

# THE CrossFit JOURNAL

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## A Workout to Remember

USA Memory Championship tests the skills of competitors who can memorize a deck of cards in 60 seconds.

By Chris Cooper

June 2014

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All photos: Chris Cooper/CrossFit Journal

The elevator to the top of the Consolidated Edison Building is jammed with bodies and big brains. On the way to the 19th floor, where the USA Memory Championship will be held, contestants, fans and parents maintain a nervous silence.

Among them is tall, bearded Nelson Dellis, the 2011 and 2012 USA Memory Champion. He holds national records for memorizing shuffled decks of cards and long lists of random numbers at great speed.

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"Did you do your CrossFit thing on the way here?" a coiffed, matronly parent asks Dellis. Others turn their faces up toward him. Dellis recounts **his score** and efforts on CrossFit Games Open Workout 14.5 while the others, eager for distraction, listen attentively.

"My quads are a mess right now," he says. "Good thing we're sitting today."

Dellis is a passionate member of I Am CrossFit in Miami, Florida. He competes in fitness events with other gym members, but his real game is memory: the ability to hold numbers, faces, words or other data in his brain and recount them in order, sometimes in staggering quantities and speed. Over the next several hours, Dellis will compete in seven events and win almost all of them, performing mental gymnastics and moving heavy cognitive loads. His capabilities are reminiscent of the fictional card-counting Raymond Babbitt from the movie *Rain Man*, but Dellis says anyone can learn this game. Even seemingly impossible tasks—such as memorizing 9,000 digits of pi and

recounting them in order—aren't out of reach for those who train, in his opinion.

The experiences of others have borne out Dellis' claim. As documented by Josh Foer in *Moonwalking With Einstein*, many "mnemonic athletes" compete in memory events without any special neurological wiring. They train for it the way CrossFit athletes train for the Open. In Foer's book, the author proved the hypothesis after training for a year and then competing himself. His book has inspired others to try. Many competitors at the 2014 USA Memory Championship in New York, New York, testify to reading the book and thinking, "It can't be *that* hard."

### Invisible Palaces

To a bystander, it doesn't appear to be very athletic: Long rows of tables, dimmed lights and a few stray notepads fill the carpeted chamber. Many of the competitors wear neckties. Some even look a bit like Babbitt. But they're not savants. These are athletes who train up to five hours



***Top memory competitors can memorize an entire deck of cards in about a minute and should not be invited to poker night.***

every day, building their cognitive capacities. The “nerd” stigma still pervades, though some—such as Dellis—are fit. The cognitive horsepower in the room is intimidating to potential competitors and spectators alike.

“I could get people to come in here and get naked faster than I could get people to come in and expose their brains,” says Tony Dottino, founder of the USA Memory Championship.

But just as a snatch can be intimidating at first brush, it becomes familiar—and then powerful—with practice. Our brains share the plasticity of our muscles, if not the texture, and they can be trained to Olympic levels, too.

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The first tool typically acquired by memory athletes is some type of “mnemonic device”—a way to make information into a picture—for easier storage. Think of the way young children learn the alphabet: “A is for apple. B is for bee.” Linking each letter to a picture is a simple mnemonic device.

More advanced memorizers use a mnemonic device called the **PAO system**—person, action, object—to group data into a more complex picture. Some top mnemonic athletes claim obscene or hilarious pictures are most easily recalled.

Memorizers then sort the information using “memory palaces.” Visualizing their home or another familiar building, they place their PAO vignettes into rooms during a walkthrough.

For example, if you were trying to recall a shopping list containing cottage cheese, bacon, wine, fish and socks, you could visualize walking through your home and encountering each in a novel way: a bathtub full of cottage cheese containing a hairy man on your doorstep, a pig shaving strips of bacon in the bathroom, two bottles of red wine arguing in French on the couch, fish jumping from the sink



***Mnemonic systems can be employed to help you recognize faces, either in a memory competition or at a party.***

to a frying pan in the kitchen, and a pair of socks draped over the lamp in the living room and turning everything red. The clearer the story, the easier the recall will be.

“Everything I memorize, I’m converting into a picture,” Dellis says. “Once you have that, you just put it in your memory palace.”

In this way, Dellis and his competitors can break down extremely long strings of numbers into small chunks, convert them to pictures and place the pictures in order. Top athletes can have up to 50 memory palaces, all of which are familiar places in their lives.

“That’s where the difficulty comes in,” Dellis says. “Anyone can memorize a deck of cards if you have an image for each card. If you want to get faster, you have to get faster at your system. When I look at the card, it’s like I’m looking at a person I know well. It’s like learning a language. You have to get fluent in your memory system.”



*For time, try and recall the first and last names of 150 acquaintances. Can you do it, and how long did it take?*

### For Time

Dellis' first challenge is the names-and-faces event: a short catalogue of 117 fictional characters, from which he must later recall first and last names. After 15 minutes of memorization time, the faces are represented to all athletes, who earn a point for each correctly spelled first name and last. Dellis scores 193, 41 more points than his closest competitor. **Dunbar's number** is part of a theory that holds each person can recall about 150 people with whom he or she has a personal relationship. Dellis can remember almost 200 random people after a glance.

Next, competitors are presented with a list of random numbers and given five minutes to memorize as many as possible.

"Does anyone know who holds the U.S. record in this event?" asks the announcer. Dellis is the only one to raise his hand. He should know: He set the record with 303 consecutive numbers. He pulls noise-canceling headphones over his ears and drops his chin with the others when the head referee shouts, "Three, two, one, go!"

Five minutes later, his sheet is replaced with a blank one and he begins to scribble furiously for several minutes. He recounts dozens of numbers unbroken, pauses for three seconds and bows his head to the task again. When he eventually comes up for air, he's done 310—a new American record, the equivalent of 44 seven-digit phone numbers in a row.

He wins the poetry event next. But the apex of the competition is the fourth event, speed cards, in which he'll attempt to break the U.S. record by correctly recalling a full deck of randomly shuffled cards in under 1:03—his current record. Since the event is so fast, all athletes are given two chances.

Surrounded by cameras, Dellis pulls the deck into his lap and goes to work. He double checks the cards once, then smacks his buzzer in 1:06.

"I was playing it safe," he says afterward. "I wanted to get a good time down on the first attempt and then go for it on the second."

Media press in close for the second attempt, and Dellis pulls a ball cap down over his eyes to further block out distractions. Across the aisle, Johnny Briones beams. It's his first championship and he's a sprinter: Memory cards are his favorite event. They wish each other good luck, and then Dellis is swallowed in a sea of cameras. This time is different: He holds each card for less than a second, eventually slamming the clock in 44 seconds. But he doesn't relax until all other athletes are done. Briones taps his clock in 1:00 exactly.

When the cards are counted, Dellis' judge finds a mistake: He's reversed two cards early in the deck. Although the others are all correct, Dellis' score is invalid. He saunters across the aisle to watch a judge count Briones' cards, then congratulates the younger athlete when his 1:00 time stands. It's the only event Dellis will lose all day.

The win earns Briones a spot in the afternoon's championship round: **three tougher challenges**, all seemingly impossible to observers.

In the end, Dellis is back on top. Alexander Mullin, who secures second by memorizing 94 randomly drawn cards in order, admits he's only been in the sport for a year. After reading Foer's book, he thought, "How hard could it really be?" and started building his memory palaces.

### MoneyBrain

In an era which cognitive enhancement is sought, bought and fraught with false claims, memory champions prove a core component of intelligence can be trained. It would make sense if they were millionaires. But there's no prize money at the USA Memory Championship. The lead sponsor awards a single pen—"valued at \$5100"—to the winner: Dellis.

Dellis is as close to being a professional memory athlete as anyone. Although there's no prize money for winning the national championship, he says the prestige makes it possible for him to work as a public speaker and consultant. It's also brought him mainstream attention on **CNN** and **Saturday Night Live**.



*At the USA Memory Championship no one ever, ever forgets to bring a pen.*



***Nelson Dellis (right) has won the USA Memory Championship three times, in 2011, 2012 and 2014.***



***When brain work is too easy, add a fitness challenge.***

And Dellis has other reasons for competing: He took up the sport to improve his memory after his grandmother died with Alzheimer's. He wants to help people and believes techniques such as PAO, pegging—changing a number into a set of phonetic sounds or letters—and memory palaces will translate into a better life for everyone.

But why should the average person practice memorization techniques or even care about memory championships? The pursuit of excellence is aided by demonstrations of excellence. It helps the amateur to know what's possible. The exceptional outlier who sits clear across the spectrum can help draw another person toward "average." His example makes everyone better, and his experience leaves clues for everyone else.

The Greeks taught memory as part of a young child's curriculum, along with logic. Dellis believes kids who study memory would have a huge advantage in school and the workplace.

"When you know a list already, like the alphabet, you just start at 'A' and associate whatever you're memorizing with an apple," he says.



*Dellis believes teaching simple memory techniques can improve lives, and anyone searching for car keys or a wallet might agree.*

For example, when memorizing the names of U.S. presidents, children could tag the names to matching alphabetical symbols: George Washington eats an apple; John Adams builds a boat; Thomas Jefferson carves a coyote.

"If kids only knew that basic peg system, they'd have their first memory skill right there," Dellis continues. "When I teach kids, I come up with all these words for them to peg, and they love it. At the same time, they can memorize anything without even trying hard."

Carryover from simple memory games can help in real life, Dellis believes.

"When you start training your memory, you become so much more aware; you remember to remember," he says. "At its most basic level, it's paying attention. All these techniques are just fancy ways of paying attention. Forgetting where you parked your car, where you left your keys—that's just not paying attention."

In short, you can get better at remembering things because you know when to pay attention.

"The more you practice these techniques, the more it becomes your lifestyle. It's like a meta-remembering."

### Practicing Duress

Memory training can be made into fun games for kids. Unfortunately, good memory is rarely required in a vacuum. Few people lose their car keys when they have plenty of time; it's usually when they're rushing and distracted by crying kids or an irate boss. Practicing memorization skills while under duress might help your brain work more efficiently when you're stressed.

Both Dellis and Briones have tried adding memorization to their workouts. In fact, fitness led Briones to cognitive sport.

"When I first started working out, I was weak. I could do a pull-up and a half—maybe," Briones says. "I wanted to get stronger, so I started doing P90X at home until I could do 20 pull-ups. One day I did 2,400 push-ups. So I started thinking, are there mental exercises I could do?"

After reading a book on memorization, Briones was skeptical. But he didn't have anything to lose, so he sat



***Top competitors will tell you memory isn't just a gift:  
It can be trained.***

down with a deck of cards. He memorized that first deck in 30 minutes.

"I thought, 'What did I just do?'"

His early success encouraged him to continue with memory games and to combine his two new pursuits: memory and fitness.

Briones attaches his cards above his pull-up bar. At the top of every rep, he tries to memorize them. Then a friend replaces them with other cards after every rep.

"Then I'll do it with push-ups," he says. "If I can do this really well, I can do it when I'm sitting here (in competition). Physical stress helps me prepare for emotional stress."

Dellis has also built some memory work into his CrossFit workouts.

"I've done burpees while someone recited numbers to me, and rowing while someone read them," he says.

In workouts such as Cindy, in which few movements are repeated over and over, Dellis inserts a memory challenge each round.

"It's one thing to have one movement be a mind task, be focused on it, vs. doing it while you're doing something else. While you're doing burpees, you're just thinking, 'Let this end, let this end,' and at least you get to focus on something else."

While Briones and Dellis might be searching for ways to break up the long hours of training—five hours each day for Dellis—[some research](#) suggests memory training immediately after high-intensity exercise is best.

### Remember to Remember This

One of the greatest cognitive benefits of exercise is [an increase in hippocampal volume](#). The hippocampus plays an important role in spatial navigation and memory, and it's also one of the first regions to suffer damage in Alzheimer's disease. The memory loss and disorientation caused by the disease can [slowed](#) through regular exercise and memory training—and that puts Dellis in a unique position to help.

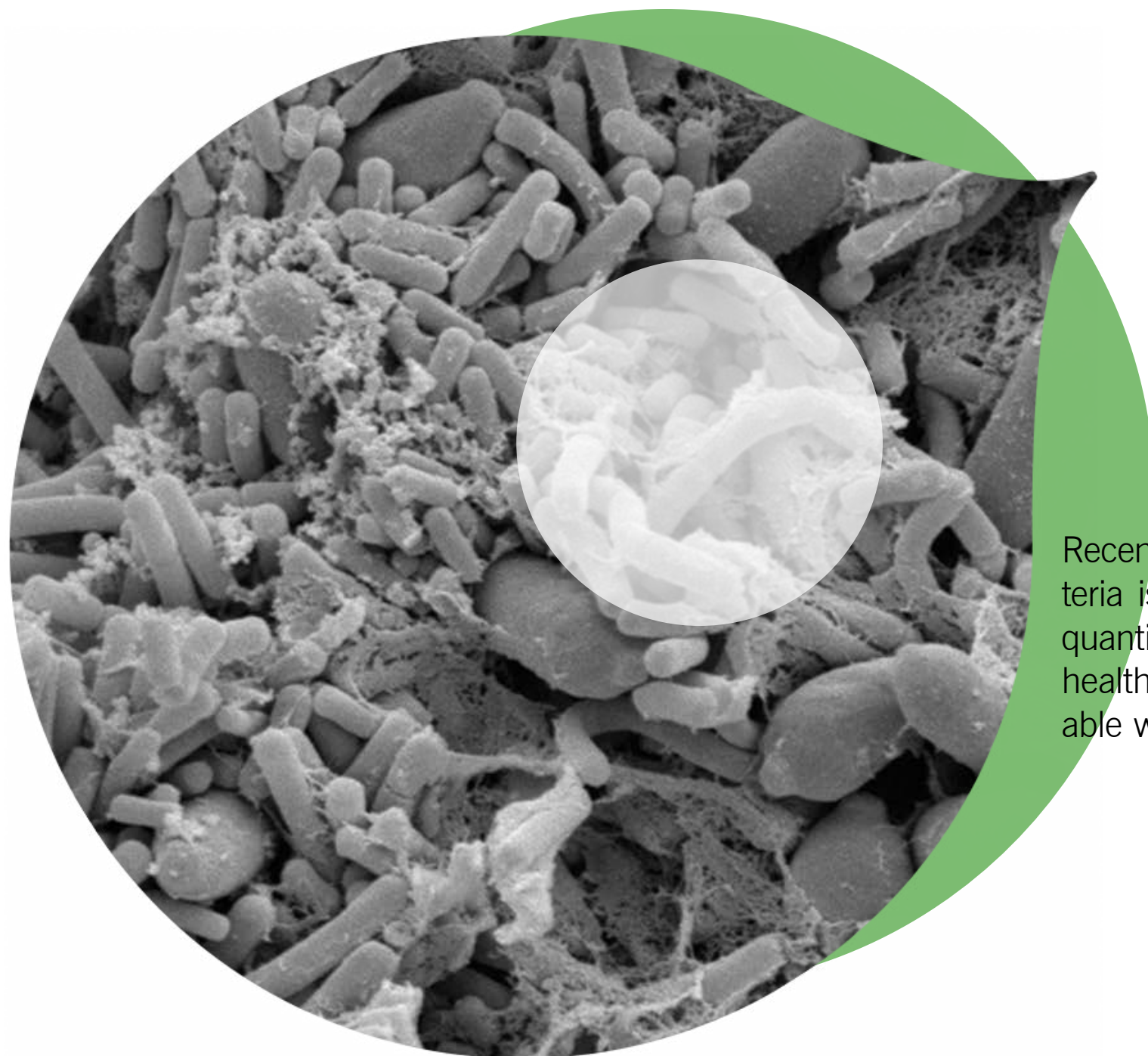
His charity, [Climb for Memory](#), raises awareness and funds for Alzheimer's through mountain climbing. And he's attempting to make memory sport more exciting for viewers in his new event, the [Extreme Memory Tournament](#).

"Memory," USA Memory Championship President Marshall Tarley says, "is the foundation of our intellect."



### About the Author

*Chris Cooper is a "CrossFit Journal" staff writer.*



# GUT CHECK

Recent research shows a diverse population of intestinal bacteria is essential for good health. In an effort to improve the quantity and diversity of their own personal microbiota, many health-conscious people are exploring the wild and unpredictable world of at-home fermentation.

By Hilary Achauer 



I pulled the crock of sauerkraut from under the kitchen sink, eager to show my mother the product of my latest obsession: at-home fermentation.

I removed the dish towel covering the top and peered at the contents. Little bits of white mold floated on the surface of the brine, which covered the fermenting cabbage below.

"It's fine," I said with false confidence. "All you have to do is scrape off the mold on top."

My mom watched as I plucked the mold out of the brine.

"You missed some," she said, pointing to the side of the crock. Nobody asked for a taste, so I put the cover back on the crock and shoved the sauerkraut under the sink.

"Maybe it needs to ferment a little while longer," I said.

One hundred fifty years ago, Louis Pasteur figured out how to isolate a microorganism. His discovery led to the germ theory of disease and pasteurization, both of which saved countless lives. Winning the battle against bacteria was essential for the development of modern medicine and large-scale food production.

In the years that followed, armed with antibiotics and antibacterial soap, we've waged war on bacteria. In the process, we've reduced the number and diversity of our gut flora—the trillions of microorganisms that live in our intestines.

Unlike a hospital operating room, our bodies are not sterile environments. We are a delicate ecosystem: remove one element and everything is thrown out of balance.

A barren gut can have a negative impact on our weight and our mental health. The wrong type of gut flora may lead to obesity, could contribute to autism, and can have a negative effect on mood, behavior and feelings. In his book, *Missing Microbes: How the Overuse of Antibiotics Is Fueling Our Modern Plagues*, Dr. Martin Blaser, director of New York University's Human Microbiome Program and formerly its chairman of medicine, looked at the rise of asthma, allergies, food allergies, wheat allergy, juvenile diabetes, obesity, etc. since World War II (1). He thinks the cause is our changing microbiome.

As scientists discover the importance of a well-rounded population of gut bacteria, people have become interested in how to improve the quality of their gut microbiota. Many rely on probiotics, either in commercially made yogurt or

through supplements, but there's a growing interest in at-home fermentation to access friendly bacteria not available in the store. Just like processed food is not as healthy as a fresh, homemade meal, store-bought fermented products have many times fewer strains of good bacteria than the kind made at home.

Given the mounting evidence that the right mix of bacteria in your gut is essential for good health, what's the best approach to make sure your innards are in tip-top shape?

## Healthy Gut, Healthy Life

For many years, the prevailing attitude toward weight loss has been based on a simple formula: calories in, calories out. However, recent studies have revealed many people are fighting an uphill battle when it comes to weight loss. A 2013 study showed that the gut inhabitants of the obese might differ substantially from people who are lean. In the study "Gut Microbiota From Twins Discordant for Obesity Modulate Metabolism in Mice," scientists took a sample of gut bacteria from four pairs of human twins; one of the twins was lean and the other was obese (6). Scientists transferred the gut bacteria into lean mice and found the animals with bacteria from the obese twins grew fat, while the mice with bacteria from the lean twins stayed lean.

Researchers believe when a person's gut bacteria are too efficient, that person absorbs more calories. The ideal is to have gut bacteria that extract fewer calories from the food.

It appears it's not just the bacteria's efficiency that has an impact on health. A study of close to 300 Danish volunteers (both lean and obese) found those with a low genetic diversity of bacteria had higher inflammation, greater insulin resistance and other warning signs of metabolic disease (5). Not all the obese people in the Danish study had a low genetic diversity of bacteria, so the thought is low diversity might be a risk factor for developing a metabolic disorder—such as Type 2 diabetes—that sometimes accompanies obesity.

And, as the *New York Times* article [The Fat Drug](#) pointed out, antibiotics may be a clue to the obesity epidemic. After all, farmers have been using antibiotics to fatten livestock for more than 60 years.

The makeup of our gut has an influence that extends well

beyond weight. A study published in *Nature* revealed that fewer bacterial species in the intestine make people more likely to develop health complications such as cardiovascular diseases and diabetes (2). The study reported a species-rich bacterial flora functions entirely differently than a less-diverse microbiome.

These are fascinating findings, and they're coming when the study of gut bacteria is in its infancy. About 90 percent of the bacterial genes found in the Danish study could not even be assigned to a specific bacterial genome (6). We have a lot to learn.

Perhaps even more astonishing than the connection between weight and our gut microbiome is growing evidence that our gut bacteria affect our brains.

Perhaps even more astonishing than the connection between weight and our gut microbiome is growing evidence that our gut bacteria affect our brains, influencing our mood, behavior and feelings. Scientists are discovering gut microbiota influences brain function and behavior by communicating with the central nervous system, most likely through neural, endocrine and immune pathways. Studies done on animals have revealed that gut bacteria help regulate anxiety, mood, cognition and pain perception. A recent study involved mice with gastrointestinal issues whose behavior could be considered somewhat similar to that of humans with autism (4). The researchers treated the mice with probiotics, and not only did the treatment improve the gastrointestinal issues of the mice, but it also improved their behavior.

Most people think of the gut as a food processor, as a way for our body to extract nutrients from what we consume. That's just the beginning. Our guts have their own nervous system, with as many neurons as the spinal cord. That phrase "gut feeling" is more accurate than we ever



Made up of yeast and bacteria, kefir grains are live cultures that can be reused to make more kefir.

thought; the gut produces about 90 percent of the body's serotonin, a neurotransmitter thought to contribute to feelings of well-being and happiness.

Of particular interest to meat-happy CrossFit athletes is a recent study that found a diet heavy on meat and cheese and light on carbohydrates alters the gut negatively in a matter of days (3). This suggests those following a meat-heavy, low-carb diet should be assiduous about ensuring a diverse flora in their gut via probiotics.

## Improving Our Gut

So does a diet full of clean, unprocessed foods guarantee a healthy gut, or do we need to take additional steps to ensure our internal ecosystems are healthy?

The world's leading proponent of at-home fermentation is Sandor Katz, a self-taught fermentation experimentalist who travels around the world leading workshops. When Michael Pollan, author of *The Omnivore's Dilemma*, *The Botany of Desire* and *In Defense of Food, Cooked*, he visited Katz.

Katz has written what many consider the bible of fermentation: *The Art of Fermentation*. As Pollan wrote in the book's foreword, "Katz's book is the main reason that my kitchen counters and basement floors have lately sprouted an assortment of mason jars, ceramic crocks, jelly jars, bottles, and carboys, the clear ones glowing with unearthly colors."

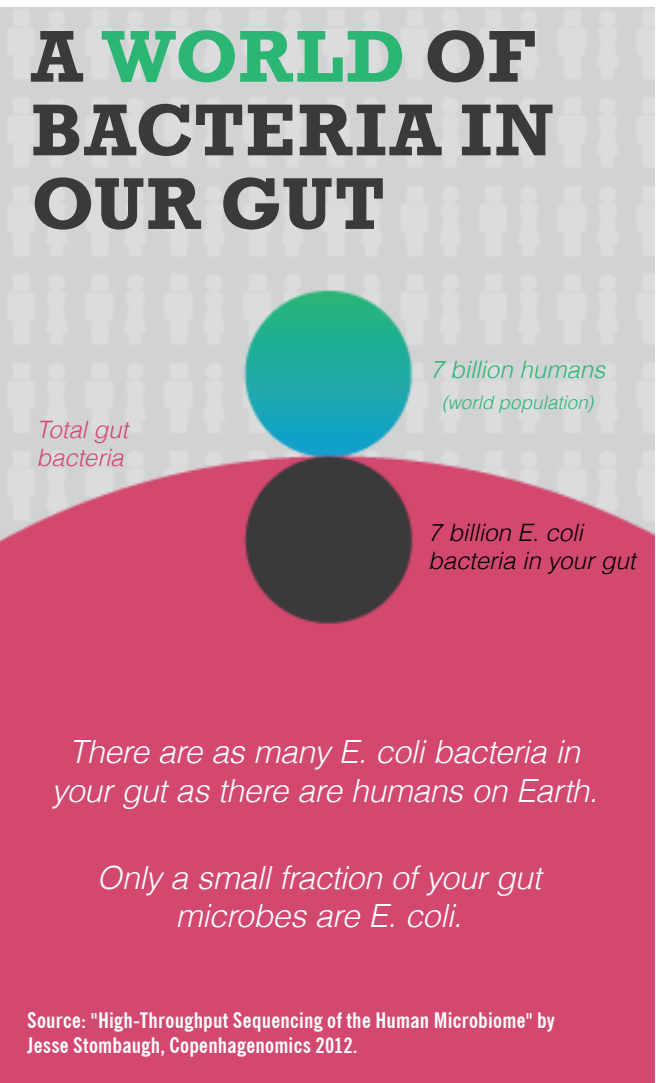
I had amassed pages of information about the importance of gut bacteria, but I hit a brick wall when I tried to find the best way to develop a diverse and happy gut. I was unable to find any studies that pointed to the superiority of fermented foods over store-bought probiotics. What's more, I wasn't even sure if supplementing with probiotics or food is even necessary for someone who eats a diet full of clean, unprocessed foods. If anyone could answer these questions, it would be Katz, who has been experimenting with fermentation since the 1990s.

When asked if he thinks it's necessary to add fermented foods to our modern diet, Katz said enhancing our gut bacteria wouldn't be necessary in a perfect world. However, we face near-constant exposure to chemicals in our modern lives. Between chlorine in the water, antibacteri-

al cleansing products and antibiotics, we are all exposed to chemicals designed to kill a broad spectrum of bacteria every day.

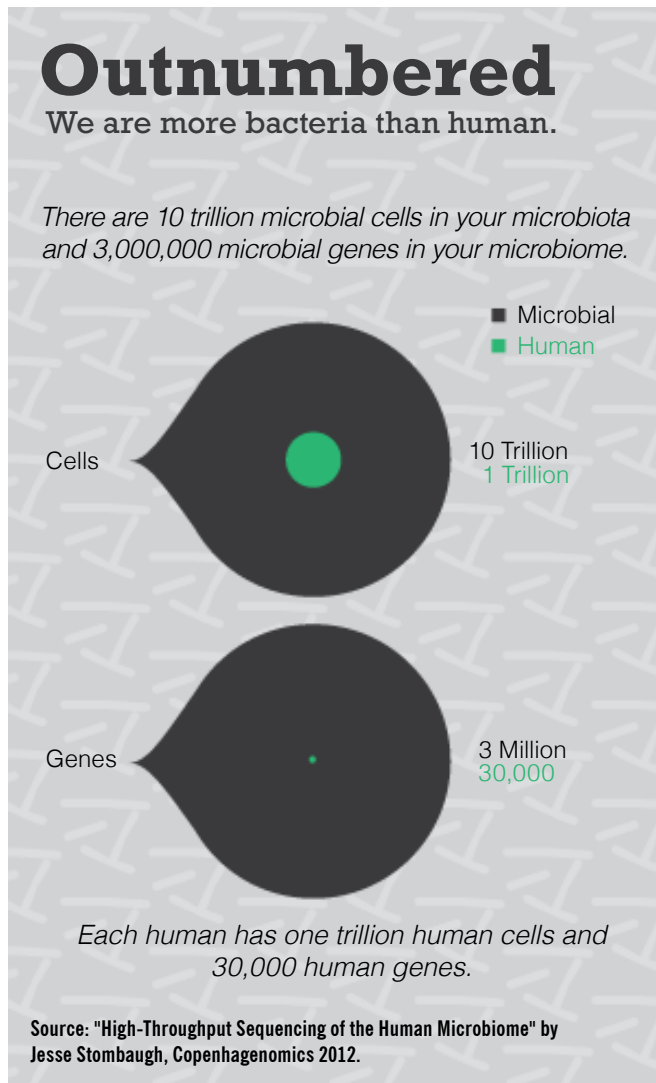
Antibacterial soaps and cleaning products do a good job of killing harmful bacterial such as *E. coli*, but they also take down the good bacteria—the bacteria that can prevent you from getting sick.

"So no matter how healthy the diet you are eating, for people in the 21st century much more than for people in the past, we really need to be consciously ingesting foods and/or supplements with bacteria to replenish and diversify our gut bacteria, which we are learning are so important," Katz said.



If we accept the idea that we need to build up our gut bacteria as a defense against a lifetime of chemicals and antibiotics, why not take the easy route and buy one of the many types of probiotic supplements available in pill form? I told Katz I had been unable to find any studies or evidence that pointed to the superiority of fermented food over probiotics in pill form.

Katz said there's a simple reason for this: "Almost all the research has to do with specific, proprietary probiotic strains. Nobody is investing money in clinical trials for sauerkraut. The benefit of that does not accrue to anyone the way it does to the manufacturers of proprietary probiotic strains."



Antibacterial soaps and cleaning products do a good job of killing harmful bacterial such as *E. coli*, but they also take down the good bacteria.

For Katz, one of the most important things he's learned about bacteria over the years is that they are not genetically fixed, like we are. The genetic material of bacteria is free floating in the cell, and as a result they have an enormous amount of genetic flexibility.

"Two bacteria can exchange genetic material. A single bacterium can release genetics that are no longer relevant to its existence in a shifting environment," Katz said. The type of bacteria you can find in a grocery-store probiotic supplement is usually a single type of bacteria. And while the product may boast it contains billions of cells, you won't find the diversity inherent in wild fermentation.

"Eight billion cells of a single bacteria with a single set of genetic material simply does not provide the kind of stimulation that a community of bacteria with varied genetic material supplies," Katz said.

"All of the traditional fermented foods have broad communities of bacteria—in sauerkraut, in yogurt, in kefir, in kombucha, for that matter in salami, in cheese, in olives, in traditionally fermented foods," he said. Katz said these traditional foods naturally have a greater diversity of probiotics than any capsules you can find in the store. For that reason, he believes fermented food is far superior to commercially made probiotic supplements.

"But nobody has conducted clinical trials around traditional foods because nobody stands to benefit from it," he said.

"I would advocate eating different types of fermented foods at different stages of their development as being the best way you could feed more genetic material into your gut. And also, traditional fermented foods do happen to be among the most celebrated foods around the world, so that makes them more interesting than popping capsules," he said.

Over and over again, we find that when it comes to nutrition, shortcuts don't work. Pills are no substitute for the real thing. Why would it be anything different for something as complex and important as our gut microbiota?

Sandor Katz, author of *The Art of Fermentation*.

“We were all raised in what I would call the ‘war on bacteria,’” Katz said. “And we haven’t really given up the war on bacteria. There’s nothing sexier you can write on a container of soap than promising people it will kill 99.9 percent of bacteria. People are still buying it—it’s in almost all institutional bathrooms. (But) this misguided idea that it’s beneficial to eradicate all of the bacteria around us is being balanced by the idea that bacteria are really beneficial and important.”

## Grow Your Own

For a week I ignored the moldy sauerkraut under the kitchen sink. It’s one thing to understand the importance of ingesting bacteria, but it’s another matter to eat fuzzy food. However, the science and the fermentation expert had spoken. That sauerkraut could be the secret to optimal health.

It’s one thing to understand the importance of ingesting bacteria, but it’s another matter to eat fuzzy food.

At-home fermentation requires a certain leap of faith. We are so conditioned to be terrified of food that might be spoiled or past its due date that deliberately growing bacteria and then ingesting the bacteria-filled food seems wrong. One of the benefits of the modern age is that we don’t have to worry about food preservation. That’s what refrigerators are for, right?

The sauerkraut was my second fermentation attempt. I started with kefir, a fermented milk made with kefir “grains,” which are actually a combination of yeast and bacteria that live on milk products. I got hooked on the tart, fizzy taste of kefir when I tried the Trader Joe’s version, but I was annoyed by the price—US\$2.99 for 32 ounces—and the fact that they only carry a low-fat version. So I did some research and found out I’d need kefir grains to make my own. I ordered dehydrated grains online and followed the instructions for rehydrating them, and before I knew it I had my first batch of kefir.

The kefir was ready, but was I? The specter of food poisoning hung over the entire process. What if I had done something wrong? I’m a writer, not a microbiologist or professional chef.

However, I had spent a week on this project, so stubbornness won out over fear. I drank a glass of—delicious, slightly carbonated, yogurt-like—kefir and hovered around the bathroom, waiting for unpleasant consequences.

Nothing happened. I survived my first experience with home fermentation, and now I’m making about four cups of kefir a day. It’s much cheaper, and home-fermented kefir has anywhere between four and six times the amount of probiotics as store-bought products.

Now it was time to face the sauerkraut. As I spooned a small serving into a bowl, I remembered something Katz told me.

“There is no case history of illness resulting from fermenting vegetables,” he said. “In the United States, according to the USDA, there has never been a documented case of food poisoning from fermented vegetables. They’ve even been looking outside the U.S., and they can’t find any case history. Statistically speaking, vegetables become safer after you ferment them than they were when they were raw.”



Sean Timberlake of Punkdomestics.com.

“In the United States, according to the USDA, there has never been a documented case of food poisoning from fermented vegetables.”

—Sandor Katz

I took a bite. The sauerkraut was delicious, a complex mix of salty and earthy flavors, with a hint of the caraway seeds and juniper berries I had used as seasoning. Twenty-four hours after ingesting the formerly mold-covered concoction, I was fine. I’ve been eating it almost every day since, with no hint of illness or stomach distress.

The world of at-home fermentation is new to me, but the fermentation revival has been building for years.

Four years ago, Sean Timberlake started [Punk Domestics](#), a website that’s a clearinghouse for food preservation (including canning, preserving, pickling and fermenting).

“It’s a labor of love,” Timberlake said.

“I came into this whole DIY thing as a journey of curiosity,” he said. “I learned about canning. I had no idea prior to that that you could do such a thing. All of a sudden, I was like, ‘You could do this?’”

Timberlake said he wanted to create a website that functioned as a discovery engine for anyone else who had that same spark of curiosity and wanted to take learning to a new level. He said people started submitting recipes for fermented foods almost immediately.

As the submissions increased, Timberlake found his understanding of fermented foods expanded.

“(I began) to understand that (fermentation) was really a global phenomenon and not something that is new or trendy but actually the oldest food-production method that we know. It’s been sort of obfuscated by contemporary techniques and technology,” he said.

As the interest in the Paleo Diet grew, Timberlake saw increased interest in fermentation on his site.



Originally from Indonesia, tempeh is made by fermenting soybeans, which can be done in a banana leaf.

“Paleo adherents are very big into fermentation because it’s a great way to add flavor to food without adding carbohydrates. It also tends to make food more digestible and more approachable for the gut,” he said. “A lot of people are concerned about making sure their gut is as healthy as can be, which does absolutely have a huge impact on your overall health, not just physical but mental.”

## Try This at Home

My journey into the world of fermentation developed much the same way as my foray into CrossFit. I first wandered into a CrossFit gym in 2010 because I wanted to get fit. What I didn’t realize is that I was also deathly bored of my Monday, Wednesday and Friday bootcamp class at the local Globo Gym. One of the trainers had us literally running around in circles—we spent part of the class running laps around the basement aerobics room.

The complexity and range of skills required in CrossFit is intimidating but exhilarating. There is always something to learn, some new technique to improve.

Similarly, Timberlake said he’s found people are drawn to fermenting because of the effort required.

“It’s geeky, and there’s a technique involved, and they want

to play with it,” he said.

The scientific evidence regarding the importance of gut bacteria is overwhelming. What’s not clear is exactly what to do with that information. Are we OK if we avoid unnecessary antibiotics and antibacterial soap and eat a healthy, varied diet? Is home-fermented food truly that much more superior to probiotics in a pill?

Over time we might get a definitive answer, but right now buying a probiotic supplement at the health-food store is a lot like running in circles around the aerobics room. It’s certainly better than doing nothing, but it’s really not much fun.

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A renowned expert, Katz teaches fermenting practices at workshops around the world.

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## About the Author

Hilary Achauer is an award-winning freelance writer and editor specializing in health and wellness content. In addition to writing articles, online content, blogs and newsletters, Hilary is an editor and writer for the **CrossFit Journal** and contributes to the CrossFit Games site. An amateur boxer-turned-CrossFit-athlete, Hilary lives in San Diego with her husband and two small children and trains at CrossFit Pacific Beach. To contact her, visit [hilaryachauer.com](http://hilaryachauer.com).

# BORN TO BE MILD

Eleanor Brown examines  
the role of introverts in a  
world full of selfies and  
overwhelming stimulation.

**By Eleanor Brown**

A group of friends and I were meeting for lunch at a local restaurant. Near our table, two televisions were tuned to a sports channel, the volume low.

We were the only customers, and we weren't there to watch television. I walked over and turned them off.

"Televisions in restaurants are so annoying," I explained when I returned to the table.

My friend Charity looked at me as though I were slightly crazy.

"I just tune them out," she said.

I looked at her as though she were slightly crazy.

"How?" I asked.

## Introverts in an Extroverted World

Over the next few months, I found myself wondering about this exchange periodically. I find noise—televisions or talk radio in waiting rooms, one-sided cell-phone conversations, noisy restaurants—distracting to the point of being infuriating. But the restaurant televisions hadn't bothered Charity at all.

What made us so different?

It wasn't until I was reading Susan Cain's *Quiet: The Power of Introverts in a World That Can't Stop Talking* (Random House, 2012) that I found an answer. Our personalities—specifically our natural tendency toward introversion or extroversion—influence the way we handle the world around us.

If you've noticed the flood of articles, blog posts, and social-media lists including [25 Frustrating Things About Being an Extrovert](#) and [The Top Ten Myths About Introverts](#), you can thank Cain, whose *New York Times* bestselling book unleashed a flood of conversation about those traits.

Cain's core ideas in *Quiet* are twofold. First, she suggests Western (especially American) culture has, relatively recently, developed what she terms an "extrovert ideal" we all feel pressure to follow. Second, she says the unquestioned ubiquity of that model is not serving us: in personal and political life, in schools and business, and in creative pursuits.

Instead, she argues, we need to build a world in which the unique talents of both introverts and extroverts are appreciated and used to their greatest ability.

## ARE YOU AN INTROVERT OR AN EXTROVERT?

**Q:** How important to you is time alone?

**Q:** Which recharges you: a night out with your friends or a night in with your partner?

**Q:** Would you find more value in a group discussion or a one-on-one conversation?

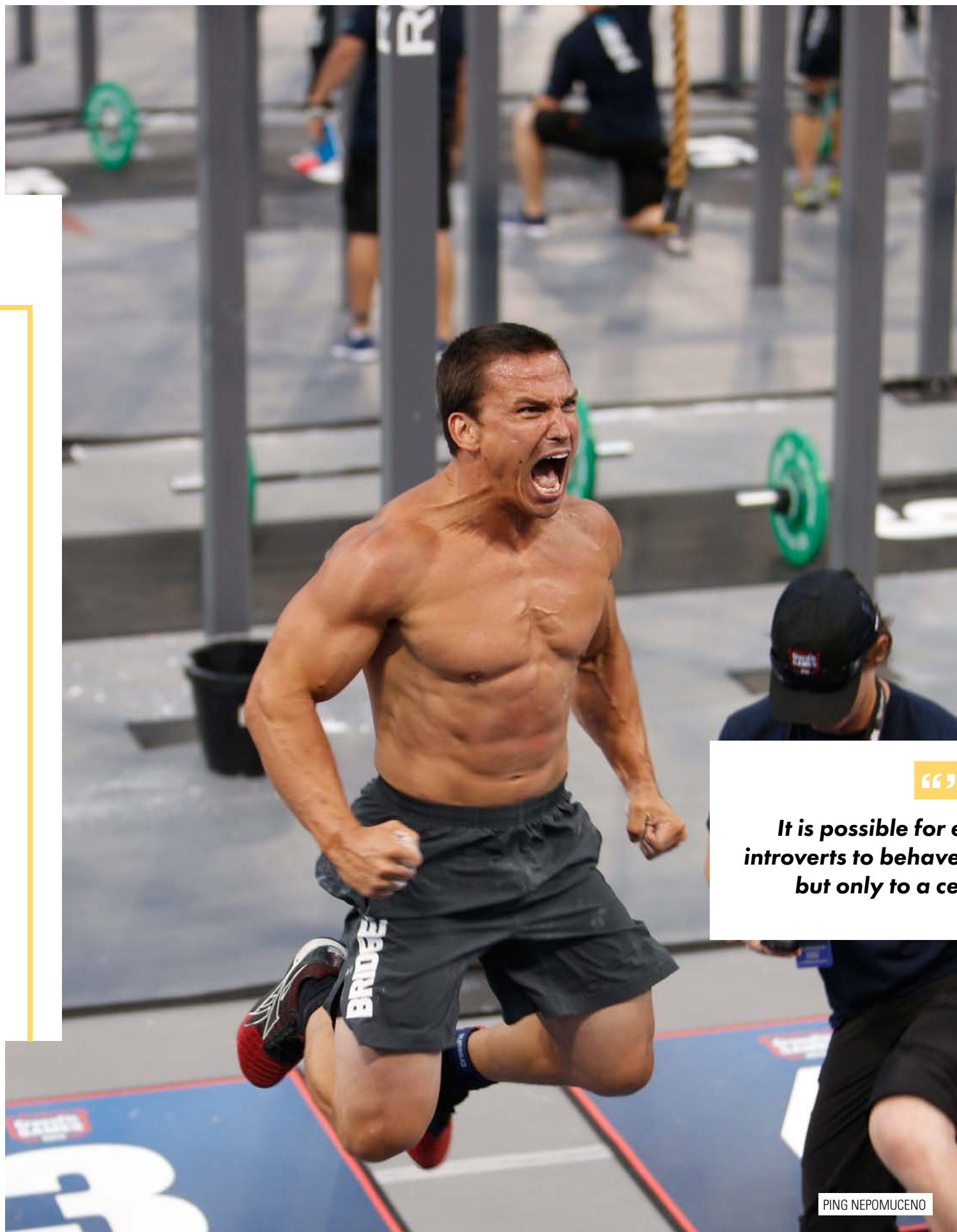
**Q:** How do you feel after public speaking?

**Q:** Which helps you process your thoughts: talking about them or thinking about them?

**Introverts:** Tend to find the most value in smaller group interactions and alone time.

**Extroverts:** Are energized and motivated by larger groups and talking issues through.

Take Susan Cain's Quiet Quiz [here](#).



### What Is an Introvert?

Cain defines the core difference between the two personality types this way: "Introverts and extroverts differ in the level of stimulation they need to function well."

This explains, then, why Charity was so confused by my inability to tune out the televisions during our lunch and why I was so confused by her lack of concern. We are wired completely differently in terms of our tolerance for stimulation in our environment: She functions best when there is a great deal, and I am better off when there is much less.

But Cain herself points out there is no single type of extrovert or introvert. There are extroverts who love to spend large amounts of time reading and introverts who are successful public figures. We often look for the wrong signs in interpreting people's behavior.

Introversion, for instance, is not the same thing as shyness. "Shyness is the fear of social disapproval or humiliation, while introversion is a preference for environments that are not overstimulating," Cain clarifies.

Another trait often confused or conflated with introversion is a lack of social skills, but again, that is not necessarily the case. Introverts, especially introverted children, often spend a great deal of time observing people's interactions, a habit which can make them excellent readers of emotion and communication.

It is possible for extroverts and introverts to behave out of character, but only to a certain extent. Cain calls this "the 'rubber band theory' of personality." She says we "can stretch ourselves, but only so much." Our attempts to take on a different role—for an extrovert to behave in an introverted manner or vice versa—are most successful in service of something we are passionate about.

The best way to think about extroverts and introverts is to consider the issue of how we deal with stimulation. A speaker who greets the audience individually after a talk and then invites a group out for a drink to continue the conversation is likely an extrovert, but a speaker who leaves the stage and hurries home to a blissfully quiet house is likely an introvert. There is no difference in their skill as speaker, only in how expending energy in that way affects each of them.

And both were probably born that way.

***It is possible for extroverts and introverts to behave out of character, but only to a certain extent.***

Born Looking Inward

It seems to be nature, not nurture, that starts us down the road toward extroversion or introversion. Jerome Kagan, the head of the Laboratory for Child Development at Harvard University, theorized that infants who reacted strongly to new stimuli would grow up to be introverts.

Kagan’s experiments centered on a part of the brain called the amygdala, part of the “emotional brain” that determines how we respond to sensory input. His research proved his hypothesis: Infants with more excitable amygdalas “would wiggle and howl when shown unfamiliar objects.” Kagan called these children “high-reactives.”

These highly reactive children were not necessarily scared. They were simply very aware of the world around them.

Children who reacted less strongly to changes in their environment had less excitable nervous systems. These “low-reactives” noticed the unfamiliar objects but were not disturbed by them. These children were more likely to grow into extroverts, which, given what we now understand about an extrovert’s tolerance for stimulation, makes sense.

This biological basis can be traced through the choices we make during our lives.

A high-reactive introvert might have chosen to participate in an individual sport such as cross-country running in high school, and he or she might have selected writing as a career. These choices are attractive to an introvert because they allow a great deal of control over the amount of environmental stimulation.

A low-reactive extrovert, on the other hand, might have chosen to play a team sport such as soccer in high school, and he or she might have taken jobs in sales because of the excitement provided by a constantly changing environment and unpredictable interactions with different people.

Cain reports that research like Kagan’s consistently shows “introversion and extroversion, like other major personality traits ... , are about 40 to 50 percent heritable.”

And introversion is common: Cain says from one-third to one-half of Americans are introverts.

So why do we talk more about the Kardashians than Kirkegaard? Why is the National Basketball Association more popular than the National Book Awards? Why do we insist a quiet, bookish child must “come out of her shell”?

Why don’t we celebrate introversion?



“”

**Why do we talk more about the Kardashians than Kirkegaard?**

The Extrovert Ideal

We weren’t always an extroverted people. Cultural historian Warren Susman argues that, until the beginning of the 20th century, the American zeitgeist was a “Culture of Character,” emphasizing easily practicable virtues: morality, courtesy, integrity.

But the dawn of the new Industrial Age and its attendant changes—the glorification of industry and the “self-made man,” the broadening business circles bringing us into contact with new people—also brought about a shift in the kind of person we admired.

We became a “Culture of Personality,” Susman explains, revering not the thoughtful or dutiful but the charismatic and charming. We became a culture of salespeople and entertainers.

And our fascination with big personalities and our drive to emulate them have not abated. If anything, we have careened wildly into a race to see who can be the most extroverted, the busiest, the most outgoing.

Think of the seemingly inexhaustible number of people willing to appear on a seemingly inexhaustible number of reality shows. And our

fascination with the celebrity and attention social media grants all of us turns us into extroverts, and often extreme extroverts. We all have something public to say—typically immediately and without thought—about every topic we encounter.

Sophia Dembling, author of *The Introvert’s Way*, points out that social media has turned even the process of grief into a performance. Take, for instance, the tendency to become publically distraught about the deaths of celebrities we did not know, or even our own “private losses, which we announce with tearstained Facebook pages inviting all our ‘friends’ to share our sorrow.”

Our behavior demonstrates how the Culture of Personality has changed the ideals we hold and pursue.

Extroversion as an individual personality trait is a wonderful thing. The world needs extroverts. We need them at parties to keep the conversation going, we need them on stage to entertain us, we need them in diplomatic offices to build bridges between nations. We need negotiators and salespeople and powerful personalities to bring us together over conference tables and dinner tables.

But Cain thinks we have fallen so deeply in love with the idea of

extroversion that we have decided it is the cure for all our ills, even when it clearly is not.

The Beer Test

Consider, for example, current politics. Today’s U.S. Congress, Cain points out, is made for extroverts, people who want to spend their days talking and meeting with lobbyists and other lawmakers, who enjoy public speaking and are energized by being around other people. And because politics has become a full-time career, politicians are concerned with electability, otherwise known as likeability, which we tend to judge on the basis of extrovert traits.

One of these examples is the “beer test,” which seems to rear its ugly head every presidential election: Which candidate would we most want to have a beer with? This is, of course, a completely irrelevant question (and an unlikely scenario), but it reveals how far the Extrovert Ideal has spread.

Shouldn’t the question be who is the most thoughtful, the most experienced, the most likely to get us through the good times and the bad? Shouldn’t we want someone brilliant? Smarter and more contemplative than the rest of us put together? Sure, likeability should

be a consideration for a position requiring so much diplomacy, but shouldn't it be only one item on the list of things we consider?

But because we are prisoners of the Extrovert Ideal, that beer question comes around every election, and we, as a nation, seriously spend time considering it.

Reading Cain's thoughts on politics, I was reminded of the 1992 presidential election, in which independent candidate Ross Perot selected Navy Vice Adm. James Stockdale as his vice-presidential candidate.

Stockdale held a master's degree from Stanford University and was a highly decorated veteran and Medal of Honor recipient who had spent seven-and-a-half years as a prisoner of war in Vietnam. But his poor performance during a televised debate against more camera-ready opponents Dan Quayle and Al Gore made him a national punchline instead of a serious candidate.

But we were, again, evaluating him on the wrong criteria. We weren't considering his ideas, his character, his resume. We were judging him as a performer—only one part of the job he sought. And he failed, in our eyes, because, as comedian Dennis Miller said, "he committed the one unpardonable sin in our culture: he was bad on television."

And therein lies the problem with the Extrovert Ideal. We are so sure extroversion is the best measuring stick that we use it in situations in which it has little to no bearing.

## The Extrovert Ideal at Work

Because the Western world has become so focused on extroversion, we have begun to think of introversion as a personality flaw, as something to be cured.

On one hand, if our culture stresses the importance of first impressions, if we make decisions about who to hire based on job interviews, and if we require people to make public presentations, we need to produce people with the right skills—thus the stress in schools on group work and cooperative learning, on class discussion and participation, on presentations and performance.

On the other hand, many of the decisions we have made and the strategies we have developed because of our love of extroversion are not, in fact, effective at all, Cain argues. For example, group brainstorming, a technique adored from the classroom to the boardroom, is actually a poor method for generating ideas, and "performance gets worse as group size increases."

The rage for open-plan offices—tearing down the cubicle walls as an active metaphor for improving communication and collaboration—contributes to a decline in productivity. Committee decision-making leads to the acceptance of not the best ideas but those expressed most vociferously.

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**We are so sure extroversion is the best measuring stick that we use it in situations in which it has little to no bearing.**

It's not that there is no point in collaboration. But when we elevate it to such a lofty status, assuming without thought that it is the best way to achieve the best possible outcome, we have lost something.

In contrast, Cain presents research demonstrating the value of a more introverted process of invention and collaboration. Instead of gathering

people together to generate ideas and make decisions, Cain praises the value of asynchronous, "passive forms of collaboration like email, instant messaging, and online chat tools."

What's the difference? The slower pace of the conversation and having to articulate ideas through writing forces us into a more contemplative and thoughtful state.

In addition, the impact of personal charisma is reduced, and ideas can be considered on their merits, not on the enthusiasm or talent of the presenter. To be fair, it could be argued that though the bias toward a more enthusiastic speaker is removed, it is replaced by a bias toward a more eloquent writer.

Despite our preference for group work, we often are visited by our greatest genius when we are on our own.

Steve Wozniak, co-founder of Apple Inc., is an example of the kind of creativity that can grow from quiet, independent work. In his biography, he notes the importance of time spent in thoughtful, practical solitude.

"I don't believe anything really revolutionary has been invented by community," he wrote.

## Introverts as Leaders

According to Cain, our inability "to distinguish between good presentation skills and true leadership ability" has led us to automatically look for a big personality to lead us, even in places where a quieter, more thoughtful approach might be a boon.

Adam Grant, a professor at the Wharton School of business, has proposed the idea that introverts would be better leaders in certain cases. His research argues that, given a group of relatively passive workers, an extroverted leader would be very successful, exciting



ALICIA BALDWIN

““”

**Despite our preference for group work, we often are visited by our greatest genius when we are on our own.**

## EXCERPTS FROM MANIFESTO

BY SUSAN CAIN

1

There's a word for "people who are in their heads too much": thinkers.

2

Our culture rightly admires risk-takers, but we need our "heed-takers" more than ever.

3

Solitude is a catalyst for innovation.

Read the complete list at [thepowerofintroverts.com](http://thepowerofintroverts.com).

and encouraging his or her staff to reach their goals. However, a group of employees more interested in taking initiative might be better off with an introverted leader, one less interested in the impact he or she personally makes and more receptive to employee-driven suggestions.

Instead of making assumptions about the best type of leaders (charismatic) and the best processes for groups to follow (brainstorming), research such as Grant's indicates we might be better off looking at each individual group of people and each situation. Members of a group composed largely of introverts might be ill-suited for daily meetings but might thrive when asked to deliver that same information via email, which would give them time to consider and formulate opinions and suggestions without the stress of oral presentation. But a group of extroverted employees might starve for stimulation if they were all ordered to telecommute.

Minister Adam McHugh talks about the Extrovert Ideal in his evangelical faith in his book *Introverts in the Church*. While charismatic ministers may make excellent preachers, what about the contemplative listening skills required by pastoral counseling, he wonders? In a celebratory, enthusiastic religious service, how can we also make space for individual meditation and private connection with the divine?

In other words, don't we need both introverts and extroverts?

## Living in Harmony

There is much information in *Quiet* that could be read as critical of extroversion.

Because the power of introversion is rarely discussed, it would be easy to read the book that way, especially for an introvert delighted

to find validation—at last!

The real point of Cain's work is not to disparage extroverts but to consider the idea that we have been neglecting the contributions introverts can make and the aspects of introversion we can learn from.

Research has demonstrated no difference between the intelligence of introverts or extroverts, but they do perform quite differently on tasks. For instance, in timed exercises or ones requiring multitasking, extroverts perform better. But if the exercise requires patience and persistence, introverts are more likely to succeed. Knowing our talents can lead us to greater success.

And we have something to learn from each other. Extroverts must become better at listening to good ideas presented with less polish or through introverted channels such as writing. But introverts must also learn to value their own ideas and to share

them effectively, even in traditionally extroverted ways.

One of the great strengths of introverts, Cain argues, is "soft power." Rather than an aggressive battle for control, soft power is "quiet persistence," a way of asserting oneself or one's ideas by using those natural introverted skills of patience, conviction and tenacity.

It is worth being aware, too, of the needs and desires of our opposites. Extroverts must understand an introvert's need for silence, as introverts must support an extrovert's requirement for stimulation.

Teachers and bosses must make space for introverts to process silently and individually, without judgment, and for extroverts to work together, to act and decide with quickness and energy. But there must also be cognizance of what is gained and lost by each method.

And we must recognize our need for each other. As part of her research, Cain went to a retreat targeted at introverts. She had expected the experience to be peaceful, filled with people who understood her need for quiet and calm. But she also found herself missing what she thought of as the natural balance between introverts and extroverts.

"I thought (the retreat) would make me long for ... a world in which everyone speaks softly and no one carries a big stick. But instead it reinforced my deeper yearning for balance."

**Dan Bailey, the quieter version of the extrovert Danny Broflex.**

## ADDITIONAL READING

*How to Win Friends and Influence People*, Dale Carnegie

*Introverts in the Church: Finding Our Place in an Extroverted Culture*, Adam McHugh

*The Introvert's Way: Living a Quiet Life in a Noisy World*, Sophia Dembling

*To Sell Is Human: The Surprising Truth About Moving Others*, Daniel H. Pink

*Quiet Kids: Help Your Introverted Child Succeed in an Extroverted World*, Christine Fonseca.

## ABOUT THE AUTHOR

Eleanor Brown is the **New York Times** and international bestselling author of the novel **The Weird Sisters**, and of the fitness inspiration book **WOD Motivation**. She has been doing CrossFit for two-and-a-half years and trains at CrossFit Modig in Highlands Ranch, Colo.

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# THE CrossFit JOURNAL

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## Torpedo School 2: Learn to Turn

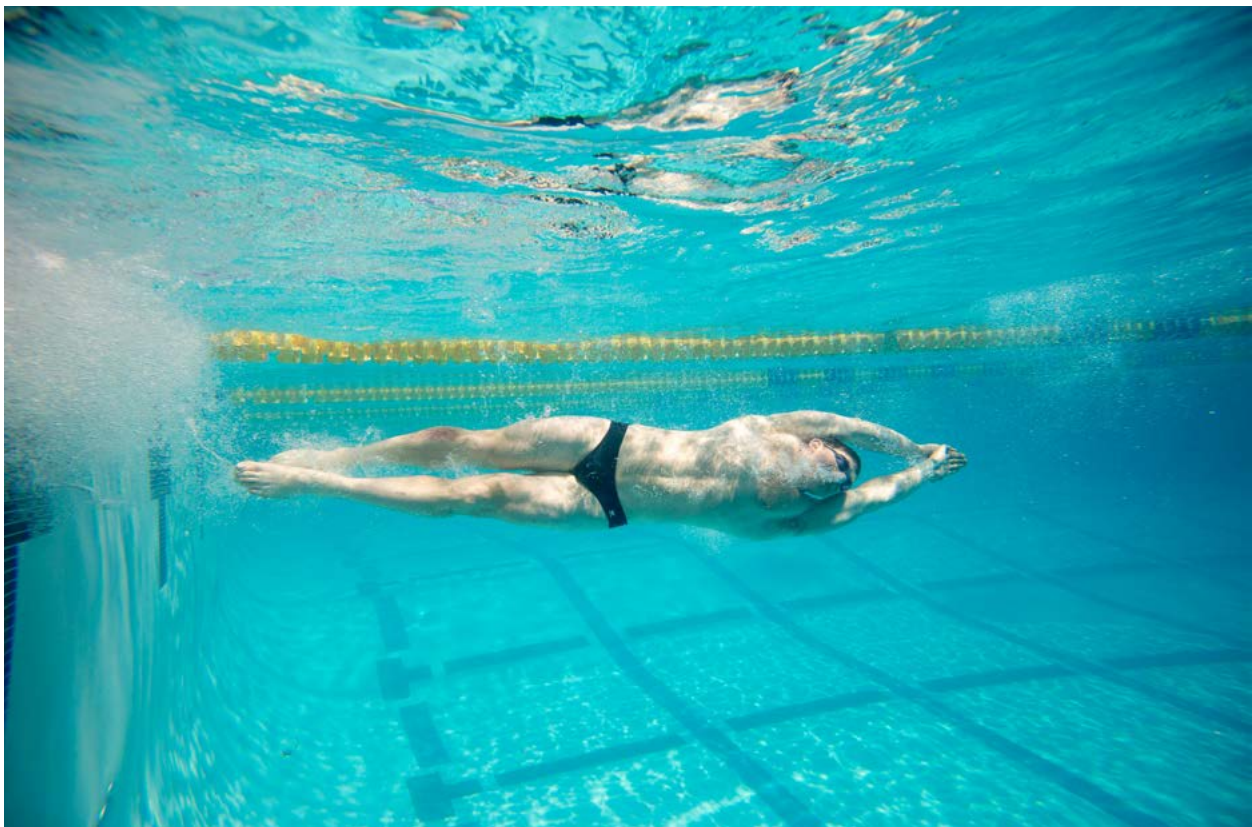
Minimizing time spent at the wall is essential to speed in the pool. By mastering open and flip turns, you can save energy and shave seconds off your lap times.

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By Adam Palmer and Rosalie Palmer

June 2014

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All photos: Dave Re/CrossFit Journal

One of the simplest ways to improve times in the pool is to develop streamlines and turns.

Improving turns means reducing periods of zero velocity and accelerating more efficiently into the next length. Faster turns can shave seconds or minutes off race times, depending on the distance.

Turns are relatively easy to practice, meaning athletes can perform many repetitions without fatigue, and at some point the swimmer will be forced to turn many times during normal practice sessions anyway. The correct attitude is to look at each turn as an opportunity to improve upon the previous one.

Great turns can have a dramatic effect on race performance. Observe the [third heat of The Pool event at the 2013 Reebok CrossFit Games](#) (footage available outside U.S. only). If you pay attention to experienced swimmers Matt Chan and Jordan Troyan, you may notice how their use of the flip turn allows them to accelerate back to race speed efficiently following the turn.

Troyan, an All-American swimmer at West Chester University, used a flip turn throughout the event and was able to use a powerful push to streamline about a third of the 25-yard pool. He won the event by more than 20 seconds, and observing his timing and technique will help you improve your own turns in the water.

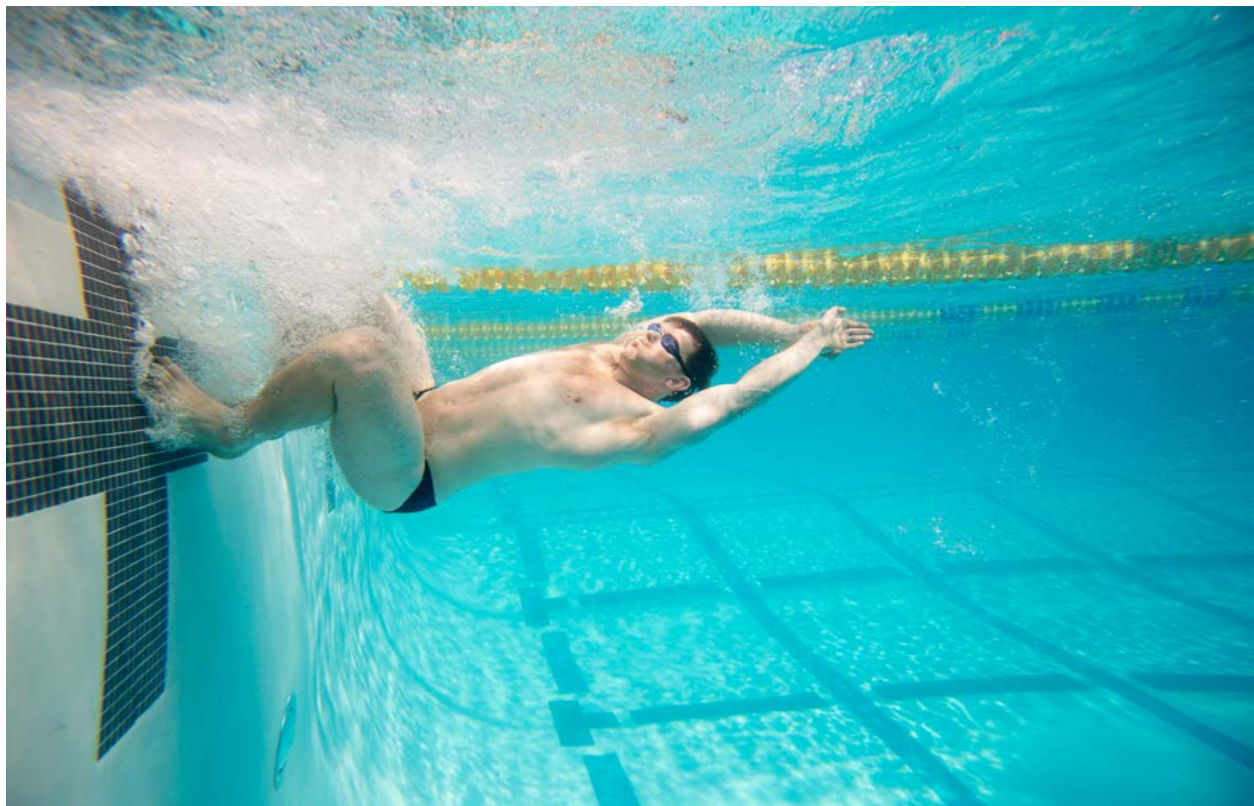
### Common Elements

While not actually part of the turn itself, push-offs and streamlines recur throughout races, not just at the start, so we'll go into a little more detail here.

### The Push-Off Position

Whether you are using an open turn, flip turn or just pushing off the wall to start a set, the push-off position puts the body in an optimal posture to generate the most power coming off the wall. It resembles a half tuck (a squat) with the arms outstretched in an overhead (streamline) position while lying on the back or on the side.

One way to think about the push-off position is to imagine performing a squat jump toward an object high above your head. In the water, pretend you are jumping horizontally through a tube into a tight streamline. As you are doing so, consider a line created by the feet, hips and back. When trying to jump as high as you can on land, the three will ideally create a line parallel with the direction of travel.



*The push-off position resembles an overhead squat in some ways and is designed to generate power.*

### Streamline

As discussed in the article [Torpedo School](#), drag and basic hydrodynamics require swimmers to streamline their bodies for best performance. The streamline position requires the athlete have some basic shoulder and scapular mobility.

A solid goal is to be able to push off the wall and glide in a streamline for at least 6 yards without the aid of any kicking before coming to the surface. For reference, most pools string backstroke flags across 5 yards (5 m for long-course pools) from either wall.

In a future article, we will go into greater detail about the mechanics of underwater swimming and how to optimize it.

### Types of Turns

The primary goal in any turn should be to maintain as much velocity as possible both into and out of the turn.

Imagine throwing a tennis ball into the wall. In a perfect world, the tennis ball rebounds to transfer momentum in the opposite direction. Clearly, this is impossible for a

swimmer, and doubly so when considering the physical constraints we are dealing with in the water. However, the tennis-ball example illustrates that the athlete should focus on accelerating into the wall and then exploding back into the race.

There are two main types of turns that allow athletes to transfer momentum off the wall: the open turn and the flip turn.

### Open Turns

Open turns are primarily used during butterfly, breaststroke or individual-medley races. In the case of butterfly or breaststroke, a swimmer must perform each turn with both hands touching the wall simultaneously. An open turn may be used for freestyle or backstroke races if the athlete is not comfortable with flip turns, but doing so is not at all optimal. The following steps explain how to effectively perform an open turn:

1. Touch—If your timing is on point, you should make first contact with the wall in between the end of one stroke cycle and the start of the next, when velocity is highest. The fingers, then the palm should touch the wall. The



Dave Re/CrossFit Journal

*A tight streamline position will allow a swimmer to glide for five or more yards after pushing off the wall.*



**Contact the wall with arms outstretched, and flex the elbow on contact.**



**Press away with the arms and bring the knees to the chest.**



**Bring the feet to the wall and drop one elbow below and behind you.**



**The ideal torso position is horizontal as you push off the wall.**

arm should not be rigid but rather allowed to flex, thus preparing you for the next step in the turn. For breaststroke or butterfly races, current Fédération Internationale de Natation (FINA, the governing body for international swimming competition) rules require wall touches with both hands on the turn and at the finish. If performing open turns while swimming freestyle, athletes may touch with one hand. Transitions between backstroke and breaststroke during individual-medley races are beyond the scope of this article.

2. Press and tuck—Upon touching the wall with a slightly bent elbow or slightly bent elbows, press away with your hand or hands at the contact point and simultaneously bring your knees to your chest. The intent is to very

quickly decelerate and prepare to continue the race off the wall; i.e., athletes should accelerate into the turn. A very fast turn, from touch to push-off position, should last no longer than a full second under ideal circumstances.

3. Roll and plant—If you performed Step 2 correctly, you will notice the tendency is for the body to roll backward naturally. Plant your feet on the wall as you roll backward and allow the elbow of your non-dominant arm to drop behind you. To prepare to streamline, simultaneously bring your opposing arm overhead close to your body. The ideal position is for your torso to be horizontal as your feet plant on the wall. To complete the turn, roll to the prone position, facing the bottom of the pool, as you extend the legs and ankles powerfully.

### Common Faults

One of the most difficult aspects of the open turn, particularly in breaststroke or butterfly races, is proper timing between touching the wall and the final stroke cycle coming into the wall. This can be challenging even for world-class athletes and requires a lot of practice.

For a perfect turn, you should make contact with the wall at full extension. If you're too far from the wall at full extension, this can mean a relatively long glide time, which creates the tendency to want to take an extra stroke before beginning the turn. The relative deceleration from the extra stroke cycle can be detrimental depending on the situation.

As a general rule, the streamline is a hydrodynamically optimal position for our bodies in the water. So you will need to make a judgment call if given the option to introduce drag into an optimal position when approaching the wall. In some cases, a half or quarter stroke length can provide more speed that balances the increased drag, but in many others it's faster to just glide for a second-and-a-half longer. More often than not, the correct answer is to glide, but this is not always the case.

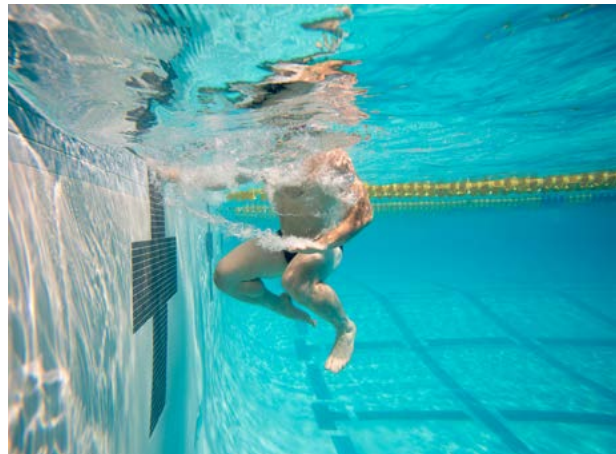
A perfect example is the men's 100-m butterfly final at the 2008 Olympics in Beijing. Michael Phelps out-touched Milorad Cavic to win the gold medal by one-hundredth of a second after taking an extra half stroke above the water at the finish. There is little doubt Phelps made the correct decision to accelerate his hands above the water into the finish. But what if Cavic had not raised his head prior to the finish? What if Phelps had glided rather than half-stroked into the finish? I would argue the outcome may have been different and Cavic's time would have been a few hundredths faster.

When developing body awareness in the water, it is not uncommon to have athletes with incorrect foot placement push off with a steep angle relative to horizontal—which is inefficient. The goal is to push off as close to parallel with the surface as possible. As a guide for depth, your knees should be at or just below the surface when bringing them to the chest. This will allow for optimal foot placement immediately following the tuck. If the turn is performed correctly, you will leave the wall approximately one to two feet below the surface.

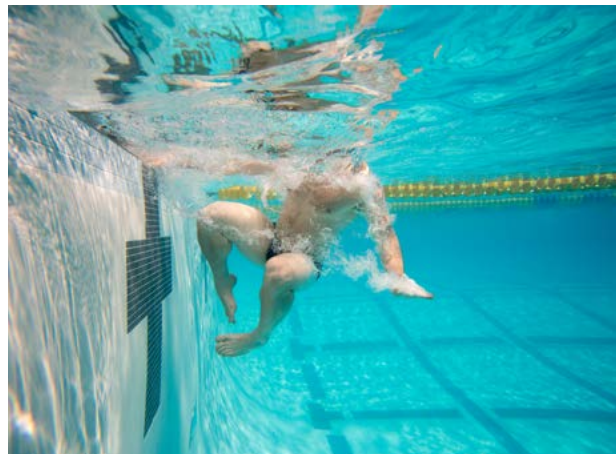
Foot placement is very important on turns, and some athletes will put themselves too close to the wall. To maximize efficiency at the push off, the knees should be



*Touch.*



*Press and tuck, part 1.*



*Press and tuck, part 2.*



***Roll and plant.***



***Streamline.***

bent enough to facilitate a strong push without sacrificing quickness. If you are too close to the wall, the push will demand excessive knee flexion, which is an error. Anything past a 90-degree knee bend will decrease the power of the push.

One bad habit that occurs in both new and experienced swimmers is grabbing the gutter or side of the pool at the surface when performing an open turn. This is problematic for two reasons. First, in an officiated meet, the gutters are often covered by large starting pads. This can come as a shock to somebody looking to grab the wall during a turn and suddenly finding a flat surface. This can really throw off your race, so the best policy is to practice the way you will race. Second, grabbing the wall can lead to pulling the body into the turn, resulting in a longer transition time

between turns and an overall slower race. If the focus is on accelerating into and out of a turn, we want to minimize contact with the wall as much as possible.

The solution to this problem is placing the hand flat on the wall without grabbing it or always touching the wall below the surface in a pool with low gutters.

### **Drills and Corrections**

This 2-1-0 drill teaches a traditional open turn that can be used for all strokes except backstroke. If you do not feel comfortable doing flip turns, this turn can be used for freestyle but then only requires a one-arm grab of the wall.

When grabbing the wall with straight arms, employ a light flutter kick so the legs stay afloat. On "two," swing the legs forward as if you are attempting a back flip. On "one," bring one arm to your side in a rowing motion. Remember, you will turn toward whichever arm is brought back at this stage. On "zero," the arm still on the wall will come back toward your ear and then extend overhead as you roll to face the bottom of the pool. Slide your arms together into a tight streamline while exploding off the wall.

### **The Flip Turn**

Flip turns are used in both the freestyle and the backstroke, combining a quick flip with a push-off. The flip turn is significantly faster than the open turn taught early in competitive swimming.

It's important to constantly exhale through the nose while performing a flip turn. There will likely be an uncomfortable burning sensation of water going up the nose. To better prepare for it, go to the bottom of the pool and face the surface of the water while practicing exhaling through both the mouth and nose. When you're comfortable with this, practice front flips in the water.

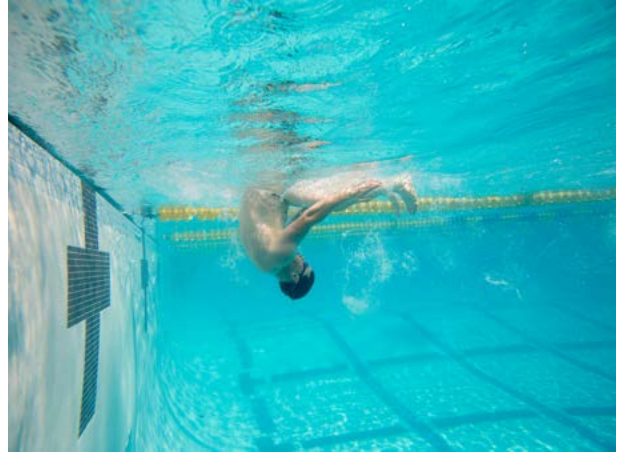
### **Flip-Turn Progression**

This basic progression can be performed with the aid of a few pieces of inexpensive equipment and is very effective for novice swimmers attempting to learn the flip turn. The photos on pages 8 and 9 show an athlete using pull buoys as flotation aids, but athletes can also hold both ends of a foam noodle or any pair of objects that have some buoyancy.

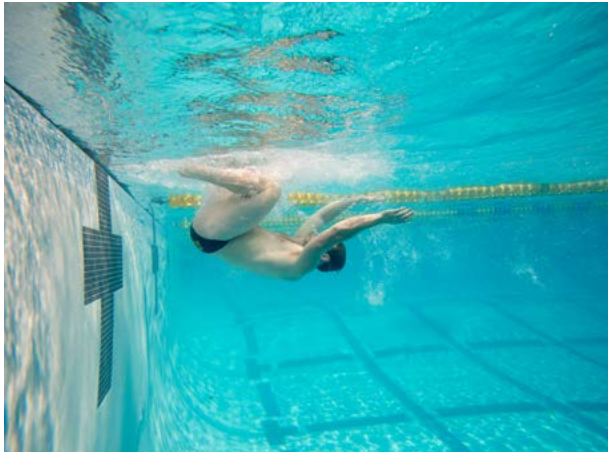
There is a strong tendency for new swimmers to lift the head when approaching a turn; i.e., searching for the wall. The method described here helps swimmers



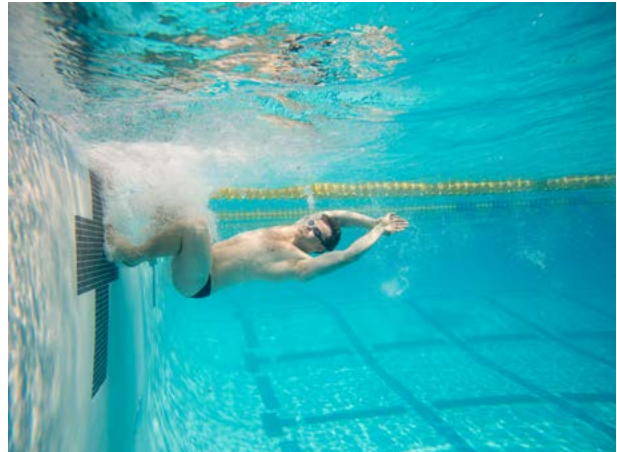
*Practice makes perfect, but the T on the bottom of the pool can give you a clue as to when to initiate the turn.*



*Initiate the flip.*



*Move the feet to the wall and move the arms toward the streamline position.*



*A squat deeper than the one pictured above is not an optimal pushing position.*



*Rotation starts when the feet contact the wall and continues during the push.*



*Rotation continues as the athlete snaps into a streamline position to minimize drag.*

develop a strong flip turn without the use of their hands and arms while also reinforcing a lower head position in the water. It also effectively engages the core, thereby shortening the transition to the push-off position. This is a six-step process:

1. Standing front flip—Hold two pull buoys with the hands behind the body while standing in the shallow end of the pool. Initiate the front flip by bringing the knees to the chest and tucking the head. The arms should be behind or to the side of the athlete during this movement. The goal is to be able to flip quickly and without altering the axis of rotation.

If you're having difficulty with front flips in the water, the flip may be practiced on a padded mat out of the water. Sit on the knees on a padded surface, tuck chin

to chest and begin a forward roll, allowing the feet to plant on the mat at the finish. You should finish with knees bent approximately 90 degrees and feet on the mat. The key is to roll in a straight line while throwing the legs over.

2. Buoys out front—The next step involves the wall. Starting at the flags, hold the buoys in front in a loose streamline while kicking. In a standard competition pool, a dark, contrasting line ending in a T 2 m from the wall can serve as the cue for a swimmer to discontinue stroke-breathing mechanics prior to the turn. However, despite this standard, not all pools are built to spec, and some have wall indicators closer to or further from the wall. When the buoys contact the wall, flip. As the feet touch the wall, push off on the back with the arms extended



*Start with buoys held behind you.*



*Exhaling through the mouth and nose can reduce the burning sensation of water going up the nose.*



*To initiate the flip, bring the knees to the chest and tuck the head.*

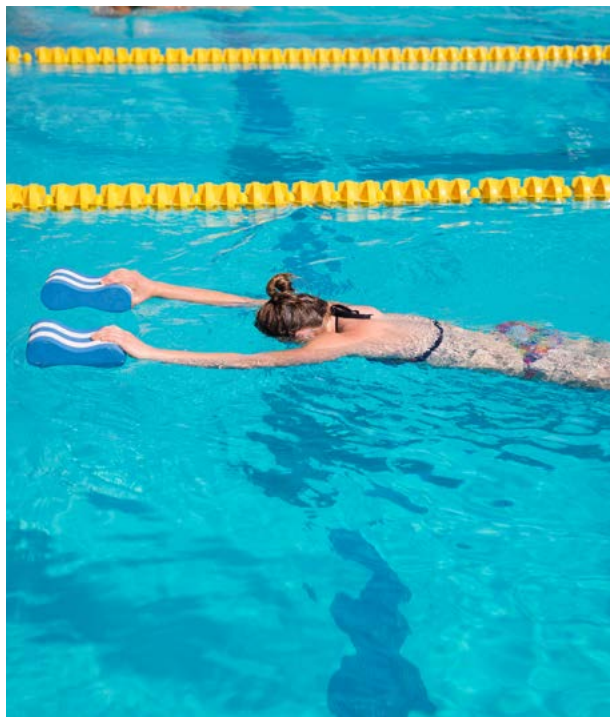


*If possible, avoid altering the axis of rotation.*

above the head. Progress to the next step as you become more comfortable with timing.

3. Buoys at hips—In this step, you will push off the wall on the back again. Begin by holding both buoys down at the sides with the body horizontal at the surface. Kick from the flags into the wall while watching for the T on the bottom of the pool. Some practice will be required to determine the timing, which will also depend on your velocity coming into the wall. A good rule of thumb is to begin the flip slightly more than a half body length from the wall itself, or as the body is passing the T. Again this may vary depending on the pool and the athlete. If the timing is correct, you should push off the wall on your back, holding the buoys in a loose streamline.

4. Arms down and kick—This step is similar to the previous except the pull buoys are absent. From the flags, kick with the arms at the sides. You should now be comfortable with the timing of the flip. After you flip, snap the arms into a streamline position and push off the wall on your back. As when practicing underwater push-offs, the back should be parallel to the surface and you should explode off the wall past the flags in a streamline with a strong, steady kick.

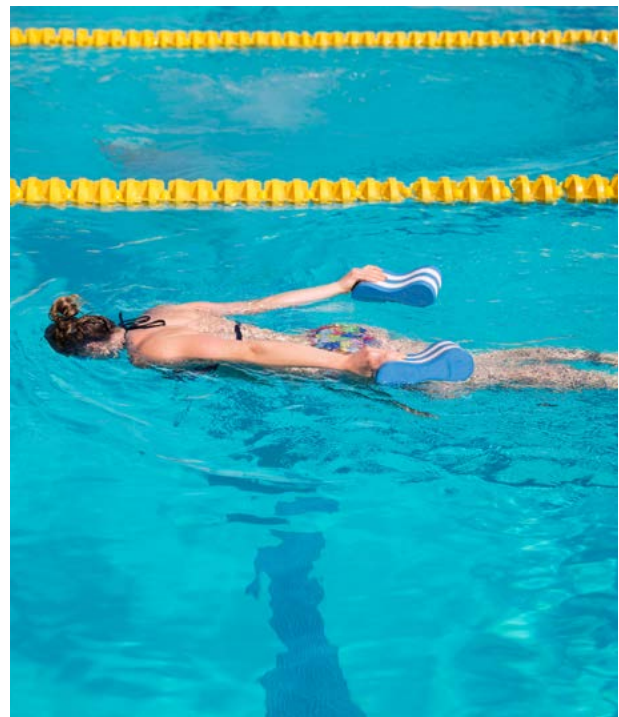


***Holding two pull buoys in front, kick toward the wall while watching for the T on the bottom of the pool.***

5. One-Two-Flip—Begin with arms in the streamline position and kick toward the wall. When the head is over the T, pull one arm and then the other down quickly and flip. The idea is to mimic the final stroke prior to the turn while swimming freestyle. You should explode off the wall on the back in a full streamline.

6. Full freestyle turn—The full turn will now incorporate two final elements: swimming into the wall and incorporating the twisting motion that allows you to push off the wall and transition back to full freestyle. Starting at or just past the backstroke flags, swim freestyle into the wall while watching the T for timing. The number of strokes needed after the T will depend on the size, strength and speed of the swimmer, as well as exact distance of the T from the wall. Most experienced adult swimmers require a single arm stroke after the T. The previous steps should give you clues as to exact stroke timing.

Less experienced athletes should begin by performing the turns slowly. Rushing into a turn too quickly will be problematic (and potentially painful; see below). For the twist, the direction of rotation is personal preference, but it is common to rotate toward the non-dominant arm.



***With the buoys at the hips, kick into the wall, again watching for the T.***

Rotation should begin as soon as the feet plant on the wall, but you do need to be completely prone prior to leaving the wall. Most athletes continue rotation during the underwater portion of a turn, but you should be completely prone prior to the breakout or transition from underwater to surface swimming. Focus on keeping the body tight and in line as you explode off the wall to begin the underwater portion of the swim. As in the open turn, you should leave the wall approximately 1 to 2 feet below the surface and parallel to it.

### Common Faults and Corrections

Newer athletes may struggle with a few elements of the flip turn. If it isn't practiced enough, the flip itself can be somewhat disorienting, and it is not uncommon for athletes to flip and then push off every way but perpendicular to the wall. This is especially problematic when multiple swimmers are in a lane in which people are circle swimming. To correct the problem, isolate the flip itself, focusing on rotating as straight as possible and planting the feet on the wall as close to perpendicular as possible.

A bad habit developed by less experienced swimmers

and displayed by a number of athletes at the 2013 Games is the lifting of the head prior to initiating the flip. Lifting the head increases drag dramatically and greatly decelerates the athlete as he or she goes into the turn. This is not what we want. The corrective action is to program short sets of 25s or 50s in which you will take four to six strokes, flip, and then continue swimming, repeating the pattern as many times as possible before reaching the wall. The focus here should be on keeping the head down. Next, practice turns with the emphasis on keeping the head in the water before turning.

Another common problem is determining proximity to the wall and when to initiate the flip. If you are too close to the wall, either the heels will hit the deck or you will end up in a very deep push-off position that is not optimal. On the opposite end, if you're too far away, you may miss the wall altogether or get a very weak push resulting from being at nearly full extension after the flip. In either case, reinforce correct timing by repeating steps 5 and 6 of the flip-turn progression above. Alternatively, the issue may correct itself as you become more comfortable performing flip turns—but intervention by a coach might be needed.



*In this photo, the athlete is too close to the wall and will not be able to generate maximum power.*



***By minimizing time on the wall and generating a powerful push, you can dramatically reduce swim times and increase efficiency.***

### Save Time—and Energy

Coaches and elite swimmers everywhere know practicing perfect turns and streamlines is one of the simplest ways to improve times and efficiency in the pool. Every athlete should strive to be able to flip turn, as it is the fastest way to switch directions off a wall.

Effective streamline technique allows the athlete to maintain speed coming off a wall and to reduce the amount of energy spent actually swimming. There is a dramatic difference between an athlete who has spent time developing and improving the turn and one who has not.



### About the Authors

*Adam Palmer is an active-duty Air Force officer, CrossFit Level 1 certificate holder, coach at Praetorian CrossFit in Kathleen, Georgia, and the managing editor for [Reactive Training Systems](#). Prior to discovering CrossFit in 2008, he competed at the NCAA Division 1 level and was a United States Swimming club athlete for more than 16 years.*

*Rosalie Palmer is an age-group swimming coach for the City of Richardson Swim Team near Dallas, Texas. A lifelong athlete, she has competed at the state and regional NCAA Division 2 level and has combined athlete/coaching experience of more than 18 years.*

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# THE CrossFit JOURNAL

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## Enemy Mind

Your thoughts can derail your performance—but only if you let them.

By Ed Tseng

June 2014



David Brewer

**Kyle Kasperbauer (front) looks inside himself in 2009 during the grueling sandbag-sprint event at the CrossFit Games.**

*"The human body is an incredible machine, but most people only get out of that machine what their mind allows them to." —Rich Froning*

Here are some common thoughts at CrossFit boxes all over the world:

"I can't wait until this is over. I can't sleep the night before a competition."

"The countdown: There's no turning back. These are the most stressful 10 seconds of my day."

"The clock gives me instant anxiety, and it takes me a minute or two to get my focus back."

"This is exciting!"

"Let's do this!"

"I love to compete!"

What determines whether an athlete gets stressed or psyched before a competition?

The answer is in the six-inch CrossFit box between their ears.

As a mental performance coach, I see the mental game cause some athletes to break down and others to break through. I have spoken to gold medalists, national champions, world champions and CrossFit athletes regarding how they are able to access the zone-like state

consistently. Here's what I unearthed about the mentally fittest on Earth:

### 1. Thinking About Thoughts

The mentally fit don't concern themselves with their thinking.

We all have that little voice inside our head that pops up and says, "I can't do it." The greatest athletes in the world have that voice, too, but they know it's normal and part of competition, and they don't make a big deal of it. The funny thing is that when we don't pay attention to that interfering voice inside our heads, it doesn't tend to come around very often. And when it does, it doesn't stay long.

When you wake up from a nightmare and realize it was just a nightmare, do you stress over it? Of course not. It wasn't real. Well, dreams are thoughts when we're sleeping, so if we don't care about them when we're sleeping, why do we care about them when we're awake? Thoughts are not reality, but it feels like they are. We get what we focus on.



*To maintain the right mindset, Libby DiBiase focuses on keeping things fun at all times.*

CrossFit athlete Libby DiBiase once told me, “You don’t have to concern yourself with negative thoughts. If you are having fun, there’s no way you can experience the negative.”

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**“If you are having fun, there’s  
no way you can experience  
the negative.”**

**—Libby DiBiase**

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### 2. Doing What Needs to Be Done

The mentally fit know the five words that cause most people to fail: “I don’t feel like it.”

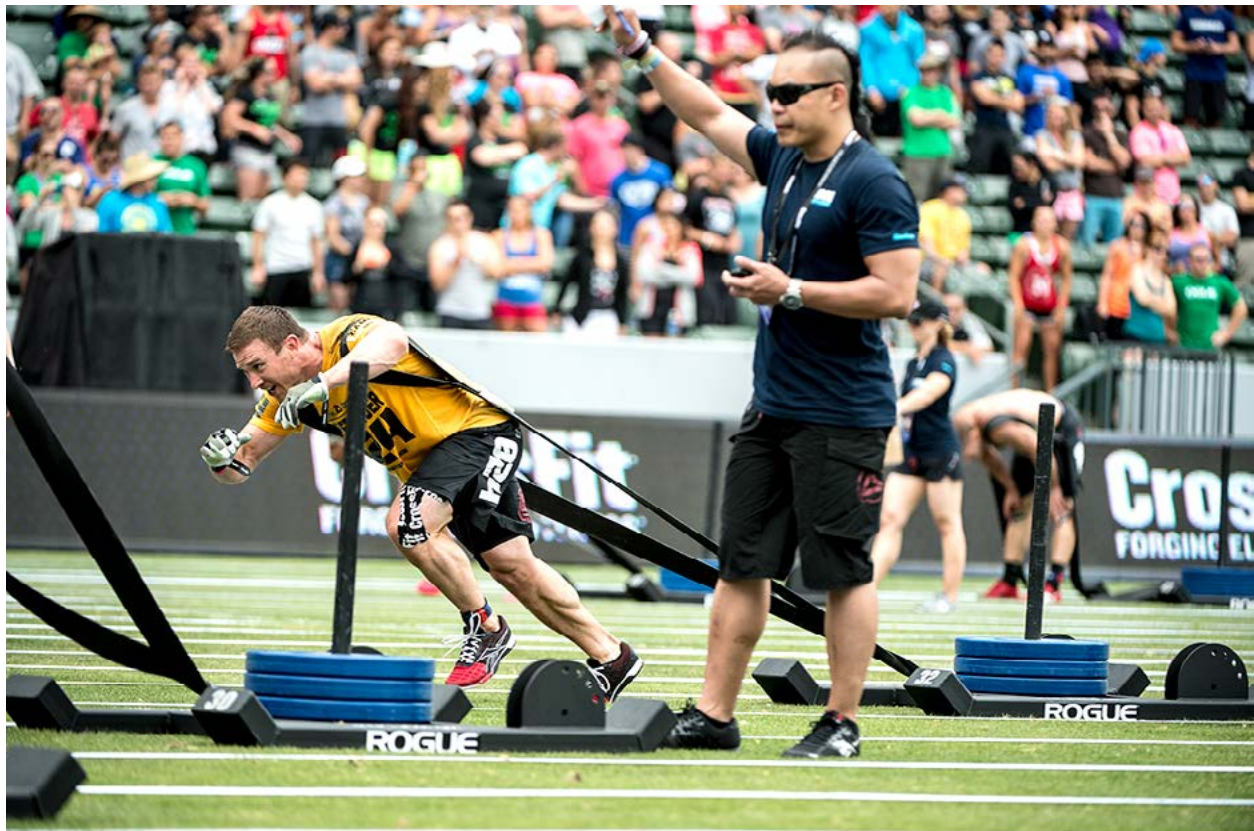
Kyle Kasperbauer, third overall in the 2012 Reebok CrossFit Games, confessed there are many days when he doesn’t feel like training—but he trains anyway. There are times we don’t feel like training, eating clean or washing our workout clothes, but we don’t have to act how we feel.

It’s the start that stops most people. If you’re an actor on Broadway and the curtain is going up, you can’t say, “Wait, I’m not in the part yet.” You have to be in the part whether you feel like it or not. CrossFit (and life) is the same way. Great athletes do what they need to do when they need to do it whether they feel like it or not.

### 3. Pay Attention or Disregard?

The mentally fit don’t try to control their thoughts.

Have you ever been in a funk and tried to use positive thinking? Did it actually work? When we try to control our thinking it makes everything worse. Thoughts change on their own, and they change very quickly. Don’t believe me? Try to remember the last 10 thoughts you had. You can’t do it. That’s how quickly they change. We can’t control



Thomas Campitelli

*A veteran Games competitor, Kasperbauer knows success in CrossFit is often more mental than physical.*



Nicole Bedard

***Christmas Abbott has found extensive preparation allows her to treat competition like another day of training.***

which thoughts come into our heads, but we can decide which ones we give attention to and which ones we just let pass without judgment. Thoughts we give attention to can consume us, but those we allow to pass through have no power over us.

Athletes love my subway metaphor: If I'm in New York City on the subway platform waiting for the C train, can I control whether the A, B or D trains come into the station?

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**"I've prepared thoroughly,  
so I can take anything that is  
thrown my way."**

**—Christmas Abbott**

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No, but I control which train I get on. It doesn't make sense to get on the A train and let it take you for a ride in the wrong direction.

Our thoughts are the same: we can't control which ones come into our heads, but we can control which ones we give our attention to and which ones we dismiss.

CrossFit Invoke owner Christmas Abbott told me she treats competitions like any other day. In other words, every day is important, but no day is "special." When it's game day, the little voice inside Abbott's head is gone.

"I've prepared thoroughly, so I can take anything that is thrown my way," she said.

She also said, "Embrace the pain: that's where the magic happens."

In Kasperbauer's first CrossFit Games back in 2009, thoughts of doubt crept into his head after the 7-km run, which featured the steep hills of Aromas, Calif. He briefly rested, dismissed the thoughts and went right into the deadlift ladder. Nike has it right: Just do it.

### 4. Mastering the Mind

The mentally fit know that no external factor has any influence over us.

I've found many CrossFit athletes believe the following can hurt their performance: the clock, competitors who are stronger or more experienced, injury, failure, and teammates' reactions.

The truth is none of those things can affect how you feel. There is only one thing that can affect how you feel: your thoughts.

Imagine you are in a low mood and the clock is running down. How do you feel? Probably anxious. So it seems as if the clock is making you feel anxious. But let's take a different scenario: you are in the zone, your mood is high and you have extreme confidence, and the clock is running down. Do you feel the same way? Not at all. It's not a big deal to you, and you may even shift into a higher gear.

So it's not the clock that affects how you feel. It's 100 percent your thinking in the moment that affects how you feel. This is empowering for the athletes I work with. Instead of being prisoners of situations, they are in control because it's just thinking, and thinking comes from inside you, not outside you.

Here's an extreme example: Krystal Cantu was all set for her first competition on Aug. 17, 2013, but on Aug. 2 she got into a car accident and lost her right arm. One month later, she went back to the gym, and she re-learned how to do everything with her left hand, including eating, writing and driving. Six months later, she earned a CrossFit Level 1 Certificate.

"It was going to take some new technique, a hell of a lot more training and some sweat, but I was up for the challenge. What's life without a good challenge?" she said of her mindset.

It's not what's happening around you. It's not what's happening to you. What truly matters is what's happening inside you.

### 5. Relax Into the Zone

The mentally fit know the human mind defaults back to clarity and "the zone."

I get texts, Facebook messages, emails and phone calls every week from athletes begging me to show them how to get into the zone. What these athletes don't realize is



Courtesy of Joe Ryan Schwabberger

***After losing her arm in a car accident, Krystal Cantu relies on a positive attitude to overcome her challenges.***

that the zone they seek is our true nature, and the only thing that can get in our way is our thinking.

I have an 8-month-old daughter, and she is always in the moment. Sure, she gets upset, but she gets over it very quickly. Was she trained to do that? No. It's natural for her. As we get older, we unfortunately tend to believe our ridiculous thinking, and we scare ourselves. And when we scare ourselves, we are tentative and tight and we act differently.

When my daughter begins to start walking and falls over, she will not think, "Damn, I didn't walk yesterday;" or, "What if I don't walk tomorrow?" She will keep at it, or, as Kasperbauer said, she will "stay on it." But as we get older, many of us get caught up in past failures or future anxiety. When we let our thoughts fall away, we are back in the moment, we feel at ease, and we kick major butt. In other words, the quickest way to get into the zone is to do nothing to get into the zone.



Nicole Bedard

*All athletes experience doubt at times. The strong ones ignore it and choose to succeed.*

### A Few Closing Thoughts

Here's a question for you: Can you remember a time when you just dominated a workout? How did you do it?

I've asked thousands of athletes similar questions, and the answer is always something like this: "I don't know. I just did it. I wasn't thinking about it."

On the other hand, can you remember a time when you had a terrible performance? What thoughts did you have then?

The thoughts were probably something like this: "I was analyzing what was going wrong. I had no confidence and lacked focus. I was totally in my head."

The great baseball philosopher Yogi Berra once said, "You can't think and hit at the same time. A full mind is an empty bat." The same is true for CrossFit.

Whatever thought we have, we experience it, even if it is absolutely untrue.

Here are some interfering thoughts:

DiBiase: "Oh, crap. Who's here? Who am I going against? How am I going to do?"

Abbott: "I want to quit. Why am I doing this?"

Kasperbauer: "Maybe I can't do this."

Cantu: "Prepare to be last. You don't compare to these athletes."

We all have negative thoughts at times, but the peak performers are the ones who don't concern themselves with those thoughts. This is why they are able to dominate those who are equally fit physically. The mental game is the missing link for most athletes.

Some people say, "Don't believe everything you hear."

I say, "Don't believe everything you think."

When you don't concern yourself with unnecessary thoughts, you will naturally have more productive thoughts, perhaps something like this:

"I'm the baddest bitch in this place." —Christmas Abbott



### About the Author

Ed Tseng is the mental performance consultant at [CrossFit Mercer](#) in New Jersey and a best-selling author. He works with athletes, business leaders and students on how to do their best when it means the most. His book, *Game. Set. Life.—Peak Performance for Sports and Life* has been on Amazon's Top 10 and is featured annually at the U.S. Open. For more info, visit [Edtseng.com](#).

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# THE CrossFit JOURNAL

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## Training the Trainers

Experienced affiliate owners share key aspects of their coach-development programs, while owners of newer gyms explain how they're planning to raise their own coaches.

By Emily Beers

June 2014

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Courtesy of Hunter Thornton

*Hunter and Jill Thornton of CrossFit Cumming look inside their gym when seeking out new coaches.*

Ultimately, the goal of a CrossFit affiliate is simple: creating excellence. This includes excellence on the part of the athletes and coaches, as well as excellence for the affiliate as a whole.

Because affiliate owners have the ability to run their businesses as they see fit, they often seek to develop coaches who embody CrossFit's ideal of virtuosity and also understand and embrace each affiliate's vision.

In order to do this, many affiliates have adopted training or apprenticeship programs to develop knowledgeable coaches who enhance their business and produce fitter athletes.

CrossFit Hoboken, CrossFit Max Effort, CrossFit Cumming and Shadow CrossFit are four of these affiliates. Although each has its own approach, all four affiliates are committed to developing excellent coaches.

### CrossFit Hoboken: Level Up

Craig Parcels, 29, started a coaches training program at CrossFit Hoboken in New Jersey two-and-a-half years ago. The concept behind it was simple: quality control within his affiliate.

"As the gym grew, I couldn't coach it all myself, and I wanted to make sure everyone who represents me represents me well," Parcels said.

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**"There's a constant  
education happening."  
—Craig Parcels**

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Through trial and error, Parcels' program is constantly changing, but his eight years of CrossFit experience serve him well. He completed CrossFit's Level 2 Seminar a number of years ago (the Level 2 is not currently offered), and more recently he took CrossFit's Coach's Prep Course. He explained that these courses have become the backbone of much of what he teaches his own coaches inside his affiliate.

The coaches training program at CrossFit Hoboken—a 15,000-square-foot affiliate with 500 members—is generally a four-month, invite-only program, but it ultimately depends on the time each coach has. Parcels generally runs the program, which costs US\$1,500, with three to five coaches at a time. There are four cycles to



***Provided they have the personality needed for the job, athletes with great movement mechanics can often become solid coaches.***

his program, with each phase lasting approximately one month.

The first step for prospective coaches is simply to get through the reading material, which includes the *CrossFit Level 1 Training Guide*, as well as other recommended books on lifting, training and mobility.

On top of this, trainee coaches attend weekly group sessions in which Parcels covers topics ranging from coaching the squat to how different movements look according to different body types.

The second cycle of the program has trainee coaches attending fundamentals group sessions and shadowing the senior coach. Eventually, they get involved assessing and correcting movements.



Courtesy of Missy Myers

***At Shadow CrossFit, owner Sam Karoll places the greatest value on character when evaluating potential coaches.***

The third phase of the program involves shadowing coaches in regular group classes and taking notes. They have the opportunity to shadow and learn from different coaches in different types of classes ranging from the regular workout-of-the-day classes to skills, strength and Olympic-weightlifting classes. The expectation is to shadow three classes per week for four weeks.

"We want them to have a good variety between the different kind of classes they shadow," Parcels said.

Parcells meets with the group once a week to cover various topics.

"We'll go over things like transition times during a class and how much time should be allocated to what," Parcels said. He explained that teaching coaches class-management strategies has helped his group classes run more smoothly.

And in order to keep up with the a constant flow of new information, Parcels' head coach frequently sends out valuable articles and videos to trainee coaches on all sorts of pertinent topics ranging from anatomy and physiology to programming and scaling.

"There's a constant education happening," Parcels said.

The fourth and final phase of the program lasts two weeks and involves the trainees helping coach two classes per week. A head coach gives them feedback after each session and evaluates them.

Recently, Parcels added a new component to the program: He pairs the trainee up with a more experienced coach who essentially acts as a mentor.

Parcells can't imagine where he'd be without his development program. It's helped with quality control of his coaches—which, of course, trickles down to clients—and it's improved client and coach retention.

Today, Parcels has 20 coaches on hand, meaning he isn't forced to coach 40-plus hours a week on his own. Instead, he has time to focus on other aspects of the business, such as his website and coach development.

"My time is freed up for me to work on the business and on other things around the gym," Parcels said.



Courtesy of Missy Myers

***Without a formal development program in place, Karoll relies on extensive interaction to develop potential coaches.***

"You could never do it all on your own," he said of owning an affiliate the size of CrossFit Hoboken.

Parcells said he thinks developing coaches from within—the way he has been doing it—results in coaches who stick around longer.

"We don't ever have anyone leave unless they move away" he said. Because his coaches really have to earn their stripes, they appreciate the position that much more, he believes.

Ultimately, Parcells thinks good coaches are the key to CrossFit Hoboken's success.

"We are blessed with a lot of coaches, and I try to hang onto them and make them as happy as possible. It's about coach management," he said.

### **CrossFit Max Effort: "Not a Jedi Yet"**

Zach Forrest opened CrossFit Max Effort in Las Vegas, Nev., in July 2011. Today, he has a booming business with five full-time coaches and four part-time coaches.

The more the gym grew, the more Forrest realized the importance of raising his own coaches and training them to understand and embrace CrossFit Max Effort's vision.

"Classes were getting bigger, and we decided that instead of adding more hours—since we have plenty of space and equipment—we wanted more coaches, and so we needed to start developing more coaches," Forrest said of his decision to create a development program last year.

Currently, Forrest has 21 prospective coaches in the program, 19 of whom have already completed the Level 1 Certificate Course—a prerequisite.

"The Level 1 is a necessity. It's an experience you can't get anywhere else," said Forrest, who is a member of CrossFit's Level 1 Seminar Staff.

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**"It's helping to create leaders  
in our community, and  
those leaders reinforce the  
atmosphere and quality  
of the gym."**

**—Zach Forrest**

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Most of the current trainees were longtime members who had naturally developed into leaders at his box, although some members of the program came to CrossFit Max Effort specifically to gain more coaching experience from Forrest.

In his first crack at running a coach-development program, Forrest created three levels: Youngling, Padawan and Jedi Knight.

"I'm pretty much a geek and a nerd," Forrest said of his decision to name the levels with reference to *Star Wars*.

So far, Forrest hasn't graduated anyone to the Jedi Knight level, and he suspects the Youngling and Padawan levels will take most people about six months to a year.

To begin the program, Forrest asks all prospective coaches to submit a letter of intent to show their passion.

"It's kind of like how you apply to become an affiliate," he said, referencing CrossFit Inc.'s requirement for prospective gym owners to write an essay on why they want to affiliate.

From there, Younglings begin by shadowing senior coaches, much the same way Parcels runs his program in New Jersey. During the time, senior coaches mentor prospective coaches, who must accumulate 40 hours of shadowing.

To become Padawans, Younglings have to pass a practical test in which they must identify common faults in various movements. Two wrong answers on the practical exam and the Youngling has to go back and shadow some more.

At the Padawan level, coaches start assisting during fundamentals classes. The head coach is still present to observe the Padawan, but as the Padawan gains experience and confidence, he or she takes more of a leading role in coaching.

Outside of shadowing and practical tests, members of Forrest's development group meet twice a week to cover corrective-movement drills, learn anatomy and physiology, and discuss pertinent topics such as programming and scaling.

"The topic changes every class," said Forrest, who also recommends articles for his coaches to read, including many of CrossFit Founder and CEO Greg Glassman's early work in the *CrossFit Journal*. Forrest is putting together both written and practical exams for Padawans to take when they're ready.

In his first go at formally developing coaches, Forrest charged in-house members \$550 for the program and \$800 for non-members.



Courtesy of Zach Forrest

**Lightsabers are made of PVC at CrossFit Max Effort, where "Younglings" work to become "Jedi" in Zach Forrest's Star Wars-inspired apprenticeship program.**

Courtesy of Zach Forrest



***Working under the supervision of experienced coaches, apprentices will often act as “backup” while the head coach leads the class.***

Sarah Lyons, a current Padawan, said she's getting more than her money's worth. She said the program is especially helpful in teaching her to tailor her coaching cues to individuals.

"Everyone responds to different stimuli. Some need a quick verbal cue, while others require a tactile gesture, and it becomes visible during the workout," Lyons said. "I've also become more aware of what I'm saying, since the way I may describe a setup or a movement often sounds foreign to new athletes."

She continued: "Overall, I'm becoming more efficient and succinct in my coaching methods, which is critical as corrections are time sensitive."

Like Forrest, Lyons thinks the program is helping the greater Max Effort community, which is exactly why Forrest created it.

"It's helping to create leaders in our community, and those leaders reinforce the atmosphere and quality of the gym ... and that's one of the best things for your business," Forrest said.

## **CrossFit Cumming: Looking Within**

Jill and Hunter Thornton opened CrossFit Cumming in Cumming, Ga., in April 2013.

For the first few months, Hunter, who also works full time as a software developer, and wife Jill were doing all the coaching. Although being too busy is a good problem to have in some ways, pretty soon they were living lives that were more hectic than they wanted.

"Jill was doing 60 percent of the hours and I was doing 40 per cent of the hours, and by the time we got home it was, 'K, I love you. Good night.' And repeat," Hunter said.

The day had come to bring on more coaches. They had no official coach-development program in place at the time, but slowly they started working with clients who were interested in coaching, teaching them all they knew.

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**"I cannot invest into someone  
that I do not like being around."**

**—Hunter Thornton**

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Today, the couple have one coach and three apprentice coaches working for them, all of whom went through an ad hoc apprentice program. Hunter believes even if you're a new affiliate without a well-structured program, it's important to find the time to invest in proper coach development.

"You have to make it work. It is an investment into the business. Otherwise your business is tied to you and the business will run you," he said.

The biggest thing Hunter has learned in the last year is the importance of choosing the right people to coach at your box.

"They have to be a friend. If I cannot get along with them socially, then they can't be a coach. I cannot invest into someone that I do not like being around, so it turns into fun to see friends grow. And you make time for your friends," he said.

Jill added: "We always ask what we can do for them. We take them out to do fun things. We want it to be the best work experience they've ever had."

And when you're friends with your coaches, even coaches meetings don't feel like work. Hunter and Jill host coaches meetings every two or three weeks at their house, turning the evening into a social gathering.

"We make some desserts and we chat," Hunter said.

Having coaches they raised themselves—coaches they trust wholeheartedly—has given them more time to focus on business development and community events.

One year into their business, Hunter only coaches one or two hours a day, while Jill coaches nine classes per week. The lighter schedule has freed up Jill's time, leaving her more hours to do personal training to prepare new members for the demands of group classes.

Looking to the future, Hunter and Jill are confident they have the foundation of a system that can be used to raise the coaches they want working for them. Even if an experienced coach shows up at their doorstep in the future, Hunter believes each coach should still go through the same process his first coaches went through.

"We would consider an expedited process, potentially, but they have to earn their stripes," Hunter said. "There is a uniqueness in having all coaches go through a similar process—much like your first time doing Fran. Everyone remembers the first time doing Fran ... We all share that experience."

### Shadow CrossFit: The Waiting Game

Sam Karoll is the owner of Shadow CrossFit in Quincy, Ill. The 23-year-old majored in business and played football in college and had always dreamed of owning a gym. He opened Shadow CrossFit in March 2013.



*Whether the development system is formal or informal, the goal is always to create a way for more experienced trainers to help newer trainers learn the finer points of coaching CrossFit.*

Like so many affiliate owners, Karoll was a one-man show and quickly realized he needed to find a way to develop some coaches so he didn't have to work from open until close.

"When I realized waking up at 3:30 a.m. for a 5-a.m. start and being there until 8 p.m. was getting exhausting, I knew I needed to make a change," Karoll said.

Like the Thorntons at CrossFit Cumming, Karoll didn't have a formal development system in place, and he didn't want to hand the keys to anyone just to relieve himself from the gym for a couple of hours, so he waited until the right person came to him.

"Eventually, a client of ours who had started with us on Day 1 came to us and expressed interest in getting his Level 1 (Certificate)," Karoll said of coach Bob Beswick. "So we pushed him in that direction, and when he got his Level 1 (Certificate), I got him to start helping with classes."

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**"Instead of searching for coaches, we want to wait for people to come to us—people who have that passion for coaching and teaching."**

**—Sam Karoll**

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Because Karoll knew Beswick was going to become a coach, he didn't mind spending a little extra time with his prospect to ensure Beswick's mechanics and knowledge of the movements were sound.

"He'd come to class, and I'd coach him a little more during class," said Karoll, who started to raise Beswick first as an athlete and then as a coach in an impromptu one-on-one mentorship program.

As Beswick progressed, Karoll gave him more and more coaching responsibilities. Today, Karoll's first homegrown trainer is Shadow CrossFit's morning-crew coach.

"He is absolutely adored by those morning clients ... his 5-a.m. class has become one of our busiest classes," Karoll said.

Karoll believes one of the keys to his success was refraining from rushing for a bandage coaching solution. Instead, he made sure he knew Beswick's character was sound—by watching him interact with the community for nine months—before turning him into a coach.

"That's the philosophy we're taking on: Instead of searching for coaches, we want to wait for people to come to us—people who have that passion for coaching and teaching. Mechanics are coachable, knowledge is teachable, but personality is something that is priceless," Karoll said.

And once you know the person is passionate about coaching and has a good personality for it, you can take him or her under your wing and teach the prospective trainer everything you know, Karoll explained.

So far, his patience had paid off. Karoll now has a group of loyal clients all planning on taking the Level 1 Certificate Course in the near future.

"Eventually, I would like to have it where my people are the ones leading our community and coaching the majority of the day," Karoll said. "I would like to coach 50 percent of the time and spend the other 50 percent of my time on the rest of the business ... I'll be (in) more of a mentor role, so I'll be able to handle the business end and help my coaches be the best coaches they can be."



### About the Author

*Emily Beers is a CrossFit Journal staff writer and editor.*

# READ 'EM AND EAT

Simple front-of-package nutrition labeling could help to combat obesity—but only if the food industry buys in and consumers pay attention.

By Agnese Smith

A burger is a burger is a burger. Except when it’s not.

Stroll through any Marks & Spencer grocery store in Britain, and so long as you are not color blind, you will see that a venison burger has less fat and salt than its made-of-beef counterpart. No need to work out percentages or possess an advanced nutrition degree.

In common with more than half of all food products sold in the U.K., the pre-prepared burgers sport a series of standard color-coded symbols that measure a product’s fat, saturated fat, salt and sugar. So-called “traffic light” front-of-package (FOP) symbols are designed to help consumers make informed decisions about what they stuff in their gobs.

Grocery shelves in America are also heaving with colors, ticks, stars, point scores and many other labels, each screaming out its own particular views on a product’s relative healthiness. That’s because shoppers are looking for guidance in a country where more than a quarter of young adults are too fat to serve in the military.

But unlike in the U.K., there’s no easy-to-read universal label that can be trusted by more or less everyone.

This may soon change.

Data Package

“There will be some sort of standardization in labeling—I think it’s inevitable,” said Ellen Wartella, chair of the Front of Package Marketing Study Committee of the Institute of Medicine (IOM), an independent group that advises lawmakers on health policy.

Congress had asked the IOM in 2009 to make recommendations and clear up confusion over FOP labels. So far, the IOM’s call for government-endorsed guidance symbols has been largely ignored.

Following an announcement earlier this year by the Food and Drug Administration (FDA) that it will revamp its back-of-product label policy, there is some hope the more controversial FOP issue will finally be addressed, some experts say.

“It’s clear that the public wants it,” added Wartella, professor of communication studies and of psychology at Northwestern University. “So long as there’s someone pushing it, it will stay on the agenda. My understanding is that once the nutrition label has been put into place, then they will turn their attention to the IOM recommendations on front-of-package labels.”

For its part, the FDA, the nation’s health protector and the agency

responsible for passing any kind of labeling legislation, says it is cooperating with the food industry on developing a voluntary code.

The agency will seek opinion “on several labels, including one that categorizes some nutrients into categories of ‘avoid too much’ and ‘get enough,’” FDA spokesperson Theresa Eisenman wrote via email.

“We plan to work collaboratively with the food industry to design and implement innovative approaches to front-of-package labeling that can help consumers choose healthy diets.” There is no timeframe, she said.

The big question is whether the FDA—which has been working on this plan since 2009—will come up with something new or implement the recommendations it had previously requested.

Some nutritionists see the interests of the food industry—valued at about US\$1.3 trillion and with a reported lobby war chest to match—as incompatible with those of consumers.

Quite possibly, the agency will simply endorse the food industry’s own solution to FOP labels, Facts up Front, some nutritionists said.

“The food industry will never accept traffic lights or anything close to it, as recommended by the Institute of Medicine,” said Marion Nestle, professor of nutrition at New York University and author of the blog [Food Politics](#), in an email interview. “The food industry’s idea of working together is Facts Up Front.”

Before IOM issued its [final report](#) in 2011, the Grocery Manufacturers of America and the Food Marketing Institute announced the launch of their own label, in what some experts said was a pre-emptive strike before harsher regulation kicked in. Silence from the FDA has been interpreted by many as endorsement.

Health advocates have criticized Facts up Front for simply repeating the back-of-package nutrition information—with some added marketing to boot. The label includes information about calories, saturated fat, sodium, sugars and up to two “nutrients to encourage.”

“It is a lousy system, because it just drags a few nutrients from the side label to the FOP,” said Michael Jacobson, executive director of the consumer group Center for Science in the Public Interest, in an email interview. “It doesn’t convey the overall nutritional value of a food.”

U.K.'S TRAFFIC-LIGHT SYSTEM FOR FOOD LABELING

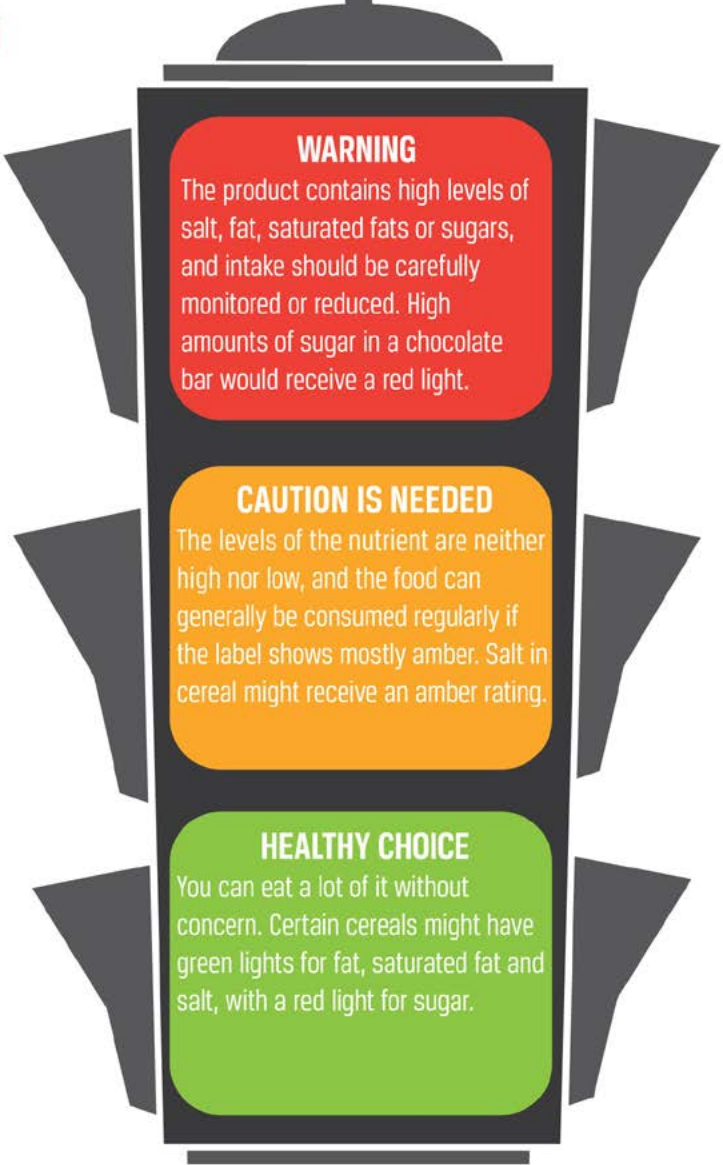
GREEN MEANS GOOD

Each grilled burger (94 g) contains

ENERGY	FAT	SATURATES	SUGARS	SALT
924 kJ 220 kcal	13 g	5.9 g	0.8 g	0.7 g
11%	19%	30%	<1%	12%

of an adult's reference intake. Typical values (as sold) per 100 g: energy 966 kJ/230 kcal

Foods and drinks are evaluated by their calorie, salt, fat, saturated-fat and sugar content. Each receives a color-coded rating: low (green), medium (amber), high (red).



Some nutritionists see the interests of the food industry—valued at about US\$1.3 trillion and with a reported lobby war chest to match—as incompatible with those of consumers.

They fear Facts up Front has already trumped IOM recommendations and any other system that puts a big stop sign on junk-food purchases.

“Industry will vigorously oppose any really good label,” said Jacobson. “The food industry is trying (to) make its Facts up Front label the one that government will accept.”

The campaign follows an earlier industry-led label initiative called Smart Choices, which was laughed off the shelves when sugar-laden breakfast cereals such as Froot Loops and Cocoa Krispies got the nod. It was scrapped in 2009.

While it stopped short of calling for British-style traffic-light labeling, the IOM in 2011 recommended symbols like checks or stars and a point value showing saturated and trans fats, sodium and added sugars. Foods with high levels would get no points.

The voluntary nature of the Facts up Front campaign is also problematic in that food makers could simply fail to put guidance on junk food, said the Center for Science in the Public Interest on its website.

However, other label proponents—particularly outside the U.S.—are less pessimistic about the possibility of U.S. regulators and the industry

working together and about the efficacy of a voluntary scheme.

The experience in Australia, which recently approved a labeling scheme, shows if the government sets the policy objectives and principals for reaching them, then there can be good constructive dialogue, said Boyd Swinburn, professor of population nutrition and global health at the University of Auckland. Industry and government can work together “so long as things are transparent, the (government) controls the process, and there is a credible threat of regulation in the absence of progress,” he said in an email interview.

Britain’s traffic-light system is voluntary, though most major retailers have decided to offer them on their own brands of products.

“The U.K. is an example of where it has worked, particularly with retailers,” said Mike Rayner, professor at University of Oxford and director of the British Heart Foundation Health Promotion Research Group. “Any form of interpretative labeling is better than nothing.”

And at least in Britain, retailers see value in cooperation.

“The food industry has a once-in-a-lifetime opportunity to take a consistent approach to front-of-pack labelling that will make it easier for customers to make informed healthier eating choices about the food they buy,” said Justin King, chief executive at British grocery store Sainsbury’s, speaking last year. “We hope all food retailers and manufacturers will join up to the scheme for the benefit of U.K. consumers.”

But the program will remain voluntary. European food producers last year spent a reported \$1.4 billion against making traffic-light labeling mandatory throughout the 28-member state.

## A Weighty Problem

Regardless of where one stands on label formats, on fat vs. sugar, carbs vs. protein or government intervention in health choices vs. private accountability, America clearly has a weight problem that cannot be ignored. While some reports show spotty improvements in bringing down growth rates, the overall numbers are still alarming.

Obesity is associated with an increased risk of diabetes, high blood pressure, certain types of cancer and sleep apnea, among other health issues.

Nearly 35 percent of U.S. adults are obese, according to the Centers for Disease Control and Prevention (CDC). This is defined as having a Body Mass Index (BMI), a relative measure of an individual’s body fat based on height and weight, over 30. A normal-weight individual has a BMI of 18.5 to 24.9, though BMI values can be skewed by people with significant amounts of lean muscle.

The problems associated with obesity are estimated to cost the U.S. between \$150 and \$200 billion per year, according to various sources. Medicare and Medicaid account for about half of those figures. Health-care costs for obese individuals average about 40 percent more than those of a person of normal weight, according to Yale Rudd Center for Food Policy and Obesity.

These figures do not take into account other costs associated with a much larger—and unhealthier—population, such as loss of productivity because of sick days, increased fuel needs for the aviation industry, extra-large equipment for ambulances and other emergency services, etc.

Even more worrying is the fact that one-third of American children and adolescents are classified as overweight or obese. The CDC said the percentage of children aged 6-11 years who are obese increased from 7 percent in 1980 to nearly 18 percent in 2012.

Half of U.S. adults will be obese by 2030 unless Americans change their ways, according to a report by the health policy organization Trust for America’s Health and the Robert Wood Johnson Foundation.

The U.S. is not the only country faced with a ballooning population. Obesity rates in Australia, New Zealand, Scotland and England slot in the mid-to-high 20s, while most of continental Europe is somewhere in the teens, according to Public Health England. At the other end of

the spectrum, Japan’s rate is about 4 percent. Mexico is also in the big leagues, while China is reportedly fast catching up.

Many countries and communities have responded by direct government intervention, including taxing sugary soda (e.g., France, Mexico), traffic-light and other types of labeling (e.g., U.K., Peru, Ireland, Australia) and restricting junk-food advertising to children (e.g., Norway).

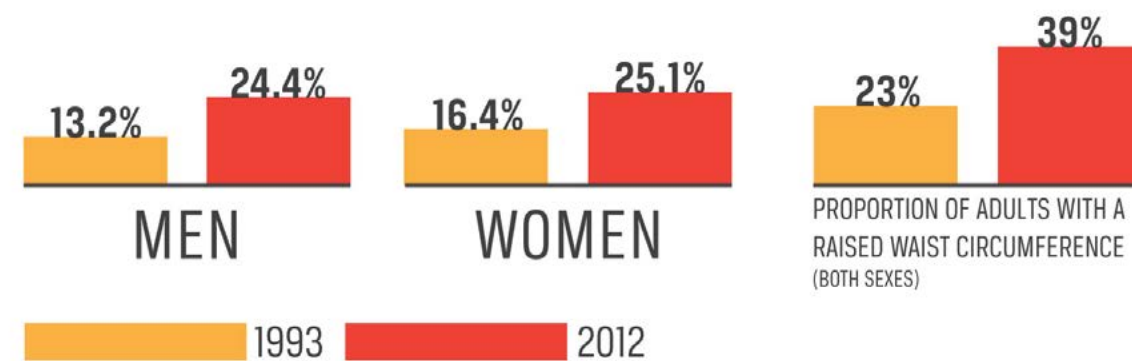
The consensus among nutritionists is that this massive global weight gain during the last 25 years is largely due to the ubiquity of cheap, processed food.

Polls indicate people want better information. According to a 2013 poll conducted by The Associated Press-NORC Center for Public Affairs Research, eight out of 10 Americans support measures to provide nutritional guidelines to help shoppers make better choices.

But not all government bids aimed at reversing the obesity trend have enjoyed universal applause. Former New York City Mayor Michael Bloomberg supported a 2012 proposal to ban the sale of giant

# OBESITY IN ENGLAND

Adults classified as obese (Body Mass Index of 30 kg/m<sup>2</sup>):



Source: Statistics on Obesity, Physical Activity and Diet: England 2014, Health and Social Care Information Center

## U.S. OBESITY STATISTICS

34.9% OF U.S. ADULTS ARE OBESE

ESTIMATED COST OF OBESITY IN 2008 DOLLARS:

\$147 BILLION

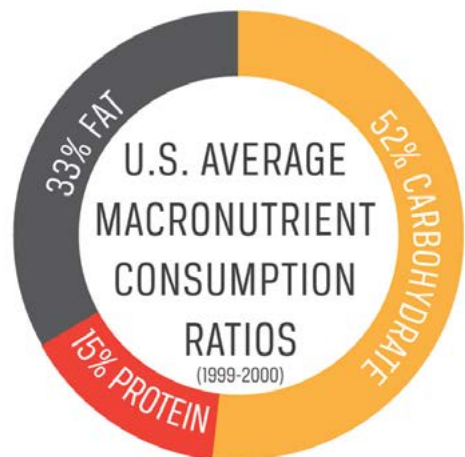
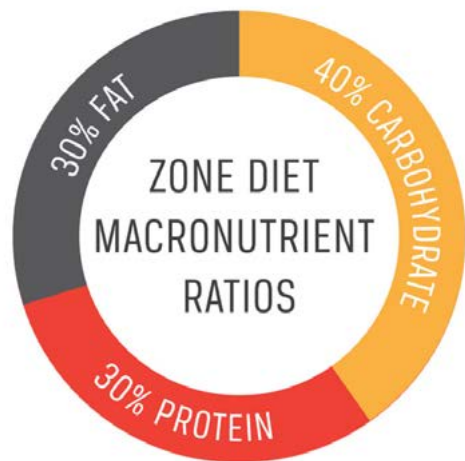
2012 LOWEST OBESITY RATE:

COLORADO  
20.5%

2012 HIGHEST OBESITY RATE:

LOUISIANA  
34.7%

Source: Centers for Disease Control and Prevention



Source: National Health and Nutrition Examination Survey, Centers for Disease Control

containers of sugary sodas, and it kept many cartoonists busy until courts eventually jettisoned the plan in 2013.

So choices are limited in terms of government intervention.

Obesity rates (for people as well as their pets) around the world started to climb in the 1980s.

While the food and beverage industry blames bigger portions and our increasingly sedentary lifestyle, it's never been fully explained just how so many people from different countries decided to become couch potatoes at the same time. The consensus among nutritionists is that this massive global weight gain during the last 25 years is largely due to the ubiquity of cheap, processed food—high in fat and sugar—many claim is very addictive.

Highly processed food now accounts for about 70 percent of a typical American diet, according to Professor Carlos Monteiro at the Department of Nutrition, School of Public Health, University of Sao Paulo. That's about double of a standard French diet, said Monteiro, using figures from the 1990s.

Better food labeling—whether color coded or based on point scores—could help steer consumers away from such choices, experts say. Studies in Canada and elsewhere have shown that graphic labels have gone a long way toward reducing cigarette smoking.

But they are no magic bullet against obesity. Some nutritionists question labels' potential.

"If non-clear information is given, as usual, it won't work," said Monteiro via email. "By clear information I mean clear warnings on the main problems behind ultra-processed products including high energy density, high added sugar, etc. Labels in general will not make people move from processed products to minimally processed foods, a move which is essential to improve the quality of diets of Americans."

Indeed, there is not a lot of hard empirical evidence that people in the U.K., the granddaddy of FOP labeling, have made the switch from "red" foods to "green."

Other factors, such as price and brand familiarity, currently play a bigger role in what people put in their baskets, said Oxford's Rayner.

However, labels are proven effective at persuading some food makers to reformulate products to earn better ratings, say experts on both sides of the Atlantic.

"Labelling can make important differences," said Walter Willett, chairman of the department of nutrition at the Harvard School of Public Health, in an email interview. "Here we have had the experience that

adding trans fat values to food labels led to a massive reformulation of foods, which was good."

In the U.S., these labels currently include such varied offerings as the American Heart Association's checkmark, grocery chain Hannaford Bros.' Guiding Stars, NuVal's point scores, as well as the food industry's own FOP label, Facts up Front.

While health advocates groan at the glacial pace of government action/inaction with regard to our collective weight gain, the U.S. hasn't entirely stood still on the issue.

The fight against child obesity is championed by no less than First Lady Michelle Obama, who delighted the nutrition community earlier this year by supporting the FDA's proposals to alter its Nutrition Facts label.

More realistic serving sizes and—gasp—a bigger font for calories may be on the cards for American consumers. But unlike traffic lights and other symbols, the back-of-package Nutrition Facts label does not indicate which foods are good or bad. It simply provides information.

The FDA is currently in the process of asking health experts and the food industry their opinions on the new guidelines.

There is little doubt consumers—and lawmakers—are interested in what goes on the front of packages. Congressman Frank Pallone in September 2013 introduced a proposal, the "Food Labeling Modernization Act of 2013," to help clarify labels.

Whether any new guidelines and labeling schemes—color-coded or otherwise—will actually change consumer behavior is another matter. ■

#### About the Author

*Agnese Smith is a journalist based in London, England. Over the past 20 years, she has written for Bloomberg, Marketwatch and the "Canadian Bar Association Magazine," most recently covering regulatory changes and corporate governance issues in Europe and North America.*



# VIRTUOSITY GOES VIRAL

Greg Glassman opened the first CrossFit gym in 2001, and on June 20, 2014, Royal Docks CrossFit became the 10,000th affiliate worldwide.

By Emily Beers

Hollis Molloy of CrossFit Santa Cruz remembers the good old CrossFit days, the days when CrossFit Founder and CEO Greg Glassman hosted every single Level 1 Seminar, when the entire group—including Glassman—went for pizza and beer after the course.

Molloy, who started CrossFit at Glassman's original CrossFit gym, was around in the days when the CrossFit Games were just a gathering of friends who liked working out and hanging out together in Dave Castro's parents' backyard. He was around when nobody had heard of CrossFit, when there were only a handful of CrossFit affiliates in the world—each of them eager to spread Glassman's definition of fitness.

Glassman's original gym, opened in 2001 at 2851 Research Park Drive in Santa Cruz, California, grew into 10,000 affiliates around the world, and part of the reason is that the message from the good old days is somehow—miraculously—still intact today.

This fact, at least partially, has to do with the affiliates themselves.

One of the rare beauties of being in a CrossFit gym is it doesn't usually feel as if a business is operating around you. Instead, you can feel the pervasive community, the family that lives inside each box.

"The CrossFit program—the thrust that Coach put on it—is still there," Molloy said. "He used to say, 'People will quit a workout program, but they won't quit a relationship.'"

He added: "Coming in and teaching a pull-up is different than coming in and being a part of something."

That's as true with 10,000 affiliates as it was when there were two.

## Exponential Growth

Jeff Martin is a CrossFit pioneer. He's also the co-founder, with wife Mikki Lee Martin, of CrossFit Kids. The 54-year-old, who runs CrossFit Brand X in Ramona, California, discovered CrossFit 11 years ago. When he affiliated in summer of 2004, he proudly became one of the first five CrossFit gyms in the world.

CrossFit Kids came about somewhat accidentally. At the time, Martin was coaching martial arts, and when he tried to bring CrossFit to his martial-arts gym, the teenage kids took to the idea quicker than the adults.

"So that's really how CrossFit Kids started, and we kind of talked to Greg (Glassman) a bit about what we were doing, and in November 2004, Greg said, 'I'd like you to run CrossFit Kids,'" Martin explained.

At the time, there were just 10 affiliates in the world.

"We thought these would be the 10 gyms in the world who would do CrossFit," said Martin, who admitted he had no idea how big CrossFit would get.

**"We were talking about where we were going, and we thought this was probably the end of it. We now had 10 affiliates." —Jeff Martin**

"I remember sitting around in Golden, Colorado," Martin said of the day CrossFit cracked double digits for affiliates. "We were talking about where we were going, and we thought this was probably the end of it. We now had 10 affiliates."

At the time, the future of the small group was far from clear.

"Where are we going to go from here?" we asked each other," Martin said, laughing at the memory.

While Martin wasn't surprised by CrossFit's growth, he certainly never predicted just how dramatic that growth would be.

While it took five years to grow to 500 affiliates, CrossFit Inc. added about 1,000 every three months in 2013.

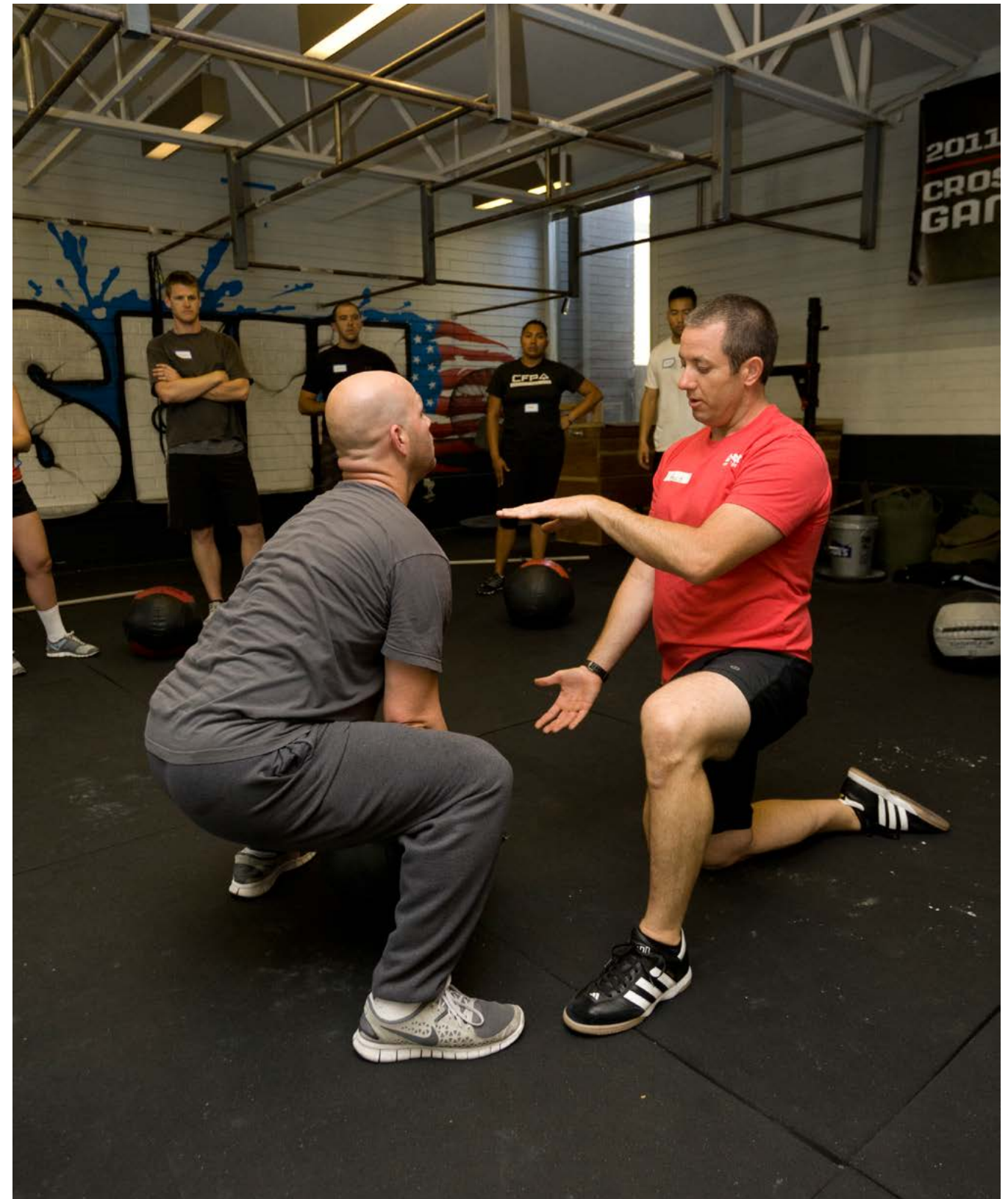
And on June 20, 2014, CrossFit hit 10,000 affiliates worldwide.

But for Martin, many of the milestone moments haven't been about the numbers. Instead, he remembers symbolic moments that made him realize just how significant the CrossFit movement was. One of those moments was the first time someone walked into his box and already knew what CrossFit was.

"The battle in the first four or five years was explaining to people what (CrossFit) was and trying to get them to do it," he said.

But as the community grew, more and more people showed up to Martin's box with at least a vague understanding of what they were getting into, eventually reaching the point where almost every single person who steps through his doors now seems to know someone who's already doing CrossFit.

Martin also remembers the days when Globo Gym patrons would stop and stare, partly confused, partly concerned with the flurry of intense activity next to them as someone attempted a CrossFit workout. It wasn't uncommon for a CrossFit athlete to be asked to stop his strange activity, with "too much sweat" sometimes cited as the reason.



Hollis Molly (right) trained at the original CrossFit gym and now runs CrossFit Santa Cruz. He's also a member of CrossFit's Level 1 Seminar Staff.



At one point, Greg Glassman (right) led every Level 1 Seminar.



Jeff Martin (right) runs CrossFit Brand X, one of the first five affiliates.

But somewhere along the way, everything changed.

“We’re in a position now where we have a Globo Gym in our small town, and they’ve turned the whole upper wing of their building into a place dedicated to functional fitness. They’re trying to emulate what we’re doing,” Martin said. “That’s how pervasive what Greg (Glassman) has done has become—that the Globo Gym is trying to copy us.”

Indeed, Glassman had originally been kicked out of traditional gyms that didn’t appreciate his methods. After opening his own facility, his ideas eventually found their way back into corporate gyms that were forced to recognize them.

“That was a pretty significant moment—when I saw the Globo Gym move equipment out and put a rope up,” Martin said.

## PVC ... and Beyond

Like Martin, Molloy was completely unaware of the significance of the CrossFit movement gaining momentum around him.

“When I showed up (to CrossFit Santa Cruz), the first people I met were Greg (Glassman), Nicole Carroll, Tony Budding, Annie Sakamoto and Greg Amundson,” Molloy said, naming many of the athletes originally seen in grainy videos on CrossFit.com. He didn’t realize at the time these people were mainstays of a community that was quickly growing online.

“And then people would come in from all over the world and be like, ‘Oh my God, that’s Greg Amundson.’ And I’d be like, ‘Yeah, I know. That’s Greg. He works out at 10 a.m.,’” Molloy said.

Things in Santa Cruz are obviously different now. The gym on Research Park Drive is gone, and Glassman isn’t jingling keys at 5 a.m. every day before teaching people how to squat. But Molloy said that as much as things have changed, the important things remain.

“I don’t think CrossFit has lost anything. I don’t miss the old days, except for the fact that it was transformative of my life,” he said. “I could never do a pull-up, could never climb a rope (before CrossFit), so being able to start being an athlete was really profound for me.”

Nutrition was also part of the learning curve, just as it is now for many.

“A bagel and cream cheese isn’t the best option for breakfast?” Molloy laughed, remembering his early days learning about the importance of diet.

These kinds of personal-growth moments—just like the ones Molloy experienced when he started CrossFit—are still going on today at 9,999 other affiliates around the world.

“Coach Glassman said if you can’t deadlift your own body weight, you’re sick. And I have people come in and can’t squat at all, can’t make it down to the medicine ball and stand back up again unassisted,” Molloy said.

Molloy learned from Glassman it is his responsibility to help these people to change their lives. And this is what he keeps doing today, day after day.

Over the years, Molloy has also learned transforming lives can start with something small. This concept has always been one of the messages taught at the Level 1 Trainer Course.

“Go home, get a broomstick and teach a neighbor how to deadlift,” Level 1 Seminar Staff members tell attendees.

It’s a simple but powerful message that has a lot to do with the spread of CrossFit.

## Triple Digits

One of the foundations to the CrossFit affiliate is, of course, the CrossFit Level 1 Trainer Course.

Matt Munson—who was the owner of CrossFit Champions in Texas for seven years before he sold it to a client last year—earned a Level 1 certificate in the day when Glassman led the charge at every seminar. At those early seminars, attendees had the chance to really get to know Glassman as a coach and as a man.

“It was smaller and tighter then. You could ask Coach (Glassman) questions,” said Munson, who affiliated when there were but 100 CrossFit gyms in the world.

“We’d finish a (seminar) and I’d email Nicole Carroll, and there’d be a response within 20 minutes,” he added. Carroll is now CrossFit Director of Certification and Training.

That’s the only thing Munson thinks is sad about the massive growth of CrossFit—that some of the new affiliate owners will never get to experience what it was like being directly involved with Glassman.

“They’ll never get to experience going to a seminar, meeting Coach, and having a pizza and beer after with him,” Munson said. “At the time we didn’t understand how cool that was.”

That said, Glassman remains accessible despite the demands on his time as head of a large fitness company. At CrossFit Tour stops, the CrossFit Games and other events, Glassman spends hours reconnecting with old friends and making new ones. He speaks articulately yet casually and without pretension. And he takes the time to speak to anyone who wants to talk to him.

There he was at the CrossFit Games Open 14.5 live announcement in San Francisco, California. In the crowd. In plain street clothes. Cheering. Along with the community he built.

And even if some newer affiliate owners never get the chance to attend a Level 1 led by Glassman, today’s new affiliates have advantages the first 100 never did, including the ability to easily obtain quality equipment affordably.

And even if some newer affiliate owners never get the chance to attend a Level 1 led by Glassman, today’s new affiliates have advantages the first 100 never did, including the ability to easily obtain quality equipment affordably.

When Munson started his box, it was filled with homemade equipment.

“When we started, there were three places in the U.S.A. to buy bumpers,” Munson said.

“We built our first boxes based off an article we read in the ‘CrossFit Journal.’ We built 16-, 20- and 24-inch boxes in my garage. They lasted for years,” said Munson, whose first pull-up station was a homemade rig made of four-by-fours and plumbing pipe.

Kettlebells and medicine balls were also more difficult and expensive to come by. Munson’s athletes used dumbbells for the first couple of years, and his first medicine balls weren’t the durable ones affiliates have today.

“They were made from a variety of different leather, and they’d start splitting at the seams, and sawdust and sand would fall into everyone’s eyes,” Munson said. “They lasted a while because we duct-taped them back together.”

Today, the CrossFit equipment industry is light years ahead of where it was even five or six years ago.

First of all, there’s Rogue and Again Faster, who supply equipment to CrossFit affiliates all over the world.

“And even if you don’t count Rogue, there are at least a dozen other high-quality manufacturers,” Munson said. “Now, anyone can get high-quality gear and equipment to train with at a very affordable price. You can buy quality bars for under \$200.”

In the 2002 “CrossFit Journal” article “The Garage Gym,” Glassman collected a host of suppliers to help people “build a world-class strength



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and conditioning facility in your garage.” In September 2013, the “CrossFit Journal” article “The Ripple Effect,” explained how the growth of CrossFit had created instant markets for equipment suppliers such as Rogue and Again Faster, and any CrossFit affiliate owner will confirm sourcing gear is a simple task today.

This ease is something Munson doesn’t take lightly because he remembers the days when bumper plates were rare and it was easier to find a leg-extension machine than a GHD. After all, it wasn’t that long ago.

## Spreading the Word

Leonarda Schotness took the Level 1 Trainer Course in May 2014.

It was an incredibly valuable weekend for her.

“The biggest things I learned at my Level 1 were that CrossFit really is about community and passion and acceptance and knowledge,” she said, the weekend still fresh in her mind.

What helped Schotness realize this was the way her Level 1 coaches expressed themselves.

“The knowledge and intensity (the coaches) taught with was amazing, and you could tell they loved that they did and were so passionate about the sport,” said Schotness, who had been involved in CrossFit for eight months prior to completing the Level 1.

She added: “Learning the backbone to CrossFit and everything behind the scenes, as opposed to just doing the WODs, has given me a whole new passion and drive to want to be as involved in the CrossFit community as possible.”

Schotness’ recent Level 1 experience doesn’t sound so different from the way Munson, Martin and Molloy described their experiences.

“The concepts and theories that Coach (Glassman) set up are still what the seminars are all about,” Molloy said. On top of this, the “Level 1 Training Guide” still contains Glassman’s original “CrossFit Journal” articles.

There have, however, been some small changes over the years, like moving from a three-day course to a two-day course, as well as the addition of a written test. CrossFit is also planning to expand its training and education offerings in the near future.

But Molloy believes the most important thing taught at the course is Glassman’s message, which gets deeply rooted in the people whose lives are touched by CrossFit. The coaches who run the course today fall under that category.

“I think that if you go through the Level 1 experience and you participate in an affiliate, it’s unavoidable that you’re going to get that sense of community. Because it’s so palpable,” said Molloy, who is part of the Level 1 Seminar Staff.

Evidence of this is the fact that people all over the world, week after week, continue to pay for information they could get for free.

“I think that if you go through the Level I experience and you participate in an affiliate, it’s unavoidable that you’re going to get that sense of community.” —Hollis Molloy

“The info we give is all for free on the Internet. The ‘Level 1 Training Guide’ is free online, and you can look at all the exercise demos. But what you don’t get is that transmission of culture,” Molloy said.

“You don’t see the passion we have behind virtuosity and human movement . . . . It’s not just a fitness program. It’s a culture we’re trying to put out there,” he said.

Molloy admitted he was skeptical when Glassman first decided to stop running the Level 1 Seminars, but any skepticism he had is gone now.

“I used to think that Coach was the only one who could deliver the message. I used to think he was the reason people came . . . ,” Molloy said. “But

Miranda (Oldroyd), and Todd (Widman) and Boz (Adrian Bozman) are just as good. Coach Glassman could only do so much as one person. And the trainers today are able to keep the message moving forward.”

And at the end of the weekend, the feeling people get when they finish the course is the same feeling Molloy got when Glassman hosted his, and it’s certainly no mistake that completion of the Level 1 Trainer Course is required for affiliation.

“I just want to be a part of what this is,” Molloy said, describing the feeling. “And that feeling, that feeling hasn’t changed.”

CrossFit at 10,000

When 24-year-old David Marshall applied to open a CrossFit affiliate, he had no idea his box would be the 10,000th in the world.

His reaction when he found out: “It was a shock. I thought it was a joke. I thought my email had been spammed by someone,” said Marshall, who will open Royal Docks CrossFit in London, England, in the coming weeks. He said being No. 10,000 is a great honor.

“Everyone I’ve told keeps telling me how lucky I am. It’s such a big thing how quick this sport is growing,” he said.

Marshall discovered CrossFit in 2012 when he was playing professional rugby in Australia. He earned a Level 1 certificate earlier this year and couldn’t be more excited about opening his gym.

“CrossFit in London at the moment is absolutely booming. Lots of gyms are turning people away (because they’re so busy),” he said. “So I did a lot of market research. I spent six months finding the perfect location for my box.”

Marshall is hoping to open his doors within the next eight or nine weeks. He’s almost ready to go, and he proves Munson’s point about the ease of accessing high-quality affordable equipment these days. Marshall has turned to Wolverston, a British company he said is essentially becoming the Rogue of the U.K.

“The CrossFit community, it’s quite an Americanized thing, but it has bled over here in Europe. Surrounding yourself with like-minded people . . . I’m excited to facilitate that and have a bit of an impact,” said Marshall, who works as a strength-and-conditioning coach with teenage rugby players and has plans to bring them to Royal Docks CrossFit the moment it opens.

Currently, Marshall’s focus is to hire the most knowledgeable coaches he can find.

“I’ve been speaking to a guy from Orlando, Florida,” Marshall said, explaining that he’s willing to hire coaches from abroad—anything to get the best coaches.

“I’m looking to bring in Olympic-weightlifting coaches, gymnastics coaches. I think it would be great to have specialists from different areas,” he said. “If I get those things in place, everything else should take care of itself.”

Essentially, Marshall’s goal is virtuosity—a concept Coach Glassman pursued at the very first CrossFit gym. With virtuosity comes pride, and as

Molloy pointed out, pride can be found at all 10,000 affiliates in the world. “Everyone is like, ‘My affiliate is the best.’ Nobody says, ‘Yeah, my affiliate is OK, but I think the one down the street is better.’ Everyone thinks their affiliate is the best. And I think that’s pretty cool.”

Along with this pride comes a sense of community among the 10,000 affiliate owners around the world. Each has followed a dream of bringing fitness to clients and running a successful business, and all have embraced the affiliate system in which they share a name and a purpose but are free to operate as they see fit. The system is specifically designed to encourage freedom and creativity as affiliate owners deliver fitness and work to achieve financial success—the health and wealth Glassman has spoken about.

At the very core of that system are the 10,000 individual affiliate owners who unlock the door every morning in the pursuit of virtuosity.

Video: “The 10,000th Affiliate” by Ross Coughlan.

About the Author

Emily Beers is a “CrossFit Journal” staff writer and editor. She will compete in the 2014 Reebok CrossFit Games.

