

1500m Training



HOUSTON FRANKS
MISSISSIPPI STATE UNIVERSITY

1500m Training Influence



Profiling a 1500m Runner



- **Matching individual athlete skill sets with the physiological demands of the event**
- **Good combination of speed and endurance**
- **High VO₂ Max (aerobic power)**
- **Good buffering capacity (anaerobic)**

Energy System Contributions



<u>Event</u>	<u>Duration</u>	<u>Aerobic</u>	<u>KCAL used</u>	<u>Anaerobic Glycolytic</u>	<u>KCAL used</u>	<u>Anaerobic Alactic</u>	<u>KCAL used</u>	<u>Total KCAL</u>
800 Meters	2 min	50%	45	44%	40	6%	5	90
1600 Meters	4 min	70%	100	28%	42	2%	3	145
3200 Meters	10 min	87%	249	13%	36	<1%	1	286
5000 Meters	15 min	92%	372	8%	32	<1%	1	405
10,000 Meters	30 min	95%	700	5%	30	<1%	1	730

Percentage of VO2 Max



Event	% VO2 Max
800 Meters	120-136%
1500 Meters	110-112%
3000 Meters	100-102%
5000 Meters	97-100%
10,000 Meters	92%

Cross Country



<u>Phases of Training</u>	<u>Duration</u>	<u>Emphasis</u>	<u>Applications</u>
Transition	2 Weeks	<ol style="list-style-type: none"> 1. Recovery 2. Aerobic Threshold 	Easy to moderate continuous runs
General Prep	4-6 Weeks	<ol style="list-style-type: none"> 1. Aerobic Threshold 2. Lactate Threshold 3. Strength/Flexibility 	Begin to increase length of distance runs Introduce the "long run" back to weekly routine Introduce strides after runs to improve leg turnover Progressive Runs Weights/Circuits/Core
Specific Prep	6-8 Weeks	<ol style="list-style-type: none"> 1. Lactate Threshold 2. vVO2 3. Strength/Flexibility 	Introduce Fartlek, Tempo Runs, Hill Sessions Interval Sessions (w/medium intensity, very short rest) Can begin racing during this phase
Pre-Competition	5-6 Weeks	<ol style="list-style-type: none"> 1. vVO2 2. Lactate Threshold 3. Lactate Tolerance 	Intervals primarily 2-6 minutes in length w/short rest Maintain Aerobic Base Usually during the middle of racing season Reduce, but maintain LT Work (EX: Tempo Runs) Continue Hill Session of varying lengths
Competition	2-4 Weeks	<ol style="list-style-type: none"> 1. vVO2 2. Lactate Tolerance 3. Lactate Threshold 	Length of Intervals 2-4 Minutes in length with longer rest Intensity stays high, volume decreases Reduce aerobic running and length of "long runs" End of Racing Season

Indoor Track



<u>Phases of Training</u>	<u>Duration</u>	<u>Emphasis</u>	<u>Applications</u>
Transition	1 Week	<ol style="list-style-type: none"> 1. Recovery 2. Aerobic Threshold 	Easy to moderate continuous runs
General Preparation	3 Weeks	<ol style="list-style-type: none"> 1. Aerobic Threshold 2. Lactate Threshold 3. Lactate Tolerance 	<p>Begin to increase length of distance runs</p> <p>Introduce the "long run" back or lengthen to weekly routine</p> <p>Introduce strides after runs to improve leg turnover</p> <p>Progressive Runs</p> <p>Hill Sessions</p>
Specific Preparation	4 Weeks	<ol style="list-style-type: none"> 1. vVO2 Max 2. Lactate Threshold 3. Lactate Tolerance 	<p>Use Fartlek, Tempo Runs, Hill Sessions</p> <p>Interval Sessions (w/medium intensity, short rest)</p> <p>Can begin racing during this phase</p> <p>Use some races as workouts, often racing shorter race distances</p>
Pre-Competition	4 Weeks	<ol style="list-style-type: none"> 1. vVO2 Max 2. Lactate Tolerance 3. Lactate Threshold 	<p>Intervals primarily 2-6 minutes in length</p> <p>Maintain Aerobic Base</p> <p>Usually during the middle of racing season</p> <p>Reduce, but maintain LT Work (EX: Tempo Runs)</p> <p>Intensity of workouts increases, weekly volume decreases</p>
Competition	2-4 Weeks	<ol style="list-style-type: none"> 1. Lactate Tolerance 2. vVO2 Max 3. Recovery 	<p>Length of Intervals 2-4 Minutes in length with longer rest</p> <p>Intensity stays high, volume decreases slightly</p> <p>Reduce aerobic running and length of "long runs"</p> <p>End of Racing Season</p>

Outdoor Track



Phases of Training	Duration	Emphasis	Applications
General Preparation	3 Weeks	<ol style="list-style-type: none">1. Aerobic Threshold2. Lactate Threshold3. vVO2	<p>Begin to increase length of distance runs</p> <p>Introduce the "long run" back to weekly routine</p> <p>Introduce strides after runs to improve leg turnover</p> <p>Progressive Runs</p>
Specific Preparation	4 Weeks	<ol style="list-style-type: none">1. vVO2 Max2. Lactate Threshold3. Lactate Tolerance	<p>Introduce Fartlek, Tempo Runs, Hill Sessions</p> <p>Interval Sessions (w/medium intensity, very short rest)</p> <p>Can begin racing during this phase</p>
Pre-Competition	4-6 Weeks	<ol style="list-style-type: none">1. vVO22. Lactate Tolerance3. Lactate Threshold	<p>Intervals primarily 2-6 minutes in length</p> <p>Maintain Aerobic Base</p> <p>Usually during the middle of racing season</p> <p>Reduce, but maintain LT Work (EX: Tempo Runs)</p> <p>Intensity of workouts increases, weekly volume decreases</p>
Competition	4-6 Weeks	<ol style="list-style-type: none">1. Lactate Tolerance2. vVO2 Max3. Recovery	<p>Length of Intervals 2-4 Minutes in length with longer rest</p> <p>Intensity stays high, volume decreases</p> <p>Reduce aerobic running and length of "long runs"</p> <p>End of Racing Season</p>

Aerobic Training Methods



- **Recovery Runs** – typically 30-45 minutes in duration (target pace – 65-75% vVO_2)
- **Aerobic Development Runs** – typically 45-70 minutes in duration (target pace – 70-80% vVo_2)
- **Long Runs** – typically 70-100 minutes (some individuals may be as long as 120 min.) (target pace same as Aerobic Development Runs)

Aerobic Training Methods cont.



- **Lactate Threshold Runs (usually run progressive in nature):**
 - Long Tempo – 8-10 Miles – (target pace 80-85% vVO₂)
 - Medium Length Tempo – 5-7 Miles – (target pace 85-88% vVO₂)
 - Short Tempo – 3-4 Miles – (target pace 88-92% vVO₂)
 - Lactate Threshold Intervals – Usually 5-15 minutes in duration, with very short recovery time b/reps (usually 1-2 min.). (Target time depends on total volume of session).

Aerobic Training Methods cont.



- **VO2 Max Intervals – 2-6 minutes long in duration (600m – up to 2k) – COMBINE ZONE (training has aerobic and anaerobic contributions and adaptations)**
 - 95% vVO2 – (approx. 8k race pace) – $\frac{1}{4}$ to $\frac{1}{2}$ time recovery b/reps – up to 10k+ in total volume
 - 97% vVO2 – (approx. 5k race pace) – $\frac{1}{2}$ time recovery b/reps – up to 8k in total volume
 - 100% vVO2 – (approx. 3k race pace) – equal rest b/reps – up to 6k in total volume

Anaerobic Training Methods



- **1500m Pace work (110% vVO₂ Max) – typically 200m-1000m in length. Typically equal to double rest of duration run.**
- **800m pace work (120% vVO₂ Max) – typically 150m-600m in length. Rest is enough to maintain desired velocity.**
- **Lactate Tolerance – Short/fast intervals run in sets with very short recovery b/reps, but longer rest b/sets.**
 - **Example: 4 x 3 x 200m, at 29-31, 30 sec. b/reps, 8 min. b/sets**

Training Paces



- **Fractionalization of vVO_2**
- **Test for vVO_2 – Ex: 2 Mile Time Trial or 10 minute test**
- **Important to get “Date vVO_2 ”**
- **I often use some workouts that we have done for years: Example: 1000m repeats or mile repeats.**

Example of Training Paces



- **Marta Freitas – Summer 2017 –**
 - 65% vVO₂ – 7:26.12
 - 70% vVO₂ – 6:54.26
 - 75% vVO₂ – 6:26.64
 - 80% vVO₂ – 6:02.47
 - 85% vVO₂ – 5:41.15
 - 88% vVO₂ – 5:29.52
 - 90% vVO₂ – 5:22.20
 - 92% vVO₂ – 5:15.20
 - 95% vVO₂ – 5:05.24
 - 97% vVO₂ – 4:58.95
 - 100-102% vVO₂ – 4:44.29 – 4:49.98 (2:55-3:01 / 1000m)
 - 110% vVO₂ – 4:23.62 (65-66/400)
 - 120% vVO₂ – 4:01.65 (29-30/200 or 60/400)

Race Predictions based on $v\dot{V}O_2$ (Marta Freitas – Summer 2017)



- 800m – 2:00.12
- 1500m – 4:05.71
- 3000m – 8:49 – 9:00
- 5000m – 15:28
- 10,000m – 32:38

***Does not necessarily mean they can run all of these, just means they need to do workouts like they can run these**

Multi-Pace Training Cycle



- Typically 14 day cycle
- Within the 14 day cycle we will hit different training paces. What those paces are differ depending on the time of year.
- Helps reduce monotony
- Allows for adequate recovery between “hard” sessions

Example Cross Country (Fall)14 Day Cycle



- M-50-60 min. run, followed by weights/circuits
- T-4-5x Mile, 3 min. b/reps
- W-2 Recovery runs
- Th-50-60 min. run, followed by weights/circuits
- F- Long Tempo Run
- S -2 Recovery Run
- S – OFF or light run
- M-50-60 min. run, followed by weights/circuits
- T-6x1000m, 3 min. b/reps
- W-2 recovery runs, followed by weights/circuits
- Th-Pre-Race
- F – CC Race
- S- Recovery Run
- S- Long Run

Example of Primary Session in 14 day Cycle



- **Track Prep/Early Track Season**
 - Alactic Work – Ex: 4 x 30m flys, 2 x 60m flys, aerobic run after the fly work
 - 110% vVO₂ Max, approx. 1500m pace. Ex: 10 x 400m with 2min. b/reps. (start with 2 min. b/reps and work our way down to 60 sec. as buffering capacity improve
 - Lactate Threshold: Ex: 4 Mile Tempo Run at 88-90% vVO₂. followed by a few “strides” 150’s or 200’s
 - Long Run – Approx. 90 minutes (individualized for the athlete)
 - 97% VO₂ – Ex: 5 x 1200m at approx. 5k pace, 2 min. b/reps
 - s)
 - 120% VO₂ Max: 16-20 x 200m at 800m pace, 200m jog b/reps (may be done in sets if needed initially)
 - Long Run with Lact. Thr. in the middle: Ex: 3 miles easy, 5-6 miles at LT (approx: 85% vVO₂), 3 miles easy

Example of Primary Session in 14 day Cycle



- **Track Prep/Middle Track Season**
 - Alactic Work – Ex: 4 x 30m flys, 2 x 60m flys, aerobic run after the fly work
 - 110% vVO₂ Max, approx. 1500m pace. Ex: 10 x 400m with 1 min. b/reps. (insert a couple of 500's in the middle later) OR
 - Lactate Threshold: Ex: 4 Mile Tempo Run at 88-90% vVO₂. followed by a few “stride” 150's or 200's
 - Long Run – Approx. 90 minutes (individualized for the athlete)
 - 100% VO₂ – Ex: 5-6 x 1000m at approx. 3k pace, 3 min. b/reps)
 - 120% VO₂ Max: 3 x 500m, 5 min. b/reps, rest 6-8 min. then do 5 x 300m, 3 min. b/reps
 - Long Run with Lact. Thr. in the middle: Ex: 4 miles easy 4 miles at LT (approx: 85% vVO₂), 4 easy

Example of 14 day Cycle



- **Track Prep/Late Track Season**
 - Alactic Work – Ex: 3 x 30m flys, 2 x 60m flys, 1 x 150m
 - 110% vVO₂ Max, approx. 1500m pace. Ex: 2 x 800/400/300, 3 min. / 90 sec. b/reps, 8 min. b/sets OR 2 x 1000m, 8 min. b/reps
 - Lactate Tolerance: 3 x 400/200, 60 sec. b/reps, 6-8 min. b/sets OR 2 x 4 x 200m, 30 sec. b/reps
 - Lactate Threshold: Ex: 4 Mile Tempo Run at 88-90% vVO₂. followed by a few “stride” 150’s or 200’s
 - 100% VO₂ – Ex: 4-5 x 1000m at approx. slightly faster than 3k pace, 3 min. b/reps,
 - 120% VO₂ Max: 2 x 400/200/200/200, 3 min./90 sec. b/reps, 6-8 min. b/sets
 - Long Run – Approx. 80-90minutes (individualized for the athlete)

Advantages of 14 day cycle



- Allows for a bit more flexibility with the cycle if and extra day of recovery is needed between “hard” sessions
- Works well with our racing schedule most of the time (race every other week a lot)
- Can hit the all of the major training parameters with in the cycle fairly easily.
- Helps avoid monotony of training
- Some people do a “speed” week and a “endurance” week, I try to mix

Training Specificity



- Match the training to the athlete's skill set as well as tactically how they race
- I break the race down to 4 parts
 - 800/400/200/100
 - ✦ First 800 is about establishing/realizing what type of race it is going to be (fast time vs. tactical) and getting in a good position
 - ✦ Next 400 is about being at or very close to the position you want to be in going into the “critical zone” (last 300m). Maintain good position OR get there if first 800 has not gone as well as planned
 - ✦ The next 200 is a significant pace increase “push for home” but trying to keep one last gear if possible
 - ✦ The last 100m is the “sprint” finish

Training Specificity



- Set workouts up to prepare for what you want the first 800 to be, what the next 400 needs to be, and then what the critical zone (last 300) needs to be
- Don't worry too much about the last 300 until you have the first 1200 done

Training Specificity cont.



- Has to be work done handle the fast pace in the middle of the race aerobically. That is where the long interval work come in. The goal is to get to 1200m as aerobically as possible and staying “clean” as possible
- It takes us a minimal of 8-12 weeks to get buffering capacity to where we want it. So some anaerobic glycolytic work is introduced early in the track preparation

Training to Train vs. Training to Race



- **T2T – higher volumes, typically shorter recovery, more general in nature.**
- **T2R – Longer (more significant duration) intervals within the session, with longer recovery b/reps**
 - Example: 10 x 400m, 60 sec. b/reps at goal 1500m pace
 - 2 x 1000m, 8 min. b/reps at goal 1500m pace
 - Example: 20 x 200m at 30-32, 200m jog b/reps
 - 2 x 400/200/200/200 at 60 / 29-30 / 29-30 / 29-30, 3 min., and 90 sec. b/reps, 8-10 min. b/sets

Individualizing Training



- Always focus on athletes strength, while still working on their weaknesses.
- Example:
 - Rhian Price vs. Marta Freitas
 - ✦ Very similar athletes, but very different backgrounds
 - ✦ Rhian's background was a lot of basic aerobic runs. Good aerobic efficiency, under developed aerobic power, very little background in structured/progressive track sessions, no weight room work
 - ✦ Marta's background much like a 400m runner. Very ballistic, anaerobically developed, aerobically very underdeveloped. Very high developed weight room program
 - ✦ Training now is similar, but still has some major differences
 - Rhian runs slightly more Lactate Threshold work, a bit less "sprinting", ran more mileage until recently (now pretty similar)
 - Marta has more advanced weight room program, sprints more often and with more volume

Individual Training cont.



- **Psychological Difference**
 - Gear training to build confidence
 - Set athletes up to succeed
 - Example: Ffion Price vs. Rhian Price (identical twins)
 - ✦ Concentration levels were different in the beginning
 - ✦ Same training concepts, but when Ffion came to MSU she was not as developed aerobically (proven in the lab) and we had to use “bridging workouts”, but more developed anaerobically initially
 - Breakdown workouts to ensure success and then progress the workouts
 - ✦ Ex: Long Tempo vs. LT Intervals or Fartlek
 - ✦ Starting intervals at a length that the athlete can maintain the desired intensity and/or velocity Ex: progressing vVO₂ work from 600’s to 800’s to 1000’s, etc.

Critical Zone Training



- In the 1500m I identify the last 300 (200/100) as the critical Zone of the 1500m. That is where medals and “places” are decided
- First goal is to get to 1200 as “clean” as possible
 - Clean does NOT mean slow
- Second goal is to have the “speed reserve” to run the last 300 like it “needs” to be run
- For men in the NCAA that is 39 sec (27-12)
- For women in the NCAA that is 46 (31-14)
- Elite/Pro level is faster (around 37 and 43)

The End



COACH BE WRITING WORKOUTS LIKE...



IF HE DIES, HE DIES...