

FINDING THE PROPER TRAINING PACES FOR DISTANCE RUNNERS

HOUSTON FRANKS
 HEAD CROSS COUNTRY COACH
 ASSISTANT TRACK AND FIELD COACH - MIDDLE DISTANCE/
 DISTANCE
 MISSISSIPPI STATE UNIVERSITY

SOME COMMON BASELINES FOR EFFORT

- Fractionalization of vVO_2
- Heart Rate
- Perceived Effort
- Race Paces
- Others: VDOT, McMillian Calculator, Purdy Charts, Hungarian Tables, Blood Lactate Levels, etc.

PROS AND CONS OF EACH

- Fractionalization of vVO_2 -
 - Pros - physiologically based, conversions are easy.
 - Cons - Terrains and conditions can vary, works better for aerobic events
- Heart Rate
 - Pros - Transferrable info to conditions, courses, etc.
 - Cons - Extreme weather can cause cardiac drift (temporary false data), cost, difficult to be as accurate at Anaerobic Glycolytic work
- Perceived effort
 - Pros - Some Athletes tend to not overtrain
 - Cons - Some Athletes tend to overtrain especially on the longer aerobic work. Hard to get accurate feedback at times
- Race Paces
 - Pro - Same as Fractionalization of VO_2
 - Hard to calculate the aerobic efficiency paces

STEPS TO USING FRACTIONALIZATION

1. Test to get vVO_2
 - a. 2 Mile Time Trial or 10 minute Test
 - b. Mile Time Trial - Joe Vigil
 - c. Others
2. Calculate vVO_2 (pace per mile)
3. Then use known percentages to figure out paces for various desired adaptations

ADAPTATIONS

- Aerobic Threshold - Distance Runs, Long Runs, Recovery Runs
 - Recovery Runs - 65-70% vVO_2
 - Distance Runs/Long Run - 70-75% vVO_2
 - Perceived Effort - 5
 - Heart Rate - 130-150 bpm

ADAPTATIONS

- Lactate Threshold - Tempo Runs, Steady States, Cruise Intervals
 - Longer Steady States - 80-85% vVO_2
 - Medium Length Tempo Runs - 85-88% vVO_2
 - Shorter Tempo Runs - 88-90% vVO_2
 - Perceived Effort - 7
 - Heart Rate 160-175

VVO2 MAX (AEROBIC POWER)

- 10k Pace Work – 92% vVO2
- 8k Pace Work – 95% vVO2
- 5k Pace Work – 97% vVO2
- 3k Pace Work – 100% vVO2
 - Perceived effort 7-9 (depending on length of interval)
 - Heart Rate – 170-180

LACTATE TOLERANCE/ANAEROBIC GLYCOLYTIC WORK

- 1500/1600 pace – 110% vVO2 Max
- 800m pace – 120% vVO2 Max
 - Perceived effort – 8-10
 - Heart Rate – Over 180 bpm
- 400m pace – Have to use meters per second
 - Perceived effort – 9-10
 - Heart Rate – FAST

EXAMPLE – MARTA FREITAS

- 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)

EXAMPLE MARTA FREITAS

- Marta Freitas – Summer 2017 –
 - Recovery Runs – 6:54 – 7:26 (65-70% vVO2 Max)
 - Aerobic Development Runs and Long Runs – 6:26-6:54 (70-75% vVO2 Max)
 - Long Tempo runs - (8 Miles) – 6:02 – 5:41 (80-85% vVO2 Max)
 - Medium Length Tempo Runs (5-6 Miles) 5:41-5:29 (85-88% vVO2 Max)
 - Short Tempo Runs (3-4 Miles) 5:29-5:22 (88-90% vVO2 Max)
 - 10k Pace - 92% vVO2 – 5:15.20 – Ex: 8-10 x 1000m, 200m jog b/ reps 3:15-20

EXAMPLE MARTA FREITAS

- Marta Freitas – Summer 2017 –
 - 8k Pace - 95% vVO2 – 5:05.24 – 5-6 x Mile at 5:05-10, 3 min. b/reps
 - 97% vVO2 – 4:58.95 – 5 x 1200m, 3:42-47, 2-3 min. b/reps
 - 100-102% vVO2 – 4:44.29 – 4:49.98 – 6 x 1000m at 2:55-3:01, 3 min. b/reps
 - 110% vVO2 – 4:23.62 (65-66/400) 10 x 400m at 64-65, 60 sec. b/reps
 - 120% vVO2 – 4:01.65 (29-30/200 or 60/400) 2 x 400/200/200/200 at 59/29/29/29, 3 min. and 90 sec. b/rep, 8-10 min. b/sets

RACE PREDICTIONS BASED ON VVO2 (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

TESTING AND RETESTING

- Should retest at least every 6 weeks
- Can use races or certain workouts as tests instead of time trial if desired
- During the season races are the easiest and probably the best "retest"
- Can use different distance races and convert using the known percentage of $\dot{V}O_2$ for each track and field race (at 800m and longer)
- Cross Country races can be used but have more variables

FINAL THOUGHTS

- Garmins vs. Feel or Marked Course vs. unknown distance
- Miles vs. Duration or Time
- Balance of effort, individualism, and honesty with one's self