Surviving Ironman Training

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The 3 key elements to successful endurance performance?

- The ability to effectively utilize (maximize) the bodies three energy systems (ATP-PC, Anaerobic glycolytic, and Aerobic) for the duration of the race.
  - A reasonable proficiency of the basic components of the sport. (Swim, Bike, Run)
- *The ability to maintain training and make it to the starting line.* ***A.K.A. Avoid injury and mental burnout!***

What's the best way to ensure you'll be ready?

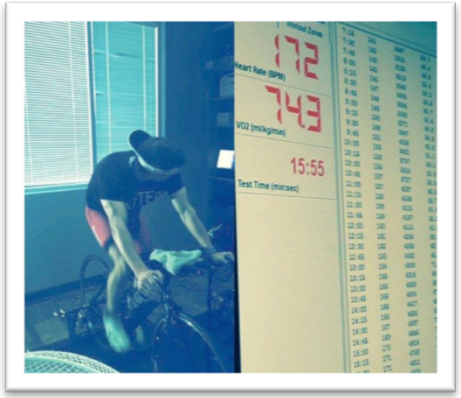
Make as few mistakes as possible!

Mistake #1 Following someone else's plan

Know your baselines and have a plan built around your data

Some valuable tests include:

- Metabolic Efficiency / VO2 Max
- Functional Threshold Power
- Field tests
- General Biomechanic Efficiency Analysis
- Run Gait Analysis
- Swim Stroke Analysis
- Bike fit



You are not a pro so don't train like one!

Professionals are <u>genetically gifted outliers</u> that generally have more resources to handle the riggers of intense training.

Don’t be a practice hero!

Know your training session goals before you start every workout and do everything you can to stick to those goals!

Check your ego, don’t get caught up in “macho” workouts.

Mistake #2 Putting the cart before the horse

Don’t focusing on speed and distance before you building strength, form and endurance.

This can be easily avoided by not making mistake #1

Mistake #3 Not putting structured strength training into your plan

Keys to a good strength program:

Mobilizes restricted tissue , activates inhibited muscles, and creates a solid foundation.

It should be sport specific
Should be periodized

Should focus on strength and power.

Muscular adaptations to training

- **Muscular Endurance –** The capacity of a muscle to produce submaximal force and sustain repeated contractions. This comes with training in the 3 disciplines!

- **Muscular Strength** – The maximal force producing capacity of a muscle.

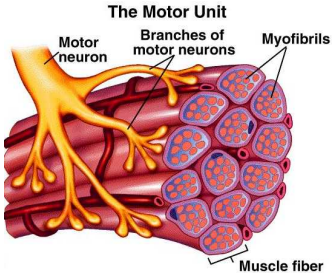
- **Muscular Power = force production + speed of contraction**

How strength training influences movement efficiency

- Improves tissue recruitment strategies

  <u>Right movement with the right muscles</u>

  <u>More workers to do the same job</u>



- Improves tissue properties (i.e.. durability and elasticity)

↑ elasticity + ↓ energy demands = FREE SPEED

LESS INJURY

Why is power training important for Ironman?

An increase of power allows a given muscle to do the same work in less time or greater magnitude of work in the same time.

***The ability to sustain an attack**

***Improved climbing**

***Final sprints at the finish**

The benefits are validated by science

Yamamoto et al,. 2008 Journal of Strength and Conditioning Research

Meta analysis to evaluate the effect of concurrent resistance and endurance training on running performance in “highly competitive endurance runners”

Among highly trained runners, explosive strength training with heavy load improves long-distance running economy 3-8%

Paavaloainen etel. (1999) International Journal of Sports Medicine

Performance and economy gains with highly trained runners by adding explosive training and reducing running volume 30%

Mistake # 4 Ignoring Injury

If you've had a hx of injury prior to beginning your training a pre-training biomechanic evaluation can be the difference between finishing strong and not making the starting line.

If you experience an acute injury during training get it evaluated

<u>BY A PROFFESIONAL</u> ASAP!

Injury happens…

Every year over one half (54.8%) of all runners suffer an injury that limits training time and or inhibits or prevents performance. *

What can you do to help speed up the healing process?

The old R.I.C.E. is great for the acute phase of injury but we need more!

Utilize strategies that control chronic inflammation and promote tissue healing and long term tissue integrity.

- **Rest and Recovery**
- **Nutritional Strategies**
- **Complimentary therapies**
- **(massage, chiro, accupunture, compressive sleeves and boots)**

*Incidents and determinants of lower extremity running injuries in long distance runners; a systematic review
Br J Sports Med 2007 41: 469-480 originally published online May 1, 2007
R N van Gent, M van Middelkoop, et al

Most common cause of injury

Overuse injury
(a.k.a cumulative trauma disorder)

Tissue damage that results from repetitive demand over the course of time.

Repetitive postures lead to faulty movement and instability

- Study- 20 minutes of trunk flexion (a.k.a slouching) leads to decreased lumbar stability for at least 30 minutes after getting out of that posture.

(Mcgill & Brown. Creep responses of the lumbar spine to prolonged full flexion)

Repetitive stresses from triathlon

- Bike (90 rpm) 5400 revolutions per hr
- Run (160 steps/min) 4800 steps per leg per hr.
- Swim (3000m @ 25 strokes 50/m) 750 cycles per arm.

Moral of the story is get faster!

Muscle soreness and fatigue is part of the game but training through an injury will often end up stopping you dead in your tracks.

EARLY EVALUATION AND TREATMENT CAN BE THE DIFFERENCE BETWEEN A FINISHERS MEDAL

AND A WALKING BOOT!

Mistake # 5 Utilizing out - dated nutrition strategies that are based on bad science.

Many athletes are still eating meals that are high in carbohydrates and low in quality proteins and fats. As the body is exposed to a chronically higher carbohydrate pattern, the body remains in a state of "carbohydrate dependence".

Too much focus on workout and race day nutrition and not enough on everyday nutrition.

Mistake # 6 Not valuing the importance of rest and recovery

- You make all your fitness gains when you're recovering so make sure you plan for it.

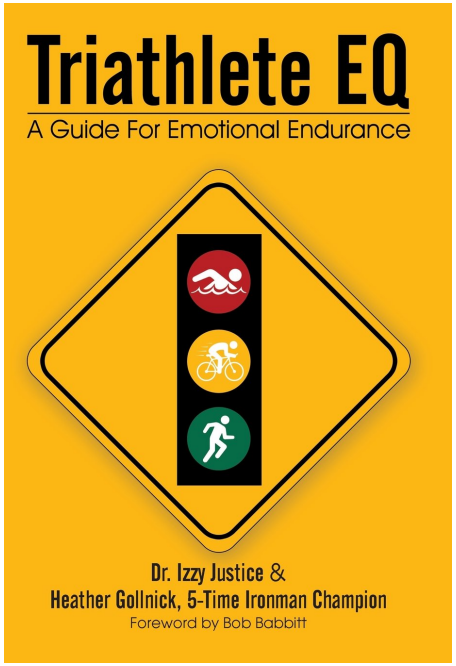
Stress, Sleep, nutrition, hydration, are things that effect the quality of recovery and should be tracked and assessed as a part of your plan.

Over-training occurs when the stressors exceeds an athlete's recovery capacity. The athlete will cease making progress and can even begin to lose fitness and performance and be at increases risk of injury and illness.

Mistake # 7 Not including mental preparation in your plan

Long Course training and racing is the ultimate test of ones mental and emotional endurance.

The key is to find strategies to help keep your mental faculties in check and put them in your plan.



Mistake # 8 Not preparing for the "what ifs"

- ***What if I get water in my goggles***
- ***What if I loose a water bottle***
- ***What if I flat***

What if someone steals my shoes…

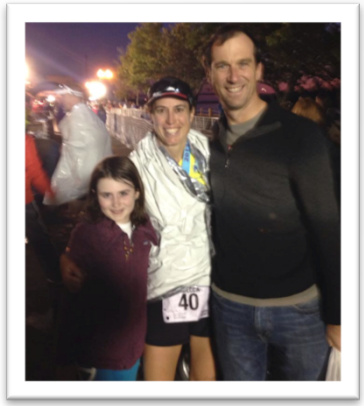
Mistake # 9 Not having a race day plan

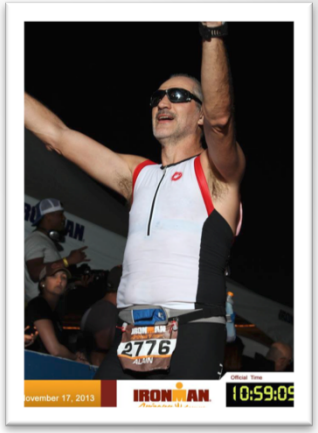
Your race plan is based on what we have learned in training.
Should Include such things as:

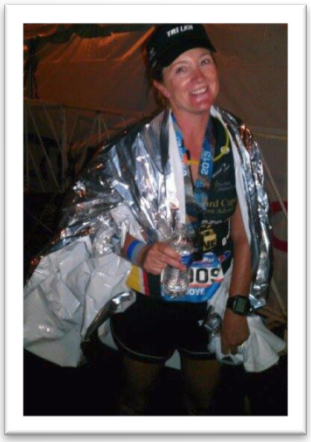
- ***Goals***
- ***keys to success***
- ***race-day nutrition***
- ***pacing in each discipline,***
- ***key thoughts or mental strategies for leading up to and during the race.***

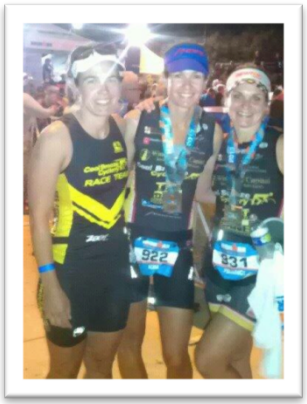
Mistake # 10 Not trusting your plan

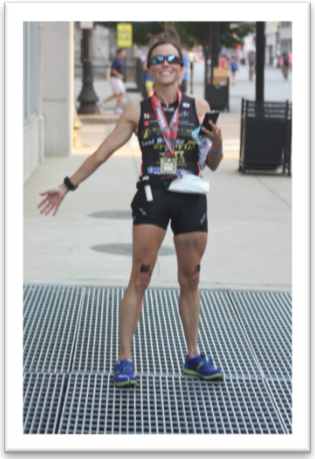
Don't do in the race what you didn't do in training!

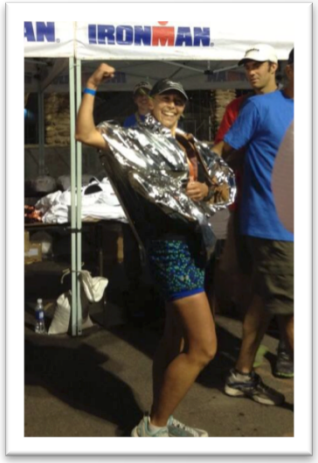












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