

THE TRIATHLETE'S GUIDE TO **PEAK** PERFORMANCE



By the Editors of **INSIDE** Magazine
TRIATHLON

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Peak Performance

Triathlon has inspired thousands to take control of their lives and get active. Participation is the lifeblood of the sport. But for a select few athletes, triathlon isn't about simply finishing a race; it's about getting to the finish line faster than ever before.

Multisport mastery is no small task, and this book is not an instruction manual to guide you from registration through earning your first finisher's medal. It does not include a race-day checklist. There are no swim technique tips, run workouts or other helpful yet basic tidbits in this book. Instead, *The Triathlete's Guide to Peak Performance* delves into the finer points that separate fourth place from the podium as only *Inside Triathlon* magazine can. We selected some of the most informative feature stories published in the magazine to bring you training guidance from the sport's most knowledgeable and accomplished sources.

Coaches of Ironman champions and Olympians—Brett Sutton, Darren Smith and Mat Steinmetz among others—share the principles and strategies they use to guide some of the world's best to their most impressive results. Their suggestions can help you do the same. These coaches have found success with different methods, but all agree on the importance of recovery. And recovering from the intense training they prescribe is more involved than sitting on

the couch. T.J. Tollakson is the pro triathlon community's version of a mad scientist, and he shares his recovery routine, which ranges from the mundane to the obsessive. Translating your physical preparation into results on race day is just as important as training, so ITU Long Distance world champion Torbjørn Sindballe shares the minutia that helped him thrive in the Kona heat and the mental techniques he and Craig Alexander use to squeeze every drop of speed out of their bodies. To inspire your own personal best, Mirinda Carfrae gave an unprecedented look inside her new cycling-focused training strategy and how you can do the same to improve your own performance on the bike. Pull out your training log and prepare to absorb the details that can help you reach that next all-important milestone.



Aaron Hersh
Inside Triathlon senior editor

Aaron swims to the floating coffee boat in Kailua Bay days before Ironman Hawaii in 2011.





GREAT MINDS (DON'T ALWAYS) THINK ALIKE

We picked the brains of the greatest minds in the sport of triathlon—five coaches of top pro triathletes. They shared their thoughts on injury prevention, nutrition, life balance and everything in between.

COMPILED BY BETHANY LEACH MAVIS
ILLUSTRATIONS BY MATT COLLINS



Australian **Brett Sutton** is not and never has been a triathlete, yet he's considered by many to be the best coach in the sport. His background includes being a national swim coach for Australia for 10 years, being a professional boxer and squash player and training greyhounds and racehorses, all of which now influence his coaching style. He coached Chrissie Wellington to her first two Ironman World Championship victories, coached Siri Lindley and Loretta Harrop to ITU World Championship titles and now trains top Ironman athletes, such as Caroline Steffen, James Cunnama and Mary Beth Ellis, out of his TeamTBB training base in Leysin, Switzerland.

Training philosophy I'm an authoritarian—I think coaches should make decisions and so with all our athletes, we discuss what we're going to do and when we're going to do it and how we're going to do it. And then we make a decision on what path we're going to take. I'm very proactive in making that decision—I don't let athletes make that decision for themselves. In saying that, I would suggest that we aim more to tailor to the individual rather than the group. ... We have certain subgroups, so within the male group, there's a certain amount of people that will do more, shall we say, anaerobic training and there are other groups that don't need to do as much anaerobic training. So they basically fit into a category that I sort of instinctively put them in. And it's the same with girls—some people need a lot of long work and some people don't deserve much at all, even though they're Ironmen. So it's a very variable situation. And I think triathlon needs to do that because—well, I just told you about physical structures, but we're talking about mental structures as well—different people need to be motivated in different ways. Some people like the overbearing coach; other people detest it. So you've got to be knowing your athletes—which one to play while you're dealing with which particular athlete.

On group training Just because you're an age grouper doesn't mean the philosophy of how you train should change just because somebody's a professional. Professionals train like age groupers—they're just a lot faster. ... For an age grouper, training in a group mentality really does help them. I

would say even more than a professional athlete because their livelihood doesn't depend on it. So you've also got the social aspect of going to a group and doing a training swim. Swimming a 4K by yourself is not a fun thing, unless you're an ex-swimmer or something. ... The way I try to deal with age groupers, again exactly the same as I do with my professionals, is I say to them, "It's about you and improving you. It's not about what the bloke next door to you is doing." So if you can get them to start to realize, "OK, my job is to improve me, my job is to use the group to improve me, not to destroy me," then you've gone a long way to making some good, positive steps forward and being able to improve rather rapidly within a group formation now. If you go there and you've got a big ego, and every day you want to go head to head with the next guy, you'll make some, what I call, artificial improvements in a short period of time because you're pushing yourself over your limit. And your body for six to nine weeks, sometimes three months, sometimes half a season or a season, you can do that. And then all of a sudden it catches up with you, and that's when the injuries come and the lethargy comes in and the tiredness, and "Oh I might be overtrained" or whatever. It takes a little while to catch up, so my idea is to catch it early and try to educate them. And every day we want to do something that's going to be beneficial to them, not something that tears you down.

On mental preparation I think the biggest mistake age groupers do in triathlon is they set times. Every course changes so dramatically. And professionals do it too—it's "Oh I did this time, I did that time." It's ridiculous. You could go on a 40K loop that doesn't change every day, and the wind changes direction 10 percent, and the times are going to be 2 minutes different, whether they be faster or slower. Say you run an Ironman one year, and you go 9:11, and the guys want to go back next year and run nine hours. The wind and the water is changing directions, so that's going to slow your swim down; maybe there's a cross-wind on the bike, which you didn't have the year before, so it's going to slow your bike down; it might be 10 degrees hotter, so it's going to slow your run down. I've seen so many athletes that I've dealt with that had fantastic races and go, "Oh, I can't believe it, I had a terrible race." And they had a fantastic race!

On going hard And I don't stop people from going hard—I encourage it. You have to enjoy going hard—when the body wants to go hard, go hard. When the body doesn't feel great, we don't push hard when our body's telling us not to. And that's the key—that's the mental key in helping some athletes. I've got some athletes who are so wound up be-

cause they're so desperate to do well. Mary Beth Ellis is a good example—I spent all year trying to settle her down because she wants to be good so much that it destroyed her for the past two years. ... You try to establish the psychological profile of some athletes, and most people think I run around with a big stick trying to stir everybody up. I actually walk around with a pacifier trying to settle half these people down because they're all too wound up to do well. And so to have the right mental approach to some people might be, "Take it easy and relax; don't push." I have one girl whom I won't mention because she might get embarrassed, but I told her to not go faster than 95 percent. "What about even if it's a sprint finish?" "Don't go harder than 95 percent." What I've done is control her from over-trying because she's a chronic over-trier. She'll train, she'll run, she'll race till the blood comes out of her, and sometimes nothing happens. And it doesn't happen because she's trying so hard—her techniques are destabilized. She swims slower when she tries to go harder; she bikes slower when she tries to go harder. But whereas if she just takes that edge off, her techniques take over and she does fantastic.

On Ironman racing Over an Ironman, it's not "I'm going to race the guy next to me." It's what your body's capable of doing—the amount of power your body can put out over a nine-hour period. Those numbers are going to win you the race. So we try to concentrate on our own personal numbers, and the only time we ever think about being in a race is when we get down the 35K mark on the run, and then we put strategies into place when we're racing. But up until then, we're about checking our body clock, running on what we believe is our pace minutes, and let the cards fall where they may. At the end of the day, we have a look at their performance, and then we have a look at the scoreboard and see where we are. And I see far too many athletes and far too many age groupers got their head down two hours or three hours into a race, and have changed their plan because the guy they want to beat has just gone past them on the bike. So straight away, they're, "Oh, I can get faster, I'll go with him." And they leave their race right there. And as they walk for the last two hours, they're thinking about what they did in training wrong or "my nutrition was wrong." Or run training—"What's wrong with my run? I can't run. It must be my run training." But it was the rush of blood to the head six hours ago that actually killed them. That to me is the most pertinent point of age-group racing that's not looked after. They see the pros get out there and basically just give it to themselves every minute of the race, and they're going head

to head with everybody. But that's not the case at all. And you've seen Caroline Steffen [in 2011] have an absolutely fantastic failure because she tried to win [Kona]. And she went away when Chrissie and Rinny were having a bad bike day, she decided, "My only chance to win Hawaii is to blast the bike now and try to hang on." And while that was an honorable and a wonderful, shall we say, competitive spirit, it might not have been the best way to try to win the race. And it's easy for us to sit there and lounge around and discuss it. But at that particular time, when she saw the other girls weren't riding well, it motivated her to lose her game plan. And I know we've had discussions about it already, and the discussions were if maybe we stuck to our game plan, the race might have unfolded and we might not have walked the last two kilometers. So, you know, it's the same for age groupers as it is for pros—she left nothing on the course. That girl did everything possible she could to unseat the queen—she's racing the greatest ever athlete in triathlon. So it was a wonderful testament to people like you to look at somebody who was not overruled by Chrissie Wellington and was going to go out there and give it everything she had. And that was wonderful. So on one hand, I applaud her and tell her what a wonderful competitor she was, and on the other, I have to tell her the truth. You should have stuck to your game plan, and it might have put more pressure on you than you thought.

On avoiding overtraining The thing is an age grouper, to speculate, there's a family behind some of these guys and they've got work. So, for instance, if I've got an age grouper that's down to do a fast run or whatever on a Wednesday night, and they've had a rough day at work, I'd tell them don't do it. Don't do it. It's only going to make it worse. "I've had a really tough day. I've had a shocker. I had two business meetings." Go outside, and go for a run, and then if you start to feel good, pick the pace up. And then if you start to feel real good, pick the pace up more. And if you can, go out at night. Why? Because psychologically when you're running at night you feel better. The darkness seems to galvanize you a little bit better, the wind goes a little bit more in the hair, and then you're going faster. So that's how I'd arrange it. But if I go out and give them five 800s on the track after they're stressed, you're giving them more stress. Just because it wasn't physical stress—it was mental stress all day—doesn't mean it's not stress. And then we're going to give them physical stress—that's when they're going to get tired, they're going to get irritable and that's when things break down.



Canadian **Joel Filiol** has built quite a reputation as an elite coach. For one, he coached Canada's Simon Whitfield to silver at the 2008 Beijing Olympics. But beyond that he's served as head coach for the national federations British Triathlon and Triathlon Canada, and has worked with top names such as Alistair Brownlee, Jonathan Brownlee, Tim Don, Helen Jenkins and Jordan Rapp. He's currently based in Victoria and working with ITU athletes Lauren Campbell, Kyle Jones and Kerry Lang, as well as Ironman athlete Chris McDonald.

Training philosophy What we're really trying to do is the maximum sustainable training load for any given athlete, and the key word is "sustainable." That's a word coaches talk about—consistency. And what does that really mean? It means that the level of training, the level of work you can back up day to day and week to week for a long period of time, and the idea is that we progress that over time—that athletes can progress to be able to tolerate and absorb a higher and higher level of work. And of course you adapt as you go. That contrasts to an approach that's more varied or uses more traditional cycles, like build 1, 2, 3 and then have a week off, a down week. It varies from that—where we're looking at longer periods of time where the goal is to have a really consistent period of work. ... Of course, you need the right level of intensity to stimulate improvement, and that can come in different ways. That can come from intervals at various paces or from using natural terrain like hills or from higher frequency or varying the volume. So there are lots of ways we can adjust that workload, but we're trying to have basically the highest average workload for a longer period of time, and that's what gets athletes fit, and then some specificity into the kind of races they're preparing for, and then the right amount of rest based on all of that.

How to peak for a race I think it's less about trying to achieve that big peak on those days than it is to have a performance that's predictable—that you know that if you line up your training in this planned way that you're going to have the best level of your season on those days. That it's predictable and consistent is probably what I would apply to anyone—less so than chasing after a peak. As

I said, things can go wrong if you're pushing a bit too much to try to be better than you've ever been before, but what you really want to be able to do and need to be able to do is have a consistent, reliable and predictable performance—and that's going to give you your best chances of having the kind of day you want in your goal races. And what the practical piece for that is is having a consistent lead-in to your races. I use the same basic lead into almost every race that my athletes do, and the main difference between a major priority race and just another race is what happens from seven or eight days, from 13 to 14 days prior. So the week before is always the same; it's the second week before that we vary depending on the level of the race and the workload that they've carried in. The right amount of rest, the right amount of taper—having a real consistent pattern for that into races—one, it takes a bit of the thinking away from, "What am I going to do race week?" but also sets up that predictability and that pattern that we know what to expect race week; we always do the same sessions and that predictability, that reliability is there. I think it makes it easier to produce that consistent performance. So it's slightly different thinking than trying to get a peak and more about, "How do we make sure that we're able to express the fitness that we've built through training?" ... What we want to avoid is that sensation of heavy legs or sluggishness, and usually that's from recovering or doing too little. You can also feel like that from being too fatigued, but many athletes I think do too little race week or the two weeks before—they almost over-rest, and they get that sluggishness from that.

The right workload at the right time What we're trying to do is have the right workloads for each athlete—the right workload at the right time for the athletes. I think that's sort of a broad principle, but there are some different stories for how I can illustrate that. "Philosophy" is kind of a big word—what does that mean? What does that apply? My lessons working with Simon [Whitfield] post-Beijing—we were lucky to have success, so you look back and ask, "What contributed to that?" And I said there were three things that were really important for Beijing, and they were conditioning, conditioning and conditioning. Just having a really high, robust level of fitness, of conditioning. And that really takes you a long way, and I think it's easy to get distracted with, in our sport, either the technology of it or the many different ways which we can go about training and convolute the big picture—that it's about getting our athletes as fit as they can be and ready to race and express that. But getting as fit as you can be isn't that complicated of a process. ... Having seen and worked with so many different champion athletes, I can tell you that they're not all training at the same

level, and what they are doing is training at the level that's right for them. And for some of the men or some of the women, that may be running eight or nine or 10 hours a week, and they're at the top. And there's others who are only running four or five, and they're equally as fast. And it's not about a coach being right or wrong, but it's the right approach for the right athlete at the right time—figuring that out for the individual is really what the task is.

On injury prevention Part of it is getting the training load right because a lot of injuries are caused by or are precipitated by training load that is too high and they can't cope with it and structurally bad things start to happen—they start to move in less than optimal ways or compensate—compensation patterns in their movement, which lead to injury. So that is very important. Very well-skilled coaches seem to have lower injury rates from that perspective of knowing the right load for the athletes so all their stabilizer muscles and form is able to hold together, so there's the right progression. But I look at an athlete's injury history, their biomechanics, what we know about their sport history also as indicators of what they need to do. The athletes that I'm able to see and work with more closely or more intensely might have a physio screening, they might have areas where they need to develop be identified and we can address those in a sport-specific way, which is using various exercises or ways of training to develop strength or conditioning or ability to hold form—there's ways we can do that within sport-specific training. Then there's also looking at what we can do in terms of other exercises that might address limiters or predisposition to injury. So that might be spending time doing gym work or drill work or isolating particular areas that we know are weak and then—I wouldn't necessarily say “isolate” areas, but emphasizing development in areas that are weak or predispose an athlete to injury or where they've identified a movement pattern from before. ... I really encourage athletes to have a good self-maintenance-type program, which basically includes foam rollers and those types of activities that can keep the body moving. I don't mean stretching as it were, but it's about how those muscles are working together and that can help a lot. I don't like athletes to have to rely on medical support or physios or chiro. I'd prefer them to be able to do a lot of that maintenance themselves.

On balancing all three sports If I give people advice, frequency is important in such that even short workouts are still really useful. If you only have time to swim 20 minutes, that's better than nothing. And doing

that more often. Even short runs—20 or 30 minutes—are much better than not doing those, and spread those throughout the week and you can achieve a good level of frequency. Because part of learning how to move well—and we might talk technique, or biomechanics in swimming and running—the frequency and neuromuscular coordination and flow is important. ... It's figuring out within their own schedule, their life schedule, what is a program or a layout for the week, a schedule for the week that they can repeat consistently because again if you're too ambitious or you don't anticipate what level is sustainable for you, then you're going to end up less consistent over time if you're constantly missing sessions, or some sessions are too much and you just can't recover and then that affects your consistency the rest of the week.

On mistakes age groupers make I suppose just making it more complicated than it needs to be at times. ... I think you can easily make things too complicated, try to be too sophisticated. And it really is that endurance training is really simple. ... It's easy to overdo single sessions but then sacrifice consistency as opposed to knowing what the right level is for any given athlete at the time and then being able to back that up. ... How I see improvement in an athlete is not necessarily how good any one training session is. It's how much they're able to back it up and be consistent throughout the week.



The Team Builder & Mentalist

As an athlete, American **Siri Lindley** used her balls-to-the-wall approach to win an ITU World Championship. She retired in 2002, at her athletic peak, but feels like she still held on to her credibility. “I got a lot of hell from people saying, ‘Why are you retiring now? You’re winning races!’” she said. “But I just felt like I knew there was something bigger out there, as far as something that I’m even more passionate about.” When her former competitors started asking for coaching help, she found her calling. She’s coached athletes to Olympic medals (Susan Williams), World Cup wins (Samantha Warriner and Jill Savege) and Ironman and 70.3 World Championship crowns (Mirinda Carfrae). Her current squad includes Leanda Cave, Luke McKenzie and Magali Tisseyre.

On mental preparation I think the biggest thing that everybody can do is if you're logging your training and you know you've been training consistently, doing a great job, working hard every day, and if you're logging that, it's important to go back—whether it's weekly or monthly or before a race—and look at all that work that you've done and look at the progress that you've made and really get a true confidence boost from that. A lot of people just kind of train every day, but they don't keep track of how they're going, and I think that that's such an invaluable tool—to be able to look back and say, “Wow! Look at this! I worked hard, and look at the improvement I've made.” ... It's a matter of really taking each athlete and knowing what fear is most coming into their minds on race week and being able to make sure they're not focusing on those but focusing on the things they need to—which really, if they've done the work, all you have to do is go out there and give 110 percent to the race, and it should be a great day for you, as long as you've done that work. So it's really just keeping perspective and keeping them out of their heads and just focusing on the great work that they've done and treating race day more as a celebration of all the hard work they've done rather than this test that they've got to be all stressed about.

On balancing all three sports I would recommend to every age grouper that each week they try to get in one speed session in every sport, one long, endurance session in every sport and one strength session in every sport. And if they can do that, they're going to be covering the bases. And [I would also recommend] not being too hard on themselves because if they get stressed about missing a session, that can have negative consequences on the rest of their day and on their family and on their work. It's really just doing the best that they can with the time that they have, but definitely planning their time wisely and making sure they're getting in the sessions that are really beneficial.

On training camps When you're faced with yourself and a little bit of boredom, and there's nowhere to go and nothing to do, a training camp ends up being a very powerful experience because it does give you time to get to know yourself and to be more in touch with what you're feeling inside of yourself and all those things. I know it sounds cheesy, but the more you can be connected with yourself and what motivates you and know yourself and know what your fears are and know what makes you uncomfortable, it just gives you more power to put into the goals you're trying to achieve. It gives you more time for recovery, more time to appreciate what you're doing and where you're at. I think it's really

important, as uncomfortable as it can be for some of my athletes. I know we always leave those camps in a much more powerful space, which I find is really helpful as far as starting the season off on a high note.

On injury prevention The biggest thing is I have a strength and flexibility coach who works twice a week with them laying down a foundation of strength that they need to stay strong as the training gets tougher, and flexibility in order to keep you loose and have your body working properly. When things get really tight, you start compensating, so we really try to get to a point where they aren't compensating in any way. Ice baths after hard runs, massages, self-massage and getting plenty of recovery. And most importantly, our biggest rule of thumb is if you feel something coming on, you stop right away and maybe take a day or two off, and then it's gone and you're ready to start training again. Whereas most people, they feel something coming on, they say, "Oh, I'll just get this session done and then I'll take care of it." And next thing you know, they're out for three weeks.



Australian coach **Darren Smith's** background in sports science naturally led him to coaching when a friend asked for help. "In the end, I enjoyed coaching more than I did competing," Smith said. His biggest coaching influences are Gennadi Touretski, who coached Alexander Popov to multiple Olympic swimming gold medals in the '90s, and well-known triathlon coach Brett Sutton, whom he worked with in the late '90s. He started out coaching Ironman athletes, such as Kate Allen and Sarah Gross, but has built much of his reputation by coaching ITU athletes, especially women. On his current Canberra, Australia-based squad are some of the biggest names in ITU racing: Lisa Norden (the 2012 Olympic silver medalist) and Sarah Groff.

Training philosophy I don't know what too many others do because I don't spend my days trying to work out what everyone else does. But I think I'm somewhere in between everything. I'm certainly less volume than, say, Sutton, I'm quite high on

the technical refinement, and quite high on teaching people specifics about racing.

On how to compete The "rah, rah" coach at the start of the race, before the start of the race says, "I want you to win this," and da, da, da. Well, I never talk to my athletes about winning—never. I would never go, "All right, we need a top five or a top 10" or anything like that. I'll tell you what I do instead: We work hard at all the things that make them good before the race. We have a plan. ... What makes somebody go slower in a race? Thinking about the other athletes. What happens if you know you should run with your arms at a certain height or run at a certain cadence or take a drink at a certain time, what happens if you forget all that and you dream about or you think about other things that are distracting? You slow down. ... So you've got to focus on the things that make you run fast, which is, what are your arms doing? Are you breathing well? What are you thinking or what are you saying to yourself? You know, are you running heel-toe, or are you running mid-foot or whatever technical thing the coach has said in training? Are you drinking appropriately? So, my point is, we don't think about things like winning, we don't think about things like coming in at a certain place. We think about the things that make us go fast. ... If five people beat you [in a race], then you come sixth, right? Now, did you have a chance to affect how they performed? No. Of course not. That's the answer. So we get people to focus on what they can do. Don't focus on what you can't do or can't control, which is other people. ... And even if you got fifth in a race or sixth in a race, and you performed all the things you'd been training to do, do you think you'd be proud? Yes, you would because you performed well, which is doing things well in training and then doing exactly what you were taught to do in the racing environment. So that's basically my philosophy on teaching people how to compete.

On improving your swim We've all seen the ex-swimmer who's out of shape jump into the swim lane next to you and they go up and down their lane faster even though they're not fit. And I'm sure a lot of age-group triathletes who are very fit and work very hard get totally pissed off when they see these out-of-shape ex-swimmers go up and down. So it's not about fitness, right? That's pretty clear. Now, some of the things that we see is that measures of internal rotation at the shoulders or flexibility at the shoulders in general, and perhaps some skill components are missing, totally missing. And so one of the first things I do is to improve the range of motion and shoulder control of the athletes because I'm wasting my time if I don't. Swimming is about applying force

to a very slippery medium, water, so that the body can go past and go forward. It's not about pulling the water, it's not about anything other than putting your hand in, holding tension and then pulling your body past that hand or forearm. ... We change the range of motion at the shoulders to allow athletes to get into a stroke that's even close to reasonable. So if somebody with poor technique is not prepared to change their range of motion, I wouldn't even work with them—that's how important it is.

On injury prevention We have a full-time massage therapist. We also have a world-class physio, and I have a system of looking for overtraining markers. So we're looking for nervous system fatigue, things like mood state or anxiety. ... When you get really fatigued, really tired, your sleep quality goes off and your anxiety goes up, and it's normally related to the nervous system. Not just "I'm dead tired"—essentially something that's not good. Heart rate numbers change, mood state changes. So we're looking for things like that. So every morning when I see the athletes, I'll ask them some questions, a bit like Gennadi Touretski used to, quietly go up and talk to them one at a time.

On taking rest days I don't care about giving them a day off or two days off or a week off if needed—it doesn't really matter to me. What's most important is that we train them optimally. So we train them hard and then when they're starting to show signs of overtraining or fatigue—extra fatigue, not just normal fatigue—then we give them whatever rest they need. So I don't have a hard and a fast rule that I must train them for four weeks and then I give them one week rest. I look at them as an individual. And some people can go for six weeks maybe, or some people need a break after three weeks. They're all a bit different, so I don't have a one-size-fits-all approach.

On balancing swim, bike, run Well, normally they'll come from one background. So if they're a swimming background, you might work what is the minimum requirement at some phases of the year, and only the most time-efficient method. So it might be two to three sessions [per week] and you might do no drills, but you might do a 3–4K main set and plenty of strength work, so you get the most bang for your buck. And that's swimming ticked off. You won't improve, but you won't go backward. Same with a runner—if you're a runner and you need to learn how to swim and all these things, how much running do you think per week will be enough just to keep you nice and fit? I'd probably say if you're from a running background, you'd need one run over an hour, or just about an hour, and then one run