower than halfway split required for 10000m standard.

ATHLETE SITUATION

HOWEVER.....

- His pre-injury form suggested he had been in shape to get close to 10K qualifier.....Sub 30mins for 10K XC on tough course and 14.03 5000m
- Hadn't lost confidence or his ability to race
- Good conditioning programme in place as result of rehab
- Decent aerobic base in place



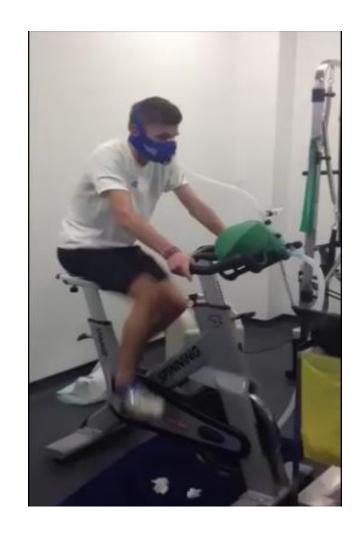
2013

- August 2013 Severe Stress Response in right foot
- Minimum 12 weeks of rehab
- Required to maintain fitness with cross training
- Orthotics prescribed....adjustment period required

Cross Training

Training week looked like:

- 3-4 Pool Running Sessions
- 2 Hypoxic static bike sessions
- 3-4 Cross Trainer/static bike sessions
- Appropriate Strength and Conditioning



Sample Training Week

Sun: 2Hr Spin Bike

Mon: a.m. Aqua Jog: 2 x 5 x 90s/30s recov + 4 x 30s/30s

p.m. 45 Mins Spin Bike

Tues: a.m. 45 Mins Spin Bike

p.m. Hypoxic Bike: 35 Mins Constant

Weds: a.m. 30 Min Alter G Treadmill @ 80-90%

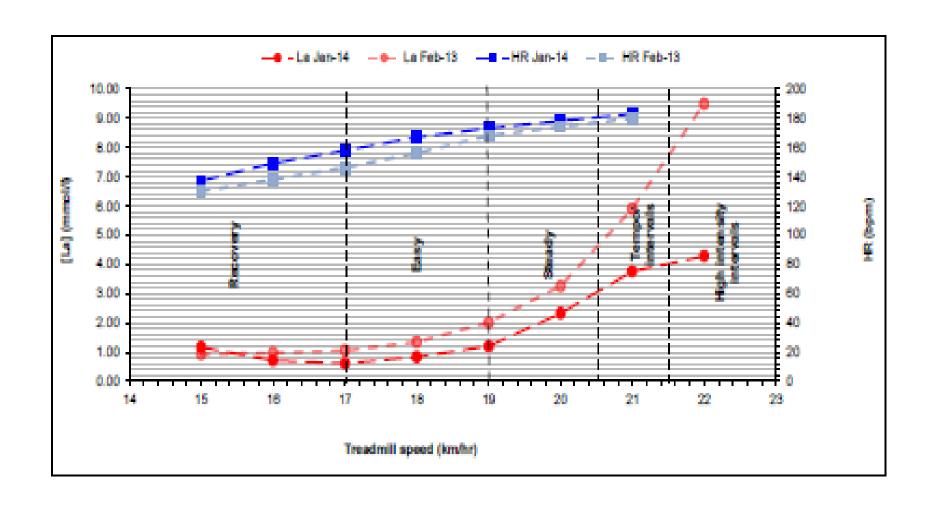
Thurs: Hypoxic Bike: 2 x 20 Mins/5 Mins recov

Fri: a.m. 45 Mins X Trainer

p.m. 45 Mins X Trainer

Sat: Aqua Jog: 8 x 5Mins/30s recov + 4 x 30s/30s

Cross Training benefits?



Key Points

- Injuries are an occupational hazard but also offer opportunities to address other aspects of fitness
- Always have a back up plan so the transition to X Training can be as seamless as possible
- Need a well thought out return to running plan

e.g. Long Run = Wk1: 40 Mins Run + 80 Mins XT or Bike

Wk2: 50 Mins Run + 70 Mins XT or Bike

Wk3: 60 Mins Run + 60 Mins XT or Bike

.....And so on

- Need to plan for delayed response in racing form as "running legs" are found again.
 According to Test Derek was in 2.13.08 marathon shape but in reality couldn't break 30.30 for 10K......
-Basically had a Ferrari engine in a Vauxhall Corsa!!!



2015....Planning Considerations

- Researched previous Olympic Games Selection Policies which did not stipulate any requirement to compete in a trial. Selection more or less based on fastest times.
- Derek: Main target: Berlin Marathon 27th September 2015 with option to do Spring Marathon if didn't go to plan.
- Callum: Frankfurt Marathon 25th October 2015. Main objective was to dip toe into the water and see what happens. Never intended as a full time move to marathon running. Tester for Gold Coast 2018.

What actually happened....

- Late Notice of Requirement to run trial.....November 2015.
 Month after autumn marathon season! Selection Policy more or less decreed everyone had to do the trial.....London Marathon
- Derek: Result!!!! Injured pre Berlin and nothing lost in not competing. Back in the mix and knew exactly what he needed to do in London.

• Callum:

- Although had qualifying standard secured, If successful in qualifying then 3 Marathons in 10 Months.
- Brought everyone back into the mix.

Our Approach

It's the Olympics.....it's not meant to be easy!!!

London Plan....usual format.

Derek

- Jan Feb: Boulder Training Camp
- Feb: Returned with a cold
- March:
 - 13th March: Roma Ostia Half Marathon
 Pb 63.53;
 - 27th March: Home Countries Half
 Marathon 1st 64.58
- April: Training Camp Majorca
- Very inconsistent in training but form was there.

Callum

- Jan: At Home: University Exams
 Edinburgh XC Int. 4th
- Feb: Bucs XC Champs 1st
- March:
 - 6th March: Paris Half Marathon Pb
 62.36
 - 27th March: World Half Marathon
 Championship 15th 62.51
- April: Training Camp Majorca
- One of his best training blocks

London: Race Day

Derek

Key Points

1st Half: 1:06:30

2nd Half: 1:06:27

5Km Avg: 15:45

- 5Km: 15:33
- 10Km: 31:32 (15:53)
- 15Km: 47:23 (15:36)
- 20Km: 1:02:58 (15:36)
- Half: 1:06:30
- 25Km: 1:18:37 (15:40) •
- 30Km: 1:34:18 (15:42)
- 35Km: 1:50:05 (15:48)
- 40Km: 2:05:58 (15:53)
- Finish: 2:12:57 (6:59)

Callum

- 5Km: 15:24
- 10Km: 30:54 (15:30)
- 15Km: 46:28 (15:34)
- 20Km: 1:02:04 (15:36)
- Half: 1:05:27
- 25Km: 1:17:20 (15:16)
- 30Km: 1:32:36 (15:17)
- 35Km: 1:48:05 (15:29)
- 40Km: 2:03:49 (15:44)
- Finish: 2:10:52 (7:04)

Key Points

- 1St Half: 1:05:27
- 2nd Half: 1:05:25
- 5Km Avg: 15:30

No Watch!!!

- 20Km 35Km: 46.01
 - = 49.20 10m Pace
 - = 2.09.27 Marathon
- Pace
- 20Km 30Km: 30.33
- = 2.08.55 Pace

FIRST TIME IN COACHING CAREER I'D MANAGED TO GET BOTH OF THEM TO PERFORM AT THE TOP OF THEIR GAME ON THE SAME DAY AND IN THE SAME RACE!!!



Planning

- Considerations:
- Only 17 Weeks from London Marathon to Olympic Marathon
 - Never planned for or ran any marathon with such a quick turn around from previous marathon
- Training Camps: Altitude or Warm Weather?
- Races: Lack of suitable quality races to fit with Plan......Only IAAF Label races available in July were Marathons!!
- Vaccinations any potential side effects
- Travel to Games any potential disruption.
- Heat/Humidity Acclimatisation

Planning

Travel Considerations

- Travel to Holding Camp Belo Horizonte
 - UK Rio Sat 6th August Total Travelling Time: 18 Hours
 - Overnight stay in Rio......luggage transported via road
 - Rio to Belo Horizonte Sun 7th August
 - How long to adjust?
- Holding Camp to Olympic Village
 - Monday 15th August......train before you go or when you arrive?
 - Luggage transported by road again
 - 5-6 days of restricted training facilities

Planning

Races....Biggest coaching headache!!

- Only races available that fitted with everything else were:
- 1. European Championships Half Marathon: Ideally suited at 6 weeks out however initially, selection policy did not guarantee Derek would be selected..... "Top 3 from World half Marathon"
 - Selection Policy then amended to "Athletes already nominated to TeamGB
 in the marathon at the 2016 Rio Olympic Games who wish to use the
 European Championships as part of their preparation for Rio will be
 automatically selected"
- 2. Bella Belter: 5th August

Training Camp

 Do our own thing or go to British Athletics Altitude Camp in Font Romeu?

BA Camp

For

- Altitude
- Team Spirit
- Access to Medical Support
- Temperature similar to Rio

Against

- Humidity nowhere near Rio
- Limited trails for Marathon Specific Work
- None of the trails similar to what course was going to be like
- Not done altitude so close to race before
- Away from normal environment for 5-6 weeks come race day
- Too much Team Spirit....snapchat!!!

Decision

Do our own thing......2 weeks in Puerto De Pollensa

Rio Plan

- Weeks 17 15
 - Recovery from London
- Weeks 15 11
 - Return to full training
 - Base work & Occasional VO2 Max Sessions (5Km Pace)
- Weeks 10 2:
 - Marathon Specific Block
 - Mens 10Km Glasgow 19th June
 - Races: European Half Marathon Champs 10th July
 - Warm Weather Training Camp 11th 25th July Majorca
 - Heat Chamber Acclimatisation Sessions
- Weeks 2 Race Day:
 - Bella Belter 10Km
 - Travel to Brazil
 - Taper

What actually happened.....

May

Derek

- 1 Week Total Rest
- Gradual Return to Running....plan to get to 100 miles per week 4 weeks after marathon
- Easy Running with occasional runs around 5.30 miling mark
- Nothing any faster than 5.20-5.30 miling until 4 weeks post race

Callum

- University Exams
- Returned to running 5 days after London Marathon
- 1 week after London Marathon -Peroneal tendinopathy
- MRI Scan and two weeks X Training
- Gradual return to running delayed by adverse reaction to Typhoid vaccination
- Did not return to training until 5 weeks after London Marathon

Coach Reaction

Thinks he's.....



When in actual fact he's more like......



June - July

Callum

- Men's 10K.....29:54
- European Half Marathon Champs: 9th
 63.57
 - 23 Degrees race day
 - 80%+ Humidity
 - 14.26 first 5Km (60.54 pace)
 - Not the result he wanted but excellent preparation for Rio
- Warm Weather Training Camp Majorca

Derek

Men's 10K.....29:59 then......



Derek.....

"Very unfortunately, Derek has a stress fracture of his sacrum. It is extremely unlikely, given this information, that Derek would be able to recover in time to perform in Rio, given that these normally take 12-16 weeks."...... British Athletics CMO

- Normal Time Frames:
 - 6-8 Weeks post injury before any running whatsoever
 - 9-12 Weeks gradual return to full weight bearing running
 - 12-16 weeks to build up training
 - 16 weeks Back to normal running

REALITY: 9 WEEKS TO RACE DAY

Coach.....

Thinks he's like......



When in actual fact he's like.....



Why the Difference?

- Derek: Quick turn around and the third time he had broken down with similar symptoms albeit this time they were more severe so was half expecting something sinister underlying.
- Callum: Got injured sitting on his backside doing nothing.
 Injury was taking a while to settle down and we couldn't really pinpoint exactly what it was prior to MRI.
 - Best description "It's not definitely not a bony stress issue".
- Uncertainty of the situation was the main stressor.

Approach

- Facing de-selection from Team based on selection policy and CMO's email.....however.....
- No reserve named by British Athletics...not keeping anyone out of the team
- Only other athlete who had achieved the qualifying standard had subsequently publicly declared:
 - He had been suffering from Glandular Fever at the London Marathon
 - That he had a plantaris injury which was preventing him from training properly
 - Had been selected to compete in the European Half Marathon Champs and then withdrawn (subsequently competed in a Road Race in the US the week after the Euro Champs)
- SiS Medical Team were reasonably confident that Derek could be running pain free on Race Day

Response

- Given all the circumstances......proceed as if still competing
- Team Approach!!!
- ReHab/Training Meetings:
 - Linda Hardy Physiotherapist & Chair & gatherer of information
 - Shannon Connolly Physiologist
 - Finlay MacHugh Strength & Conditioning
 - Derek
 - Me
 - Mark Pollard Scottish Athletics Performance Manager
 - Chris Volley Performance Lifestyle manager and ex Head Coach Scottish Triathlon.

Plan

Week commencing	Rehab / S&C Key Aims: - Improve load transfer through chain - Protect healing of sacrum Commence Exogen	Training Key Aims: - Maintain fitness / minimise fitness losses - Allow best chance of return to pain-free running prior to Rio No training / offload
4 th Jul	Glute & trunk activation / control exs Calf & foot exs Balance & proprioceptive work	
11 th Jul	As above	Aqua jogging (Gradual build)
18 th Jul	Progress above + Reformer work + Functional strengthening + Walking drills	Aqua jogging / Pool (longer sessions – HR monitor) Bike +/- hypoxic training
25 th Jul	Progress above +Running Drills	Aqua jogging / Pool Bike +/- hypoxic training Alter-G
1 st Aug	As above	Commence running Performance test: ?10k race (5 th) ?Back running pain-free – ?more realistic marker with less risk ?More specific fitness test in Rio

Majorca or not as the case may be.....

Derek

- Stayed at home
 - Access to Physio and equipment
 - Easier access to CrossTraining Facilities
 - No distractions in seeing
 Callum in full training
 - Got his head down and got on with it

Callum

- Went to Majorca
- Trained as normal adjusting pace to conditions.....Daniels.
- Learned valuable lessons in training in the heat....32 degrees at 10.30am.....some coach and athlete errors in judgement
- Trialled High Sodium Drinks
- No distractions

Derek:

- Sessions had to be devised and reviewed on a daily basis as targets/test sessions completed:
 - E.g. although static bike sessions were pencilled in we couldn't put any detail in until:
 - a) We knew being on the bike wouldn't aggravate the injury
 - b) If the bike was ok then no idea as to how much load until you actually do it.
 - Same scenario for pool sessions
- Lots of whatsapping, skyping and emails to get this co-ordinated.
- Relied heavily on Institute of sport staff to supervise the sessions
- Great advert for making sure your athletes are up to speed on training principles and know their own body.

Rio Run In

Callum	Splits	
 28th July – Fastest ever marathon 	1: 3.14	14: 2.53
specific session 1 x 1Km/1Km	2: 3.02 3: 3.14	15: 3.17 16: 2.58
 followed by – Lateral compartment muscle injury 	4: 3.01 5: 3.14	17: 3.17 18: 2.59
 Result: 1 week X Training on bike prior to leaving for Brazil 	6: 2.59 7: 3.21 8: 2.59	19: 3.19 20: 2.56 21: 3.15
 Took 4 days to recover from travelling to Brazil. Last "fast sessions" not 	9: 3.17 10: 2.58	22: 2.47
comfortable.Snapped back round when in the village.	11: 3.14 12: 2.55 13: 3.14	Avg: 2.57 & 3.16

Derek



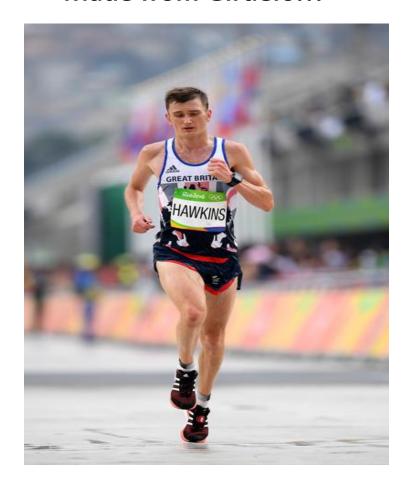
- Bike & Pool Running at Holding Camp
- 1st full body weight run: 10th
 August 20 Mins 11 Days
 before Marathon
- 65 Min Run on 14th August
- 45 Min Run on Alter G
- 9 Mile Run with 3 Miles at Marathon Pace Tues before Race

Race Day.....mixed emotions

ROBERT!!!.....what's he doing!!!!



Made from Girders!!!



Callum Splits

• 5Km: 15.46

• 10Km: 31.18 (15.36)

• 15Km: 46.59 (15.41)

• 20Km: 1.02.28 (15.29)

• Half: 1.05.57

• 25Km: 1.18.14 (15.46)

• 30Km: 1.33.30 (15.16)

• 35Km: 1.49.03 (15.33)

• 40Km: 2.04.53 (15.50)

• Finish: 2.11.52 (6.59)

Key Points

1st Half: 1.05.57

2nd Half 1.05.55

2s Negative split.....AGAIN!!!

Switched watch off at 22Km and started racing!

25-30Km: 30.49 = 2.09.58 Pace

Reflections

- Two Olympians.....in every sense of the word.
- Callum.....proved he belonged at that level but still requires some work on the basics. "I'm not strong enough at the end" Need to put the Ferrari engine in a Ferrari.
- Derek....."It's not the performance I imagined I would do at the Olympics but nine weeks ago I genuinely didn't think I'd be there. Never thought I'd be proud of a 2.29, but I couldn't be happier if it was a 2.12."

Key Points

- Always keep a Cross Training Plan handy.
- Be more Bond than Jones!!!
- Integrated response ensured that:
 - Injuries were managed
 - Got both to the start line in the best possible shape given the circumstances.
- Different perspective on how to deal with quick turnaround for marathons
- Researching more offloaded work as part of normal training load.
- Now have an athlete who's base training speed is now 10-15s per mile faster than before......Training Time v Training Volume?

LESSONS LEARNED

- Coach needs to stay one step ahead of the athlete in terms of knowledge if going on journey together
- Get the foundations right.....put the Ferrari engine in a Ferrari
- Must have a targeted & planned approach to season and career although a degree of flexibility still required
- Training needs to be targeted to the requirements of the event and be progressive
- Performing on the day isn't a coincidence nor does it happen by accident

Lessons Learned

- Build a good support team around the athlete/squad e.g. Physio, Massage, S&C
- Parental support vital.....but the balance has to be right
- You will lose athletes to other clubs/coaches but important to maximise their development when you have them
- Sometimes the grass isn't always greener
- Listen to your athlete......they sometimes know what they're talking about!!
- Push yourself as a coach but DON'T RUSH!

Thank You

Questions?