

The Truth about CrossFit

Words | Roy M. Wallack
Photos | Carlos

Without increasing his training mileage, Jim Garfield, a 46-year-old media director from Los Angeles, reduced his Escape From Alcatraz time from 3:11 in 2009 to 2:52 in 2010.

Carl McPhee, 34, a high-school conditioning coach from Edmonton, Alberta, dropped his Olympic-distance PR from 2:24 to 2:14 in one year—while simultaneously cutting his total weekly workout time from 15 to 7 hours.

And there's Jay Swift, a 42-year-old mailman from Bethel, CT, who'd been doing triathlons for seven years. After years of incremental Ironman improvement—5 minutes here, 10 minutes there—he had a double breakthrough at Ironman Lake Placid the last two summers. In 2009, he cut a full 30 minutes off his previous PR, to 11:15. And in 2010, he did it again, scoring a 10:49. And he did it while cutting his total weekly training time down by over two-thirds, from an average of 25 to 30 hours in 2008 to 6 to 8 last year.

"Now I have time to do the things I never had time for before, like mowing

the lawn, painting the house, and watching my son play hockey," he says. "My wife has never been happier. In fact, she's probably happier than me that I'm doing CrossFit."

CrossFit is a general fitness regimen that is exploding across the fitness world like wildfire, and you may have seen occasional references to it on triathlete forums. It's a short, fast, and hard general strength-and-conditioning program that mixes barbell, gymnastic, and bodyweight exercises like pull-ups with short-distance bursts of running—all done at a frenetic pace, yielding superb all-round fitness. First popular among police, firefighters, and the military, it is accessible to anyone online for free and in nearly 2,500 gyms worldwide, up from just one gym seven years ago.

CrossFit promises three things that normally don't go together: strength, aerobic fitness, and reduced workout time. When tweaked specifically for triathlon, some say, it does just that, yielding the holy grail of the sport: PRs on less training hours. On the other hand, even some triathletes who like it





say it is not compatible with triathlon and may be counterproductive, and even dangerous. Who's right?

The jury's still out. CrossFit has not yet been used by any trend-setting pro triathletes or elites in any of triathlon's three component sports. Many traditional triathlon coaches are skeptical or uninformed about CrossFit, claiming that while general all-round fitness is fine, the principle of sport-specificity demands you do nothing but swim/bike/run. But given the impressive results for some triathletes and the sport's renowned open-mindedness to new ideas, it's clear that CrossFit is worth a closer look.

What is Crossfit?

As fast as you can, do 21 kettlebell swings, 12 pull-ups, then run 400 meters. Then do it two more times. This is "Helen," one of several dozen of the mixed-up, amped-up CrossFit "Workout(s) of the Day," or WODs,

which are typically done in less than 20 minutes. Done right, they leave you heaving, gasping for breath, and laying on the floor in a pool of sweat.

Helen comes up maybe just once a month on the CrossFit.com website, rotating in with other WODs like Fran, Cindy, and Angie that provide a full-body mix of gymnastics, Olympic lifts, squats, medicine ball throws, bursts of running—you name it. If you make it through that month, according to many, fitness skyrockets.

For those unconditioned to kettlebells and pull-ups, and to doing them consecutively at a manic pace, their first Helen may take 16 or 17 minutes. A month later, you might do it in half that. That's when CrossFit's simple logic becomes apparent: the faster your time, the fitter you are. Logging your numbers with each WOD, you stay motivated to push it even harder for new PRs. That ever-improving all-body fitness may be a goal unto itself, or

used as a base for specific sports, from football to baseball to triathlon.

The man behind CrossFit is Greg Glassman, a former high-school gymnast who developed his crosstraining ideas as a personal trainer during the 80s and 90s at several Los Angeles-area Gold's Gyms. "I was a bike-loving gymnast who, like all gymnasts, seemed to do everything well," Glassman says. "Soon, I also noticed that lifters who did three specific exercises—the deadlift, squat, and bench—also had the flexibility and functional strength to do most anything. So I thought, why not throw in running, the best cardio activity, and mix them all together?"

Glassman found that those blended workouts generated better fitness than separate workouts done on alternate days, so he started tossing more exercises and disciplines into the mix. When he noticed that speed added even more fitness, CrossFit's

mantra of "constantly varied functional movements performed at high intensity" was born.

The result was exceptional GPP (General Physical Preparedness), the fitness industry's shorthand for all-round fitness. It resonated with the cops and firemen Glassman trained at Gold's, who, he says, "weren't after pretty muscles, but functional strength that helps them leap over a fence or pick up a body." After Glassman moved up the coast to train the Santa Cruz P.D. in 1995, a Silicon Valley client convinced him to post his WODs on a website. Crossfit.com went up in 1999. Users began posting their PRs and worldwide competition developed. In the last several years, CrossFit exploded from underground to mainstream.

Save for a few readers' forums exchanges on Slowtwitch.com, however, CrossFit went largely unnoticed in the endurance community.

Melding Muscle and

Multisport. Glassman delights in telling the story of the day, legendary in the CrossFit world, that six-time Ironman champion, Mark Allen came into his now-shuttered Santa Cruz gym and could barely do one pull-up. "And *Outside* magazine called him the world's fittest man," he snickers.

Well, so what? There are no pull-ups required in Kona. But could pull-ups help you be a better triathlete? Will a stronger all-round athlete be a faster athlete? Could GPP lay the groundwork for SPP, Specific Physical Preparedness?

Brian MacKensie, a personal trainer in Newport Beach, CA, is sure of it. He bought into Glassman's premise that CrossFit could be a tool for increasing high-level performances—even before he heard of CrossFit. A former power lifter and junior college swimmer who became an endurance athlete, MacKensie did

the 2004 Ironman Canada and was training for the 2006 Western States 100 when he had a revelation.

"I'd trained 22 hours a week for Ironman, and those long runs on the weekend were killing me," he says. "When I found out that I could only squat 75 pounds four times on a Smith machine—and I used to do 300 pounds—I started thinking all that endurance training was breaking me down."

Alarmed, MacKensie cut back on the running and added strength to his Western States training—squats, dead lifts and kettle bells, and intervals instead of long runs. The results were positive: His 400-meter, 800-meter, and mile times dropped dramatically, his 5k and 10k improved moderately, and his recovery after an occasional long run was significantly quicker.

MacKensie saw CrossFit on the internet just prior to the 2006 Western



States 100 and was amazed to see how similar it was to what he was doing on his own. After finishing in the top third of the race, far higher than he'd expected, he began teaching a CrossFit-endurance hybrid to his clients at the gym. Some dropped 15 or 20 minutes off their marathon times. But most ignored him. "It was an uphill battle convincing them that runners and triathletes shouldn't turn into string beans," he said. "Strength training is so counter to what they normally do."

When Glassman heard about Mackensie's hybrid, he asked him to develop CrossFit Endurance. "At certifications, he'd introduce me as 'the anti-Christ' to the endurance community. They still tear me apart on Slowtwitch," he says.

CrossFit Endurance workouts for runners include the same CrossFit WODs that appear on the website, in addition to 2 or 3 runs per week. For triathletes, there are fewer WODs, along with 2 runs, bikes, and swims, which are each split between intervals and time-trials. Long slow duration—the fabled LSD that runners swear by—is out. Marathoners max-out with a 4-by-5k interval/time-trial session.

Mackensie believes intensity works because it doesn't fatigue you like long runs, yet engenders more motor recruitment, making you stronger in both short AND long efforts. His view is supported by several academic studies in the last five years showing that you can get more for less.

One of the world's leading researchers on this subject, Martin Gibala, a Ph.D in the Department of Kinesiology at Canada's McMaster University, has conducted numerous studies showing that a short series of sprints can increase mitochondria, muscle and fat oxidative capacity, and other fitness markers as much as LSD-style workouts. The time differences can be eye-opening. In a 2009 study in *The Journal of Physiology*, he found that the same fitness benefits were derived from



6 days of 10 all-out, 1-minute bike sprints over a 2-week period (a total of about 3 1/2 hours, including rest time between sprints) as 10 hours of moderate training.

"It's not clear why HIT (high-intensity training) was so effective," wrote Gibala, "but it appeared to stimulate many of the same cellular pathways as traditional training regimes." Technically, that pathway might be "the sodium-potassium pump," according to another 2009 study, in which endurance runners who cut mileage by 25% but added 6 to 12 thirty-second sprints, 3 or 4 times a week, could run about 10 seconds faster in the 3,000 meters and about 37 seconds faster in a 10k than a control group. The sodium-potassium pump is the mechanism in every cell that moves those elements in and out in an attempt to maintain the ideal electrochemical balance to help nerve impulses reach the muscle fiber. The sprints apparently enhance this pump.

If science bores you, think of intervals in this way, says Mike Anderson, owner of CrossFit Malibu: "My body doesn't know what I'm doing—but it knows that I'm going really hard and that it has to fuel it and get stronger for the next time."

Two Extremes May Not Mix.

Surprisingly, conventional USAT coaches, like Ian Murray, head coach of the L.A. Tri Club and a past national team instructor, don't disagree with the concept of harder, shorter, CrossFit-style triathlon training.

"Triathletes spend a lot of time, too long, in the endorphin zone (LSD)," says Murray, a competitive age-grouper who has worked with many top-level athletes. "I've met guys who say they've only got 4 hours a week to train, yet they'll perform better. Why? They push it." He's all for intervals and time trials.

Strength training, though, is a gray area for triathletes. It has been known



to benefit triathletes, especially as they get older. It is no secret that six-time Ironman winners Mark Allen and Dave Scott both strength-trained in season during the latter years of their careers to fight the muscle-mass decline that comes with age and endless endurance training. Coaches like Murray agree that strength training is an effective tool for injury-prevention, even in-season. But the type of strength training that CrossFit pushes is different story.

"I wouldn't recommend CrossFit until the season is over," says Murray. "It's too dangerous in-season—because it's too explosive and triathletes are too frail."

"Triathletes may be super fit, but they're so invested in the sagittal (straight-ahead) plane that they can go out and play soccer for 10 minutes with grade schoolers and get broken down," Murray says. "Then add CrossFit, which is all about pushing super-hard

and explosive. I've done CrossFit. It's a recipe for injury."

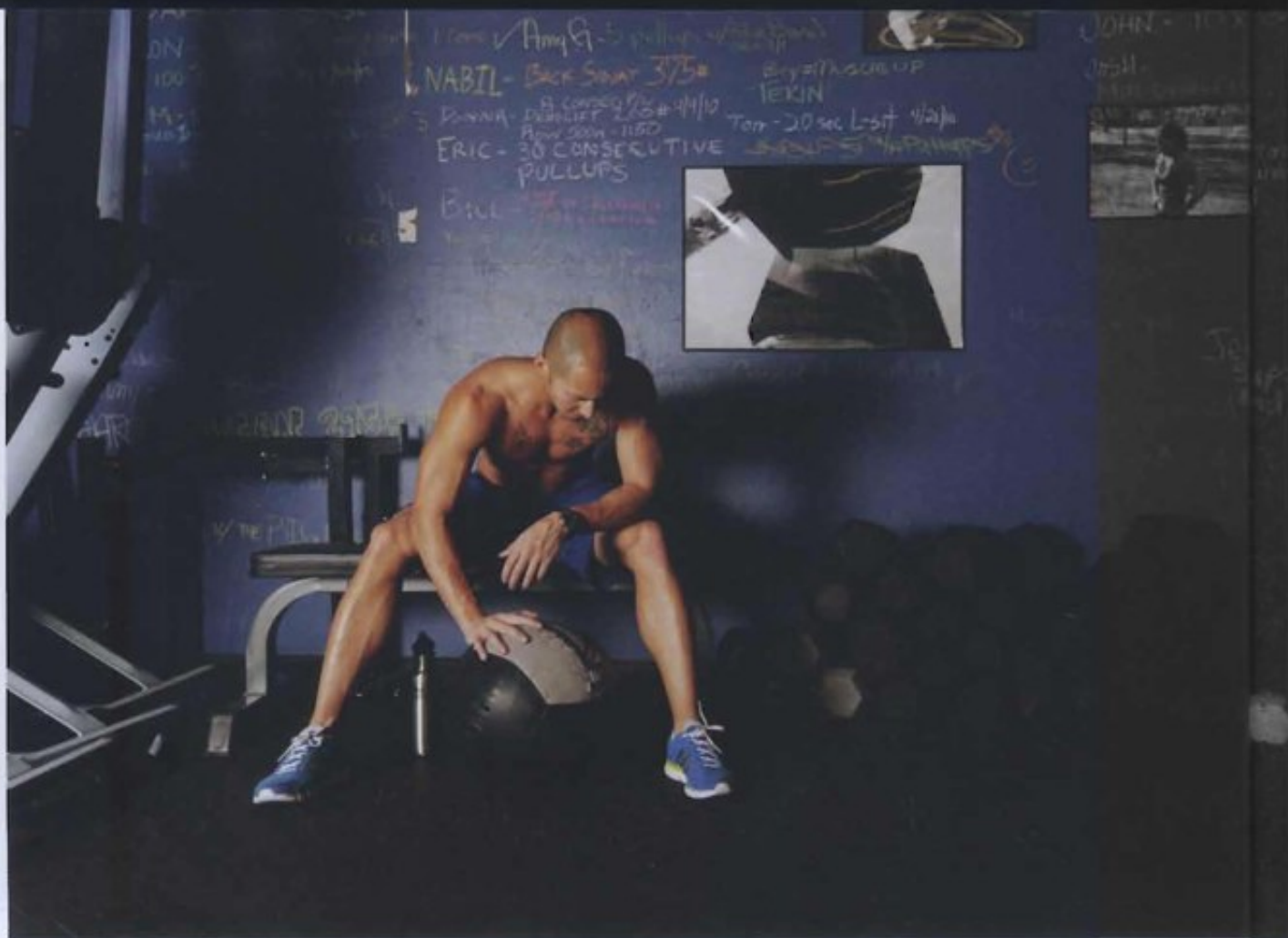
Chris Morelock, 26, a former CrossFitter, and second-year triathlete from Maryville, Tennessee, agrees with Murray, even though he's never been hurt. "I think CrossFit is a little bit too close to the line of performance and risk of injury," he says. "And although it got me in great all-round shape and actually is responsible for getting me into triathlon, due to its occasional 5k runs, it won't make you faster—except for the mental side. It gives you a whole different level of pain tolerance."

Coming off a solid year of CrossFit, Morelock said he'd "get smoked on the bike" by people who rode trainers all winter. "You need to ride 100 miles to know what an Ironman's all about," he says. "Intervals and strength training won't do it. I went from middle of the pack to winning my age group when I dropped strength and doubled my mileage. General fitness is a good thing,

but triathletes don't need Olympic lifts. I just do body weight exercises—push-ups, one-legged squats."

For triathletes sold on general fitness but leery of CrossFit's potential for injury, Murray recommends tip-toeing into strength training with two conventional 30- to 40-minute sessions a week. "Start now, but start slow," he says. "To execute 'anatomical adaptation' safely, begin with light weight, high reps, moving slowly for the first three weeks. It's the antithesis of CrossFit."

After three weeks, Murray has his athletes speed up, add weight, and play with imbalances, such as exercises atop a Bosu ball. A typical progression: weeks 1, 2, and 3 do a machine chest press; weeks 4, 5, and 6 do a bench-press with a barbell (for less stability); weeks 7, 8, and 9 switch to dumbbells; and weeks 10, 11, and 12 do dumbbell benches with your back on a Bosu ball.



"This way, you get a safe, progressive challenge that your body can safely adapt to," he says. "Only then are you ready for CrossFit. Remember, CrossFit is extreme. So is triathlon. Put two extreme things together and it might not be good."

Some Successful Crossfit-Tri Programs. To avoid the risks Murray warns of, several coaches have tweaked Mackenzie's standard CrossFit Endurance program

Max Wunderle, a 40-year-old from West Simsbury, CT, may be one of the world's highest-level triathletes using CrossFit. A 9:55 finisher at the 2007 Hawaii Ironman with a 9:45 PR at the 2008 Coeur d'Alene, Wunderle travels around the East Coast conducting weekend CrossFit Endurance certifications for McKensie. But like most CrossFit affiliates, he designs his own WODs for his TriMax Fitness clients, one of whom was Jay Smith,

the aforementioned mailman who cut an hour off his Ironman time and now coaches with him.

"I de-emphasize the complex Olympic lifting movements of regular CrossFit," he says. "No snatches, power cleans, clean and jerks—triathletes don't need the complexity, and can get similar strength gains out of the less complex foundational movements." He focuses on simpler routines, like a 7 x 1 max-weight dead lift (in which you raise a barbell off the ground to waist level from a squatted position using legs only), which develops the powerful hamstrings needed for riding and running. Otherwise, Wunderle maintains the typical WOD format of 3-days-on/1-day-off, adds 2 weekly runs, rides, and swims split between intervals and time trials, and bans all long LSD-style runs, unless they are races.

One of the more creative approaches to combining CrossFit and triathlon

comes from former U.S. Army Ranger, Leo Jenkins, 27, a coach at TriYoga Endurance, a multi-discipline training and CrossFit Endurance Team center in Golden, CO. "We scale back the WODs," he says, "and we've designed our own, including "Kezia," which we think of as a 'CrossFit brick.'"

Kezia consists of a 400-meter row, 400-meter bike (on a trainer), and a 400-meter run, done over and over at max speed for 20 minutes. According to Jenkins, who owns a wall full of USAT, CrossFit, CrossFit Endurance, and sports nutrition coaching certifications, the muscle recruitment pattern of the row is a lot like swimming, so Kezia is like an all-out 20-minute triathlon. A time saver, it takes the place of one weekly swim, bike, and run, all at once.

Despite this intensity, Jenkins disagrees that all aerobics should be all-out intervals or time trials, and that long



runs are junk miles. "That does not allow time for active recovery," he says. "I say you need a long 2- to 4-hour slow-spin bike workout for recovery, plus neuromuscular recruitment, as any USAT level 1 coach will tell you. Also, there needs to be a place for a light recovery swim and yoga. And while Brian thinks periodization is a farce, I think you need it."

Differences aside, the underlying rule of CrossFit remains: strength is key.

"Look at the end of an Ironman," says Jenkins. "Even though people have a great aerobic base, their form is destroyed, with every step like you're being hit by a hammer. What they need is more muscle and strength."

And what about those athletes who are afraid that more muscle will slow them down? "That extra two or three pounds of muscle is what will get you through in good form to the end," he says.

Mark Allen, the man with the pathetic pull-ups, would not disagree. At 36, when he won his last Ironman in 1995, he was significantly more muscular than he'd been in the late '80s.

When informed of this, two-time Hawaii Ironman winner, Chris McCormack was taken aback. "Allen and Scott really did that? I get all my strength training with hill repeats—no weights." He hadn't heard of CrossFit, but speculated that it would be attractive to age-groupers due to the time savings, but not to the pros. "The pros would never do it. Strength is the foundation of everything, but it's got to be specific strength."

Searching for a Crossfit Pro Triathlete. Could a CrossFit-with-intervals program work for everyone, including elites?

"It would," says Mackensie, "but they won't touch it, for several reasons. First,

elites are so fine-tuned that they are as fragile as glass. They will get crushed by CrossFit. They've deconditioned their bodies for everything but swim/bike/run. They'd have to back off on the LSD and high volume to handle the strength. Converting an elite will be a couple-year process of adaptation—and they don't have a couple years to experiment."

Also, social and habitual reasons may cause triathletes of every level to resist CrossFit and give up their beloved LSD. "Most of their friends are training, training, training—and they miss that and the group runs and rides," says MacKensie. "It's a neurosis: I must do more miles to do better. I had the neurosis, too. Yes, you can do it that way, but it's better to have purpose to your training."

Ironically, while USAT coach Murray agrees that no pros would risk switching to CrossFit and warned that it could overload an athlete, he thinks its greatest potential impact can be made on veteran triathletes—such as Lake Placid's Jay Swift. "For someone who has perfected his aerobic engine and has plateaued, it could lead to a breakthrough, like it did with him."

An ideal CrossFit guinea pig, Mackensie and Murray agree, might be either a young kid groomed from the start with a CrossFit-triathlon hybrid, or a retired or slumping pro who would have nothing to lose. "I want to issue an open invitation to Peter Reid," says MacKensie. "If he wants to come out of retirement, this is his chance." **3/60**

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