The cold hard truth…

- **TRAINING** - only adds to genetic endowment
  There’s no short cut or “secret interval” to proper conditioning
  e.g. Elites/Top A/G train 20-35/10-18h; 600-900/800-1200h p.a; 10yrs

- **NUTRITION** - bigger gains & losses than perceived
  Good diet + the right sports nutrition products = better gains
  e.g. low glycogen; protein timing; creatine augmentation, nitrates

- **TECHNOLOGY** - you should use pro level kit
  This can improve performance through “Kit Doping” (Aston 2013)
  e.g. efficiency enhancement wetsuits; drag reduction wheels, fatigue combating compression clothing etc etc.
1st Rule of Fit Club
Base level 75-90% of time

That’s <80% HRmax or in “low lactate” ZONE ONE

- coach of Ironman Cozumel ’13 winner “85% base training”

- World Conf Science of Tri - UK OD National Squad
  S25, C55, R20% of volume ~70% below race pace.

- OD Top 10 Olympian 2012
  >75% training in Zone 1    S74% B88% R85% in Z1
What happens in these ZONES?

<table>
<thead>
<tr>
<th>Zone</th>
<th>Description</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>HIIT/Lactate Accumulation</td>
<td>163</td>
<td>185</td>
</tr>
<tr>
<td>2</td>
<td>Anaerobic Threshold</td>
<td>155</td>
<td>162</td>
</tr>
<tr>
<td></td>
<td>Progressive Anaerobic</td>
<td>148</td>
<td>154</td>
</tr>
<tr>
<td>1</td>
<td>Intensive Aerobic</td>
<td>130</td>
<td>147</td>
</tr>
<tr>
<td></td>
<td>Extensive Aerobic</td>
<td>111</td>
<td>129</td>
</tr>
<tr>
<td></td>
<td>Active Recovery</td>
<td>93</td>
<td>110</td>
</tr>
</tbody>
</table>

HR Zones via MyZones App
Training level verses IRONMAN

![Bar chart showing % Zone I, % Zone II, % Zone III for two groups.]

Group 1:
- % Zone I: 68
- % Zone II: 28
- % Zone III: 4

Group 2:
- % Zone I: 31
- % Zone II: 65
- % Zone III: 4
Do proper ZONE 1 “Training”

HR data downloaded via iSMARTtrain.com
TRAINING: Adding quality?

- Look for the moment when top Z1 gets hard to attain then do intervals at 80%HRmax (e.g. 5x5’ Top Z1, with 1’RI) to build further aerobic fitness (~Feb/March/April)

- Phase in Top Z2/Z3 to bring on “form” “85-90%HRmax” intervals/races bring on “form”: such as the proven 6x4’@Z3 (+2’RI) (March/April onwards) this can make up 5-15% of your week, but its very potent!

- Only add if required A beginner, those in “get round” mode or coming back to training top of Z1 is hard enough to achieve 90-95% of your gains: Only 5-10% “icing” comes from Z3 work
TRAINING: Adding strength?

- Make things harder - 2nd half base (Jan/Feb):
  e.g. swim: two costumes/drag shorts, paddles, drag shorts.
  e.g. bike: add weight, low cadence hills (1 km@60 rpm)
  e.g. run: hills, heavy shoes, pool running WEIGHTED BELT

- Include weights work if you have time/get injured:
  Again it’s very potent, but does not always make an athlete faster - do you need it (bone density, injury prevention, winter variety?) CONSUME 25g WHEY

- Body composition is as important as strength:
  if you lose fat you’ll go faster, especially running
2nd Rule of Fit Club

#NEVERGETCOLD

- Never get cold prior to training:
  e.g. dress warm (Dryrobe), aim to peel of layers
  It’s not about having shorts on in 5-degrees and hail

- Use clothing to vent heat but be warm not cold
  e.g. Gillets, capes, gloves, beanies, legs, arm warmers

- After training wrap up before getting excessively cold
  e.g. donning clothing whilst even ice bathing legs (Brownlee)
  Diverting energy to keeping warm leaves less for recovery
- Used in 2013 by UK Elites
e.g. keep warm then ditch
just before swim & keep
warm after when icing
injuries

- Saves dressing in car
  Lets be a bit more savvy and
keep warm before/after

- Those that try it “get it”
  JBST.com has a demo service
  for athletes to try it
3rd Rule of Fit Club

WARM UP PROGRESSIVELY

• Take time and the right route:
  e.g. flat cycle before hills, easy run before meeting group
  >10mins before hitting upper Z1
  Too soon to upper Z1 (or Z2!) and it signals stress

• Reduce average speed focus to relax the warm up
  e.g. turn off speed, Strava, average Power
  Relax this is the transition into “exercise land”

• Factor pre-race patterns to include warm up
  e.g. turbo next to car, swim bands, into water swimming
Warm up: in the real world...
4th Rule of Fit Club

Plan 3:1 Blocks of Training

● Make recovery a part of your weekly plan:
  e.g. lighter days (low Z1 technique), transition training, non-training days, alternative non-competitive sports

● Use realistic training volume (8hrs; 220 Reader Survey)

  Don’t get hooked on a number it will vary: 8, 10, 12, 6
  The training bank builds your fitness over time. It’s all about ability, consistency and “ABSORBING”

● Don’t go OTT after season

  Less is gained Oct to Dec, more from Feb to April. Aim 60%-75% of volume you intend to peak at Mar-July
TRAINING: use 3:1 loading
5th Rule of Fit Club
Feed your body

- Good Sleep is central to development
  It’s all about ability, consistency and “ABSORBING”
  Elites 10-12h/d and Amateurs 50-hour rule

- Make daily wholefood nutrition a natural habit:
  e.g. slow release carbs, real-food proteins, quality fats
  Don’t try to be perfect just remember YAWYEAD
  (You Are What You Eat And Drink)

- Body Work/flexibility must focus on your imbalances
  e.g. poor shoulder mobility, leg tightness or cramping
  It’s finding the right expert that is the challenge
<table>
<thead>
<tr>
<th>Habits of the better athletes?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Usual living and training altitude (m)</strong></td>
</tr>
<tr>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>2590±313</td>
</tr>
<tr>
<td><strong>Previous experience of regular training (y)</strong></td>
</tr>
<tr>
<td><strong>Typical training volume during the previous 3 months (km·week$^{-1}$)</strong></td>
</tr>
<tr>
<td><strong>Maximum training volume during the previous 3 months (km·week$^{-1}$)</strong></td>
</tr>
<tr>
<td><strong>Amount of rest (d·week$^{-1}$)</strong></td>
</tr>
<tr>
<td><strong>No. of training sessions per week</strong></td>
</tr>
<tr>
<td><strong>Weight training (yes or no)</strong></td>
</tr>
<tr>
<td><strong>Skill and (or) technique training (yes or no)</strong></td>
</tr>
<tr>
<td><strong>Stretching (yes or no)</strong></td>
</tr>
<tr>
<td><strong>Massage (yes or no)</strong></td>
</tr>
<tr>
<td><strong>Sleeping habits (h·d$^{-1}$)</strong></td>
</tr>
</tbody>
</table>
What makes a better athlete?

- All athletes did skill/technique work
  i.e. teaching muscles to be coordinated

- Altitude living athletes (incl. “tent” users) are faster
  However the need for blood testing to ensure
  oxygen carrying level is maximal (e.g. RBC, Hbn etc)

- These elites “only” trained 7-9x per week
  Yet many AG’ers start with “3 per sport, plus strength, plus”
Your TAKE AWAY messages:

- Base training mentality is the key to success
- Kit must be used to keep warm
- Warming up can never be scrimped
- Training must have a variable loading
- Prioritise sleep, nutrition & bodywork
Your essential ACTIONS:

- Get a HRM
- Invest in kit to be warm and dry
- Set exclusion zones & imbed “group respect”
- Diary plan your training before it happens
- Diary monitor sleep, nutrition & bodywork
TOP 10 for 2014

• Beetroot “nitrate” loading
• New aero frames and kit enhancements
• Colostrum & Probiotics
• HIT bike intervals for better run-off-bike
• Hydrotherapy & Compression
• Fasted and low-carb training
• Vitamin D offseason supplementing
• Blood profiling/optimisation services
• Compression pants & Altitude tents.
Questions & Answers?

send them via JBST.com