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A man wearing a cap and athletic gear is using a Concept 2 rowing machine in a gym. The machine is white with black accents and has 'concept 2' written on its side. The background shows a typical gym setting with a wooden floor and a white wall.

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CROSSFIT LIFE GUARD: BRANDON JUSTICE

As a teen, Brandon Justice was told a genetic disorder would end his life sometime in his 30s. Because of CrossFit, doctors tell him he can now expect a normal lifespan.

BY ANDRÉA MARIA CECIL



A new lease on life: Brandon is very optimistic about a future that now includes making it out of his 30s.

Eighteen-year-old Brandon Justice didn't care about his health or his future.

He did what he saw the average high-school kid doing: He went to parties, ate fast food, didn't exercise.

After all, doctors told him he would only live to be 34.

Why bother caring, he thought.

"I had a mindset of, 'I'm gonna die when I'm gonna die.'"

That's when Justice ended up in the hospital for 21 days. He had double pneumonia from an upper respiratory infection.

When Justice was 3, doctors had diagnosed him with cystic fibrosis, an incurable genetic disorder that clogs the lungs and digestive system with mucus, making it difficult to breathe and digest food.

The three-week period was Justice's third hospital stay. The first two were each a week long for less serious respiratory infections, Justice said.

When doctors discharged Brandon this time, his father had a plan. Throughout Brandon's childhood in Texas, David Justice, a now-retired Austin police officer, had tried everything to get his son to be active: martial arts, swimming, running.

"I tried to encourage him to treat his body as an athlete," David said.

Nothing stuck.

But the day after the teenager left the hospital, David took him to West Plano CrossFit.

"We're gonna do this," he told his son.

Their first workout was Fight Gone Bad, requiring 1 minute's worth of work at each of five stations: wall-ball shots, sumo deadlift high pulls, box jumps, push presses and rowing.

"It was complete hell. But it was (hell) in the best way possible," said Brandon, now 21.

In three years, 5-foot-10 Justice has gone from 135 lb. to 175 lb. and has dramatically improved his lung function. He's shaved roughly 2 minutes from his 1-mile time, now running it in about 7 minutes.



Brandon (left) with his father, David Justice.

"My doctor (had) pretty much told me I was middle-aged," Justice said. "Now my doctors (tell) me I'm on pace to live a normal lifespan with what I'm doing."

And the experience has shown Justice that he controls his own reality.

"(It) proved to me that despite what I created in my head, the mental blocks that I created in my head ... it didn't matter. I pushed past that and I could go even further."

To say it's changed his outlook on life might be an understatement. Justice, a computer-science major, is now looking forward to graduating from college and one day having a family—things he previously deemed unattainable or pointless to pursue.

"I'm just grateful. I'd be grateful if it had pushed me to 50. Knowing that I have that much extra time, it really puts things in perspective as far as my life is concerned." ■

About the Author: Andréa Maria Cecil is assistant managing editor and head writer of the CrossFit Journal.



THE **CrossFit** JOURNAL

DOWN THE HATCH, MISS A SNATCH?

A look at the effect of moderate alcohol consumption on fitness and health.

BY HILARY ACHAUER



One beer can contain up to 18 grams of carbohydrates, which might throw a wrench in a precise diet plan.

A few years ago I stopped drinking alcohol Sunday through Thursday.

I’ve never been a heavy drinker, so it wasn’t a difficult transition. For me, two drinks is letting loose and three is really getting wild, but a few nights a week I’d have a beer or glass of wine while making dinner. Once I started CrossFit, I wondered about the impact of those five or six drinks per week on my health and performance in the gym.

CrossFit was hard enough, I figured, so why make it even more difficult by adding alcohol to the mix? I was so careful about every aspect of my diet, and I worried alcohol was sabotaging those efforts. So I ditched the alcohol in favor of sparkling water and kombucha and saved the drinks for Friday and Saturday nights.

It turns out my years of partial abstinence may have been pointless. More and more studies suggest moderate alcohol consumption can improve **cardiovascular health**, and recent research suggests a few drinks have no negative impact on athletic performance. Still, alcohol has significant effects on the body, especially when consumed in excess.

Alcohol and the Body

Let’s take a quick look at what happens to the body when we drink—even moderately.

Alcohol results from fermenting starches and sugars. It contains about seven calories per gram and has no vitamins or minerals.

When we talk about “one drink,” that means either a **12-ounce beer, a 5-ounce glass of wine or a 1.5-ounce shot of liquor**. All contain the same amount of alcohol and have about 95 to 165 calories—as long as you aren’t mixing the liquor with anything.

Once you take a drink, the alcohol is absorbed into the blood—about 20 percent through the stomach and 80 percent through the small intestine. Most people typically feel the effects within five to 10 minutes of drinking, and blood alcohol content peaks after 30 to 90 minutes.

You may have heard the alcohol you drink turns into fat. This **isn’t exactly true**, but it’s not entirely off base. When you drink alcohol, your liver recognizes alcohol’s byproducts as toxins. The body wants to get rid of these toxins, so they are processed before more nutrient-rich food. The toxins skip to the front of the digestion line, in a sense.

If you happen to be eating while you’re drinking, instead of focusing all efforts on burning the calories from food, your body first has to burn the empty calories from alcohol. By the time your body finishes with the alcohol and goes to work on the food, you might not need the energy. The extra calories are stored as fat.

As bad as this sounds, a 2010 **study** tracking over 19,000 women for 13 years showed the risk of becoming overweight was almost 30 percent lower for moderate drinkers—those who consumed one or two alcoholic drinks a day—compared with nondrinkers. Researchers aren’t sure why, but they have a few theories.

To start, the women who drank alcohol consumed less food, especially carbohydrates. Women might also metabolize alcohol differently than men. Drinking doesn’t seem to change a man’s metabolism, but it might actually slightly speed up a woman’s metabolism. Finally, it’s thought resveratrol, which is found in grapes and red wine, might inhibit the development of fat cells.

Moderate drinking does not seem to have a positive impact on men’s weight.

“A 2003 study of British men showed that regular drinkers gained more weight than nondrinkers,” The New York Times reported. One theory suggests this discrepancy exists because men typically add alcohol on top of their normal caloric intake, while women are more likely to eat less when drinking.

Alcohol is often blamed for negatively impacting sleep quality by affecting the deeper REM sleep. **Recent research** shows drinking—both heavy and moderate—actually increases slow-wave sleep, which happens during the first part of the night. This stage of sleep is associated with maintaining a strong immune system and healing muscles, bones and tissues. Too many drinks will negatively impact your deeper REM sleep, when memories are stored and whatever you learned during the day is committed to long-term memory. One or two drinks do not seem to have a negative effect on either type of sleep.

While moderate alcohol consumption does not appear to have significant negative health consequences—and might even have some benefit—it bears repeating that excessive drinking is extremely unhealthy and potentially deadly. Consistently drinking too much can lead to alcoholic hepatitis and a fatty liver, which can progress to cirrhosis of the liver. Too much alcohol over a long period of time can also increase the risk of developing certain cancers and can damage the lining of the small intestine and the stomach.

Even if you are a moderate drinker, be careful of mixed drinks, which often contain significant amounts of added sugar from juice or soda. Wine and distilled spirits have very little to no sugar, though beer does have carbohydrates—as much as 18 grams per beer. Liqueurs, such as Kahlua or Baileys, contain a surprising amount of sugar. One fluid ounce of Kahlua contains more than 14 grams of sugar—so no matter how much you admire The Dude from “The Big Lebowski,” watch those white Russians.



Even if a beer will not affect performance, it's a poor substitute for nutritious food.



Agust Sigurjonsson

Alcohol has significant effects on the body. If you imbibe, it's important to monitor intake against health and performance. Make adjustments as needed to maximize wellness and fitness.



Luke Espe

Alcohol and Training

If moderate alcohol consumption doesn't necessarily lead to weight gain or sleep disturbances, does a nightly beer have any negative effect on athletic performance?

In the April 2014 issue of [Sports Medicine](#), Matthew J. Barnes, a senior lecturer and associate head of school at Massey University in New Zealand, published a review of the existing science on alcohol and sports performance and recovery in male athletes.

Barnes noted that because alcohol affects many hormones, it might negatively impact mood, sleep, metabolism and more. In terms of sports, many fitness experts will tell you any amount of alcohol will hamper recovery and strength, but Barnes found it's not that straightforward.

"If athletes are to consume alcohol after sport/exercise, a dose of approximately 0.5 g/kg body weight (about three drinks) is unlikely to impact most aspects of recovery and may therefore be recommended if alcohol is to be consumed during this period," Barnes wrote.

As expected, Barnes found acute alcoholic consumption (more than four to six drinks per day for men) can negatively affect athletic performance, impacting immunoendocrine function, blood flow and protein synthesis. Excessive alcohol use also affects rehydration and glycogen resynthesis, elements related to recovery. This is not the case with moderate alcohol consumption—about three drinks per day for a 180-lb. man.

One of the common concerns about alcohol for strength athletes is the idea that consumption negatively affects testosterone levels—a scary thought for anyone working hard in the gym to build muscles. Alcohol does decrease testosterone levels, but only with larger doses. A study published in 2003 in [Alcoholism: Clinical Study and Research](#) found an increase in testosterone in men who consumed two to three drinks per day.

To measure the impact of alcohol on muscle function, Barnes devised a [diabolical study](#) in which subjects completed 300 eccentric contractions with one leg on an isokinetic dynamometer (basically a leg-extension machine). Thirty minutes later, they put down about six screwdrivers (ethanol at 1 gram per kilogram of body weight in the form of vodka). Then, at 36 and 60 hours later, Barnes measured the subjects' dynamic and static strength. About two weeks later Barnes had the same group perform identical exercise followed by an identical number of calories of orange juice only.

It will probably not surprise you to learn that getting wasted on screwdrivers negatively affected muscle function, and the subjects showed about a 15 to 20 percent drop in performance

when compared to their post-exercise strength after consuming plain orange juice.

A year later, Barnes [repeated the study](#) but cut the alcohol consumption in half, to 0.5 grams per kilogram of body weight. This time, he found no difference between the two groups, concluding "consumption of a low dose of alcohol after damaging exercise appears to have no effect on the loss of force associated with strenuous eccentric exercise."

After analyzing the impact of alcohol on sports performance in males, Barnes determined low doses of alcohol are "unlikely to be detrimental," but the effects of alcohol on athletic performance are dependent on the timing of consumption, overall nutrition and recovery as a whole. The importance of moderation cannot be overstated, and Barnes cautions, "It should be remembered that alcohol is a poison and as such should be treated as one."

Everything in Moderation

Moderation can be difficult concept. It's easy to put things in "bad" and "good" categories, but the truth is it's all about the appropriate dosage. You can certainly drink too much.

Moderate alcohol intake likely won't make you fat or significantly impact your athletic performance, and it might even benefit your cardiovascular health. That nightly beer or glass of wine probably isn't the one thing standing between you and athletic greatness. If a nightly drink doesn't affect your life or your well-being, then carry on. If you feel better when you don't drink, that's a great reason to abstain.

It's also important to remember that the calories in alcohol are empty—void of nutrients. If you build a small or moderate amount of alcohol intake into a sound diet plan, you can account for the calories, but you still won't get the vitamins and minerals kale would have provided in place of a shot of vodka. As with any aspect of your diet, monitor intake, performance and health markers carefully, making adjustments as needed to maximize health and fitness.

Above all, remember the science is unanimous on one point: Excessive alcohol intake will wreak havoc on your performance and your health, so it's important to be vigilant about the quantity of alcohol you habitually consume. ■

About the Author: Hilary Achauer is a freelance writer and editor specializing in health and wellness content. In addition to writing articles, online content, blogs and newsletters, Hilary writes for the CrossFit Journal. To contact her, visit [hilarychauer.com](#).



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WHY SOME SWEAT MORE

Hilary Achauer investigates the science of sweat and busts the myth that fitness alone determines liquid loss.

BY HILARY ACHAUER



Gender and sweat: While females have more sweat glands than men, they produce less sweat from each gland.

At the end of your next CrossFit class, look around.

You'll see some people soaked in sweat, a telltale puddle under the bar. Others who just completed the same workout in the same environment are almost completely dry.

Everyone sweats, but why do some people sweat so much more than others? Do heavy sweaters need to hydrate more than those who merely glisten?

We tend to associate perspiration with fitness, and it's not entirely wrong to do so. Exert yourself for an extended period of time, and it's likely you'll sweat. From the 1980s through 2014, a number of studies showed fit people sweat sooner and more than their sedentary counterparts.

Recently, scientists have taken a closer look at these studies and discovered although exercise and sweat are correlated, improving your fitness will not make you sweat sooner, more efficiently or in greater quantities. And for heavy, salty sweaters, flooding the body with liquid, including sports drinks, is not the best way to replace lost electrolytes.

Understanding Sweat

At the most basic level, sweat is our body's cooling system.

When a body heats up, it produces sweat, which is mostly water with some salts. The salt content of sweat varies from person to person. When the body starts to heat up and converts glucose into energy, sweat is produced to keep the body temperature between 98 and 103 F. A body temperature over 103 can lead to heat exhaustion as well as a significant decline in performance and function.

The body has two types of sweat glands: eccrine and apocrine. Eccrine glands are all over the body, are active from birth, and produce a sweat that's free of proteins and fatty acids. Apocrine glands are in the armpits and anal-genital area and usually end in hair follicles instead of pores.

On its own, sweat doesn't smell. The odor is created when the bacteria on our skin metabolize the proteins and fatty acids in sweat from the apocrine glands. That's why we use deodorant under our arms instead of rubbing it over the entire body like lotion.

Sweat cools us down through the **process of evaporation**. When liquid on the body changes to gas, it draws heat from the liquid, which in turn removes heat from the body.

Who Sweats More—and Why?

If we all sweat the same way and for the same reasons, why do some people sweat sooner and more than others?

Putting aside extrinsic factors such as heat and the amount of clothing or equipment the athlete is wearing, size and gender are the biggest physiological factors that influence sweat rates.

Women have more sweat glands than men but produce less sweat from each gland, which is why **women tend to sweat less than men**. Body mass might also play a role in sweat quantity, likely because it takes **more work to move around more mass**.

The sweat question gets murkier when considering the role fitness plays in how soon and how much a person sweats.

Multiple studies from the **1980s** to the **1990s** seemed to show fit people sweat sooner. According to **one study**, sweating occurred sooner in the trained group than the untrained group: "Physical training improves the secretory activity of the human sweat gland."

A more recent **study** from 2010 concluded "training improved the sweating response."

The idea that fit people sweat sooner and more became conventional wisdom, repeated in publications from **Time** to **The Washington Post**. In this 2015 **Greatist article**, Tony Musto, exercise physiologist and director of fitness at the University of Miami, stated definitively, "The more fit you are, the more efficiently your body sweats."

Not so fast, say some scientists.

The Naked Scientists is a BBC-produced science podcast based at Cambridge University. **In 2013**, scientist Ginny Smith responded to the question, "Who is more fit: the person who starts sweating as soon as they begin to exercise, or the person who barely breaks a sweat?"

The fit people were working harder
so they got hotter.

Smith analyzed studies that took groups of fit and unfit people, asked them to exert themselves equally, and discovered the fit people sweated more.





Fit athletes sweat more in part because they are able to work harder and generate more heat.

The problem, Smith discovered, is the studies determined exertion using VO_2 max—a measure of the maximum volume of oxygen an athlete uses, or the point at which oxygen consumption plateaus. A fit person will have a higher VO_2 max than a sedentary person, though VO_2 max is no longer considered the gold standard of fitness.

Each of the groups in these studies—the fit and the sedentary—worked to the same percentage of VO_2 max, but the fit people had to work quite a bit harder to reach the same VO_2 max level as their sedentary counterparts. That means if you're a distance runner, you will have to run much faster to reach 60 percent of your VO_2 max than someone who has never run more than a mile.

The fit people were working harder so they got hotter.

“You don't get any more efficient at running without producing heat,” Smith said on the podcast.

“When they did the experiment but they controlled for the heat that the people were producing—so they made the unfit people and the fit people run to produce the same amount of heat—they didn't find much difference in their sweat apart from their foreheads,” Smith said. “In fact, the unfit people seem to sweat more on their forehead, which is a bit surprising and unusual.”

A 2014 blog post on [Runner's World](#) cited a 2014 [study](#) from South Korea that found “sweat rate, activated sweat glands, sweat output per gland, skin temperature and VO_2 max were significantly higher in the trained runners than in the sedentary controls.”

After reading the article, Matthew Cramer, a researcher at the Thermal Ergonomics Lab at the University of Ottawa, wrote to [Runner's World](#), pointing out the same issue Smith noted in her assessment of the problem.

Cramer linked to [2010](#) and [2011](#) studies that concluded a person with a higher VO_2 max will sweat more because he or she is running or cycling faster than a less-fit person to reach the same percentage of VO_2 max, thus generating more heat. This led to a correction and an update to the article.

A closer look at these studies shows fit people sweat more not just because they are fit but because they have the capacity to work harder and get hotter, which prompts the body to start the cooling process. Individual sweat rates have less to do with fitness and more to do with gender, size and genetics.

Sweat and Hydration

Temperature and clothing or gear are other factors that play an important role in sweat production.

A person going for a 3-mile run wearing shorts and a T-shirt in 65-degree weather will sweat less than that same person wearing layers of clothing and running the same distance in 95-degree weather.

If you've ever traveled to a much warmer climate and found working out is suddenly much more difficult, you're not alone. Exerting yourself in the heat is a shock to the body if you're not accustomed to it. Thankfully, the body adjusts quickly.

[Sandra Fowkes Godek](#) is the director of the Heat Illness Evaluation Avoidance and Treatment (HEAT) Institute at West Chester University in Pennsylvania. The institute provides athletes with independent and unbiased information about thermoregulation and fluid and electrolyte balance. Fowkes Godek studies athletes and sweating, and her research on thermoregulation, hydration and electrolyte replacement in football players has attracted national attention.

After about 10 days of exercising in the heat, “You will start to sweat sooner and you will sweat over a larger portion of your body,” Fowkes Godek said.

“Typically when you are not acclimatized you will sweat on your torso, but when you become acclimatized, your sweat glands do kick in sooner so your onset of sweating is faster and you will sweat over a larger portion of your body,” she explained.

A benefit of training in the heat, Fowkes Godek said, is the heat stress causes the body to produce more plasma.

“(With) increasing plasma volume ... your cardiovascular system works better,” she said, “and then the other change is that your sweat electrolyte concentration goes down.”

The primary electrolyte in sweat is sodium, so this means a heat-acclimatized athlete will lose less salt in his or her sweat than an athlete unaccustomed to exercising in the heat.

This explains the strategy of CrossFit Games athletes from cooler climates who have traveled to California in advance of the Games to get used to the heat.

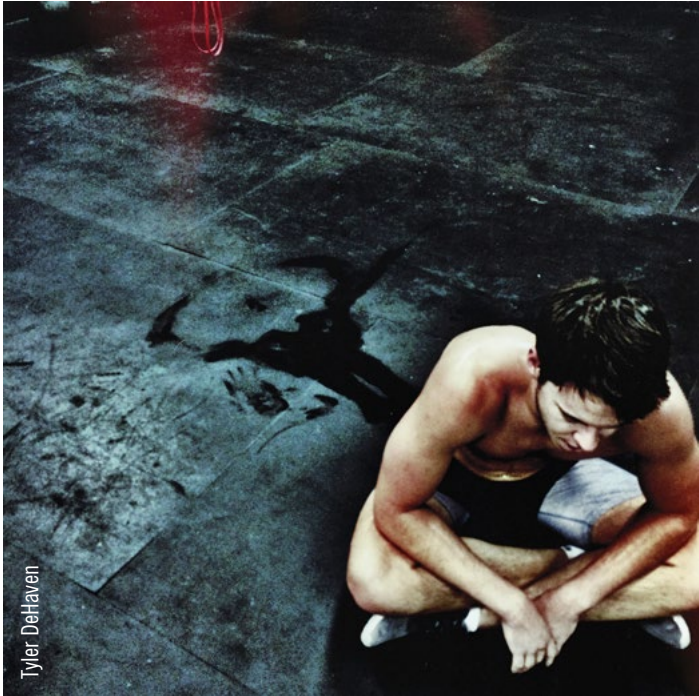
“Your sweat actually comes from filtered blood plasma,” Fowkes Godek said, “so more plasma means you are better able to tolerate the heat. But that is probably more related to the acclima-

tization process than the actual fitness, although fit people do tolerate exercise in the heat better because their cardiovascular system is far more efficient.”

Once you’ve started sweating, what’s the best way to help your body recover? Despite marketing to the contrary, Fowkes Godek said it’s not downing a sports drink like Gatorade, especially if you are a heavy, salty sweater.

Just as people sweat different amounts, sweat sodium concentration varies drastically from person to person. One person might have a sweat sodium concentration of 10 millimoles per liter (mmol/L), and another might have a sweat sodium concentration 10 times that amount.

“The people who are heavy, salty sweaters are losing a tremendous amount of salt, or sodium chloride. Whereas people who don’t sweat that heavily, and their sweat electrolytes concentration is not very high, ... (those) people don’t really need to drink anything or eat any extra electrolytes other than what they get in their food. But other people need a tremendous amount to replace after they have a heavy workout in the heat,” Fowkes Godek said.



Tyler DeHaven



Inaki Penalva Iron

Sweat angels might make for great photos, but they say little about the fitness of the person who left them on the rubber.

fatigue. More extreme symptoms including nausea, vomiting, seizures and comas. Brain swelling—exercise-associated hyponatremic encephalopathy (EAHE)—can cause death. At least 18 people have died from EAHE since 1993.

Sports drinks such as Gatorade contain only a small amount of sodium, as well as significant amounts of sugar.

“Gatorade was never designed to be a sodium-replacement drink. It was designed to be a fluid-replacement drink. It was formulated to facilitate water uptake,” Fowkes Godek said.

Some of the football interior lineman Fowkes Godek has studied lose 30 g of sodium during a day of practice, and sports drinks can’t even make a dent in that number in safe volumes.

“Amazingly, replacing 30 g of sodium with the average sports drink would require nearly 65L; this is not only impractical, but it would add 13742 kcal and 3848 g of sugar and would cause hyponatremia,” she reported in the Journal of Athletic Training paper **“Sweat Rates, Sweat Sodium Concentrations, and Sodium Losses in 3 Groups of Professional Football Players.”** The study noted that heavy, salty sweaters would likely require “dry sodium supplementation” with tablets or capsules.

Fowkes Godek said diet and genetics play a role in how salty your sweat is. There is some thought that people who are cystic

fibrosis carriers have differences in sodium and chloride channels in their skin, so they tend to lose more sodium through sweat.

The only exact way to figure out your sweat sodium concentration is to get it tested, but you can get a rough idea by looking at your T-shirt once it dries after a particularly sweaty workout session.

“If you get a ring around your shirt, or if you are able to shake your dry shirt and you notice salt coming off of it, then you are typically a salty sweater,” Fowkes Godek said, “but you still don’t know if your sweat concentration is 65 or 100.”

Balancing these two needs—staying hydrated by avoiding overhydration—sounds complicated, and marketing is rife with pseudo-science that clouds the issue. In reality, the guidelines for appropriate hydration are remarkably simple:

“We still go back to ... drink to thirst. If water is sloshing around in your stomach, if you gain weight during exercise, you are over-drinking,” Fowkes Godek said.

She said even if you stay the same weight before and after an hour or more of strenuous exercise, you’re drinking too much. People taking nonsteroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen should also be cautious because NSAIDs cause water retention.

Bottom line, “if you are peeing clear, you are overhydrated,” Fowkes Godek said.

“You should not have clear urine. That’s just not normal. Your body is working really hard to get rid of that.”

On average, men can only filter and get rid of 1 L of water an hour; for women it’s about 800 ml.

“So if you are drinking twice that, if you are drinking a 2-liter bottle when you exercise for an hour, your kidneys can’t even get rid of that. You are going to hold onto that water; you aren’t going to excrete that. That’s why people gain weight. It’s horrible to exercise and gain weight,” Fowkes Godek said.

Sweat Sense

If you are on the sweatier end of the spectrum, a **headband** can help keep the sweat out of your eyes, and sweatbands on the wrists are a good way to prevent your hands from slipping on the barbell. Perhaps keep a towel nearby to dry off before lightly dusting with chalk to absorb the remaining moisture.

If you’re a high-volume, salty sweater, perhaps consider supplementing with sodium while ensuring you aren’t overhydrating.

But don’t compare sweat with your rivals. The size of the sweat angel is not an accurate measure of fitness. Some people just sweat more than others. ■

About the Author: Hilary Achauer is a freelance writer and editor specializing in health and wellness content. In addition to writing articles, online content, blogs and newsletters, Hilary writes for the CrossFit Journal. To contact her, visit hilarychauer.com.

For most people, drinking to thirst and eating a healthy, balanced diet will provide all the necessary hydration and electrolytes.

For most people, drinking to thirst and eating a healthy, balanced diet will provide all the necessary hydration and electrolytes. If you are a heavy, salty sweater—or if you exert yourself in heavy gear or in very hot temperatures for a long period of time—don’t rely on sports drinks for sodium replacement.

You can buy a salt supplement or even **add salt** to a sports drink, but the amount of salt would likely make the beverage unpalatable. If you add too little, you’re actually making the problem worse: It’s critical to replace the salt without drinking so much fluid that you dilute your blood sodium, which can cause injury or death.

Hyponatremia occurs when sodium levels in the blood fall below 135 mmol/L. Mild symptoms of hyponatremia are irritability and



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CHRONIC DISEASE AND MEDICINE: PREVENTION DOESN'T PAY

Why your doctor only wants to see you after something has gone wrong.

BY BRITTNEY SALINE



Most physicians have received minimal nutrition education and are ill-equipped to tell their patients which foods to eat.

Dr. Stephen Schimpff calls it the paradox of American medicine.

“We have really well-trained, well-educated providers. We are the world’s envy for biomedical research. We’ve got excellent pharmaceutical (and) biotechnology companies and diagnostics (tools). But the paradox is on the other hand we have a terribly dysfunctional health-care delivery system,” said the retired CEO of the University of Maryland Medical Center in Baltimore.

Despite our technology, education and wealth—in 2014, total national health-care expenditures hit **US\$3 trillion**—chronic disease remains the nation’s top **killer**, with seven of the top 10 causes of death in 2010 stemming from chronic illnesses such as heart disease, stroke, cancer, Type 2 diabetes and obesity. In 2010, **86 percent** of all health-care spending was attributed to chronic disease—conditions labeled **preventable** by the Centers for Disease Control.

So why are we still so sick?

“America does not have a healthcare system; we have a ‘disease industry,’” Schimpff wrote in a 2010 **article**. “We focus on disease and pestilence and do a good job of caring for those with acute illnesses and trauma. But we certainly do not address health well and we are not good at caring for chronic illnesses.”

It’s an industry based on one fundamental problem, Schimpff said.

“We don’t put our money where we could have a huge impact, which would be prevention and wellness.”

Nineteen Hours

Dr. Stephen Devries, preventive cardiologist and executive director of the non-profit **Gaples Institute for Integrative Cardiology**, echoed Schimpff’s sentiments.

“Prevention is not a priority, which is a serious problem,” he said.

The problem, he continued, begins in medical school, where a lack of education on nutrition and fitness—two major lifestyle factors that can help **prevent** the development of chronic disease—sets physicians up for failure from the start.

“Doctors currently receive very little education about nutrition, and therefore at the present time most doctors aren’t as well equipped as they should be to counsel a patient about nutrition, and that’s a major problem,” Devries said.

He reported that medical students receive an average of 19 hours of nutrition education across the entire curriculum of the medical degree.

“Even the paltry amount of nutrition education in medicine today is largely devoted to basic science and the biochemistry of nutrition and nutritional deficiency states that are very uncommon nowadays,” he continued.

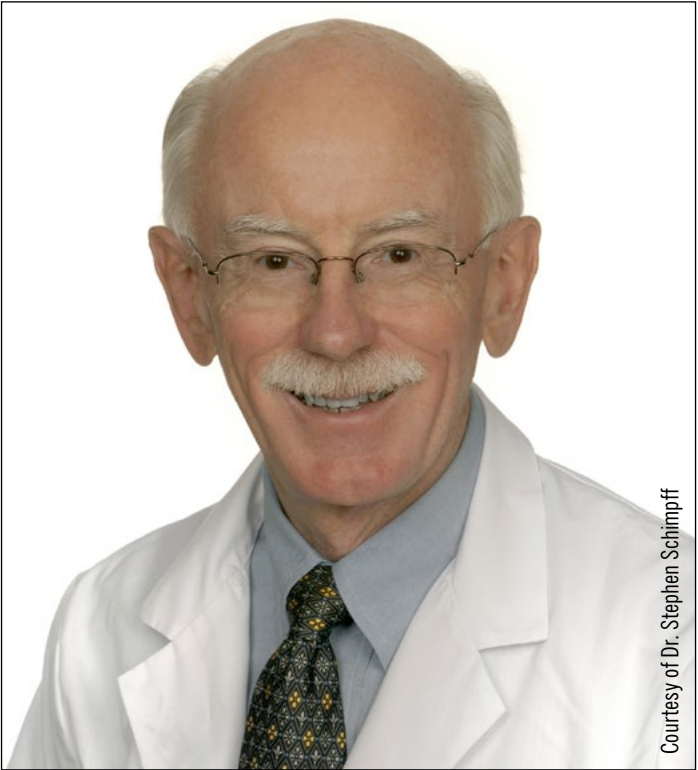
Dr. John Williams, a third-year internal-medicine resident at the

University of Colorado and a CrossFit athlete of nearly 10 years, described a similar experience despite attending medical school more than two decades after Devries.

“The nutrition education I had basically came down to a three-hour lecture and an intake journal,” Williams said. “And in terms of exercise, there’s really not a lot that they give us. The party line is ‘exercise 30 minutes three times a week,’ and it’s (only) cardio.”

That isn’t to say the U.S. medical system doesn’t value disease prevention—a whole **task force** of experts reports to Congress annually and is devoted to “clinical preventive services such as screenings, counseling services, and preventive medications.”

The problem, Devries said, is that “most of the prevention work rests on early detection of disease rather than preventing the formation of disease, which is where I believe it needs to go.”



Courtesy of Dr. Stephen Schimpff

Dr. Stephen Schimpff

“Most of the prevention work rests on early detection of disease rather than preventing the formation of disease.”
—Dr. Stephen Devries



If doctors focused on prevention, they would discuss diet and exercise during annual meetings with healthy patients looking to maintain or improve their health.

Lip Service

If physicians aren't focused on preventing disease before it starts, what's happening in the exam room?

Think back to your most recent doctor's appointment. Most likely, you were there either seeking treatment for a specific ailment or for a routine health-maintenance physical. In either case, the physician's main goal was to address the situation and send you on your way as quickly as possible.

"Usually the presenting problem is identified by the patient," said Melissa Scanlan-Duncan, clinic manager for HealthPartners North Suburban Family Physicians in central Minnesota. "You make an appointment for the doctor because you have ear pain. (The physician) is not gonna talk about the fact that you're clearly obese. Or the patient is coming in because they need a refill on their insulin. (The physician) is going to see that patient, talk about the refill on their insulin—is it controlling their blood sugar?—and they're out the door."

Even the regular annual physical does little in the way of prevention, Williams said. During a routine physical, Williams will first ask the patient if he or she would like to discuss any active issues. Then they go over social history.

"Are they smoking, are they drinking, are they using any recreational drugs?" he said. "Usually I don't get (patients) who come in and ask about recommendations for preventative (measures) like diet and exercise. That's few and far between. And so that usually doesn't get addressed unless it gets to the point where it's manifesting in something like disease."

And at that point, the discussion becomes more about disease management than prevention. For instance, people with diabetes are at greater **risk** for heart disease. Instead of talking about diet and exercise, Williams said, at that point the main focus is medication.

"A lot of the stuff we look at (in that case) is focused on preventing a heart attack, so we start a statin, a medication to help keep the cholesterol low and that's been shown to reduce the amount of heart attacks," he said. "But I wouldn't really call it restoring health; I would more refer to it as slowing decline."

But neglecting to discuss the basic foundations of prevention—lifestyle choices—gives patients the wrong impression, Devries said.

"When a patient goes to their doctor and the doctor asks about the pills and doesn't spend much time talking about lifestyle and weight, then the patient feels, rightly so, that perhaps the weight isn't that important or that their diet's not important because the doctor never mentioned it," he said. "And that's what the patient walks away with. Although it's a team effort and it comes down to the patient doing the work, I think the physician needs to be a source of information and motivation, and that

just isn't happening today."

Physicians have even less to say to healthy patients about how to maintain that health or what steps they can take now to prevent future disease.



Dr. John Williams

Courtesy of Dr. John Williams

"When someone healthy comes in, not much is done," Williams said. "I know many of my friends who have been asked 'why are you here?' by a physician when going for a regular check-up. Typically, if there isn't a problem to fix there's not much done. We aren't really trained on how to reach peak health. We're trained on stabilizing and managing disease."

**"We aren't really trained on how to reach peak health. We're trained on stabilizing and managing disease."
—Dr. John Williams**

Even if the patient displays warning signs of potential future chronic illness—such as being overweight—but he or she is oth-

erwise healthy, the extra pounds aren't likely to get much airtime.

"Although there might be some lip service (given) to nutrition, something like 'you need to be active' or 'you need to lose weight,' ... there would typically be, unfortunately, too little done and likely not a significant intervention until a problem developed," Devries said.

No Time to Prevent

The generic lip service to the tune of "eat better and move more" can be attributed partly to physicians' lack of training in those areas, Williams said, but equally to their lack of time.

"We just don't have the time to sit down and explain to the level of detail that's necessary to (teach) how to break down your food (and) how to exercise," he said. "Most of the time, to be perfectly honest, it's not addressed."

The average doctor sees 20-30 patients each day, according to Schimpff. Assuming 24 patients per day and an eight-hour workday, that's three patients per hour. But in reality it's fewer than that because the doctor needs time to answer email, write in patient charts and do other administrative work, reducing the average visit to 15 minutes or shorter, which Schimpff says is not enough to tackle prevention of chronic disease.

"What's the cause of a chronic illness?" he asked. "Yes, genetics are important. Yes, your environment is important. But more than anything else, it's lifestyle—eating a non-nutritious diet and too much of it, not getting enough exercise, both aerobic and resistance ... being chronically stressed, and tobacco. These are the things that we gotta deal with, front and center.

"Can the primary-care physician deal with them? And the answer is 'not in our current system.' The doctor needs more time per patient, but insurance isn't paying for that."

Sick People, Healthy Budgets

Imagine a 35-year-old woman goes to see her doctor for her annual physical. The doctor measures her height and weight, takes her blood pressure and administers her immunizations. He notes she's about 30 lb. overweight.

"That's the end of the conversation," Scanlan-Duncan said. "We do not talk about, in that visit, if you are sick and you need something else. Because what will happen if you move into discussing (weight management), you have now entered a higher level of acuity than your routine health physical."

Acuity is a measure of how complex a patient's visit is, and it directly corresponds with how the physician codes that visit. Current procedural terminology (CPT) codes determine the bill for the visit. The sicker the patient, the higher the bill.

While most insurance plans offer free annual routine health maintenance, the moment treatment or counseling extends beyond the limited scope of that visit, "You've entered that next level of acuity, your bill goes up, and now it's no longer a free visit. It's a paid visit," Scanlan-Duncan said.

The result is that patients often purposely avoid seeking the counsel or treatment that could be the very thing that keeps them from getting sicker down the road.

"As consumers get savvier about their insurance plans, particularly those with a high deductible, they are going to refrain from answering the question, 'Is there anything else I can do for you today?'" Scanlan-Duncan continued. "Because they know it's going to cost them money, and a lot of it."

If chronic disease is the leading cause of death in the U.S. and if it can be largely prevented with lifestyle choices, why don't those discussions rank highest on the acuity scale? The answer is all about money.

Most hospitals and clinics make their money through fee-for-service billing of government and private insurance companies. And insurers, Schimpff **wrote**, "pay for doing 'something.'" That "something" looks like prescriptions and procedures, not heart-to-hearts.

"(CPT codes) are not designed around prevention; they're designed around disease," he said. "If a doctor spends 15 minutes (on prevention) with a patient, that's 15 minutes I'm not gonna get paid for."

It's not that doctors are looking to pad their pockets. Though businesses that saves lives, most hospitals are still just that: businesses, with expenses that need to be met by generating revenue. And the best way to cover costs is with volume—hence doctors' jam-packed schedules—and coding of visits with the highest plausible level of acuity. Discussing veggies and squats doesn't pay the bills.

It's an issue Scanlan-Duncan is well familiar with.

"My job as the clinic manager is to ensure that I'm meeting budget," she said. "The only way my clinic meets budget is if we're producing revenue. The only way I produce revenue is that my doctors see enough patients."

Pressure to meet budget requirements gets passed on to physicians, who are often required to meet specified production goals. At North Suburban, that looks like around 5,300 relative value units (RVUs) per year, wherein the higher the patient's acuity, the more RVUs the physician gets. The pressure inevitably results in office visits that aren't geared toward prevention by means of lifestyle choices.

"If your goal is to produce at a certain level and you're not seeing that many patients, you're in trouble," Scanlan-Duncan said. "As



Courtesy of Melissa Scanlan-Duncan

Melissa Scanlan-Duncan

a clinician, you will get talked to about that. And if you have to see this many patients in this short amount of time, you're not going to provide good holistic care because you can't. The system does not support you."

"Unless hospitals and clinics will be paid for their preventative services, they will not be provided as it would be pro bono work for everyone and take away from profitability."

—Dr. John Williams

Williams expressed a similar view.

"Unless hospitals and clinics will be paid for their preventative services, they will not be provided as it would be pro bono work



iStockphoto.com/kupicoo

Doctors are lifeguards: They show up when something goes wrong. Consider a healthy diet and exercise life preservers that ensure you don't need a lifeguard.

for everyone and take away from profitability," he said.

And as health care has transitioned over the decades from mostly physician-owned practices to large corporations and conglomerates, profitability—not patient health—has become the primary concern of the people at the top.

"Physicians have largely been squeezed out of the leadership and decision-making roles," Williams said. "These spots are now filled by people looking for solid financial investments. Thus the people running the hospital know little about the actual practice of medicine. Their goal is to make a profit for the shareholder and board members, who also know little about medicine.

"Right now business is good, and as long as the hospital is full of sick people, business will remain good, so why invest in preventative medicine?"

Whose Job Is It Anyway?

With all that in mind, is the doctor's office currently the best place to learn how to prevent chronic disease with lifestyle choices?

The American College of Sports Medicine (ACSM) and The Coca-Cola Co., founders of the **Exercise Is Medicine** (EIM) initiative, would have you believe it is. The application of EIM "is achieved by assessing physical activity levels of each patient at every clinic visit," "providing patients with an exercise 'prescription,'" and "referring patients to a trusted network ... led by qualified professionals."

But a closer look suggests EIM and its founders are more concerned about self-preservation than your health, fearing market competition and consequently pushing for licensure regulations that would make certain credentials a legal requisite for any

trainer working with clients in a medical context, Russell Berger **reported** in a March CrossFit Journal article.

Even if physicians began writing prescriptions for exercise, it wouldn't change the fundamental problems at the heart of prevention in U.S. health care. Hospitals will still have mounting costs (to be answered with increasing patient volume and acuity), and doctors will still face a gap in training.

"(Physicians) focus on reactive medicine, and we're good at that," Williams said. "We're not getting to the people who are healthy and young. We're seeing people who have made bad decisions over the course of their life—be it smoking, be it diet, be it inactivity—and we're catching them at the point where they're at, (with) prediabetes or diabetes and high blood pressure. The disease is already set in, and so we're stuck dealing with that. I think that's where (physicians') skill sets lie, and I think it'd be tough to try to incorporate anything else into that."

That's not to say you should cancel your next physical. But don't be foolish enough to presume that it will be enough to shield you from chronic illness.

"People think heart attacks occur in your 60s," Schimpff said. "So some guy is 67 years old and gets a heart attack. Did it just occur? Well, the heart attack did, but the plaque that was building up in his coronary arteries has been building up since he was probably 18, slowly but surely. Even the 40-year-old person who is in relatively good health and isn't terribly overweight—it still would behoove the patient if the doctor said, 'You know, if you could knock off 20 lb., that would be really good for you ... and you're gonna do it with a combination of diet and exercise.'"

"We can't focus on the population that's showing up in the hospitals now, because for most of those people it's too late," Williams added. "Someone can't un-have a heart attack. Someone can't un-smoke a pack a day for 50 years. It's possible but it's hard to reverse diabetes.

"So ideally prevention would be starting young, having education in elementary school, high school and college to include (nutrition), and then I think gym class is huge: gymnastics, mobility, flexibility, agility—all of the basics of CrossFit." ■

ABOUT THE AUTHOR:

Brittney Saline is a freelance writer contributing to the CrossFit Journal and the CrossFit Games website. She trains at **CrossFit St. Paul**. To contact her, visit brittneysaline.com.



MIKE WARKENTIN | UNCOMMON SENSE | NOVEMBER 2016

THE
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PROGRAMMING BETTER COMPETITIONS

If you determine the size of the field before programming the events, you might be putting the collars on before the plates.



Well-run competitions please both competitors and spectators, making them likely to register for or attend your next event.

“I’ve got 100 athletes, 10 solid judges, 5,000 square feet and nine hours to run as many events as I can.”

How many organizers have said something like that when planning a fitness competition?

I’d suggest what they’ve really got is a programming nightmare.

Local Limits

One of the best parts of the CrossFit Games is that organizers have the freedom to do just about anything they want. Within reason, Dave Castro and the Games team are free from concerns about space, judges, equipment, scheduling and other issues that are front and center when programming a competition at the affiliate level. The Games certainly have some limits, but the boundaries are hazy fences near the horizon and leave a lot of room for creativity when finding the Fittest on Earth.

On the other hand, local fitness competitions are often hamstrung by a host of factors, though some larger multi-day events are less encumbered. Of course, the mandate of these events is not to find the fittest athlete on Earth; that’s the job of the CrossFit Games alone. But these local throwdowns are often intended to find the fittest person who competes, yet their format won’t actually allow them to do so.

A question: How many people have programmed a competition and chosen a max snatch over a max clean and jerk simply because less plates are involved?

Another question: How many competitions feature four or five events all in the same short time domain simply because longer events eat up too much of the day?

A final question: How many competition organizers ask “how can I accommodate the most athletes?” as opposed to “how many athletes can I accommodate while still finding the fittest person?”

How many competitions feature four or five events all in the same short time domain simply because longer events eat up too much of the day?

The All-Too-Common Scenario

Consider this: 100 athletes in a one-day competition starting at 8 a.m. Ignore for the moment space, judge, volunteer and

equipment concerns.

If each heat of Event 1 takes seven minutes plus three minutes of transition time, you can run six heats an hour. You’ve got 100 athletes, and you can accommodate a maximum of 10 at a time. That’s 10 heats, putting you at 9:40 a.m., plus about 30 minutes of scoring catch-up and set-up/warm-up time for Event 2.

With the seven-minute time domain covered, Event 2, starting at 10:10 a.m., tests endurance—something in the 18-minute range, leaving two minutes between heats so you can run three per hour. That means you’ve got three hours, 20 minutes of competition if you run 10 athletes per heat. Suddenly it’s 1:30 p.m. Skip lunch and add in another 30 minutes for transition, bringing you to 2 p.m.

At this point, let’s say you want to test strength with squats. On the verge of rushing, you decide on a very brisk five minutes for each athlete to establish a 5-rep max, which limits the weight you’ll need. Ten athletes per heat with a minute between heats gives you 10 in an hour, driving the end of Event 3 somewhere near 3 p.m., with the next event starting at 3:30.

This is where things can get weird. Organizers often seek to avoid running into the evening by cutting the field substantially or serving all athletes a second event in the seven-to-10-minute time domain. The former approach usually creates scoring issues, and the latter often produces a redundant event that will still take the competition past 5 p.m.

You can, of course, start earlier or run later, but after nine to 10 hours spent in the gym, it’s usually time to hand out some prizes and set the competitors loose on the kind of post-event cheat meals that demand total coverage on Facebook and Instagram.

Reverse-Engineering Your Competition

Recall that in the above scenario we only considered time and assumed you had enough space and equipment, lots of great judges and an army of volunteers who need only coffee and not lunch. We also ignored the need for scaling between divisions, weather concerns, crowd management and all the other issues that come up when trying to run a great competition.

You could try to solve the scheduling problem by adding a second day of competition or starting earlier and running later. But those solutions come with obvious drawbacks: A second day will eat up an entire weekend and a very long day is hard on both competitors and event staff.

To make the event work, organizers often make a critical error by foregoing real tests of fitness in favor of crowd control in a gym that looks like a high-density cattle farm. “Work capacity over broad time and modal domains” becomes “work capacity over short time domains involving modalities dictated by space and



Running is a great test of fitness, but creating a course requires careful planning.



Equipment concerns can put limits on programming. For example, how many gyms have 10 sleds?

equipment concerns”—far from ideal if you’re trying to determine the fittest person in the competition.

That’s not to criticize local competitions but rather to point out some inherent limitations and offer a possible solution.

All too often, I think competitions are set up to accommodate too many athletes, which is noble but ultimately impractical.

All too often, I think competitions are set up to accommodate too many athletes, which is noble but ultimately impractical. In other cases, the number of athletes is determined by a desire to hit a certain profit margin: athletes x registration fee – costs = profit.

In either case, I think you’re setting yourself up for failure. I’d rather see a two-event competition that features just Cindy and Grace instead of a five-event competition in which the same person wins all events simply because they’re all relatively light and about five minutes long.

Here’s my recommendation: In the very early stages of planning a competition, program the events so they accomplish your goal. If that goal is finding the fittest—and I think it should be—then you have to measure work capacity across broad time and modal domains. You need to test strength, power, endurance, skill and more with various implements and movements in events that run from very short (think Fran) to relatively long (think Cindy or longer).

Keeping your goal in mind, program the best events you can while holding space, time, equipment and volunteer concerns in check for a moment. They’ll play a role in your planning, but they shouldn’t be the overriding concern at the outset. The main goal is creating a well-programmed event that tests overall fitness in one day—your “perfect competition.”

Once you’ve got what you believe to be a solid test of fitness, do the math on time, equipment and space and determine how many athletes you can reasonably accommodate. From there, figure out what you want to gross, divide by the athletes you can accommodate and set the price for entry. Remember: People will pay more for things that are better, and a great competition should cost more than a poorly planned event.

If the entry fees your calculations dictate are well above market



By programming before setting the number of competitors, you can ensure your event isn’t hamstrung by a lack of time and equipment.

value and turn athletes away, you might consider adjusting a too-aggressive profit margin and lowering the prices slightly so they create value for the competitor. I suspect many gyms use their own space and equipment and enjoy a lot of volunteer support, which keeps overhead low and sets up a high-margin windfall. It’s easy to get greedy in that situation and add in 10 more competitors when you should actually remove 10 spots to preserve the intent of the competition.

If you can float the boat with a reasonable entry fee, go forth and run the best fitness competition ever seen in your area—the kind of event that justifies its price and lures competitors back again next year.

If you can’t make the financial nut and feel tempted to mess with the workouts to accommodate more athletes, explore other options. Can you find more space or equipment somewhere? Is it feasible to add another day? And so on.

But don’t touch the programming. That should be off limits.

If you waver and start to feel like a rainbow sea of Nanos will trample your well-considered workouts into five five-minute burners that don’t actually test overall fitness, think long and hard about whether it’s worth running the “fitness competition” in the first place. ■

About the Author: Mike Warkentin is the managing editor of the CrossFit Journal and the founder of [CrossFit 204](#).



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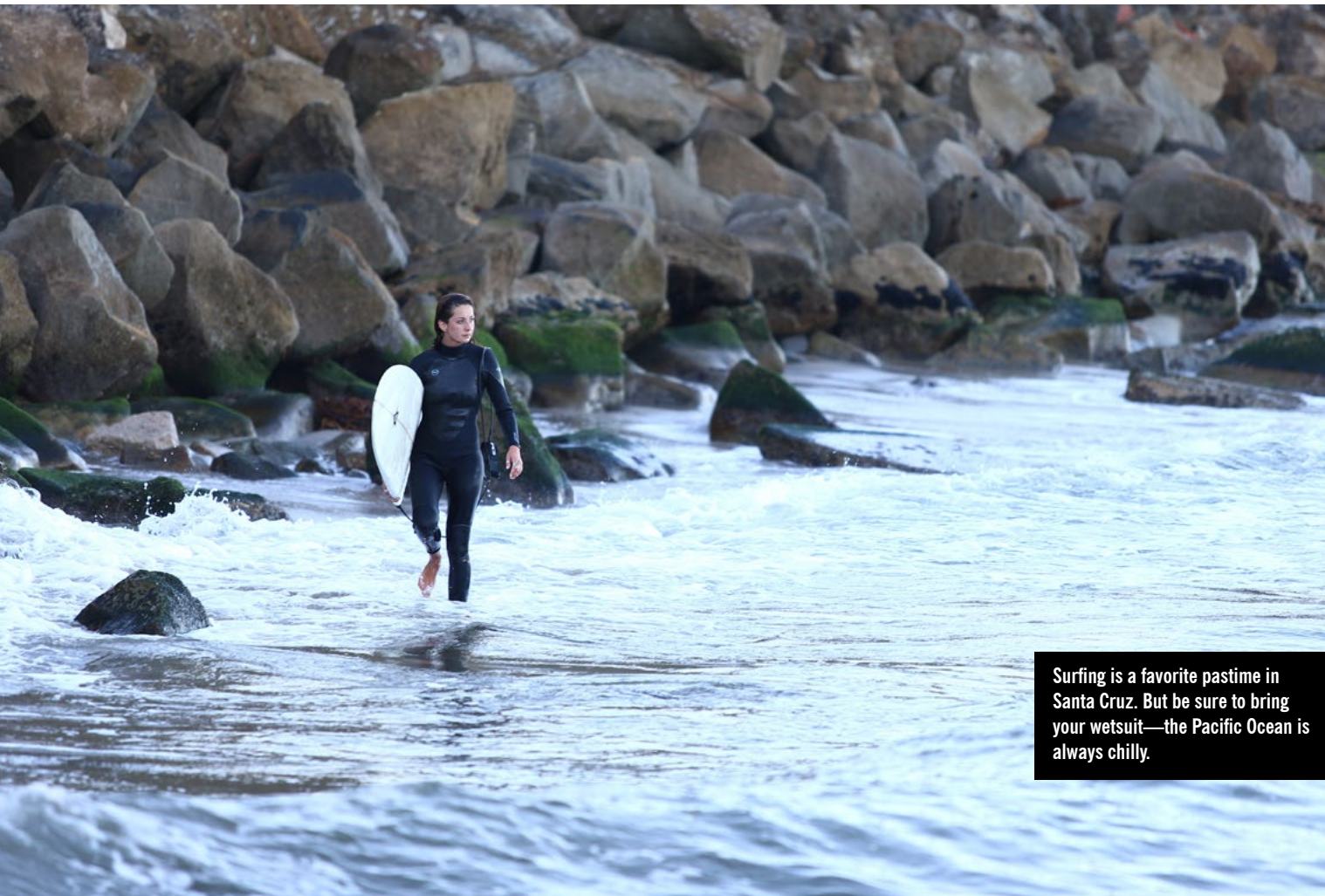
AS PRESCRIBED: SANTA CRUZ

The birthplace of CrossFit is packed with a lot of outdoor fun and a full dose of oddities. And hippies. Lots of hippies.

BY ANDRÉA MARIA CECIL



The Santa Cruz Surfing Museum overlooks famous surfing hotspot Steamer Lane. On display are photos, surfboards and artifacts documenting more than 100 years of surfing history in the city.



Surfing is a favorite pastime in Santa Cruz. But be sure to bring your wetsuit—the Pacific Ocean is always chilly.

Welcome to weird.

That’s how Santa Cruz, California, is known.

For more than a decade, the sleepy Northern California beach town of 63,000 has used the same branding campaign to encompass its idiosyncrasies: “Keep Santa Cruz Weird.”

The city is a mere 30 miles south of Silicon Valley, home to the likes of Apple, eBay, Facebook, Google, Intel, Netflix and Tesla. But it couldn’t be more different.

As the San Jose Mercury-News once **described**, Santa Cruz’s branding “seems like a diagnosis more than anything else.”

Hippies, drum circles, a man walking around town in pink women’s clothing—it’s weird, all right. But Santa Cruz is more than its eccentricity. It teems with life: from outdoor activities among the towering Redwoods, along perfectly carved cliffs and on the Pacific Ocean’s pristine beaches to homegrown eateries offering fresh, local fare. Plus, it offers CrossFit athletes something other cities can’t: insight into the methodology’s history.

Outside the Box

You might be surprised to know that the city considered CrossFit’s motherland is home to only five affiliates. It won’t take you long to get all those drop-ins done. And when you do, Santa Cruz will be waiting. When it comes to being outside, you can make your own fun no matter where you decide to hang out.

Life’s a Beach Cowell Beach

Also known simply as Cowell’s, this beach is west of the Municipal Wharf in Santa Cruz. The Santa Cruz Dream Inn sits on its shores, and you can spot the pier jutting out into the Santa Cruz Harbor. There are sand volleyball courts and, of course, surfing. The famous surf spot Steamer Lane is situated between Cowell’s and Point Santa Cruz. If you’re a surfing rookie, plenty of schools can be found in the area. Among them is **Richard Schmidt Surf School**, which has been around since 1978. You can also rent kayaks or paddle boards nearby.
21 Municipal Wharf
Cityofsantacruz.com

ITS BEACH

This south-facing beach is below the bluff on the west side of Point

Santa Cruz. Both the beach and the interior park allow leashed dogs anytime and off-leash dogs after 4 p.m. During low tides, visitors can explore a rock arch at the north end of the beach. Check out the **Santa Cruz Surfing Museum** while you’re there.
740 W. Cliff Drive
Santacruz.org

NATURAL BRIDGES STATE BEACH

Quintessentially Northern California with its sand and rock, this beach is 65 acres of state park. Its name comes from the natural bridge—aka a huge rock formation with a naturally formed arch—that sits across a section of the beach. It’s the same spot where you can watch the migration of monarch butterflies, a sight to behold. And, if you’re so inclined, the park features a short hill for sprinting.
2531 W. Cliff Drive
Parks.ca

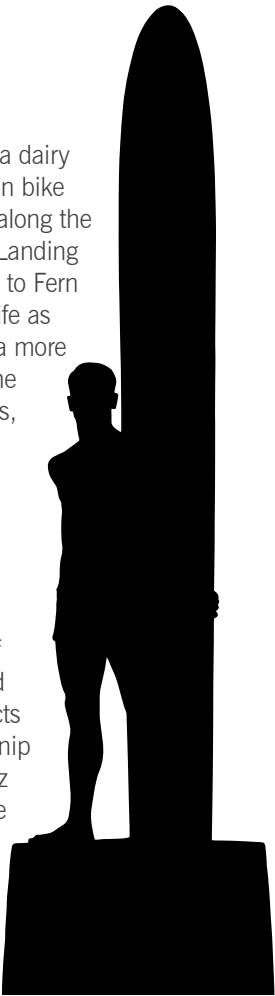
Hiking, Biking and Sucking Wind

WILDER RANCH STATE PARK

This state park was home to an 1800s-era dairy ranch. It boasts of 35 miles of trail you can bike or hike into the Santa Cruz Mountains or along the coastal bluffs. A hike down the Old Cove Landing Trail to the Ohlone Bluff Trail will lead you to Fern Grotto Beach, where you’ll see such wildlife as dolphins, seals and whales. If you prefer a more leisurely pace, you can have a picnic at the cultural preserve, explore historic buildings, and visit the horses, chickens and goats.
1401 Coast Road
Parks.ca

POGONIP

Only 10 minutes from downtown Santa Cruz, these 640 acres includes 8 miles of trail through redwood trees, oak woodland and costal terrace prairie. The trail connects Henry Cowell Redwoods State Park, Pogonip and the University of California-Santa Cruz campus. If you don’t have a bike, rent one from **Another Bike Shop** or **Epicenter Cycling**.
333 Golf Club Drive
Cityofsantacruz.com





Regardless of where you find yourself in sleepy Santa Cruz, picturesque images abound.

DELAVEAGA DISC GOLF COURSE

This world-renowned 27-hole disc-golf course sits on the hills of DeLaveaga Park above Santa Cruz. The park is said to have one of the original long disc-golf courses, with some holes more than 500 feet long. If disc golf isn't your bag, the park also offers traditional golf, an archery range, ballfields and picnic areas.
850 Branciforte Drive
Cityofsantacruz.com

Catch the Game

All your options are “over the hill,” as the locals say. It'll require at least a 45-minute drive over the infamously windy—and sometimes treacherous—Highway 17 unless you take the more scenic Highway 9.

MLB: [San Francisco Giants](#)
NBA: [Golden State Warriors](#)
NFL: [San Francisco 49ers](#) and [Oakland Raiders](#)
NHL: [San Jose Sharks](#)

Paleo Provisions and Then Some

The question of where to acquire rations in their purest form is always top of mind for CrossFitters, most of whom live hungry. Here are some options.

NEW LEAF
Seven of these stores can be found in the Northern California area. Founder Scott Roseman began with a co-operative and turned it into a community grocery store in the early 1980s. Think of it as a smaller, more local Whole Foods.
Downtown Santa Cruz: 1134 Pacific Ave.
Westside Santa Cruz: 1101 Fair Ave.
Newleaf.com

STAFF OF LIFE

There's only one Staff of Life, and once you go in, you'll see why. This self-described “natural foods supermarket” has been a Santa Cruz staple for more than 40 years. Started in 1969, it grew from a small, natural-foods bakery into what it is today.
1266 Soquel Ave.
Staffoflifemarket.com

EL SALCHICHERO

Into meat? Then this charcuterie is the place for you. Apple-cider bacon, bacon jam, Boston butt roast, duck legs, filet mignon, fresh ham, lard, prosciutto—and more. This six-year-old shop prides



Farmers' markets are serious business in this town. Be sure to check out the abundance of fresh produce and other offerings.

itself on only using pasture-raised animals from a select group of local farmers.
402 Ingalls St.
Elsachichero.com

COMPANION BAKESHOP

If foraging for bread is more your jam, then this gem is a must. It's run by a self-taught baker who holds a degree in agriculture and fruit sciences. Its offerings include rosemary sourdough, cinnamon raisin mini-loaf, baguettes, cookies, shortbread, biscotti, cakes, brownies, macaroons, croissants, tea cakes, scones and galettes. The joint's also outfitted with a coffee-and-espresso bar for your caffeinated pleasure.
2341 Mission St.
Companionbakeshop.com

WHOLE FOODS

Nestled in Santa Cruz's midtown neighborhood, this Whole Foods store offers what many of its cohorts do: a healthy selection of organic and natural products, as well as prepared food when you need to eat quickly or on the go.
911 Soquel Ave.
Wholefoodsmarket.com

CUT OUT THE MIDDLE MAN

Downtown farmers' market: 1:30-5:30 p.m. in the fall and winter, and 1:30-6:30 p.m. beginning April 6, every Wednesday, year round, Cedar and Lincoln Streets.
Westside farmers' market: 9 a.m.-1 p.m. Saturday morning, year round, Western Drive and Mission Street.
Live Oak farmers' market: 9 a.m.-1 p.m., Sunday, year round, 15th Avenue and East Cliff Drive.
Santacruzfarmersmarket.org

The Santa Cruz Beach Boardwalk is the oldest amusement park still operating in California.



NO PED CROSSING
USE CROSSWALK →

STOP

PRIVATE
NO CROSSING
METROPOLITAN

ONE WAY



Beach 600 St

PRIVATE
NO CROSSING
METROPOLITAN

SANTA CRUZ BEACH

BOARDWALK



Aquarius Restaurant features local organic produce and meat.

More Eating

The town might be small, but it certainly has no shortage of eateries. Good food is easy to find in Santa Cruz.

AQUARIUS RESTAURANT

Located inside the Santa Cruz Dream Inn hotel that sits right on the beach, Aquarius offers waterfront views that are hard to beat. It boasts of seafood from the Monterey Bay Marine Sanctuary and meat and produce from small, local organic farmers.
175 W. Cliff Drive
[Jdvhotels.com](#)

BANTAM

This cozy spot on the Westside has brunch and dinner menus that change daily based on seasonal availability. The offerings are succinct, one might say, but everything is made from scratch—that includes the buttermilk biscuit, wood-oven meatballs and 10 pizza varieties.
1010 Fair Ave.
[Bantam1010.com](#)

burger.

In the mood for a burger dressed any way you like? How about a burger at burger.? “The Dude,” “the Chuck Norris” and “the Johnny Cash” are just a few of its 22 burger offerings. Also on the menu: sliders, a small variety of fries, shakes and wood-fired pizza. And don’t forget the beer. This place has 45 on tap and a bunch more in bottles and cans.
1520 Mission St.
[burgersantacruz.com](#)

ENGFER PIZZA WORKS

Handmade dough, original-recipe sauces, homemade desserts and, of course, checkers, chess, backgammon and ping-pong. Choose from the shop’s pre-planned options or build your own pie. Engfer’s has a small-but-decent beer selection with six brews on tap, ranging from oatmeal stout to hefeweizen.
537 Seabright Ave.
[Engferpizzaworks.com](#)

HARBOR CAFÉ

For half a decade, this has been the brunch spot of choice for many locals. The ample patio area is lively and welcomes dogs, even offering a special dog menu that includes lamb jerky treats and peanut-butter cookies. And with breakfast served from 8 a.m. until 2 p.m., you can enjoy a few happy hours the night before and make it in on time for the Mexican Armada omelet.
535 7th Ave.
[Harborcafesantacruz.com](#)

LAILI

This fine dining restaurant describes its fare as “rich Mediterranean flavors with a unique Afghan twist.” Laili is right in downtown Santa Cruz and offers outdoor seating in a lux patio filled with green foliage, umbrellas and heat lamps for those chilly NorCal evenings.
101 Cooper St.
[Lailirestaurant.com](#)

POINT MARKET AND CAFÉ

This hole-in-the-wall is a perfect blend of local convenience store and food stand. Known for its “bomb” breakfast burritos, as Northern Californians say, this joint sits right next to Pleasure Point Park. It’s only a block away from the ocean.
23040 E. Cliff Drive
[Point Market and Café on Facebook](#)



Independent coffee shops are scattered about. Seek one out.

RISTORANTE AVANTI

Open for lunch, dinner and dessert, this place offers Italian -inspired cuisine in a comfortable and welcoming atmosphere. Ristorante Avanti has also been known to make a mean cocktail and offer an OK beer selection, though it isn’t expansive.
1917 Mission St.
[Ristoranteavanti.com](#)



Connoisseur? Soif’s menu includes hard-to-find wines.

SOIF

This one’s for the wine enthusiasts: an intimate eatery that prides itself on offering wines that are a challenge to find—limited and handmade. And, of course, perfectly pairing the vintage with items on the menu. Soif also offers wine flights of local pinot noirs, Italian exotics and a so-called “Guilty Pleasure Flight.” The menu is simple, printed on a single page including the likes of steamed manila clams, cider-braised pork belly and cornmeal buttermilk cake.
105 Walnut Ave.
[Soifwine.com](#)

WEST END TAP AND KITCHEN

This gastropub offers 18 beers on tap, including seven of its own creations. And the taps aren’t relegated to brews. West End also offers on tap seven wines of the red and white varieties. Its menu is simple and intended to complement the libations. The owner’s family is responsible for Fords Coffee Shop in Watsonville, as well as Tied House Café and Brewery in Mountain View.
334D Ingalls St.
[Westendtap.com](#)

WOODSTOCK PIZZA

This shop puts the fun back in pizza. Choose from classic combos or you can create your own, starting with the crust (gluten-free option available), then moving on to the sauce and the toppings.

For the pickier eaters in your group, salads and sandwiches are available as well. Woodstock also keeps 16 beers on tap that include some gluten-free options.
710 Front St.
[Woodstockscruz.com](#)

Happy Hours

515 KITCHEN AND COCKTAILS

Sit back and relax with a “cucumber rhubarb cooler” or perhaps an “ain’t life grand”—two of the eight cocktails this establishment offers. There are a few wines for those who prefer grapes, but only two beers for those who prefer hops. A limited selection of four food options might make this place ideal for pre-dinner drinks. Happy hour is 4-7 p.m. every day, and 11 p.m.-closing Sunday-Tuesday.
515 Cedar St.
[515santacruz.com](#)

CROW’S NEST

An ocean view and live entertainment. Crow’s Nest has most of the typical offerings when it comes to libations, with a great view alongside the Santa Cruz Small Craft Harbor. Happy hour is 3:30-6 p.m. weekdays and all night Wednesday.
2218 E. Cliff Drive
[Crowsnest-santacruz.com](#)

LÚPULO CRAFT BEER HOUSE

Lúpulo—it’s Spanish for the word “hops.” And this cozy joint ain’t short of any. Part craft-beer restaurant, part tasting room and part bottle shop, this place offers 16 taps and a 7-p.m. Trivia Night the third Monday of the month.
233 Cathcart St.
[Lupulosc.com](#)



Santa Cruz: Surfing, mountain biking or hiking with breathtaking backdrops.



Vibrant sea life is among the joys of visiting Santa Cruz.

O'NEILL YACHT CHARTERS PUBLIC SAILS

Schedule a local beer-sampling or wine-tasting sail, oftentimes with appetizers provided. You'll leave from the L Dock at the Santa Cruz Harbor and head out to scenic—and likely windy—views of the Monterey Bay National Marine Sanctuary aboard a 65-foot catamaran. Grab a group of friends, a jacket and even your own food, if you like.

275 Lake Ave.

Oneillyachtcharters.com

OSWALD

Some say the best cocktails in town can be found right here. Choose from beverages with such names as “apio gimlet,” “briar patch,” “velvet underground” and “valentine.” Cocktail Hour is 4:30-6 p.m. Tuesday through Saturdays at the bar and in the lounge.

121 Soquel Ave.

Oswaldrestaurant.com

SANTA CRUZ MOUNTAIN BREWERY

Local, organic and award-winning, this taproom and garden is sure to provide something you like. Happy Hour is noon-1 p.m. and 5-6 p.m. weekdays. Be sure to catch Hangover Sundays!—brunch from 10 a.m.-noon, beermosas and chavelas from 10 a.m.-6 p.m., and happy hour from 5-6 p.m.

402 Ingalls St.

Scmbrew.com

SÜDA

Twenty beers on tap, specialty cocktails and top-shelf classics in a lively atmosphere make this spot a great place to meet friends. Happy hour is 3-5:30 p.m. weekdays.

3910 Portola Drive

Eatsuda.com



Verve Coffee—makers of the CrossFit Blend—take their beans seriously.

VERVE COFFEE ROASTERS

If alcohol doesn't interest you—and even if it does—this coffee shop is a must-try. Roasted right in Santa Cruz, these beans are smooth and come from small farmers throughout the world. If you're a java junkie, this is worth your time.

1540 Pacific Ave.

1010 Fair Ave.

104 Bronson St.

816 41st Ave.

Vervecoffee.com



Site Seeing



The Silver Spur is a CrossFit tradition that goes deep. Stop by and you might be lucky enough to catch a glimpse of Coach Greg Glassman.

THE SILVER SPUR

Just around the corner from CrossFit Founder and CEO Greg Glassman's original CrossFit gym on Research Park Drive, The Silver Spur continues to be a favorite breakfast spot. Many an impromptu meeting has occurred at the Spur, where it's easy to grab a so-called “CrossFit Sandwich”: 2 fried eggs, bacon, cheese on 2 pieces of toast—4 Zone blocks.

2650 Soquel Drive

Scsilverspur.com



If you know CrossFit history, then you know the name Garth Taylor. Stop by his gym, Kaijin, for some jiu-jitsu training.

KAIJIN

If you've been doing CrossFit a few years, you've heard the stories of our founder training a gifted Brazilian jiu-jitsu fighter in the 1990s. His technique was good. His conditioning, not so much.

That fighter was **Garth Taylor**, today one of the most decorated Americans in Brazilian jiu-jitsu. Taylor has won or medaled in both national and international competitions and at every belt level at the world championship. He also competed in the invitation-only Abu Dhabi Combat Club World Championships. Taylor is co-owner and head jiu-jitsu instructor at Kaijin. Drop in for a lesson or two. Taylor is a great teacher who uses CrossFit movements as analogies for jiu-jitsu training.

403 Swift St., Suite D

Kaijinmma.com



While you're in Santa Cruz, take a CrossFit Inc. seminar at The Ranch in Aromas and soak in the CrossFit history.

CROSSFIT RANCH

Better known to most as The Ranch in Aromas, this affiliate is only open when it needs to be. So check CrossFit.com for **seminars** scheduled there to get a taste of history—the rusty hopper, the dusty hill. The site was host to the 2007, 2008 and 2009 CrossFit Games, as well as to the opening events of the 2016 Reebok CrossFit Games. Be aware this is private property and still owned by the family of Dave Castro, Director of the CrossFit Games and Co-director of Training. We wouldn't recommend stopping by unannounced and milling about.

275 Dunbarton Road, Aromas, California, 95004. ■

About the Author: Andréa Maria Cecil is assistant managing editor and head writer of the CrossFit Journal.