Workout Examples

KEEP IT SIMPLE: If we can't remember our sessions then our athletes won't have a chance!

Before starting – I highly recommend my **Coaching Long Course Athletes** piece:
http://www.coachgordo.com/gtips/endurance_essentials/coaching_ironman_athletes.html

You can find more workout ideas on these links…

- **gTips Page** – http://www.coachgordo.com/gtips/index.html
- **Archives** – http://www.byrn.org/gtips/gtips.htm
- **Going Long**, Friel/Byrn – http://www.Amazon.com
- **gTips Blog** – http://www.coachgordo.com/gtips/publish/
- **Personal Blog** – http://www.gordoworld.com/gblog/

The workout ideas are from my own training as well as various coaches that I've studied:

- **Scott Molina** – www.ScottMolina.com & www.EpicCamp.com
- **Joe Friel** – www.Ultrafit.com & www.TrainingPeaks.com
- **John Hellemans** – www.NZMTC.com
- **Dave Scott** – www.DaveScottInc.com
- **Mark Allen** – www.MarkAllenOnline.com

You can find my recommended reading list in my book, **Going Long**.
Mental skills and inspiration here – http://www.coachgordo.com/gtips/various/recommended_reading.html

If I had to offer six books that most helped me with my coaching and personal athletics:

- **Physiological Bases of Sports Performance**, Hargreaves & Hawley
- **Lore of Running**, Noakes
- **Once a Runner**, Parker
- **Running with the Legends**, Sandrock
- **Gold in the Water**, Mullen
- **Running The Lydiard Way**, Lydiard

Reading each of these would be time well spent for a coach. Note that only three are technical. The other three are useful to understand the mindset required for excellence as well as what our best competition are up to!

The best single article that I have ever read on the Endurance Lifestyle can be found here –
http://outside.away.com/outside/magazine/0298/9802mark.html Like a lot of good advice, Mark's article seems too simple at first.

When spending time on all this remember that long term consistency trumps both protocol and talent.

I spend most of my time helping my athletes avoid decisions/patterns/habits that derail their consistency, rather than tweaking main sets.

gordo – 21 October 2006

Workout Examples: Page 2

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Half Ironman Swimming for Novices, Monica Byrn

Goal: To be able to swim 2,000 meters without stopping

Easy Swim Relaxed swim total distance 2000-2500 meters	Warm up 500 choice 10x50s with plenty of rest – drill down/swim back – mix up strokes 10x75s – 25 free/25 stroke/25 free Rest 15-20 seconds between 400 pull long strokes – count your stroke every 4th lap 400 choice swim
Test Swim Test swim should be about 1200 meters	Warm up 500 choice 10x25s on 45 seconds – half way hard/ half easy Test set: Build up to 12x100s. Pick the best interval that you can hold to make this pattern – for example: 1x100 on 1:50, 1x100 on 1:45, 1x100 on 1:40, 1x100 on 1:35, 2x100 on 1:50, 2x100 on 1:45, 2x100 on 1:40, 2x100 on 1:35. Point of set is to use the clock to make the intervals... the hardest interval (1:35) should be hard to make. The 1:50 should be a bit slower using the clock. Don't go 1:33 on the first swim and then not make the last interval on 1:35. Learn how to change speeds to make an interval. Warm down 300
Sprint Set	Warm up 400 choice 8x50s rest 15 seconds after each one. Main set: 20x25s on 60-seconds. Pattern is 3 hard ones and then a recovery one. Hard ones are fast as you can go. Easy ones are super easy – backstroke if you would like. Easy 200 5x100 free moderate – Pick an interval where you get 7 to 10 seconds rest 200 Warm down
Middle Distance Swim	Warm up 400 choice 12x25s drill rest 20 seconds 8x50s on 1:15 build speed on way down, easy on way back Main Set: 6x200s – An example for the intervals would be: 3x200s on 3:30, 2x200s on 3:20, 1x200 best effort under 3:10. Goal of this set is to have the same time on each 200. For example you need to hold under 3:10 the whole way. In the beginning you will get more rest and as the set moves on the rest interval shortens. Keep the times when come in all in the same range. Warm down 200
Masters Swim	Find a Masters swim class where you can swim with other people and be in a group environment.
Long Distance Swim Focus is a straight non-stop swim	Warm Up – your choice Main goal of today's swim is to have a straight swim without stopping. Build up week after week until you can swim 2000meters without stopping. Start with a low distance and gradually build to the race duration. Month 1 – 400 meters without stopping Month 2 – 800 meters without stopping Month 3 – 1200 meters without stopping Month 4 – 1600 meters without stopping Month 5 – 2000 meters without stopping – Goal distance Within the month, each week add 100 meters to your "long straight swim" Warm down

Workout Examples: Page 3

KEEP IT SIMPLE: If we can't remember our sessions then our athletes won't have a chance!

Half Ironman Swimming for Experienced Athletes, Monica Byrn

The difference between beginners and advanced swimmers is faster intervals. The long straight swims with be time trials instead of "learning to swim straight without stopping." Odd weeks will be 1,000 meter TT and even weeks will be a 2,000 meter TT.

Easy Swim Relaxed swim total distance 2000-2500 meters	Warm up 500 choice 10x50s with plenty of rest – drill down/swim back – mix up strokes 10x75s – 25 free/25 stroke/25 free Rest 15-20 seconds between 400 pull long strokes – count your stroke every 4th lap 400 choice swim
Test Swim Test swim should be about 1200 meters	Warm up 500 choice 10x25s on 45 seconds – half way hard/ half easy Test set: Build up to 12x100s. Pick the best interval that you can hold to make this pattern – for example: 1x100 on 1:50, 1x100 on 1:45, 1x100 on 1:40, 1x100 on 1:35, 2x100 on 1:50, 2x100 on 1:45, 2x100 on 1:40, 2x100 on 1:35. Point of set is to use the clock to make the intervals... the hardest interval (1:35) should be hard to make. The 1:50 should be a bit slower using the clock. Don't go 1:33 on the first swim and then not make the last interval on 1:35. Learn how to change speeds to make an interval. Warm down 300
Sprint Set	Warm up 400 choice 8x50s rest 15 seconds after each one. Main set: 20x25s on 60-seconds. Pattern is 3 hard ones and then a recovery one. Hard ones are fast as you can go. Easy ones are super easy – backstroke if you would like. Easy 200 5x100 free moderate – Pick an interval where you get 7 to 10 seconds rest 200 Warm down
Middle Distance Swim	Warm up 400 choice 12x25s drill rest 20 seconds 8x50s on 1:15 build speed on way down, easy on way back Main Set: 6x200s – An example for the intervals would be: 3x200s on 3:30, 2x200s on 3:20, 1x200 best effort under 3:10. Goal of this set is to have the same time on each 200. For example you need to hold under 3:10 the whole way. In the beginning you will get more rest and as the set moves on the rest interval shortens. Keep the times when come in all in the same range. Warm down 200
Masters Swim	Find a Masters swim class where you can swim with other people and be in a group environment.
Long Distance Swim	Focus is a time trial swim and bettering your time-becoming proficient in your swim race distance. Warm Up – your choice Odd Weeks – 1000meters time trial Even Weeks – 2000meters time trial Keep track of your times and gradually improve your weekly time trial. Warm down

Workout Examples: Page 4

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Ironman Basic Swim Week for Intermediate Swimmers, Monica Byrn

Goal: To be able to swim 4,000 meters without stopping

Easy Swim Relaxed swim total distance 3000-3500 meters	Warm up 1000 choice 10x50s with plenty of rest – drill down/swim back – mix up strokes 10-15x75s – 25 free/25 stroke/25 free Rest 15-20 seconds between 600 pull long strokes – count your stroke every 4th lap 500 choice swim
Test Swim Test swim should be about 2400 meters	Warm up 500 choice 10x25s on 45 seconds – half way hard/ half easy Test set: Build up to 24x100s. Pick the best interval that you can hold to make this pattern – for example: 1x100 on 1:50, 1x100 on 1:45, 1x100 on 1:40, 1x100 on 1:35, 2x100 on 1:50, 2x100 on 1:45, 2x100 on 1:40, 2x100 on 1:35, 3x100 on 1:50, 3x100 on 1:45, 3x100 on 1:40, 3x100 on 1:35. Point of set is to use the clock to make the intervals... the hardest interval (1:35) should be hard to make. The 1:50 should be a bit slower using the clock. Don't go 1:33 on the first swim and then not make the last interval on 1:35. Learn how to change speeds to make an interval. Warm down 300
Sprint Set	Warm up 400 choice 8x50s rest 15 seconds after each one. Main set: 30-40x25s on 60-seconds. Pattern is 3 hard ones and then a recovery one. Hard ones are fast as you can go. Easy ones are super easy – backstroke if you would like. Easy 200 5x100 free moderate – Pick an interval where you get 7 to 10 seconds rest 500 Warm down/long stokes
Middle Distance Swim	Warm up 600 choice 16x25s drill rest 20 seconds 8x50s on 1:15 build speed on way down, easy on way back Main Set: 10x200s – An example for the intervals would be: 4x200s on 3:40, 3x200s on 3:30, 2x200s on 3:20, 1x200 best effort under 3:10. Goal of this set is to have the same time on each 200. For example you need to hold under 3:10 the whole way. In the beginning you will get more rest and as the set moves on the rest interval shortens. Keep the times when come in all in the same range. Warm down 200
Masters Swim	Find a Masters swim class where you can swim with other people and be in a group environment.
Long Distance Swim Focus is a straight non-stop swim	Warm Up – your choice Main goal of today's swim is to have a straight swim without stopping. Build up week after week until you can swim 4000meters without stopping. Start with a low distance and gradually build to the race duration. Month 1 – 1000 meters without stopping Month 2 – 1800 meters without stopping Month 3 – 2600 meters without stopping Month 4 – 3200 meters without stopping Month 5 – 4000 meters without stopping – Goal distance Within the month, each week add 100 meters to your "long straight swim" Warm down

Workout Examples: Page 5

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Ironman Swims For Advanced Swimmers, Monica Byrn

The difference between beginners and advanced swimmers is faster intervals. The long straight swims with be time trials instead of "learning to swim straight without stopping." Odd weeks will be 2,000 meter TT and even weeks will be a 4,000 meter TT.

Easy Swim Relaxed swim total distance 3000-4500 meters	Warm up 1200 choice 20x50s with plenty of rest – drill down/swim back – mix up strokes 10-20x75s – 25 free/25 stroke/25 free Rest 15-20 seconds between 800 pull long strokes – count your stroke every 4th lap 800 choice swim/long strokes
Test Swim Test swim should be about 2400 meters	Warm up 1200 choice 20x25s on 45 seconds – half way hard/ half easy Test set: Build up to 24x100s. Pick the best interval that you can hold to make this pattern – for example: 1x100 on 1:50, 1x100 on 1:45, 1x100 on 1:40, 1x100 on 1:35, 2x100 on 1:50, 2x100 on 1:45, 2x100 on 1:40, 2x100 on 1:35, 3x100 on 1:50, 3x100 on 1:45, 3x100 on 1:40, 3x100 on 1:35. Point of set is to use the clock to make the intervals... the hardest interval (1:35) should be hard to make. The 1:50 should be a bit slower using the clock. Don't go 1:33 on the first swim and then not make the last interval on 1:35. Learn how to change speeds to make an interval. Warm down 300
Sprint Set	Warm up 800 choice 16x50s rest 15 seconds after each one. Main set: 40-50x25s on 60-seconds. Pattern is 3 hard ones and then a recovery one. Hard ones are fast as you can go. Easy ones are super easy – backstroke if you would like. Easy 300 10x100 free moderate – Pick an interval where you get 7 to 10 seconds rest 200 Warm down
Middle Distance Swim	Warm up 800 choice 20x25s drill rest 20 seconds 12x50s on 1:15 build speed on way down, easy on way back Main Set: 10x200s – An example for the intervals would be: 4x200s on 3:40, 3x200s on 3:30, 2x200s on 3:20, 1x200 best effort under 3:10. Goal of this set is to have the same time on each 200. For example you need to hold under 3:10 the whole way. In the beginning you will get more rest and as the set moves on the rest interval shortens. Keep the times when come in all in the same range. Warm down 200
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Workout Examples: Page 6

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Cycling Main Sets

Triple 3s Continuous three minute cycles of: Standing 60 rpm Seated 75 rpm Seated 90 rpm	Duration – 60-90 mins Intensity – Start steady (have patience), second half of main set mod-hard (about 5-12 bpm under LT) – this is just a moderate intensity Advanced – after 3-6 sessions then insert some 90s periods where you build HR to FT Terrain – terrain might make cadence targets difficult – in that case, seek to modify cadences based on terrain – the key is variation, not being married to the three-minute intervals.
Standing Riding	Another thing that you might want to try – in the middle of a long ride, stand for 15-30 minutes. TOTALLY different from the way most folks ride! Just like high cadence work, I think that this challenges muscular recruitment and firing patterns in a new way. When starting, it will be tough – that's OK. No HR targets, no power targets – just do it. After six weeks, you will notice positive adaptations and benefits. The nice thing about this skill is that it means that an athlete can stretch in a race and still have good power.
Change Up Intervals Five minute interval duration 120s @ 92-94 rpm, controlled build to hr 90s @ 70-75 rpm, hold power/pace/hr 30s @ 92-94 rpm, sustain power/pace/hr 60s @ 70-75 rpm, hold power/pace/hr	Duration – 5-10 intervals Intensity – Start with steady effort, if set used in a long ride then do it twice with goal being to end the second set with the strongest performance. There is no need to go harder than mod-hard intensity, show control in the first 45s. Terrain – terrain might make cadence targets difficult – in that case, seek to modify cadences based on terrain – the key is variation, not being married to the interval duration.
Up/Down Intervals	Three part interval First section – big gear, low cadence, steady to mod-hard for power, heart rate builds to steady Second section – normal race cadence, mod-hard or threshold wattage (depends on time of year), heart rate builds to mod-hard Third section – taper off the wattage and heart rate – steady wattage, heart rate comes down gradually to steady Goal is to hit a range of cadences, train muscular recruitment as well as the ability to clear lactate at IM race effort (steady).
Best Aerobic TT	30 min w/u, 30 min best aerobic pace (build to FT-5 to 8bpm), 30 min c/d Track avg HR for final 20 mins of main set Track avg watts for main set Track max HR within main set
Power Singles	30 min w/u Singles of 1 min on, 1 min off – Big Gear, Cadence of 60 rpm (or lower) 30 min c/d

Workout Examples: Page 7

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Supplemental Thoughts on Racing Well

Pacing The Bike

The goal isn't to figure a do-able average—the average flows from course conditions and how smart we are able to use our efforts. The goal is fastest time possible swim-bike-run.

- We use our training/racing to learn steady and mod-hard efforts.
- The fit athlete can then use his/her ability to change effort in key sections of the course.
- The course should be broken into pieces (sets) with specific prep training being geared to give the athlete the fitness and experience to execute their race strategy. Specific prep is about steady & mod-hard preparation for specific elements of the race (first and foremost). It isn't about lifting FT performance.
- With FT and VO2 watts, we learn those numbers to apply ceilings on bike efforts.

Using Half Ironmans for Learning IM Effort

For men 30-40 years old the bike is, generally, Steady 130-140bpm and Mod-Hard 140-150bpm.

I ride the first half of the bike just under 150 bpm (feels pretty easy) then... I aim to sit just over 150 bpm and that should be an even split for power.

If I do that AND if I run within three minutes of my open half marathon time then I call my race "well paced." This aspect is key because most people totally blow their wad on the bike.

Then I can use my data... Average HR for the bike, call that HIM-HR.

So in my IM...

- **NEVER** cross HIM-HR (even climbing)
- Sit on HIM-HR for long climbs
- Sit 10bpm below HIM-HR for the flats

Now, I have been above and below these targets before and had decent races. However, my best overall races, relative to fitness had me sitting on these HRs. The absolute toughest part is staying below these targets in the first two hours of the bike—very, very tempting to go harder.

Athletes will use any excuse other than "I went too hard early" to justify pace slow down mid and late in the race.

Nutritional issues are nearly always pacing issues in disguise!

Racing Well – Other Considerations

Mind – the mind needs to have zero emotional attachment to fatigue and discomfort. In an IM-specific sense this is best achieved through high volume periods.

Running

- **a** – maximum "efficiency" when running tired and depleted
- **b** – estimate "a" by tracking AeT pace and excellence in nutrition
- **c** – economy enhancement through key sessions that are done 10s per K faster than goal pace
- **d** – threshold and cardiac development through sustained FT criss-cross sessions
- **e** – high run frequency and hills (year round) for durability and eccentric loading

Workout Examples: Page 8

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Predicting Ironman

Swim

For me, the best predictor of swim performance is 1500m, long course, non-drafting performance. Once an athlete is at 20-mins (or faster) for that then 400m time becomes important to make the group. Before you are at 20 minutes then the 400m time is less important because if you "use" your speed then you detonate because you make a pack that is too fast. Once you can hold 1:20 per 100 LCM then you can sit on all but the fastest groups (outside of an ITU race).

Open water swimming is different from pool swimming – very much like the difference between a road race and a cycling TT. Pace changes, pack position, spatial awareness, relaxation under random duress – all very important in an open water setting. People can swim above (or below) their pool-ability.

I move away from giving predicted swim (and bike) times to athletes because it doesn't matter – if they hit the time then they forget, if they miss the time then they worry about it when they should be racing in the present.

Run

- **Q:** Is there a formula to predict IM marathon time from open (given that I am a decent biker)?
- **A:** Not from open marathon times – it is a very different event. The best predictor that I have found for a high volume, front of pack athlete is that they should be able to average their AeT pace for the run. That's the pace at the bottom end of your steady zone. In order to average that you need to actually be running about 5s per K faster than that pace – a "grey zone" effort. You also need to be able to elevate HR to maintain pace as fatigue takes it toll. My HR for the final 15K of the race is 10-15 bpm above the level for the first 15K – and my pace is typically slightly slower.

Periodization

This works well for my working athletes...

- Seven Day On
- 2-3 easy days then 4-5 on days
- 4-5 easy days then 2-3 on days

Gives a three week cycle where you train well every weekend.

The traditional idea about periodization... four weeks... 1, up, up, down – I don't think that works well in practice. What works better is the structure I laid out which translates to... 9-10 days on; 2-3 easy days; 4-5 days on; 4-5 easy days

Preventative rest ensuring better overall training.

The week is simply an artificial divide based on our calendar – don't feel that you have to track in 7 day periods.

Workout Examples: Page 9

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Ironman Performance Questions That Matter

- **1:** What's the minimum volume required to be a fair 1500m swimmer? 4Ker?
- **2:** What's the minimum volume required to be a fair 40K TTer? 180Ker?
- **3:** What's the minimum volume required to be a fair 10K runner? Marathoner?
- **4:** How much do I need to train weekly to survive an 11-17 hour single day event?
- **5:** What's my best case scenario for average intensity across this entire event?
- **6:** Given all of the above, how much work do I need over my average race-day intensity?
- **7:** Thinking calmly, how much training stress can I absorb week after week for three years and improve across all disciplines?
- **8:** What are the implications of making a mistake with a little too much volume?
- **9:** What are the implications of making a mistake with a little too much intensity?
- **10:** What protocol will result in the least amount of injuries?
- **11:** What protocol will help me control my nutritional lapses?
- **12:** What protocol will enable me to train my body's ability to absorb calories and hydration on race day?

There are many ways to improve and always more questions than answers. These are some of the questions that I ask myself when I build my programs.