

Third Coast Training

Endurance Specialist



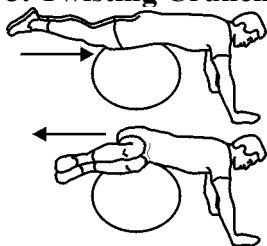
Strength Training (ST)

Purpose/Description: The purpose of strength training is to improve your muscles' ability to generate force. This is important for triathletes because accelerating requires high force production combined with high leg speed. Poor acceleration and sprinting abilities will lead to poor results, even if you are aerobically fit. That is why it is important to develop your force generation capacity through strength training. A well designed strength program will also improve muscle balance and decrease your risk of injury. Select a resistance for each exercise where your last repetition will be difficult, but you can still maintain proper form. You should perform each exercise at a speed that allows you to complete one repetition in 2-4 seconds. Before starting each exercise, perform two warm-up sets with $\frac{1}{2}$ and $\frac{3}{4}$ of the weight you will be lifting. Do the same number of repetitions as you will do while lifting the full weight. It is only necessary to rest 1 minute between each "warm-up" set. After the warm up sets rest 2 minutes between sets. After warming up, perform the required number of sets of each exercise, taking a full rest between each set.

ST

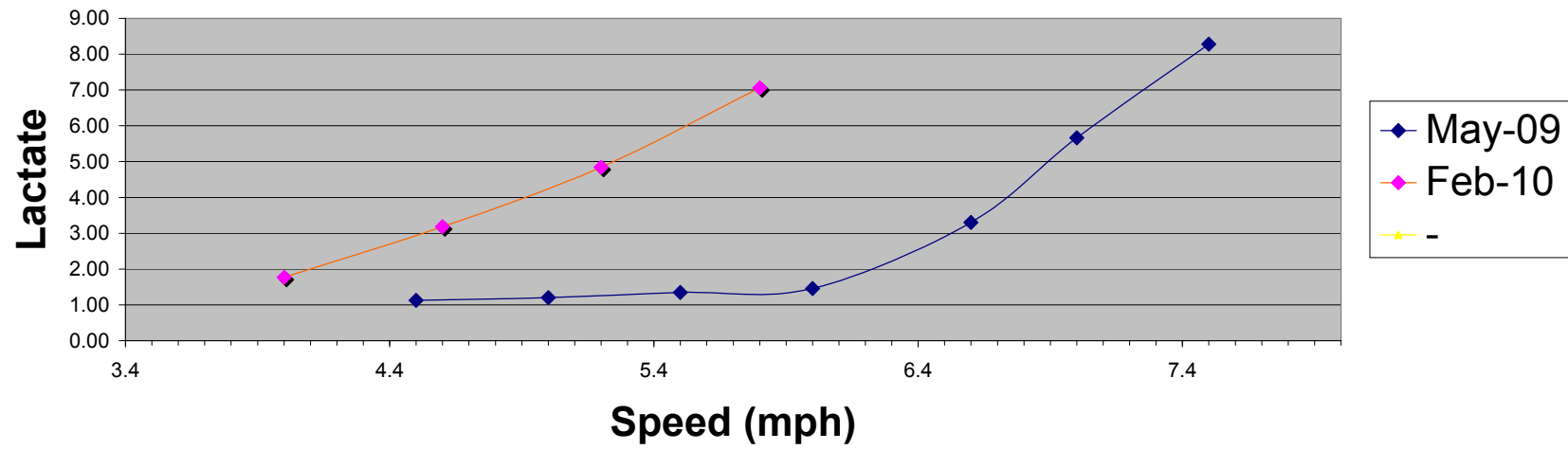
Exercise, Load, Volume, Rest in order.

1. Bench Press, Maximum for 12 reps, 4 x 12 reps, 90 s between sets
2. Single-leg Lying Leg Curl, Maximum for 12 reps, 4 x 12 reps, 90 s between sets
3. Twisting Crunch, Body weight 2 x 30 reps, 60 s between sets



4. Inverted Leg Press, Maximum for 12 reps, 4 x 12 reps, 90 s between sets
5. Seated Row, Maximum for 12 reps, 4 x 12 reps, 90 s between sets
6. Military Press for 12 reps 4 x 12 reps, 90 s between sets

Karen Meikle



Third Coast Training

THRESHOLD VO₂ MAX INFORMATION

Name: Karen Meikle

Date: 15-Feb-10

ASSESSMENT RESULTS

Stage	Speed (mph)	Speed (min/mile)	Heart Rate (bpm)	Lactate (mMol)
1	4	15:00	134	1.77
2	4.6	13:03	167	3.18
3	5.2	11:32	179	4.84
4	5.8	10:21	186	7.06
5				
6				
7				
8				
9				
10				

SUMMARY

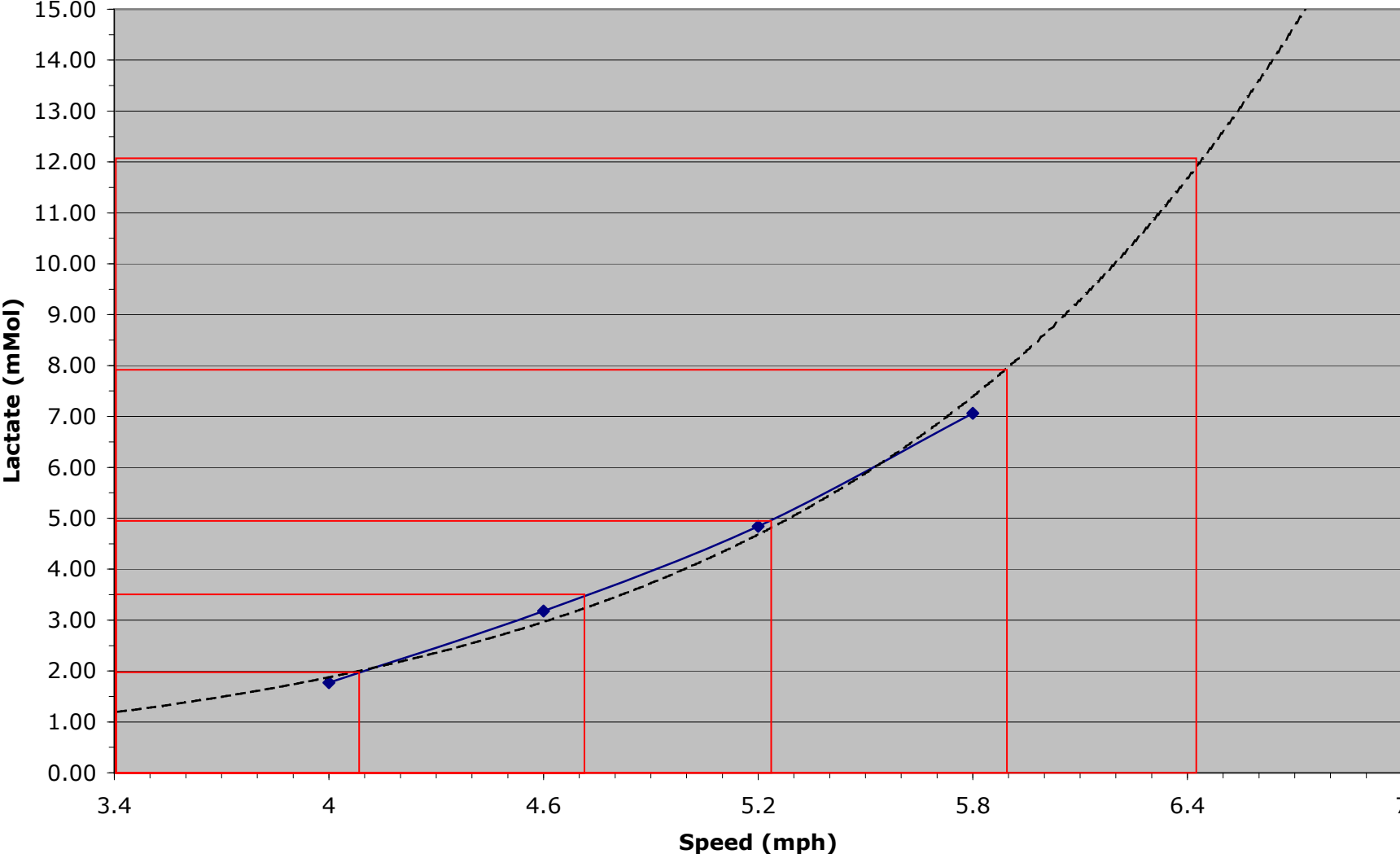
V_{L2}	4.2	WEIGHT (kg)	75.91	TOTAL TIME (min)	12:15
V_{L4}	4.9	HEIGHT (in)	67	MAX HR (bpm)	186
AT (V)	4.9	Grade (%)	2	VO2 Peak (ml/kg/min)	
		STAGE TIME (min)	3:00	LAST STAGE COMPLETED	4

SPEED TRAINING ZONES

	Speed (mph)	Min/mile	KPH
Zone 1	3.6 - 4.1	16:40 - 14:38	5.76 - 6.56
Zone 2	4.1 - 4.7	14:38 - 12:46	6.56 - 7.52
Zone 3	4.7 - 5.2	12:46 - 11:32	7.52 - 8.32
Zone 4	5.2 - 6.4	11:32 - 10:10	8.32 - 9.44
Zone 5	5.9 -	10:10 - 9:23	9.44 - 10.24

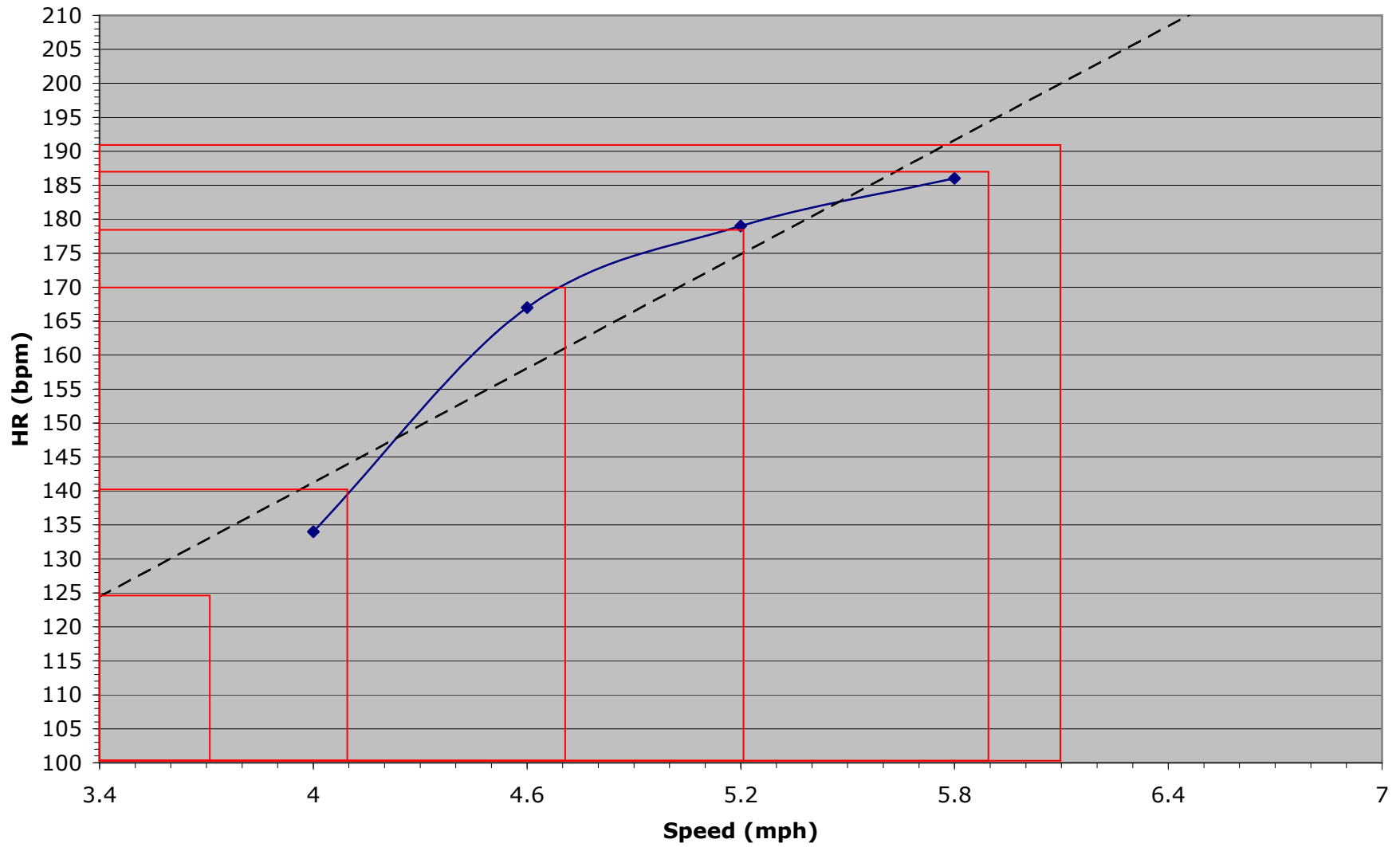
Lactate vs Speed

$y = 0.0891e^{0.7617x}$
 $R^2 = 0.989$



HR vs Speed

$$y = 28x + 29.3$$
$$R^2 = 0.8859$$



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LACTATE THRESHOLD ASSESSMENT

Name: Karen Meikle

Date: 29-May-09

ASSESSMENT RESULTS				
Stage	Speed (mph)	Speed (min/mile)	Heart Rate (bpm)	Lactate (mMol)
1	4.5	13:20	145	1.13
2	5	12:00	153	1.20
3	5.5	10:55	162	1.35
4	6	10:00	171	1.46
5	6.5	9:14	176	3.31
6	7	8:34	184	5.66
7	7.5	8:00	190	8.28
8				
9				
10				

TEST PROTOCOL	
Equipment:	Treadmill
Elevation (% Grade):	1
Stage Time (min):	3:00
Starting Speed (mph):	4.5
Speed Increase (mph):	0.5
Warmup:	10'
Recovery:	15'
Notes:	

ANTHROPOMETRIC DATA	
Height (in):	
Weight (lb):	162.0

SUMMARY			
WEIGHT (LB)	162.0	TOTAL TIME (min)	29
HEIGHT (IN)		PEAK HR (bpm)	190
Grade (%)	1	VO2 PEAK (ml/kg/min)	-
STAGE TIME (min)	3:00	LAST STAGE COMPLETED	7

HEART RATE TRAINING ZONES (bpm)		
Zone 1	151 - 166	
Zone 2	166 - 176	
Zone 3	176 - 185	
Zone 4	185 - 195	
Zone 5	195 -	

SPEED TRAINING ZONES		
	Speed (mph)	Min/mile
Zone 1	4.8 - 5.8	12:30 - 10:21
Zone 2	5.8 - 6.5	10:21 - 9:14
Zone 3	6.5 - 7.1	9:14 - 8:27
Zone 4	7.1 - 7.7	8:27 - 7:48
Zone 5	7.7 - 8.3	7:48 - 7:14

AEROBIC ZONES DESCRIPTION	
Level 1 (aerobic)	Level 1 is an intensity below LT. Level 1 is used for recovery workouts 30-90 min in length or steady endurance workouts which may exceed 4 hours.
Level 2 (aerobic)	Level 2 is an intensity just above LT. Level 2 is used for steady endurance workouts 2-4 hours in length.
Level 3 (aerobic / anaerobic)	Level 3 is an intensity representing MLSS. Level 3 is used for steady endurance workouts 20-60 min in length or intervals workouts with 8-20 min intervals.
Level 4 (anaerobic)	Level 4 is an intensity representing above MLSS. Level 4 is used for intervals to improve the removal of high lactate levels.
Level 5 (anaerobic)	Level 5 is an intensity above MLSS. The maximum intensity in level 5 represents VO _{2peak} . Level 5 is used for high-intensity interval workouts with intervals ranging from 15 s to 60 s in length.

Glossary	
LT	LT stands for lactate threshold. LT is the highest intensity where lactate concentration remains at baseline levels, which are established during low intensity exercise. LT is considered to be the point at which anaerobic metabolism begins to make significant contributions to the exercise workload and carbohydrate stores are depleted more rapidly.
MLSS	MLSS stands for maximum lactate steady state. MLSS is the highest intensity where lactate production and removal are balanced. Above MLSS, lactate will accumulate in the blood continuously until exercise is stopped. MLSS is a strong predictor of 8 km running performance and 40 km cycling performance.
L4	L4 is the intensity that elicits a 4 mmol/L blood lactate response. Because pinpointing MLSS requires many hours of testing, we use the 4 mmol/L blood lactate concentration as an estimate of MLSS.