THE

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BROKEN WINDOWS, BROKEN AFFILIATE?

BY DAVID ISRAEL AND BARRY NAPIER

DAVID ISRAEL AND BARRY NAPIER OF CROSSFIT FELIX EXPLAIN HOW LITTLE THINGS CAN MAKE OR BREAK YOUR BUSINESS.

David Israel

Henry House

David Israel and Barry Napier advise that attention to detail—or lack thereof—also speaks to your coaching.

Have you ever seen the number of potential members at your box dwindle? Does your membership seem to bump up against an invisible barrier?

If so, you might be suffering from the broken-window effect.

When CrossFit Felix opened its doors on April 5, 2014, things felt right. From the banners on the wall to the placement of the rowers, the bar racks, the color-coded Dynamax balls, the clean lines of the kettlebells, the gym seemed to beckon people inward.

About nine months later, we hit 154 members. Our one-year growth goal: 200 members.

No Groupon. No Living Social. No massive social-media campaigns or huge advertising budget.

Meanwhile, there are 11 other CrossFit affiliates within a 3-mile radius. Five of those gyms are less than a mile away from CrossFit Felix.

What's the secret? It relates to the broken-window theory, first tested by Stanford University psychologist Philip Zimbardo in 1969 and later described by George L. Kelling and James Q. Wilson in a 1982 Atlantic Monthly article titled "Broken Windows." The theory is based on a widely used example:

"Consider a building with a few broken windows. If the windows are not repaired, the tendency is for vandals to break a few more windows. Eventually, they may even break into the building, and if it's unoccupied, perhaps become squatters or light fires inside.

"Or consider a sidewalk. Some litter accumulates. Soon, more litter accumulates. Eventually, people even start leaving bags of trash from take-out restaurants there or even break into cars."

HERE'S THE THING: MANY GYMS ARE GUILTY OF CREATING PROVERBIAL BROKEN WINDOWS. YOU CAN SEE THEM IF YOU KNOW WHAT TO LOOK FOR.

It's a social-science theory that attempts to explain why criminal activity is generally found in disrespectable areas. Not to say you can't get mugged in front of a police station. You can. It's just that dirty, vandalized, disorganized, unlit areas tend to draw unsavory characters like a magnet.

This isn't necessarily a conscious thing. There's a bit of a universal law at work here, such as like attracts like. Criminal activity happens in places where it's easier to commit a crime. If it's dank, dirty, disorganized, dingy and disrespectable, chances are you don't want to be there after dark.

Here's the thing: Many gyms are guilty of creating proverbial broken windows. You can see them if you know what to look for. Walk into an unkempt gym with fresh, open eyes. What might you see? Perhaps a dangerous disregard for details: bumper plates stacked haphazardly, chalk dust on the floor, barbells bundled up in corners like pick-up sticks, banners strewn across the walls, mismatched equipment from multiple vendors, medicine balls randomly stacked on a ramshackle shelf.

In short, you might see broken windows everywhere. Those messy details can trigger a subconscious response in some people's minds.

Even though clients might not directly see the broken windows—or, more importantly, don't know they see them—we believe the subconscious feeling regarding attention to detail directly correlates to our attention to detail about training our members. Take your living room, for example. If it's clean, people might or might not notice. If it's dirty, everyone notices. Same with your gym. People might or might not notice if your affiliate is clean or even if your coaching is amazing. But if your place is dirty, and, in turn, your coaching is poor, everyone notices.

WE BELIEVE THE SUBCONSCIOUS FEELING REGARDING ATTENTION TO DETAIL DIRECTLY CORRELATES TO OUR ATTENTION TO DETAIL ABOUT TRAINING OUR MEMBERS.

Everything in our industry is linked. It's just like going out to dinner. If the service was amazing but the food was terrible, you'll probably never go back. If the food was amazing but the waiter was a jerk, you'll also probably never go back. Same thing

David Israel

What are prospective members' first impressions when they walk through the doors of your affiliate?

goes for your box. If the coaching is wonderful but the place is dirty or poorly kept, an athlete might never come back. If the place is sparkling clean and well organized but the coaching falls short, the athlete also might never come back. Most people only remember bad experiences.

The problem is compounded because no one is going to tell you your gym suffers from broken windows; many won't consciously recognize the problem. Instead, it will manifest itself as a feeling about the gym that can directly affect people's willingness to become members or keep showing up to classes.


Henry House

A good atmosphere can help motivate and retain clients, while subtle deficiencies can create bad vibes that come to characterize a business and limit its success.

How to discover and repair broken windows:

1 Do a walk-through. Start outside your gym. Ask yourself, "What do I see that is messy, disorganized, dirty, misplaced or that draws my eye in an unpleasing way?" Be brutally honest with yourself as you walk through the front door. Stop. Look around. Take a quick visual scan, then slowly survey your box. What do you see? What stands out? Look for the flaws. See the shit spilling out of a box in the corner. See members' gear piled high and strewn across the floor. Continue moving through all customer-facing areas of your gym. Keep the tally going. Sweat the small stuff, as well as the big stuff. Look at your banners. Are they aligned with other banners? Do they fill exact dimensions on the wall? Have they been hung with intention and care?

2 Make a decision to raise your standards. Now that you've faced reality, it's time to decide what you'll do about it. It's not enough to fix everything. You have to do something radical. You must raise your standards and become the gold standard. This is your crown jewel. This gym represents the absolute highest level of excellence. You, your team and your gym must be outstanding. Create the vision for yourself about how you want your gym to look. It isn't about how much money you can spend. Instead, recognize that your vision and your commitment to sustaining that vision will be the most important factors.

3 Raise the standards for your team by sharing your decision. One idea is to take each of your staff members on a walk through the gym. Ask them what they see, help them find the broken windows, get them to point out the problems. There are numerous ways to get buy-in from your staff, but it will always come back to the strength in your conviction and how high you set the standard. Create a shared vision of how the gym can look and feel. Ask for their commitment to meet or exceed the new standard. Bottom line: People want to be proud of where they work. If you step up, so will your staff.

4 Get obsessed by finding at least three qualities each day you or your staff improved. By recognizing progress, you'll inspire yourself and others to keep taking action. If you become a nagging, irritating bitch, chances are your staff will resentfully comply instead of proudly improving the gym at every opportunity. Gradually, your positive obsession can create a culture of continuous improvement and hardwire habits for staff and members alike. In this way, the gym's level of excellence becomes self-maintaining.


Henry House

Once a culture of continuous improvement and virtuosity is in place, great things happen daily.

In 2011 in the video "How Clean Is Your Bathroom?" CrossFit Inc. Founder and CEO Greg Glassman noted that running a successful affiliate is more than perfectly demonstrating clean technique.

"When I go into the gym and see a dirty bathroom, what I see is that you don't give a fuck," he said. "And that's fatal."

Your gym's ability to demonstrate excellence and attract new members is entirely up to you. Raise your standards, clean up the inside and watch your business flourish. ■

About the Authors

David "Izzy" Israel owns CrossFit Felix in Washington state. Barry Napier is a coach at CrossFit Felix.

THE CrossFit JOURNAL

Dueling the Devil

Thomas Moore loses a fight with a river but gets a rematch in rehab.

By Brittney Saline **May 2015**

Thomas Moore

Thomas Moore couldn't move. More importantly, he couldn't breathe.

The rapids he had so deftly navigated just seconds before engulfed him with no warning, wedging his kayak between two boulders and trapping him nearly 4 feet beneath the surface of the San Joaquin River, deep within California's Eastern Sierra.

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Moore was the first of a five-man crew to tackle the rapid, and it would take minutes for his friends to notice his absence and locate him under the churning whitewater.

"I could feel immediately that I was pinned," said Moore, 35. "I knew that a rescue was possible only by me."

The speeding currents pummeled his back like a jackhammer, folding him at the waist toward the bow of his boat. After he shook his hips in a vain attempt to free his boat from the boulders' vice, he knew he had to abandon his kayak.

In a "wet exit," a kayaker will pull a cord near the cockpit to release the spray skirt, a flexible cover worn around the waist and attached over the cockpit to create a watertight seal. Pushing down with the feet while raising the hips, the kayaker pulls free from the boat.

But pinned facing down a 45-degree angle, Moore suspected that once the spray skirt was removed, the force of the water filling the cockpit would wedge him even further into the kayak.

"Part of me thought, 'This is a horrible idea,'" he recalled. "But there were no other options. … It's a bad scenario to know that my only choice is a horrible idea."

Thomas Moore

Moore's love of kayaking led him to seek out challenges, including Cherry Creek in California.

Hearing only the dampened scream of the currents enveloping him, he thought he was going to drown.

He gripped the side of the boat, thrust his feet down and popped his hips, pushing himself out partway. But the raging current immobilized him just below the knee. His legs were forced against the cockpit rim, crushing his knees and causing agonizing pain.

"I've never felt pain like this," he said. "I felt like I had shackles around my knees and ankles. I've never felt so helpless."

Submerged for more than a minute already, Moore was lightheaded from lack of oxygen. Hearing only the dampened scream of the currents enveloping him, he thought he was going to drown.

"I tried like hell to get free, but it felt hopeless," he wrote in a blog post after the accident. "It was at this moment that I thought it was over."

Call of the Wild

Moore's affinity for adventure began in childhood.

A minister's son, he had little opportunity for lavish family vacations as a boy, and for Moore and his older sister, Melody, holidays meant camping trips in the Redwoods or the foothills of the Sierra Nevada near their home in the small town of Plymouth, California.

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Thomas Moore

The Devil's Postpile Run is one of North America's toughest, and it almost claimed Moore's life.

"I've always enjoyed being out under the stars, just getting away from everything," he said.

At 16, Moore took up snowboarding. Self-taught, he was not content to drift down the manicured runs of commercial slopes. Instead, he ventured into the backcountry to freestyle over cliffs and chutes, the narrow trenches between mountainside boulders.

The allure was more than the adrenaline rush, Moore said. He relished solving the puzzle of the landscape.

"Being faced with something that is both physically and mentally challenging has been my true passion," he said.

In 2003, he traded the slopes for the rapids. While lounging one summer day on the banks of Sacramento's American River with his wife, Stacey, the sight of kayakers paddling by piqued their interest.

"We said, 'That looks like fun. We should try that,'" Moore recalled.

The couple began with a two-day whitewater-kayaking fundamentals class, learning basic skills such as how to stay upright in the boat, read current lines and maneuver down Class I and II rapids. Ranked from I to VI by the American Whitewater Association, a rapid's class determines its difficulty.

"Class I means it's moving water," Moore explained. "(Class II) adds more riffles and actual whitewater."

Every weekend they practiced. According to Thomas, Stacey was the better kayaker, often remaining upright in rapids that would buck Thomas overboard. But while Stacey wearied of the sport after a few months, Thomas' passion grew, as he found in whitewater what he had loved in snowboarding.

Though he had been studying to become an engineer, he dropped out at 26 to help run his father's new business and devote more time to kayaking.

"(Kayaking) really changed the focus of what I wanted to do with my life," he said. "It's a tough thing for a guy who has a nine-to-five job to chase the whitewater."

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On the river, Moore found mentors in the kayaking community who taught him advanced moves and rescued him when he failed. By 2005, he was running Class IV and V rapids, turbulent waters fraught with steep drops, obstructions, sieves and hydraulics, or "holes" in the river where the current flows backward.

> The price for such thrills is a constant dance with death.

"The water will suck you down and spit you out 10 feet downstream," he said. "I've gone underwater and traveled like a submarine. … It's an amazing feeling."

The price for such thrills is a constant dance with death. In addition to visible hazards, rapids can conceal hidden hydraulics, some with undercurrents leading through tunnels underground.

"Some rapids you look at and say, 'If I swam there, I could drown,'" Moore said.

In a March 2002 study on whitewater safety and usage across 30 major U.S. rivers, American Whitewater, a nonprofit organization protecting whitewater rivers throughout the country, reported only 64 fatalities among 7,420,563 whitewater boaters between 1994 and 1998.

Still, the threat of serious injury remains constant.

In 2001, the British Journal of Sports Medicine reported that of nearly 400 whitewater kayakers surveyed globally, 56 percent had sustained injuries within a five-year period ending in 1997. According to the study, one-third of the injured boaters were forced to take a month or more off the sport to recover.

"There is little to no room for error," Moore said. "With this (sport) comes great rewards like nothing you can put into words, but with anything that comes with such reward, there is an equal or even greater risk."

Crack of the Earth

Stretching more than 300 miles, the San Joaquin River is California's second longest, after the Sacramento River. Comprising the North, Middle and South forks, it weaves its way from among the peaks of the Sierra Nevada through the San Joaquin Valley, eventually merging with the Sacramento River to flow into the San Francisco Bay and the Pacific Ocean.

Fed by the melting snow of the High Sierra, the Middle Fork begins at Thousand Island Lake in the Eastern Sierra. More than 32 miles long, it rushes by Devil's Postpile National Monument near Mammoth Mountain in eastern California. Just south of the monument, 30 miles from the nearest road, is a stretch known to whitewater kayakers as the Devil's Postpile Run, revered for its formidable rapids and striking beauty.

Thomas Moore

A truly extreme sport in certain rivers, kayaking places paddlers in a battle with nature, and mistakes can be very costly.

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Thomas Moore

Its remote location makes for amazing scenery but puts Devil's Postpile Run far from medical assistance if something goes wrong.

Like a freeway entwined in a metropolis of rock, the river writhes between canyon walls 50-100 feet apart and 1,500 feet tall. The granite skyscrapers block the sun's warmth until well into the afternoon.

"You're really in this crack of the Earth," Moore said.

It's a sight beheld only by the most expert paddlers. Requiring multiple days to traverse, the Devil's Postpile Run features rapids rated as Class V-plus and "is considered one of the hardest runs in North America," Moore said.

Many sections are accessible only via difficult portages on land, requiring kayakers to clamber with their boats and gear—often weighing up to 90 lb.—over perilous stretches of the craggy mountainside.

"Even finding our way around the rapids is difficult," Moore said. "If you don't want to run the rapids, you have to do some serious rock climbing."

But Moore was no novice paddler. The trip that almost took his life was his fifth consecutive year making the Devil's Postpile Run, and he knew every drop, slot and hole.

"I was feeling really confident the whole trip down," he recalled.

The journey began on Tuesday, June 3, 2014, with a six-hour drive from Sacramento to Devil's Postpile National Park, where Moore and his friend, Chris Madden, camped near Mammoth Mountain. The pair put out at dawn the next morning, meeting Darin Mcquoid, Moore's kayaking partner of eight years, and brothers Jim and Tom Janney on the river around noon. Four out of the five had paddled the run before, and all were expert kayakers.

The water was fine, and for two days, the men played.

Charging through slides and boulder gardens and "boofing" over drops and waterfalls, the crew traversed nearly 20 miles, paddling for up to five hours each day and camping early each afternoon to enjoy the scenery. (In a boof, a kayaker leans back to raise the bow, preventing a nosedive upon landing.)

On Thursday, they negotiated a daunting five-rapid section known as The Crucible before camping near a pool below the breathtaking 200-foot Shangri-La waterfall.

> "There's only one way out, and that's down the river."
>
> —Thomas Moore

At 7 a.m. on Friday, Moore woke with a sense of disquiet.

Thursday's 90 F weather had brought runoff from the melting snowpack of Mammoth Mountain, raising the water level a considerable 6 inches.

"There was an unspoken edge and nerves because the river rose quite a bit," Moore recalled. "But there's only one way out, and that's down the river."

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Thomas Moore

This shot, from Cherry Creek, shows the significant drops kayakers must navigate at times.

The men breakfasted on oatmeal and tea before loading the boats with their gear, putting out around 9 a.m. for the journey's final leg. The sky was clear, and Moore looked forward to attending his niece's high-school graduation ceremony later that night.

After paddling down some easy Class II rapids and making a short portage, the crew approached a Class V rapid. Moore scouted for the group, returning with instructions.

The rapid would take them down a 10-foot drop into a hydraulic before shooting them through a slot—a narrow space between two boulders—on the right. The plan was to pause at an eddy, a pocket of calm water, on the left before running through the slot.

Moore was the first to go, Mcquoid following 10 feet behind.

They boofed down the drop, sticking the landing. Mcquoid went for the eddy, but the rapids pushed Moore straight into the second half of the run. Charging toward the slot, he was a few feet too far to the right, and a second, smaller hydraulic pushed back against him.

Going for the slot, Mcquoid appeared at Moore's left side. They laughed as their boats knocked together like bumper cars before Mcquoid darted through the slot.

"That's the last time I remember being upright in my boat," Moore said.

In one swift motion, Moore was pulled under, as though the river had opened a gaping mouth and swallowed him whole.

Approximately 60 feet downstream, Mcquoid looked over his shoulder.

"Thomas was gone," he said. "I was confused."

Madden and Jim Janney were the next to pass through the slot, Jim catching a glimpse of blue beneath the surface as he paddled. He assumed Moore had abandoned his kayak.

"I thought he had swum, and that it was just so submerged because it was full of water," he said.

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Courtesy of Thomas Moore

Trapped underwater, Moore (left) thought of his wife, Stacey, and wrenched himself free of the kayak.

The pair met Mcquoid at the bottom of the rapid. The boulders upstream obstructing their view, they presumed Moore was stuck behind a rock. He would appear any second, they thought.

"As more time went by, we started getting really worried," Mcquoid said. "His paddle came out first, and that's a bad sign."

Meanwhile, Moore fought.

"I was in so much pain, and I was losing oxygen," he said. "It's amazing how much energy you lose when you're holding your breath and you try to fight."

As his stamina waned, he thought of his wife of more than 13 years. He and Stacey had met at church when he was 18 and she was 16. Three years later, they were married.

"I proposed to her on the beach along the northern coast in California, and we got (an) extremely bad sunburn sitting in the sun, drinking champagne and being in love," he said.

His first kayaking partner, she was the first to pluck him from the froth when he spilled overboard.

"I would be swimming down the river, and she'd help me get to the side, and it was just the two of us," he said. "She's always been so open and supportive of me and what I want to do and what I love."

As he struggled beneath the water, he knew he might never see her again. The sorrow renewed his fight.

"Just the thought of her, that she'd be alone, that she wouldn't have me—she's my everything," he said, his voice breaking with emotion. "I thought, 'I just can't go out like this.'"

With all his remaining strength, he violently shook his hips. He felt his knees buckle as they dislocated sideways. His right leg came free, but his left foot caught on the cockpit rim.

With one final shake, he kicked off his shoe and his left foot popped free. The current took him immediately, slamming him into some rocks and pulling him deeper underwater before spitting him to the surface.

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Legs lifeless beneath him, he drifted downstream sucking wind, a drowning man's first breaths above water.

Mcquoid and Tom pulled Moore from the water onto a flat boulder about 150 feet downstream from where he had surfaced.

"I remember looking down at my legs, and my knees were hinged to the right like a puppet," Moore said.

Madden set emergency beacons on the surrounding rocks to summon a rescue team while Tom, an ER nurse, stabilized Moore's legs with a SAM Splint and a second, makeshift splint made of a disassembled spare paddle and duct tape. He laid Moore on a sleeping pad, covered him with a sleeping bag and administered painkillers from his first-aid kit.

The pills took more than an hour to dull the pain, which was excruciating. Moore squeezed Mcquoid's hand and counted each breath, fighting to keep a panic attack at bay. Moore's friends murmured encouraging words while the hours ticked by, the rushing wind between canyon walls an aural mirage of rescue.

Four hours later, a sound like a choir of hornets and steam engines thundered through the canyon. Overhead, a helicopter emerged from above the canyon rim, passing over twice before lowering a paramedic to the rock below.

"I was smiling so hard to hear that chopper appear," Moore said.

Tom and Jim helped the paramedic cinch Moore into a transport bag while Moore and Mcquoid met each other's gaze.

"We both had tears in our eyes," Moore said. "It was really intense to leave my group."

The cable retreated, pulling Moore out of the Earth and into the sky.

Shattered

Moore's first night in the hospital was hell.

After he arrived at Community Regional Medical Center in Fresno, California, nurses set his legs, holding him at the ankles and jerking his knees into place. Then, he endured hours of X-rays and MRIs, each transfer causing agonizing pain.

"I was screaming at the top of my lungs," he recalled.

Meanwhile, Stacey endured the torture of waiting. The trauma ward was overwhelmed, and no visitors were permitted inside.

"I left work in an emotional panic and drove two-and-a-half hours to the hospital," she said. "All I wanted to do was be with him. … I had to sit and wait, and it was horrible."

At 9 p.m., she was allowed to see her husband.

"I heard Thomas say 'Hi, babe!' and I turned to my left and saw him laying there with a huge smile on his face," she

Courtesy of Thomas Moore

During his violent fight for life, Moore tore three ligaments in each knee.

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Courtesy of Thomas Moore

Like any CrossFit athlete, Moore couldn't resist an opportunity for pull-ups, even while his legs were immobilzed.

recalled. "I was so happy to finally be with him."

"It was such a huge relief. It felt so good (to see Stacey)," Thomas said. "It was beyond words."

While fighting for his life, Moore tore the ACL, LCL and PCL in each knee, dislocating both and tearing the patellar tendon in his right knee, causing a tibia fracture. Over the next three months, he would undergo three surgeries, spending more than a month bedridden with metal rods drilled into the femur and tibia on each leg to immobilize his knees. For five weeks, he sat with his legs outstretched in front of him like a child, feet perched on a footrest made of carpeted wood and jerry-rigged onto the front of his wheelchair.

The slightest sideways motion would cause the rods to tug flesh from bone.

"It was like a worst nightmare, like something you see in a horror movie," Moore said. "I was losing my mind with pain and anxiety. … I wanted to die I was in so much pain."

Nine days after his accident, Moore was transferred to UC Davis Medical Center in Sacramento, where he spent another week learning basic rehabilitative skills such as transferring between his bed and his wheelchair and dressing himself. Stacey spent nights curled on a pile of blankets on the floor by his side.

> Moore, a CrossFit athlete of two years, used a trapeze rigged over his bed to do pull-ups.

"It's hard to watch my husband have so much pain, to have

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Courtesy of Thomas Moore

Moore tore the patellar tendon in his right knee, fracturing the tibia in the process.

his life changed so drastically," she said. "I have tried to be strong for him."

Over time, pressure sores developed on Moore's buttocks and heels. So Moore, a CrossFit athlete of two years, used a trapeze rigged over his bed to do pull-ups.

"I just wanted my butt not to be sitting down," he said. "I could only do it for about 10 seconds, but just the joy of feeling my butt off the ground, it felt great."

After Moore's release from the hospital, the couple moved in with his sister, Melody, who took leave from work to help care for Moore. Though he had loved ones at his side, the abrupt transition from a successful, fast-paced life to a bedridden, housebound existence threw him into a depression.

"There have been moments where I've felt shattered, like a piece of glass that can't be fixed," he said. "I can't even pick up the pieces. There (are) too many of them."

"The physical pain is one thing to deal with, but it wears on your mind," he added. "The physical pain leads to mental anguish and worrying. … It forced me to think about things and decisions I've made in my life that I wish went another way. You have nothing to do but think."

As he lay in bed, he dwelled on time spent chasing the whitewater instead of nurturing relationships with family, including Melody, from whom he had grown distant following his parents' divorce years ago.

"I've kind of pushed certain people in my family away," he said. "I filled so much of my time with kayaking and outdoor activity that I've kind of neglected those relationships."

In mid-July, the rods were removed and Moore began the arduous process of rehabilitation. Seeing a physical therapist once a week, he began with knee bends, at first reaching only 20 degrees. After surgeries in August and September, he was cleared to bear weight on both legs in October, standing for up to 30 seconds at a time.

It was a far cry from the PRs he was used to setting, like jumping atop the 42-inch box at CrossFit East Sacramento.

"I look at a 6-inch curb and I can't even imagine jumping on it now," he said. "I want to feel alive, to feel my heart beating, the sweat pouring down my head—I want to do CrossFit again. It seems almost impossible at the stage I'm at now, but yet something in my brain says I have to have hope. You have to be chasing something."

So Moore chased.

Fight for Today

Two to three times a week, Moore trained his upper body at CrossFit East Sacramento while doing up to three hours of rehab exercises for his knee each day. Taped to the floor next to where he worked was a sheet of paper reading, "Never give in."

"There have been times where I thought, 'I want to give up. I don't want to fight anymore,'" he said. "But if you give up hope, what are you? Hopeless. And being hopeless is a sad, miserable place where you lose your mind."

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Moore said the discipline he learned through CrossFit has helped him persevere in his recovery.

"The habits I developed with exercise and the ability to keep on pushing is something I keep looking back to," he said. "CrossFit has allowed me to go to that dark, difficult place where your mind and body want to stop, yet you somehow continue on."

In November, Moore drove for the first time since before his accident. Transferring himself from wheelchair to walker and tossing both in the back of his truck, he drove to his wife's office to bring her a bouquet of fresh flowers.

The couple moved back to their own home in December, and in January, Thomas PR'd his post-surgery stair climb by 24 flights, hiking the stairs of the parking garage where Stacey works.

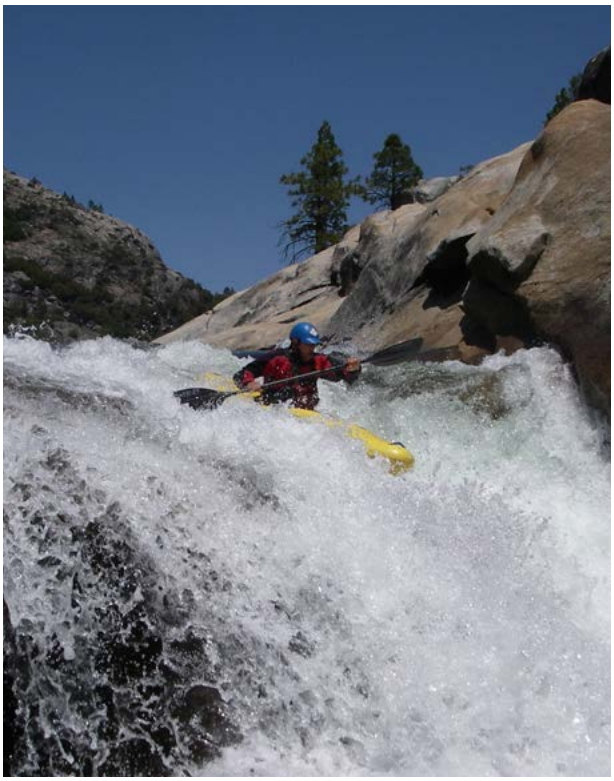
"I parked in the bottom story, walked to the top, got in the elevator and rode it down," he said. "It felt good to have something to fight toward."

One month later, Moore did 20 air squats and a few reps with an empty 45-lb. barbell. And for the first time since his accident, he danced on the water again, running a Class IV rapid in mid-February with braces on his legs. He crawled to the water's edge while friends carried his boat and paddle.

"For the first time I felt equal and normal again," he said. "I am so slow when it comes to walking or getting around, so to be able to go fast and run rapids was just great … it's hard for me to truly express what this moment meant, but it brought tears to my eyes."

Nearly a year after the accident that ripped Moore from his fast-paced, venturesome life, he's had time to reflect. Like an immersion school for open communication, he said spending months in his sister's home has helped them rebuild their relationship.

"It's really brought a peace to that and made our relationship grow," he said. "We've been able to talk about things that we've never talked about, things that happened when our parents divorced. It's a really bittersweet way to change your life, … but in a lot of ways I'm grateful. I have a chance to redefine myself and how I connect with people."



Thomas Moore

Cherry Creek (pictured) might not be in Moore's immediate future, but he was back in Class IV rapids in February, braces on his legs.

And for the man who once thought he had no fight left, life is beginning to look like an adventure again.

"We look at things and we think, 'I can never do that. I can't ever do a pull-up," he said. "And there (are) certain things that maybe you won't, but if you don't continue to fight, you'll never find out where you can be."

He added: "Enjoy the journey, enjoy the fight. I don't know where I'm going, but I know what I'm doing today, and today, I'm going to fight."

✦

ABOUT THE AUTHOR

Brittney Saline contributes to the CrossFit Journal and CrossFit Games website. She trains at CrossFit St. Paul in St. Paul, Minnesota.

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THE CrossFit JOURNAL

Unfit to Print?

Affiliate owners explain how the publication of shoddy science affects their businesses and the CrossFit brand.

By Emily Beers **May 2015**

Tai Randall/CrossFit Journal

How much misinformation is packed in our country's libraries?

It was just one short paragraph, but those five sentences have become the basis of two lawsuits.

The peer-reviewed study "CrossFit-Based High Intensity Power Training Improves Maximal Aerobic Fitness and Body Composition" was published November 2013 in the Journal of Strength and Conditioning Research, the official journal of the National Strength and Conditioning Association (NSCA). Among other things, the authors stated 16 percent of 54

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CrossFit athletes from CrossFit 614 in Columbus, Ohio, were injured during a 10-week study about high-intensity power training (HIPT). Ohio State University (OSU) administered the study.

In the study, Michael M. Smith et al. stated:

> A unique concern with any high intensity training program such as HIPT or other similar programs is the risk of overuse injury. In spite of a deliberate periodization and supervision of our Crossfit-based training program by certified fitness professionals, a notable percentage of our subjects (16%) did not complete the training program and return for follow-up testing. While peer-reviewed evidence of injury rates pertaining to high intensity training programs is sparse, there are emerging reports of increased rates of musculoskeletal and metabolic injury in these programs(1). This may call into question the risk-benefit ratio for such extreme training programs, as the relatively small aerobic fitness and body composition improvements observed among individuals who are already considered to be "above average" and "well above average" may not be worth the risk of injury and lost training time. Further work in this area is needed to explore how to best realize improvements to health without increasing risk above background levels associated with participation in any non-high intensity based fitness regimen.

Although the study also concluded CrossFit improves VO_2 max and body composition, these conclusions didn't become the focus of other articles that were written and splashed all over social media in the following weeks. The media focused on one statistic: the nine athletes (16 percent of participants) reported to be injured and unable to complete the testing.

Outside Magazine's "Is CrossFit Killing Us?" was arguably the story that received the most attention, but others also made their rounds on social media. Women's Health published "Does CrossFit Cause Injuries?" which immediately referenced the study's injury data. Men's Journal also reported the 16 percent injury rate as fact, as did Healthandfitnessadvice.com, which called the data "extremely damning." Discovery News published a video that pointed to the same data, but CrossFit Inc. employees contacted Discovery News to report numerous factual errors in the video, and it was removed.

Emily Beers/CrossFit Journal

Mitch Potterf, owner of CrossFit 614 in Ohio, is suing Ohio State University over a study that claimed he hurt athletes.

In possession of evidence that would clearly invalidate the injury rates reported in the OSU study, Potterf waits as legal process runs its course and critics throw the statistic around any time it will help an argument.

A Google search leads to dozens of other websites and blogs that reference the OSU study and its injury statistics. Some note the disputed validity of these numbers is the basis for ongoing litigation, while others do not and present the stats as truth.

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In March 2014, Mitch Potterf, owner of CrossFit 614, filed suit against OSU, alleging academic misconduct. Potterf and his lawyer, Ken Donchatz, have collected statements in which every single athlete in the study swears he or she did not get injured. Potterf and Donchatz believe this evidence will help them win the case.

CrossFit Inc. has also taken legal action against the NSCA in a complaint filed with the United States District Court for the Southern District of California.

In possession of evidence that would clearly invalidate the injury rates reported in the OSU study, Potterf waits as the legal process runs its course and critics throw the statistic around any time it will help an argument. Other affiliate owners and athletes sympathize with Potterf. The OSU study has affected them, too, and they know it's essential to protect the CrossFit brand from misinformation used by both the ignorant and the malicious.

Damage Control

Affiliate owners Sam Fariss of CrossFit Southern Maryland in Waldorf, Maryland, and Mike Anderson of CrossFit Malibu in Malibu, California, are angry that alleged misinformation has hurt both the CrossFit brand and their businesses. They are completely supportive of the fight against those responsible for the damage.

> "When people come in they usually have read somewhere that CrossFit is dangerous, and they never have anything to back that up with."
>
> —Mike Anderson

"I would totally be pissed if those were my clients and it made me and my affiliate look bad. I can definitely understand suing OSU," Fariss said of the reportedly injured study participants. "When CrossFit HQ fires back on the NSCA, I see it as standing up for what is right."

Courtesy of Mike Anderson

Mike Anderson, owner of CrossFit Malibu in California, says he often fields unsubstantiated questions about the dangers of CrossFit at his affiliate.

Anderson echoed Fariss' sentiment and believes it's a fight both Potterf and CrossFit Inc. must pursue.

"When there are factual inaccuracies and fraud, that raises obvious red flags, and they need to fight against it," Anderson said. He encouraged other affiliate owners to watch "CrossFit: The Good Fight," a 30-minute CrossFit Inc. video in which Russell Berger detailed the chronology of CrossFit's fight against the NSCA, providing background for the current litigation. It was released in March 2015.

"Russell Berger made such a cogent argument that says CrossFit is obligated to defend itself," Anderson said. The fight is necessary to protect the brand and to protect his affiliate, he added.

Both Fariss and Anderson noticed the outpouring of stories in the media after the OSU study was released in 2013. Fariss said he stays informed so he can be prepared for questions. For instance, if people confront him about the reported 16 percent injury rate in the OSU study, he can educate them.

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Courtesy of Sam Fariss

At CrossFit Southern Maryland, owner Sam Fariss sees a lot of fear mongering perpetuated by rival non-CrossFit gyms.

"I read the articles to stay ahead of everything that I can," he explained.

Potterf said he's continuously hurt by the OSU study when others point to the injury statistics and tag him in social-media posts, damaging his reputation. In one particular case, an online assailant suggested he could fix those athletes Potterf supposedly injured.

Although Fariss' athletes weren't part of the OSU study, the gym owner has had to deal with similar situations.

Last year, a new member of CrossFit Southern Maryland ran into the owner of a rival non-CrossFit gym in the area. The gym owner tried to convince Fariss' member to join his gym instead, saying the client would be injured within one month of training at Fariss' facility. That member has been with Fariss for a year now and has remained injury-free.

This was not an isolated incident, nor is it uncommon in the fitness community.

"We are seeing a lot of people come in and mention this very thing—(other gyms) just basically talk shit and spread lies to prospective members to drive their own bottom line through fear mongering," Fariss said.

"It's infuriating and maddening," he added.

Anderson said the reason this fear mongering works is because the alleged errors in the OSU study masquerade as legitimate science.

"People get their proof from peer-reviewed articles," Anderson said.

An NSCA publication is a source the public trusts, so it can be used as ammunition to convince others to believe what they read, Anderson said.

Fariss said it isn't uncommon for non-CrossFit athletes to post articles that reference injury rates onto the Facebook pages of athletes who go to Fariss' gym. Fariss said his clients often tag him in the posts, hoping he will provide an explanation and some truth.

Fariss and Anderson want the truth, and they want to repair any damage that's been done by bad science.

"It's impossible to measure the negative effect (on my business because) of articles in the press, but when people come in they usually have read somewhere that CrossFit is dangerous, and they never have anything to back that up with," Anderson said.

Deciding for Herself

Crystal Voliva had heard about CrossFit repeatedly since 2010. In 2013, she finally decided to do some research on the program.

Voliva said she always does research before making any big decision, but when she started surfing the web for details on starting CrossFit training in North Carolina, she found a mixed bag of information.

"I came across articles that claimed CrossFit is bad for you, that you're going to hurt yourself, that you're going to get rhabdo," she said.

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She discovered articles such as "Is CrossFit Killing Us?" and heard the warnings from Women's Health—both of which prominently featured the injury data from OSU. She also read personal blogs that made reference to the injury statistics.

All the blogs she read had one thing in common: "It didn't sound like the people who wrote the blogs had tried CrossFit," she said.

Her research also led to endless positive stories about CrossFit. She read stories about personal transformations, about weight loss and about reversing the effects of diabetes. She watched videos of 50-year-old women lifting weights and doing pull-ups.

She found affiliate's official websites to be particularly inspiring.

"(Affiliate) websites would tell me that you don't have to be fit to start CrossFit, and that it's scalable," she said. "Their message was that all skill levels were welcome. Box websites did a nice job explaining that."

It was time for Voliva to find out the truth. She joined New Order CrossFit in Cary, North Carolina, in 2013 and instantly took to it.

"The fact that it's easily measurable really sold me," she said. In just a few months, she lost 50 lb., and her life started improving.

Voliva looks back to 2013 and has only one regret.

"I wish I had looked into it sooner. It's something I regret to this day. … Where would I be if I started in 2010?" she asked.

"CrossFit is something that will change your life—if you let it," she added.

Voliva did her homework and separated misinformation from fact, but how many others read an article quoting the OSU data and wrote CrossFit off as dangerous? How many people missed a chance to get fitter and perhaps change their lives? And how many CrossFit affiliates lost prospective clients who hung onto statistics Potterf intends to prove are false?

Protecting the Brand

Although Potterf is the affiliate owner suing OSU for academic fraud, he's not the only one who's been affected by the study. The entire CrossFit brand—including coaches and affiliates around the world—has been hurt.

Every time someone reads an article quoting erroneous injury statistics, it tarnishes CrossFit, its trainers and its affiliates. Imagine if an automotive journal published erroneous statistics that "proved" 16 percent of a certain manufacturer's cars would burst into flames upon ignition. How would that affect sales? And how might the manufacturer respond?

Similarly, exercise-science journals have a responsibility to the public. If science can expose bad training protocols and prevent injuries, researchers should broadcast that information loudly and often in order to influence general media outlets. But if poor science

Courtesy of Crystal Voliva

Crystal Voliva read countless articles that told her she would get injured doing CrossFit. After two years at New Order CrossFit, she wishes she had joined sooner.

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has produced bad statistics with no basis in fact, what damage is done when mainstream media applies the old adage, "If it bleeds, it leads"?

Chris Russell of CrossFit Jax in Jacksonville, Florida, thinks CrossFit is a target because its growth is now a financial threat to other bodies who license personal trainers, such as the NSCA and the American Council on Exercise (ACE).

Russell isn't convinced the alleged inaccuracy of the OSU study was a simple error.

"I don't think it's malicious. I know it is," said Russell, who is a member of CrossFit's Level 1 Seminar Staff.

"(Bodies) like the NSCA and ACE, they're threatened by a new player in the game, so they fear-monger to slow it down," Russell said. "Inject some bullshit into a study. Throw some fake injury numbers in."

Courtesy of Chris Russell

Chris Russell of CrossFit Jax believes organizations such as the National Strength and Conditioning Association are targeting CrossFit because of its success.

Anderson added: "It's big business trying to maintain its market share."

Anderson wants to see the people behind the study held responsible.

But if poor science has produced bad statistics with no basis in fact, what damage is done when mainstream media applies the old adage, "If it bleeds, it leads"?

"You like to think that people will be punished," Anderson said.

He also wants the study retracted.

"That's a minimum. That's what they have to do to maintain the trust people have in them," he said.

CrossFit Inc. has stepped up to maintain the trust of affiliate owners by setting the record straight in court. In Ohio, Potterf is doing his part to protect his own business and the brand he's part of.

Russell has faith CrossFit Inc. and in the CrossFit community will win the fight.

"We will prevail. We are only out for health and fitness for everybody," he said.

✦

About the Author

Emily Beers is a CrossFit Journal contributor and coach at CrossFit Vancouver. She finished 37th at the 2014 Reebok CrossFit Games.

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THE CrossFit JOURNAL

No Rest for the Foolish

Bill Starr addresses an element of strength training that's too often disregarded by hard-charging athletes.

By Bill Starr **May 2015**

Dave Re/CrossFit Journal

Editor's note: Bill Starr completed this article before he passed away April 7, 2015, in Maryland.

There are three sides to the strength pyramid: training, nutrition and rest.

It takes time to learn how to do various exercises using proper technique, what exercises to do on which training days, what sets and reps to use, etc. Sometimes it can take two or three years to do so unless you happen to be lucky enough to have a mentor.

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Same for nutrition. Everyone has individual needs and requirements, so it takes trial and error over an extended period of time to know just what foods and nutritional supplements benefit you the most in terms of training and recovery.

However, you really don't have to spend any time thinking about the rest factor, nor does it cost you any money. Yet this is the factor most overlooked in strength training.

I've known athletes who would spend hours designing and redesigning their routines. They would study everything they laid their hands on about the many facets of nutrition, from what wholesome foods they needed to the dosages of the supplements they had selected to use. Then they would show up in the weight room in a fatigued state because they hadn't bothered to pay any attention to the final side of the strength pyramid. The result was always a subpar workout.

Obtaining an adequate amount of rest is not a luxury; it's an absolute necessity. And I'm not just talking about getting bigger and stronger. Rest is critical to our overall health in a very big way. I recently came across this Irish proverb: "The beginning of a ship is a board; of a kiln a stone; and the beginning of health is sleep."

Tanya Ali

Rest leads to recovery. Recovery leads to consistent progress. Plan your beach time wisely.

> Rest equals recovery, and recovery is the key to making consistent progress.

Sleep and Recovery

Research has shown that extended periods of sleep deprivation can lead to amnesia, delusions and hallucinations. Not getting enough rest for shorter stretches can cause forgetfulness, sour moods and irritability. Everyone can relate to that because we've all been there due to various virtually unavoidable life events. Health authorities state the human body can operate without food longer than it can without sleep.

For the aspiring strength athlete, getting a sufficient amount of rest during the week is even more important because rest equals recovery, and recovery is the key to making consistent progress. When an athlete goes through a hard training session, he has, in fact, damaged his body by stressing his muscular, respiratory, circulatory, skeletal and endocrine systems. These systems must have time to be repaired or the body will not respond as it should. That means supplying the various cells with nutrients and, even more importantly, getting enough rest to allow the body to recuperate fully. If that doesn't happen, the athlete will not be ready for the next workout.

In addition, a tired body does not operate at full capacity. This means form will be off and workload will be down. When an athlete's technique is sloppy, the chance of getting injured goes way up. Poor sessions also work on an athlete's confidence: too many in a row and his lifts start going downhill.

On the other hand, when an athlete gives priority to getting plenty of rest the night before a hard training session, he

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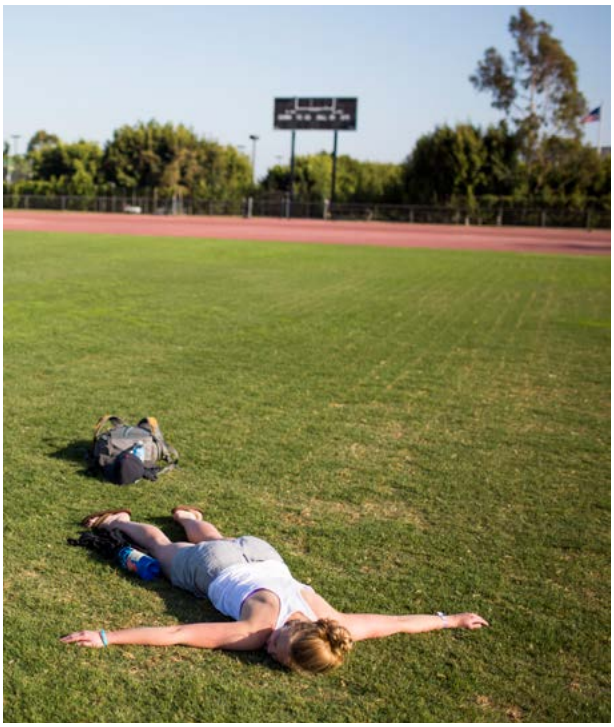

Will Duncan

Didn't get enough sleep? Take a nap. Wherever.

arrives at the weight room full of piss and vinegar, knowing that he will make all his intended numbers.

Sleep is simply crucial to overall health and well-being. Consider these facts: When you sleep, your higher brain centers go into temporary retirement so they can go about the essential business of repairing and recuperating. This downtime allows the muscular system and—even more importantly—the nervous system to recharge.

As I mentioned, heavy training destroys tissue. In order for this damage to be repaired, two things must occur. One, nutritional foods or supplements must be provided. Two, your body needs some deep sleep. One of the key events that occurs during deep sleep is the body's release of growth hormone, which is critical for making repairs, maintaining tonus in the muscles and keeping fat in the cells. Because the body makes growth hormone only during deep sleep, the question begs itself, "How do I get to a place called 'deep sleep?'"

The process called sleep has always fascinated me because I have always loved to sleep. I list it as one of my favorite hobbies, along with reading novels and creating art. But it wasn't until I researched the subject at the University of Hawaii library to include as a chapter in "The Strongest Shall Survive" that I finally learned what went on in my body every night.

I discovered that sleep doesn't come in a rush; it dances about in stages. When you first lie down, you might drift off for a short while, then awaken. This light rest is known as the "threshold of sleep." Should you awaken completely during this stage, you will most likely feel as though you haven't slept at all.

Next comes the first genuine sleep stage, known as Stage 1. It is brief, and you are easily awakened from Stage 1 sleep.

Steadily, you descend into Stage 2 and Stage 3. In Stage 2, your body temperature drops and your heart rate slows. Stage 3 was formerly divided into the third and fourth stages, but this distinction is no longer common. In Stage 3, the brain produces slow delta waves, and you become less responsive. Stage 4 is characterized by rapid eye movements (REM), which supply the name "REM sleep." The brain is more active but muscles are more relaxed. This is when you dream.

The first REM period lasts about 10 minutes, and periods of REM and non-REM sleep alternate throughout the night. The actual length of each sleep cycle varies from individual to individual, but 90 minutes is typical. Periods of REM sleep usually increase in length throughout the night. At the conclusion of the sleeping period, which is usually seven or eight hours, your body starts preparing itself to return to consciousness by increasing your body temperature and heart rate.

Scientists know sleep is essential for restoration, yet they do not know exactly how that process occurs. They believe the body does most of its repairing in non-REM sleep. During REM sleep your mind is busy processing new information and data through the filters of past experiences. That's why some of our dreams take place in odd places but the people are familiar. Or vice versa.

One thing researchers are sure of is that getting enough rest is critical to your overall health. When a person deprives himself of a sufficient amount of sleep, even for a single night, it can have a very negative effect on the immune system. If this is continued for several days, the number of immune-system cells drops drastically.

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Alicia Mantilla

Resting doesn't necessarily mean sleeping. Sometimes just relaxing, forgetting your problems or mentally rehearsing your workout is enough.

I had always heard that lost sleep cannot be made up, yet it works for me. When I deprive myself of my needed rest, I make sure I get to bed earlier than usual the following night. The next day, I feel fine.

Give priority to getting enough rest when you're in hard training.

It's also important to understand individuals vary as to how much sleep they need. I've known a few people who could maintain quite well on just six hours a day. In my own case, I need a minimum of eight, and when I'm training hard, that increases to 10 hours.

To many people, sleep is a luxury. There are more important things to do than sleep. People today sleep only seven hours a night on average. They work 160 hours more each year than their grandparents did and get 20 percent less sleep. Work-related stress is the main reason so many suffer from sleep deprivation, but there are many other reasons as well. Bars lure college students and those in their 20s and early 30s with special low prices on Thursday to jumpstart a weekend of partying. Electronic devices—from cell phones to televisions—keep people of all ages up late.

It's been determined that our sleep-deprived crisis began with the invention of the light bulb over a century ago. Prior to that miracle of convenience, the average American got nine-and-a-half hours of sleep. By 1960, that figure had diminished by two hours, and now it's down to seven hours. While this is primarily due to work pressures to make more dollars, many drag through their days half-awake and functioning at a subpar level because they can't seem to shut off their television sets or computers.

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Sleep for the Strong

Everyone, no matter how dedicated he or she might be to getting stronger, is going to be faced with some situation that prevents him or her from obtaining a sufficient amount of rest. But going to the gym when you're fatigued a couple of times a month isn't that big a deal unless you're planning on hitting some big numbers that day. The problem comes when you try to train hard and heavy several sessions in a row when you're not rested. If this becomes a regular habit, you can forget about making any progress in the weight room.

You must give priority to your training if you want to make gains. That means finding a program that works for you, eating nutritional foods and taking the supplements you find beneficial, and making absolutely certain you get plenty of rest.

Should you come up short on rest on a night before a workout, make sure you get some extra rest the following night to make up the deficit. Give priority to getting enough rest when you're in hard training.

In my own training and in that of my students, I've always found the need for rest increases steadily throughout the week. There's seldom any problem with the first session of the week, which is usually done on Monday. The athletes are rested and ready to go because there's not a lot going on Sunday nights, unless you stay up to see the end of an overtime game of football.

Tuesday and Wednesday workouts are usually light days, so they also go well. Fridays, however, are different, because many strength athletes are tempted to join their friends for those Thursday drink specials I mentioned earlier. They come dragging into the weight room lacking energy and motivation because they drank too much and got to bed much later than usual. The result? The Friday session is a flop. You might be thinking, "So what? It's only one workout." That's not how it works.

Every strength program that has any merit is put together so that all the workouts are linked together. What athletes do on Friday has a very direct bearing on what they will do the following heavy day on Monday. If they have a poor workout on Friday, they will not be able to make the numbers I have laid out for them on the following Monday. And if Monday's session is subpar, it will influence all the sessions through that upcoming week.

However, on the plus side, there are things you can do to help your cause. Take the example of the athlete who simply cannot skip going out with friends on Thursday nights. I had a field-hockey player who had been making excellent progress, and all of a sudden she began slipping back because her Friday workouts were terrible. She moved through the exercises like a zombie. We chatted, and I found out why she was so weary on Fridays. She loved to dance, and there was a nightclub with a great band right around the corner from her apartment. She simply could not stay away.

I suggested that she modify her partying a bit. I didn't tell her to stop going to the nightclub altogether because I knew she wouldn't do that.

"Go a bit earlier than usual, and instead of drinking as you normally would, cut back to just two drinks. Then leave an

John Maguire

Disappointed by your lack of gains? Get some rest.

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hour or so earlier than usual. And if you get the chance, slip in a nap before coming to the weight room. Then on Friday night, party as long as you like. Just let up a bit the night before your Friday workout."

She said she could handle that, and she did. Right away, her lifts began to climb once again, and that motivated her to keep her partying to a moderate level on Thursday nights.

Although I have read that some experts don't believe taking a nap is a good idea because it makes it harder to get sleep at night, I do not agree. That might be the case for the average Joe who believes walking out to his mailbox is exercise, but for anyone hitting the weights hard and heavy and maybe even adding in several days of cardio work, more is better when it comes to rest.

I've salvaged many workouts by slipping in a short 20-minute nap an hour or so before training. Keep in mind that finding a place to nap doesn't have to be perfect. I've taken naps on massage tables, sit-up boards, bleachers, benches in locker rooms, floors, blankets on grass, and in the back seat of my car. Although these naps might not be as comfortable as those in your bed or recliner, they can make a big difference as to how you train that day.

Dave Re/CrossFit Journal

During deep sleep the body releases growth hormone, which makes repairs, maintains muscle tone and keeps fat in cells. Kettlebell optional.

And you don't have to actually fall asleep. Just relax your muscles and push any vexing problems out of your mind. Mentally rehearse your upcoming workout and think positive thoughts about the exercises you plan to do that day.

Then, about a half an hour before you begin training, drink some coffee. The hot liquid elevates body temperature, and the caffeine helps you gear up. I prefer coffee over the high-caffeine drinks on the market because I can moderate how much I take in more easily. Some of those high-energy drinks contain an enormous amount of caffeine, and that can interfere with maintaining good form on the various lifts. Coffee is useful when taken in moderation, so you don't have to resort to exotic drinks that cost an arm and a leg.

Another tip I've learned through personal experience and training athletes is to guard against the tendency to dawdle and take long rest periods between sets when you're feeling sluggish from the lack of sleep. What you need to do is exactly the opposite: push through your workout at a faster pace than usual. Once you get your body temperature up and increase your respiratory rate, keep them at that level so you're huffing and puffing right to the end of the session.

When you're feeling droopy, it's the time between sets where you feel it the most. When your body is in motion performing an exercise, your mind is focusing on what you're doing. But in between, you feel the tiredness. Another plus is that when you go through your workout quickly, you get finished much faster. On those tough days, that's a blessing in itself.

Starr's Sleep Tips

Now I want to go over some ideas about how you can get to sleep easier.

It seems not being able to fall asleep has become a problem in our country. The Centers for Disease Control reports almost 10 percent of the general population has chronic insomnia. Commercial enterprises are all over

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this, advertising a wide range of solutions: mattresses that guarantee blissful rest, sound machines, eye coverings that produce magical results, and, of course, a long list of pharmaceuticals to assist you in quickly dropping off to oblivion. Unfortunately, most people choose the latter option because it's easy and doctors have no qualms about writing scripts for these drugs. But for strength athletes who are concerned about their health, this is definitely not the answer. Any drug, regardless of the manufacturer's claim, alters many systems in your body, especially the liver and kidneys, which have to deal with the influx of new—and potent—chemicals.

> When you follow a regular routine of working, eating, training and resting, sleep comes much easier.

In many instances, the sleeping aids destroy valuable nutrients and cause the part of the brain that is responsible for sleep to be altered. Sleeping pills make most people groggy the following day, which prompts them to ingest more caffeine than usual. Caffeine interferes with the sleep process, so around and around they go.

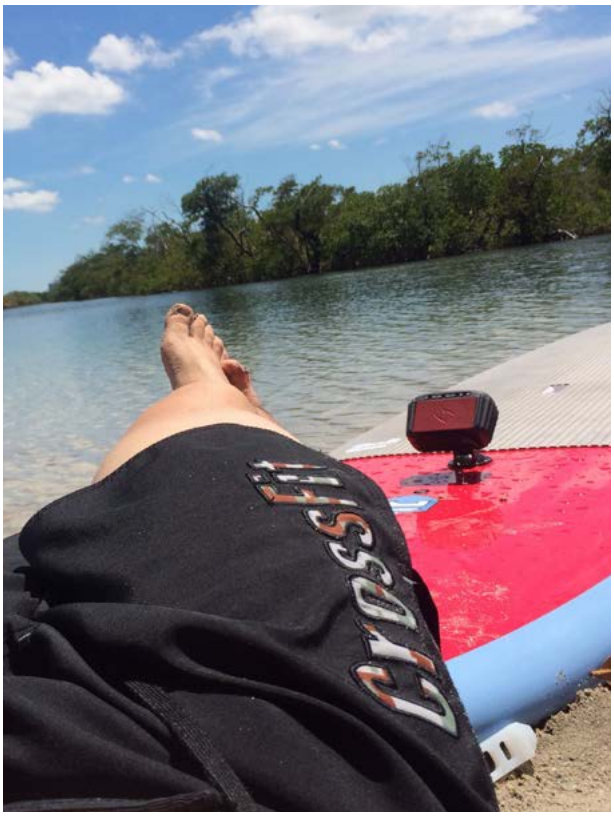
Prescription and over-the-counter sleeping aids are not necessary. There is a safe, natural alternative: calcium and magnesium tablets. Not only are they perfectly safe, but they're also extremely beneficial in many other ways besides helping you relax and fall asleep. Both minerals are vital to bone and dental health and are needed for muscle contractions and tone. Magnesium is needed for the synthesis of proteins and fats. It had been called "nature's own tranquilizer." The minerals are water soluble so there's no fear of taking too much.

Using these minerals as a sleep aid isn't a new idea. It's been around longer than memory. A warm glass of milk or hot chocolate helps soothe the nerves and allows your mind and body to relax. So if you don't want to buy any magnesium and calcium, simply heat up some milk and drink it about 30 minutes before you go to bed. If you choose the supplement route, make sure the ration between the two minerals favors twice as much calcium to magnesium. This balance makes a difference, so be sure to check the label.

Try to adhere to a strict schedule, especially during the week, because that's when most people train. When you follow a regular routine of working, eating, training and resting, sleep comes much easier. Weekends are different because many don't train or their routine is very different than it is during the week.

Some people find reading to be relaxing. Others like to take long showers or soak in a hot tub of water. Many prefer homeopathic remedies or herbs—chamomile tea, kava-kava, amber and ginseng.

A light snack can also be useful in becoming more relaxed. But eat lightly. If you overindulge, your digestive system will go into high gear and will prevent you from falling asleep.



Luis Nino

A relaxed mind and body make for a better workout.

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Orlando Seraus

Keep in mind that you don't get stronger when you're working out. You get stronger as you recover from working out.

Drinking some alcohol before bedtime is OK; drinking a lot is not. An abundance of alcohol interferes with REM sleep, and that's the most refreshing part of rest. Avoid stimulants such as caffeine and nicotine. You're probably aware that coffee, tea and soft drinks contain caffeine, but you might not know that it is also found in many over-the-counter pain products.

Some light exercise before bedtime is fine, but don't do anything strenuous. That stirs up endorphins, and they will prevent you from falling asleep right away.

However you decide to go about it, you must make sure you get plenty of sleep when you're training diligently. If it means giving up some late-night TV or passing on a party, you just have to do it if you're really serious about getting stronger. This magical one-third of your life might be even more important to you overall health and well-being than the other two sides of the strength pyramid.

✦

About the Author

Bill Starr coached at the 1968 Olympics in Mexico City, the 1970 Olympic Weightlifting World Championship in Columbus, Ohio, and the 1975 World Powerlifting Championships in Birmingham, England. He was selected as head coach of the 1969 team that competed in the Tournament of Americas in Mayaguez, Puerto Rico, where the United States won the team title, making him the first active lifter to be head coach of an international Olympic weightlifting team. Starr was the author of the books "The Strongest Shall Survive: Strength Training for Football" and "Defying Gravity," which can be found at The Aasgaard Company Bookstore. Starr died on April 7, 2015, in Maryland.

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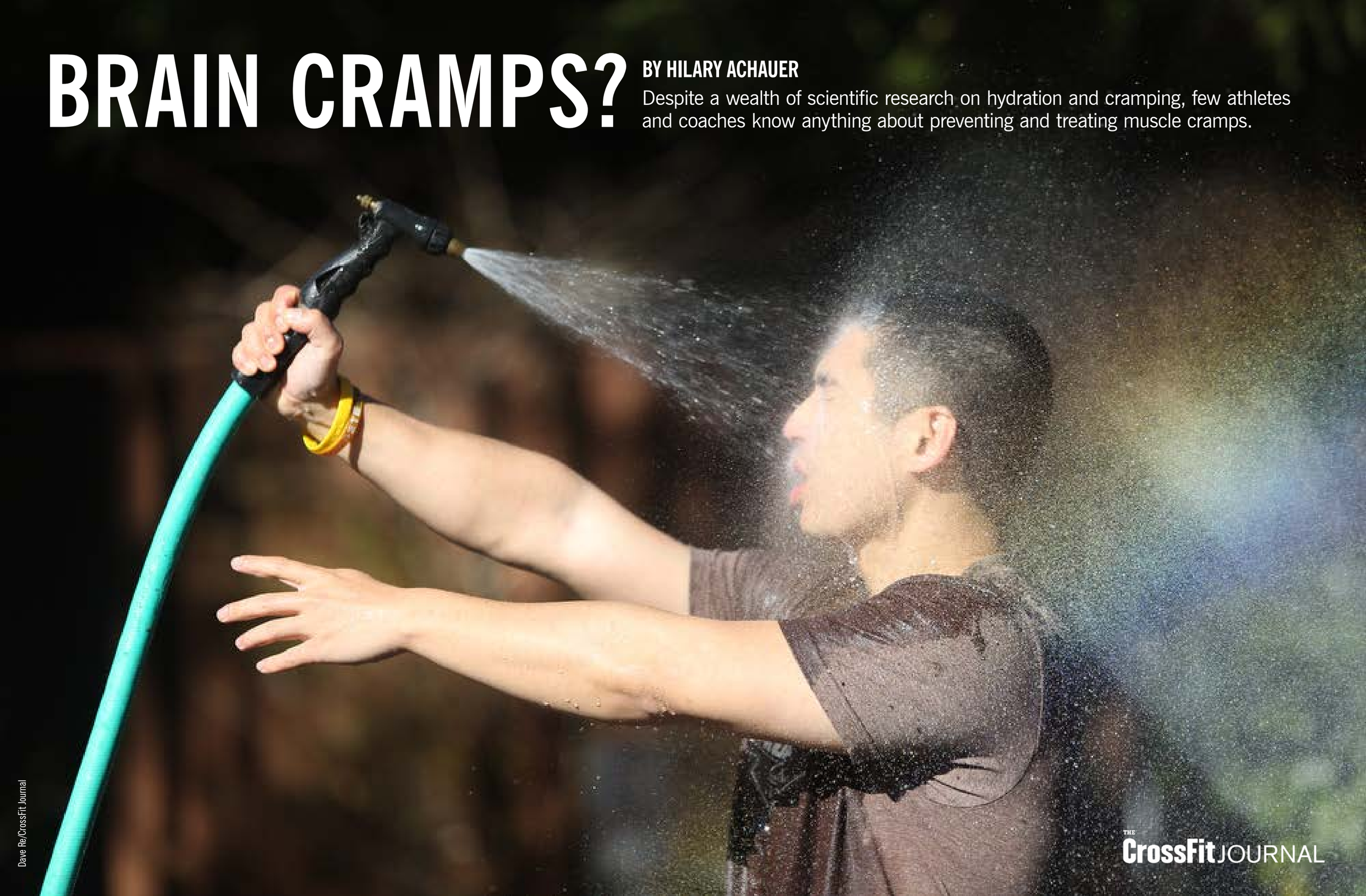
BRAIN CRAMPS?

BY HILARY ACHAUER

Despite a wealth of scientific research on hydration and cramping, few athletes and coaches know anything about preventing and treating muscle cramps.



Dave Re/CrossFit Journal

Hunter Martin/Getty Images

Trent Cole suffered from severe cramps early in his NFL career, and he said staying hydrated did little to remedy the problem.

Trent Cole never knew when they were going to strike. When they did, they brought him to his knees.

Exercise-induced muscle cramps were a serious problem for Cole when the Philadelphia Eagles drafted the University of Cincinnati product in 2005.

No matter what he tried or how much fluid he drank, he couldn't stop the full-body muscle cramps. Once, the cramping got so bad Cole was sent to the hospital, where he was given nine bags of IV fluid.

"I hydrated as much as I could," Cole said, "and I still cramped."

Fortunately, Cole had access to Sandra Fowkes Godek, Ph.D. The director of the Heat Illness Evaluation Avoidance and Treatment (HEAT) Institute at West Chester University in Pennsylvania, Fowkes Godek has been working with the Eagles for 12 years, studying their sweat rates, sweat-sodium concentrations and blood-electrolyte levels.

Fowkes Godek has long known something most athletes and coaches do not: Dehydration does not cause muscle cramps. Scientists have tried—and failed—to link dehydration and muscle cramps.

So Fowkes Godek treated Cole with a mix of vitamins, beta glucan, sodium and chloride.

"My cramps went away," said Cole, who currently plays defensive end for the Indianapolis Colts. He said he hasn't been bothered by cramps in 10 years.

"(Cole is) a very heavy, salty sweater. He's a high-intensity player," Fowkes Godek said. "We basically have fixed his cramps by paying attention to his eating and replacement of the salt that he loses."

SCIENTISTS AGREE ON ONE THING: SPORTS DRINKS DO NOTHING TO RELIEVE CRAMPS.

Scientists still do not know exactly what causes muscle cramps. Some studies point to fatigue, while some scientists believe cramps are a neurologic issue that can be remedied with a salty diet. However, scientists agree on one thing: Sports drinks do nothing to relieve cramps.

Still, the misconceptions persist, and athletes regularly consume fluids in vain attempts to treat cramps. Sometimes, that approach has fatal results.

In August 2014, Zyrees Oliver, a high-school football player in Georgia, passed out after football practice and was taken to the hospital, where he died due to exercise-associated hyponatremic encephalopathy (EAHE). Essentially, excessive fluid intake diluted his blood sodium to dangerous levels and caused his brain to swell. According to relatives, Oliver cramped in practice and drank at least 2 gallons of water and 2 gallons of Gatorade.

About a week later, another high-school football player, Walker Wilbanks of Mississippi, also cramped during practice, drank too much fluid and died of EAHE.

These deaths were preventable.

Here, we look at the science behind muscle cramps and common hydration practices in all levels of football. Dispelling myths about muscle cramps and detailing the dangers of overhydration can help athletes in all sports, especially those who practice or compete for multiple days in a row.

The Cause of Cramps

Kevin Miller, Ph.D., is an associate professor in the department of Athletic Training at Central Michigan University. He specializes in the causes, treatments and prevention of heat illness, with a specific emphasis on exercise-associated muscle cramping. His research has garnered both national and international media coverage.

At the 2015 CrossFit Conference on Exercise-Associated Hyponatremia, Miller addressed the widespread belief that cramping is caused by dehydration.

"The problem with cramp literature is you can't separate dehydration from fatigue," Miller said on Feb. 20 in Carlsbad, California.

Miller conducted a study that tested hydrated and mildly dehydrated subjects, inducing cramps with electrical shocks after exercise.

"I found no difference between very hydrated and mildly hydrated individuals as far as cramps," Miller said. He then repeated the experiment with subjects who were even more dehydrated. Again, dehydrated subjects experienced no increased cramping.

Miller suggested the true source of cramps might actually be muscle exhaustion.

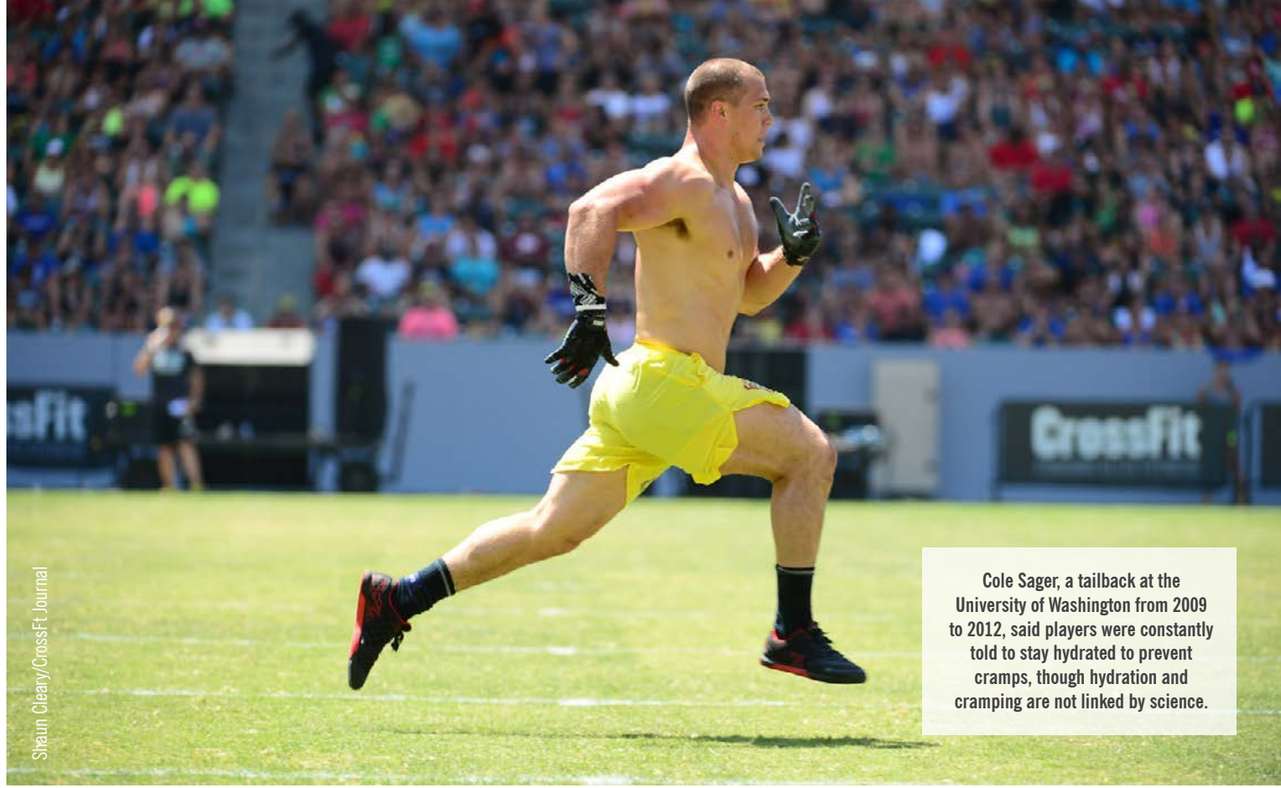
NBA player LeBron James at times suffers from debilitating muscle cramps that often force him out of games, including Game 1 of the 2014 NBA Finals. The New York Times article "James and Air-Conditioning Are Expected to Return for Game 2" said the star tried to prevent muscle cramping with everything from supplementing with potassium pills and electrolytes to changing his uniform and cutting his warm-up short.

In the article, Miller hypothesizes that the cause of James' cramping might be his intensity during the game.

"He is expected to do almost everything for the Heat—rebound, defend players who are bigger or quicker, run the offense and lead fast breaks," Miller told The New York Times in 2014, when James was still with the Miami Heat.

Megan Verby

Cory Boyd (No. 64) is now a coach at Terra Linda High School in San Rafael, California. He said the coaches don't tell their players how much to drink.



Shaun Cleary/CrossFit Journal

Cole Sager, a tailback at the University of Washington from 2009 to 2012, said players were constantly told to stay hydrated to prevent cramps, though hydration and cramping are not linked by science.

Miller suggested a different reason for James' cramps: "People who tend to cramp go faster and work at a higher intensity," Miller said, citing research on triathletes. "(James) was all over the court."

Fowkes Godek agrees that muscle cramps are not caused by dehydration.

"I think (cramping) still comes down to a neurologic issue. Which means, if you drink and drink and drink and drink, it's never going to stop your muscle cramps. Even if you drink Gatorade. And if you drink tons of Gatorade, it's never going to stop muscle cramps because Gatorade has a very, very low sodium concentration in it," Fowkes Godek said.

Nevertheless, sports drinks are commonly regarded as a cure for cramps or a means of preventing them. In the wake of James' exit from Game 1 in 2014, Gatorade posted since-deleted tweets suggesting its products might have helped James, who endorses rival Powerade. Interestingly, media reports said James actually drinks Gatorade during games due to a sponsorship deal with the NBA ("Actually, LeBron James Was Drinking Gatorade Last Night").

James himself mentioned hydration and fluids after the game ("Air Conditioning Goes out in Game 1"), and other athletes including NBA star Kobe Bryant and NFL player Jonathan Martin took to social media to comment on hydration and sports drinks.

"Drink a Gatorade & get out there," Martin posted after James left the game, highlighting common perception.

But science doesn't confirm that sports drinks prevent or remedy cramps. Furthermore, drinking large amounts of sports drinks is just as dangerous as drinking too much water, as evidenced by the deaths of Wilbanks and Oliver, both of whom were trying to stave off cramps.

Salt Supplementation

Football players don't drink large amounts of fluid just to prevent muscle cramps. They also want to be able to endure grueling preseason practices, which often include "two-a-days" in the heat of late summer. However, staying healthy and performing in these conditions is not as simple as flooding the body with fluids.

Still, athletes are told hydration helps performance. On its website, Gatorade presents its G Series beverage with the tagline "Prime. Perform. Recover."

The website also states, "Significant losses in fluids and electrolytes can negatively impact performance, especially during long bouts of training."

Advertising, of course, highlights the electrolyte content of sports beverages, suggesting they can replace lost sodium.

Athletes who sweat profusely—and whose sweat is particularly salty—certainly have to be aware of their body's sodium levels when practicing or competing multiple days in a row in the heat. But if they drink too much water or sports beverages—whose sodium content is actually negligible and not enough to maintain or increase blood-sodium concentrations—these salty, heavy sweaters run the risk of upsetting the body's blood-sodium levels. When this balance is upset, it can lead to exercise-associated hyponatremia (EAH). Hyponatremia can cause mild symptoms such as irritability and fatigue or more extreme symptoms including nausea, vomiting, seizures and comas. Brain swelling—EAHE—can cause death.

If the problem is blood sodium, does it make sense to ingest salt as a preventative measure? Scientists are divided on the issue.

Dr. Tim Noakes, the author of "Waterlogged: The Serious Problem of Overhydration in Endurance Sports," believes the average Western diet contains more than enough salt, making it impossible to exhaust your body's stores.

Fowkes Godek disagrees.

"In (Noakes') world, with marathon runners and shorter-distance runners, I think that's true," she said. She said it's also true for the vast majority of athletes, and most team-sports athletes.

However, endurance athletes don't run five marathons in five days. In preseason, football players practice for hours each day, often two times in a day for five days in a row.

"So, the difference comes from, and the difference in the data I see—versus what (Noakes) generally sees and what his calculations show—is that we see (low sodium levels) over consecutive days. We don't see this the first day of two-a-days," Godek said.

"There is a group of athletes that probably do get into a situation where their blood volume goes down below baseline because they … are not replacing enough sodium. That happens over consecutive days," Fowkes Godek said.

Football players suit up in heavy pads and helmets, practicing for hours at a time, often twice a day in the late summer heat. This combination of heat and sweat can be dangerous.

If this is true, why aren't we seeing EAH deaths at the higher levels of football?

Fowkes Godek says it's because both the NFL and the NCAA regulate the number of practices in preseason and have careful restrictions on what players wear in those early season practices.

The NCAA allows players to start preseason practicing only for a few hours each day. They are required to wear only shorts and helmets—no pads. It's not until the fifth day of practice that they can put on full pads, and two-a-days are only allowed beginning on Day 6. The NFL has similar rules restricting preseason practices, and two-a-days were eliminated as part of the 2011 collective bargaining agreement.

Courtesy of Mauricio Portillo

Hydration issues have long been a part of football, from the era when "Bear" Bryant denied players water to the modern period in which sports drinks are thrust upon players at every opportunity.

Fowkes Godek thinks these regulations have helped tremendously.

When players used to wear full pads at the beginning of preseason practice, Fowkes Godek would see players with reduced blood volume and low blood sodium. Fowkes Godek said if she does see these kinds of symptoms now, it's not until Day 6, 7 or 8.

The regulations on preseason practices have helped college and pro players, but no national governing body regulates the practices of high-school football players.

"There are six or eight states that have the same acclimatization guidelines (for high-school football players) as the NCAA, but not all states are like that," Fowkes Godek said.

MISINFORMATION ABOUT HOW TO RELIEVE MUSCLE CRAMPS AND INADEQUATE INFORMATION ABOUT THE DANGERS OF OVERHYDRATING FOR HEAVY, SALTY SWEATERS PUT HIGH-SCHOOL FOOTBALL PLAYERS AT RISK FOR EAH.

Misinformation about how to relieve muscle cramps and inadequate information about the dangers of overhydrating for heavy, salty sweaters put high-school football players at risk for EAH.

"It's not every high-school player, but there certainly is a population of high-school players that are in that situation where they are losing sodium at a high rate on consecutive days, and that's causing problems," Fowkes Godek said.

From Coca-Cola to Pickle Juice: Common Football Hydration Practices

Cory Boyd is a CrossFit athlete who coaches football at Terra Linda High School in San Rafael, California. He also teaches middle-school P.E. and plays semi-pro football.

He said he and the other coaches tell the kids to be consistent about hydration but don't give the young players specific guidelines about how much to drink.

While Paul "Bear" Bryant famously tried to toughen his players by forbidding Texas A&M players to drink during practices in 1954, football has since become inseparably linked to hydration and sports drinks.

In 2013, 100 percent of NFL properties reported having Gatorade as a sponsor. And, of course, Gatorade is a mainstay of college football. The sports drink was invented at the University of Florida in 1965 as a beverage for the school's athletes, the Gators. In 2012, Gatorade was the official drink of 70 Division I athletic teams.

Cole Sager played football at the University of Washington from 2009 to 2012. He placed 17th at the 2014 Reebok CrossFit Games. Gatorade sponsored the University of Washington's football team, Sager said

"We had a refrigerator in our locker room full of Gatorade, full of chocolate milk. It wasn't full of water. It was full of Gatorade, because Gatorade paid money for that to be in our lockers. Gatorade was providing it," Sager said.

Sager said the coaches wanted athletes to hydrate before and after practice.

"On every urinal and the inside of every stall, there was a poster with different shades of yellow that would go from almost clear to brown and every shade in between. It would tell you how many ounces to drink to try to get up to the yellowy hue. If you're in the brown, you're dehydrated, (and you had to) drink this much water," Sager said.

According to Dr. Mitchell Rosner, a nephrologist and professor of medicine at the University of Virginia, there is no data to support the importance of urine color as it relates to hydration. In 2012, The BMJ published "Mythbusting Sports and Exercise Products," which concluded urine color is not a useful or safe way to determine hydration status.

If a player got a cramp during practice, he'd get massage therapy from the medical team while drinking some type of fluid, Sager said.

"I think it's automatic—'Oh, I'm cramping. I've got to drink something,'" Sager said.

Marketing propagates these ideas. For instance, Gatorade.com states the Low-Calorie G2 beverage is "our lightest way to replace what you sweat out. G2 hydrates with the same electrolyte formula of Gatorade Thirst Quencher."

Fowkes Godek offered a different perspective in the CrossFit Journal article "Confronting the Drinking Problem."

"Unless you drank something that was (as salty as normal blood sodium), you would not be maintaining your blood-sodium levels—because you are adding way too much water," Fowkes Godek said.

She continued: "For these big, heavy, salty sweaters (like football players), drinking Gatorade is just like drinking water. The salt that's in that is irrelevant to putting back what they need, particularly on a chronic basis," Fowkes Godek explained.

Still, athletes hear less from Fowkes Godek and more from commercials and magazine ads. They simply don't have the right information and are left to guess about how much they should drink. This is common even at the top levels of football.

"WE WERE TOLD TO DRINK, DRINK, DRINK AS MUCH AS YOU CAN, WHEN YOU'RE THIRSTY, EVEN WHEN YOU'RE NOT THIRSTY."
—TRISTAN DAVIS

Tristan Davis played running back in the NFL from 2009 until 2013, suiting up for the Detroit Lions, Miami Dolphins, Minnesota Vikings, Pittsburgh Steelers and Washington Redskins. He's now a high-school football and track coach in Atlanta, Georgia.

Davis has practiced in some of the hottest parts of the country.

"We were told to drink, drink, drink as much as you can, when you're thirsty, even when you're not thirsty. Make sure your mouth is never dry. And there (were) even places where they would give you IVs. A high-cramp-prone athlete would get an IV. Those were drastic situations. I've seen hydration taken that far," Davis said.

Davis said the NFL regularly administers urine tests to evaluate hydration. If a player's urine is too dark, he's put on watch for three or four days and given fluids until his urine color becomes lighter. Again, doctors have stated urine color is not indicative of hydration levels.

Chuck Carswell is a CrossFit Level 1 Certificate Course leader who was with the Miami Dolphins from 1987 to 1991. He remembers salt tablets were available for all the players, and he was told they were supplied to prevent cramping and dehydration. At that time, he said, there were no instructions about the quantity of fluids they should drink, but he does remember one very unusual hydration practice.

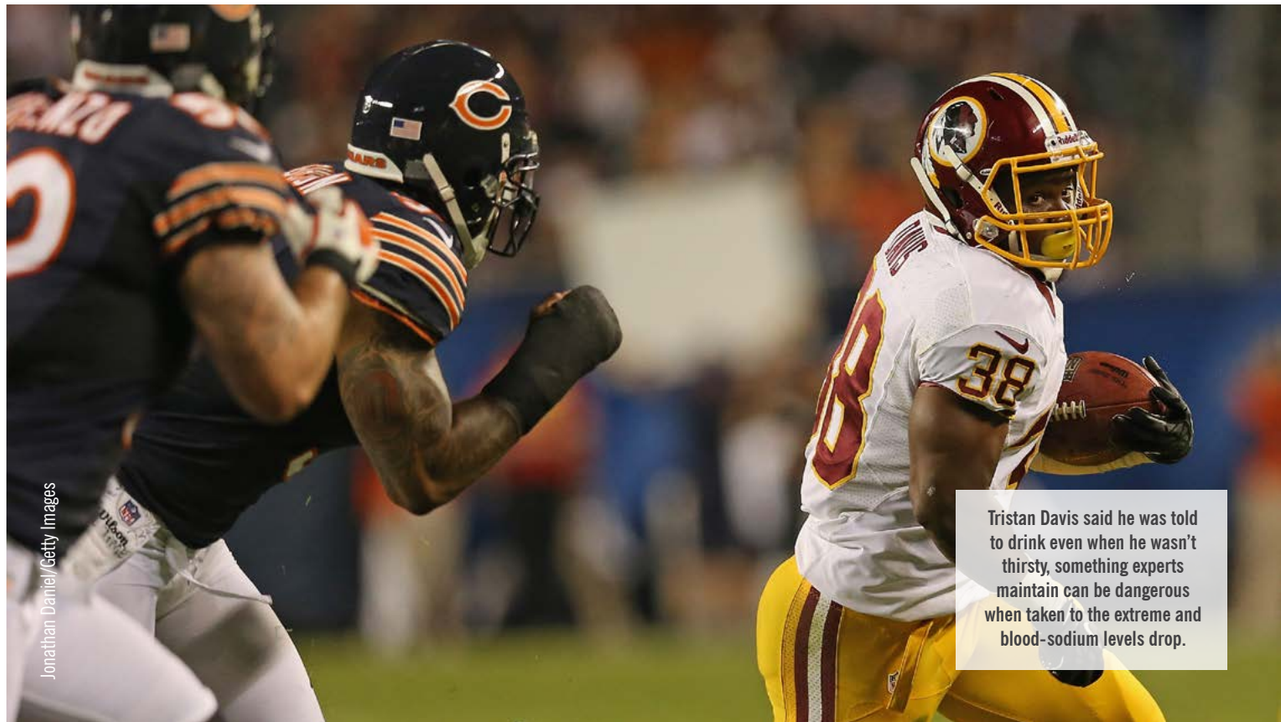
"In (college), at halftime, we had Coca-Cola, which I couldn't believe . . . . I don't remember having Gatorade. I remember Coca-Cola was on the sidelines. They had Coca-Cola on the rocks," he said, laughing.

Will Johnson currently plays fullback for the Pittsburgh Steelers. He started doing CrossFit in 2012 and credited the program for helping him reach the NFL in the CrossFit Journal article "CrossFitter Signs With Steelers." He played college ball at West Virginia and is going into his fourth year with the Steelers.

Johnson was surprised to hear there is no scientific link between dehydration and muscle cramps.

Chris Rosa

Sager recalled locker-room posters helping athletes evaluate hydration levels by urine color, though scientists maintain urine color provides little information about an athlete's hydration.



Jonathan Daniel/Getty Images

Tristan Davis said he was told to drink even when he wasn't thirsty, something experts maintain can be dangerous when taken to the extreme and blood-sodium levels drop.

Thomas Campitelli/CrossFit Journal

Chuck Carswell played corner-back at the University of Georgia before a stint on the Miami Dolphins development squad. He recalled being served Coke on the sidelines of college games.

"That's what we've been told all along. That's crazy," Johnson said. "We are still told that."

He continued: "At this level, the NFL, a lot of guys are concerned about soft-tissue injuries. I guess that has a lot to do with—what we've been told—being dehydrated. You think about it, these guys are out here fighting for a job, to feed their families, and if you're not able to go—let's say you're sidelined with a soft-tissue injury, like a hamstring pull because you are dehydrated—that will sit you out for at least two weeks, and a lot of guys depend on that for their cut."

As a result, he said his fellow players are very careful about hydration.

At the high-school level, Johnson said he remembers being told to drink a lot of water the night before practices and games.

"They suggested we follow a simple plan—drink two waters and one Gatorade, and just repeat it throughout the day," Johnson said.

Now, as a player for the Steelers, he said the trainers and medical staff suggest consuming a lot of potassium to prevent muscle cramps.

"I've had plenty of muscle cramps and soft-tissue tears, and I was told that was because of being dehydrated," Johnson said.

The last time he had a muscle cramp, Johnson said he used a Gatorade electrolyte powder he poured into his water.

"And pickle water," he said. "That helps with cramps."

As crazy as pickle water sounds, Miller—one of the foremost experts on muscle cramps—has performed studies that show pickle juice relieves cramps. The curious thing about Miller's findings is that the effect is so rapid there is no way the liquid could have time to leave the stomach and restore lost fluids or electrolytes. This suggests pickle juice might affect nervous-system receptors that disrupt the cramp.

However, these studies are not definitive, and Miller recommends stretching over pickle juice as the best muscle-cramp remedy.

"As far as the muscle strains go, I think if football players are able to recover completely—by rest and replacing lost salt and fluids between practices—then muscle strains are less likely," Fowkes Godek said via email. "I also think players who are prone to muscle cramping are less likely to get muscle strains as a consequence of the cramping if we can prevent the cramping episodes in the first place."

Fowkes Godek keeps the Eagles healthy and performing well with significant sodium replacement, primarily at meals. (She said sodium tablets don't work as well and can cause nausea if taken on an empty stomach.)

"I typically throw out things like soup. People don't think about drinking soup in July and August, but soup has a tremendous amount of sodium. It's probably the best way. If you could get football players to drink soup every lunch and dinner, it would help tremendously," Fowkes Godek said.

NFL teams and Division I schools have access to the best in sports medicine, but many players, coaches and trainers are still unaware of the science of dehydration and cramps. The science is out there, but it's not reaching the people who need it. And if the pros and top college programs are still uneducated, it's difficult to expect high-school programs to have the correct information. This can have disastrous consequences.

In August 2008, Patrick Allen came home from his high-school football practice in Bakersfield, California, complaining of muscle cramps. He drank water and Gatorade, and when he started to vomit, his parents called an ambulance. He died two days later after experiencing fluid in his lungs and undergoing surgery to relieve pressure on his brain.

When Patrick Allen's father, Robert, learned his son had died from EAHE, he was shocked.

"What do you do when you have cramps? You drink lots of water and rehydrate," he said in the Bakersfield Californian article "Family in Disbelief That Drinking too Much Water Killed Football Player."

"You think you are doing everything right and this still happens," he said. ■

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 hilaryachauer.com.

LICENSE TO LIVE

BRITTNEY SALINE

With frivolous licensure threatening the fitness community, Brittney Saline investigates how regulation has failed many other industries.

THE CrossFit JOURNAL

David G. Spielman

Courtesy of Institute for Justice

Isis Brantley learned ancestral hair braiding as a child. She went on to open her own salon in 1995 in Texas but was arrested two years later for practicing without a state-issued license.

Over, under, twist. Tuck and lock.

Isis Brantley worked quickly, weaving a woman's untamed tresses into an intricate bundle of braids and twists. At her side in her small Dallas, Texas, studio, apprentices practiced their pleats on other clients' heads, learning the art of African braiding.

Also known as ancestral braiding, African braiding dates back more than 5,000 years, when differing styles of braids served as tribal identifiers such as rank, occupation, age and marital status. For many black men and women today, braiding remains an integral part of their cultural identity.

Brantley began braiding as a child, practicing skills learned from her mother on neighbors in a small, impoverished community in southern Dallas. She has made her living braiding since 25, and in 1995, at 36, she opened her own salon.

Her mission isn't just to make people look good; it's to make them feel good, too. In a society in which mainstream fashion showcases smooth strands created by harsh chemical relaxers that tame kinks and curls, Brantley helps her clients love their locks.

"We heal through hair by teaching them to love their hair," she said, "and teaching kids to have a higher self-esteem by embracing what they naturally have, what God has naturally blessed them with."

Then she got arrested.

The date was Oct. 13, 1997, a Monday. Two women entered her store, inquiring about a consultation. After a few moments, one of them reached into her jacket pocket and pulled out a badge, telling Brantley she was under arrest for braiding hair without a license.

"What about my children?" Brantley asked, in shock.

"I'll give you time to call," the officer said.

By the time Brantley had coordinated after-school care for her five young children, five more officers—uniformed—had arrived. The undercover officer with the badge pulled out a pair of handcuffs.

"I thought, 'Whoa, I am going to jail for real,'" Brantley recounted.

At the time, braiding hair in Texas without a state-issued cosmetology license constituted a criminal offense. Though braiders use only their hands and no chemicals or dyes, becoming a legal braider required 1,500 hours of cosmetology training, which doesn't include braiding instruction. Regulation continues to this day, with 24 states requiring braiders to become licensed as cosmetologists or hairstylists as of July 2014.

The officers cuffed Brantley in front of her clients and students, led her outside and drove her downtown, where she spent the next 24 hours incarcerated.

"They fingerprinted me and threw me in jail with a bunch of criminals," she said.

Regulation Nation

Imagine a world in which CrossFit affiliate owners could be arrested or fined a hefty sum for teaching the air squat without government permission. The concept is not too far removed from reality.

On March 26, 2014, legislation requiring licensing of personal fitness trainers went into effect in Washington, D.C., with the Omnibus Health Regulation Amendment Act. With nine occupations addressed in the law, the legislation holds personal and athletic trainers accountable to a to-be-determined set of government-mandated licensing fees and standards of practice, potentially overseen by the D.C. Department of Health's Physical Therapy Board. Enforcement of the law is currently on hold as officials rework many of the details.

Though similar legislation introduced in nine other states failed to pass, longstanding efforts by lobbying organizations, including the American College of Sports Medicine and the National Strength and Conditioning Association, indicate that the fight is yet in its first rounds.

Occupational regulation finds its roots as far back as 1780 B.C., when fees for medical services and punishments for malpractice were determined by the Babylonian Code of Hammurabi, the law code of ancient Mesopotamia. In early 16th-century England, Henry VIII founded the Royal College of Physicians and Surgeons, granting the authority to license physicians to the state and the church. Physician licensing began in the United States in 1639, and in 1888 states were given the authority to grant licenses to protect the health, welfare or safety of citizens in the Supreme Court Case Dent v. West Virginia.

As time went on, regulation expanded to industries outside the medical field, beginning with legal and financial services. Between the early 1950s and the 1980s, the percentage of U.S. workers in occupations governed by licensing laws grew from less than 5 percent to nearly 18 percent. By 2008, that number had ballooned to 29 percent, according to the Journal of Labor Economics.

While superfluous licensing laws might bring the public a comfortable promise of quality, the illusion of guaranteed security comes at the cost of quality, entrepreneurship and a free, competitive market.

Today, occupational regulation in the U.S. appears in three forms: registration, certification and licensure. Licensure is the most restrictive of the three—practicing a regulated occupation in exchange for compensation without meeting government standards is illegal. Punishments vary by occupation and state, ranging from fines of several thousand dollars to jail time.

In the 2006 regulation article "A License for Protection," Morris Kleiner, professor at the University of Minnesota Humphrey School of Public Affairs, wrote, "The publicly stated rationale behind licensing was to provide public protection at a time when occupational standards did not exist or were not particularly strict, and information on individuals and their businesses was difficult to obtain."

But does licensing always guarantee high-quality service? Kleiner didn't think so.

"Evidence of consumer benefits is scarce," he continued. "For example, malpractice insurance premiums for pastoral counselors, marriage and family therapists, and professional counselors—who are licensed only in some states—show no difference for individuals of the same age and experience."

A 1990 Federal Trade Commission report found that "occupational licensing frequently increases prices and imposes substantial costs on consumers. At the same time, many occupational licensing restrictions do not appear to realize the goal of increasing the quality of professionals' services."

Additionally, in 2001, the Canadian Office of Fair Trading compared the results of 15 academic studies that focused on the effect of occupational regulation on dentists, optometrists, pharmacists, lawyers and accountants in the U.S. and Canada, finding an increase in quality among the regulated workers in only two instances.

So, if regulation doesn't necessarily mean higher quality services, what does it mean? Higher prices and fewer choices for the consumer, for one, as well as restricted entry into the field for practitioners and entrepreneurs.

In a 2011 policy paper for the W.E. Upjohn Institute, Kleiner wrote that "several studies have found a number of cases where licensing reduces employment, increases prices but does not result in better services. For example … more stringent occupational licensing of dentists does not lead to improved measured dental outcomes of patients, but is associated with higher prices of certain services, likely because there are fewer dentists."

Perhaps even more confounding than the disconnect between licensing and quality is the range of occupations that are licensed, which borders on the ridiculous. For example, 21 states require auctioneers to be licensed, California licenses upholsterers, and in Louisiana you'd better not try to arrange flowers without the state's permission. All 50 states require hairstylists to be licensed, though the number of training hours required varies considerably from state to state, as do the murky delineations between barber, hairstylist, cosmetologist and esthetician.

President Obama seems to agree that excessive occupational licensing is detrimental to the nation's economic health. In his budget for the 2016 fiscal year, Obama allocated $15 million to study the effects of occupational licensing, seeking "to reduce occupational licensing barriers that keep people from doing the jobs they have the skills to do by putting in place unnecessary training and high fees."

While superfluous licensing laws might bring the public a comfortable promise of quality, the illusion of guaranteed security comes at the cost of quality, entrepreneurship and a free, competitive market.

Entrepreneurship Gone to the Dogs

Grace Granatelli is all too familiar with the restrictions of occupational licensing.

Though she had been practicing for nine years as a certified canine massage therapist in Scottsdale, Arizona, her certification was insufficient to meet the demands of the state, which mandated that a licensed veterinarian conduct the performance of any "manipulation" on an animal.

And so, after practicing for nine years, Granatelli received a cease-and-desist letter from the Arizona State Veterinary Medical Examining Board in October 2013 and was forced to close Pawsitive Touch, a business she said felt more like a calling than a job.

Terry Runion

Grace Granatelli, a certified canine message therapist, was forced to close her 9-year-old dog-massage business after the state of Arizona sent her a cease-and-desist order because she was not a veterinarian.

"It filled me spiritually," she said.

Spending her childhood under the watch of her grandmother, a breeder, Granatelli said her passion for dogs took root before she could walk.

"I was raised where golden retrievers were my siblings," she said. "I have pictures as a baby and I'm kind of in the middle of the pack."

Though she entertained a conventional career in finance for several decades, it wasn't her passion, and so in 2004 she successfully completed a course in canine massage therapy from Equissage, a leading trainer of equine-sports massage therapists.

Stemming from the practice of equine massage, popularized in the 1980s by Jack Meagher—who went on to become the United States Equestrian Olympic Team's first equine massage therapist—canine massage is described by Equissage as "the therapeutic application of hands-on deep tissue techniques to the voluntary muscle system for the purpose of increasing circulation, reducing muscle spasms, relieving tension, enhancing muscle tone, promoting healing and increasing range of motion in all breeds of dogs."

For Granatelli, massaging dogs fulfilled her in a way she never experienced crunching numbers as a financial planner.

"You can see (the dogs) kind of melt," she said. "They look so happy, and their eyes were bright and clear."

She made sure her clients knew she was not a veterinarian, making no claims to offer veterinary services. On her website, she describes canine massage as a companion to veterinary care and advises clients that massage is not a suitable replacement for regular veterinary care.

Yet in September 2013 she received a letter from the board in which she was accused of doing just that: practicing veterinary services, in exchange for compensation, without a license. It's interesting to note that Arizona law does not consider such

Courtesy of Grace Granatelli

Grace Granatelli described her dog-massage business as a calling—not a job. The state or Arizona said she needed to be a veterinarian to provide her services. Arizona has no veterinary schools.

invasive procedures as equine dentistry, including the removal of teeth, requisite of a veterinarian's license.

"It wasn't like I was trying to take business away from (veterinarians)," she said. "I was working within the veterinarian community."

One month after dutifully returning a questionnaire included in the letter and describing the scope of her practice—including details of compensation—she received the cease-and-desist order from the board. For each day she continued to massage dogs, she would risk a fine of US$1,000 and six days behind bars. Additionally, if criminal charges were sought, she could be found guilty of a Class 1 misdemeanor, facing $2,500 in fines and six months in jail.

Her options were to either close her business or invest four years and thousands of dollars in veterinary school, of which Arizona has none. Most veterinary schools don't offer courses in animal massage, anyway.

Granatelli closed her business.

"To take this away from me when I can help (dogs), see them happy and relieved and feed my spirit, it's very difficult," she said, her voice breaking.

For each day she continued to massage dogs, Grace Granatelli would risk a fine of US$1,000 and six days behind bars.

Barbara Gardner, a successful interior designer with nearly a decade of experience, has also run into the barriers to entrepreneurship imposed by occupational licensing.

After retiring from her position as a health-care executive, she turned a lifelong hobby into a business, opening her own interior-design studio, Collins Interiors, in Princeton, New Jersey, in 2006. Over the past eight years, she has built a strong base of clients from New Jersey, New York and Pennsylvania. Specializing in interior-design plans for large residences, her services in refurbishing and accessorizing homes have been well received, and her work has been featured in Sarasota Magazine, SRQ Magazine, The Herald Tribune, Design NJ, Princeton Magazine and New York Spaces Magazine.

One year after launching her business, Gardner opened a second studio in Sarasota, Florida, to where she often traveled to care for her elderly parents. Over three years, she built a solid practice in Sarasota, helping clients create the perfect aesthetic for their homes, from furniture schematics to the art on the walls.

But in 2009, "out of the clear blue sky," she received a letter from the office of the Florida Attorney General. The letter threatened her with a $5,000 fine for practicing interior design without a license and ordered her to remove all terminology describing her as an interior designer from her website.

In 1988, the American Society of Interior Designers had lobbied the Florida Legislature for adoption of an interior-design title act, meaning anyone could practice interior design without a license as long as he or she didn't use the term "interior designer" or "interior design." Six years later, the law was transformed into a practice act: Anyone who charged a dime for so much as recommending a kitchen color scheme without a license would be considered a criminal.

To obtain a license, Gardner would have to invest more than five years in a state-approved interior-design program and complete an apprenticeship under a licensed interior designer.

Gardner, who had practiced for years in states that do not require such a license, was incredulous. Florida, Louisiana and Nevada are the only states that license interior designers.

"I thought, 'Who is gonna hire me? I am their competition,'" she said. "I also felt like that was kind of an insult. I had already built a successful practice."

She also scoffed at the idea of licensing interior designers as a matter of public safety.

"I do not do structural things," she said. "I don't tell a client where to move a wall or how to move a roof line. What I do is art."

She's not the only one who thinks so.

When licensing of interior designers in Colorado was proposed in 1999 by the Colorado Interior Design Coalition, the Colorado Department of Regulatory Agencies "found no evidence of physical or financial harm being caused to Colorado consumers by the unregulated practice of interior designers."

So what's the big deal?

"The message was they're trying to kick people out," Gardner said of licensed designers in Florida. "They don't want competition."

In May 2009, Gardner joined forces with two other interior designers in a lawsuit led by the Institute for Justice, a not-for-profit law firm, against the Florida Board of Architecture and Interior Design. The Institute maintained that the law placed an "unconstitutional prior restraint on truthful commercial speech" that violated their rights to due process and equal protection under the 14th Amendment, which protects citizens' rights to earn an honest living free from unreasonable government interference.

Nine months later, the plaintiffs earned a partial victory when the law was amended in federal district court to allow the unlicensed practice of residential interior design only, leaving the unlicensed practice of commercial interior design a first-degree misdemeanor punishable by up to one year in custody.

Though the institute's appeal for total reform of the law was ultimately dismissed in 2011, it maintained that "interior design regulations drive up prices, limit choices and disproportionately exclude minorities and older mid-career-switchers from working in the field," citing a 2009 study showing that interior-design firms in regulated states earn $7.2 million more than those in unregulated states, beating out the competition by simply excluding them from the practice.

Cartel of Caskets and Chrysanthemums

In a piece titled "Intro to Personal Training Licensure," Russ Greene of CrossFit Inc. wrote that "only participants in the fitness industry have the technical knowledge to regulate the profession, yet all practitioners have private interests that directly conflict with the public interest. What's to prevent a licensing board of fitness professionals from becoming a cartel that crushes competition and maximizes its own profits?"

Louisiana's flower industry has seen just that. Since 1939, aspiring florists in Louisiana have had to pass a written test and a practical exam wherein they are given four hours to demonstrate their floral-arranging skills before a panel of state-licensed florists. Those florists, of course, would create a competitor of any candidate they approved for a license. Though the law was amended in 2010 to require only the written exam, to this day, every Louisiana florist's shop must have a licensed florist employed and on site for at least 32 hours per week.

Monique Chauvin, owner of Mitch's Flowers in New Orleans, has been arranging flowers for nearly 16 years. Her work has been featured in USA Today, the Times-Picayune and New Orleans Magazine.

The practical exam for florists was well known for requiring examinees to produce outdated arrangements using antiquated procedures and tools.

After buying the shop in 1999, she learned the art of balancing different colors, types of flowers and containers, as well as plant care, directly from her predecessor, a licensed florist.

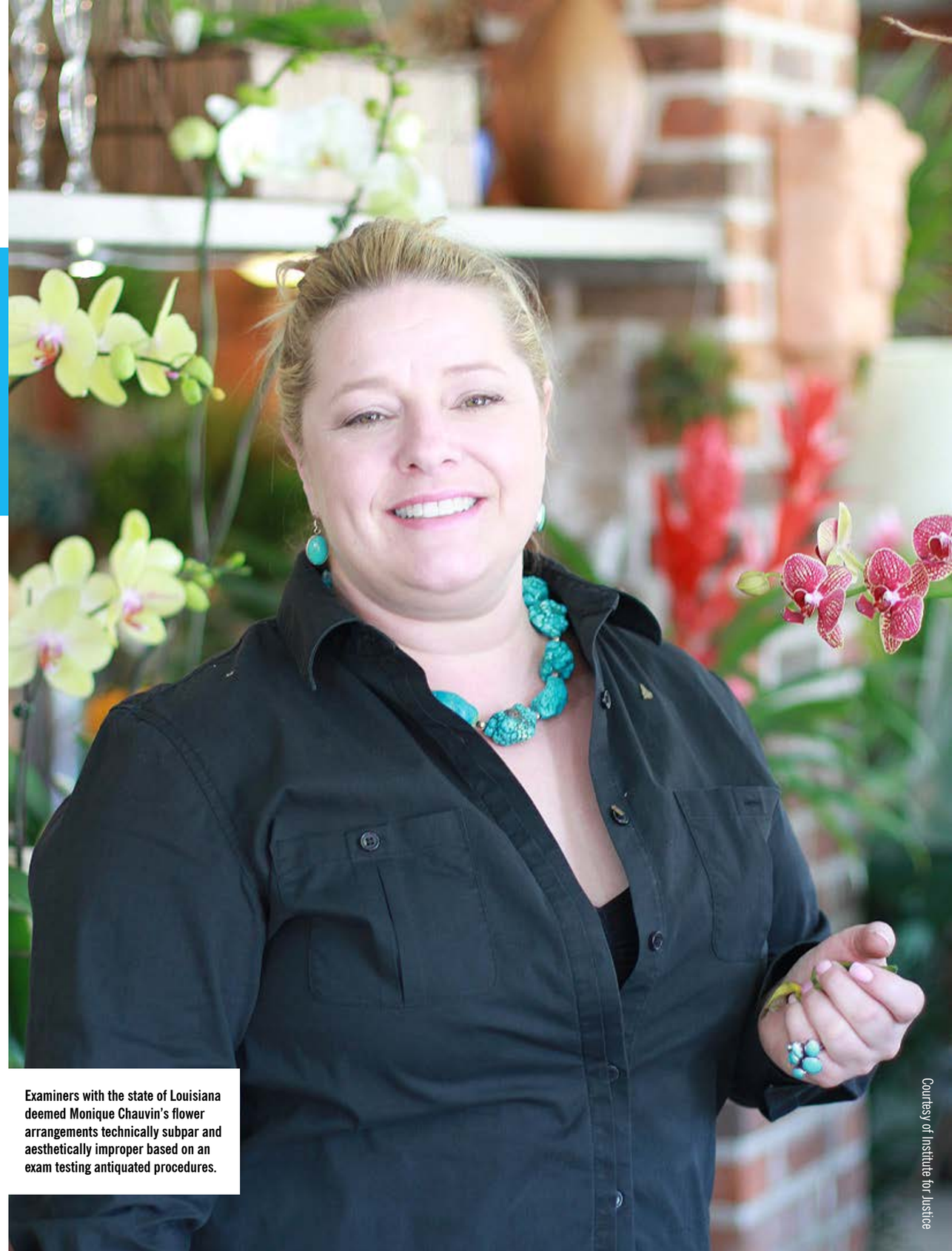
When he left the store, Chauvin hired a replacement with several years of arranging experience. In 2000, the pair set out to take the licensing exam, purchasing hundreds of dollars of state-issued study material and lessons from a florist who specialized in helping people pass the practical exam.

Why would Chauvin and her experienced employee need a specialist's help? The practical exam was well known for requiring examinees to produce outdated arrangements using antiquated procedures and tools.

"In (the study materials) it tells you you have to make a double corsage," Chauvin said, describing a large wrist decoration popular decades ago. "None of us knew what a double corsage was."

"We still make wrist corsages, but a double corsage is real big, and the girls today don't want anything real big," she added.

After paying $150 each to take the exam, the pair showed up at Louisiana State University to answer questions about floral diseases and arrangements. The test also included questions such as the following (the correct answer is "b"):



Examiners with the state of Louisiana deemed Monique Chauvin's flower arrangements technically subpar and aesthetically improper based on an exam testing antiquated procedures.

Courtesy of Institute for Justice

If you have problems or suspect someone of illegally selling cut flowers, you should:

a. call the police

b. call the Louisiana Department of Agriculture

c. investigate to the fullest extent possible

d. none of the above.

Then came the practical exam on which Chauvin spent four hours attempting to piece together arrangements using antiquated machinery such as a steel-pick machine and techniques that hadn't been used in decades, such as wiring bouquets and wreaths.

"(Florists) used to have to wire every single stem, and that is very time-consuming," Chauvin said, comparing wiring to the more modern practice of using floral tape or other plant material to support the stems. "Your flowers are not in water, and so the longevity of (the flowers) is shortened. So the way we make a lot of things today, we try to keep the natural stems if we can."

Though Chauvin's partner, who was older and had more experience with the outdated procedures, passed the exam, the examiners deemed Chauvin's arrangements technically subpar and aesthetically improper, and she failed. She was enraged.

"It's basically like art," she said. "If you like it, you're gonna buy it. If you don't, you're not gonna buy it … to me, the public will decide if you're going to stay in business or not."

"If you like it, you're gonna buy it. If you don't, you're not gonna buy it … to me, the public will decide if you're going to stay in business or not."
—Monique Chauvin

In 2007, Dick M. Carpenter, director of strategic research at the Institute for Justice, did an experiment to determine whether regulation increased the quality of floral arrangements. He asked 18 randomly chosen florists—eight unlicensed florists from Texas and 10 licensed florists from Louisiana—to judge 50 floral arrangements purchased from randomly chosen stores, half from Texas and half from Louisiana. The arrangements were identical in theme and similar in value.

Carpenter wrote in his report, "Florist-judges were given rating sheets and asked to score all 50 arrangements based on the printed criteria, such as proportion, balance, color, form and workmanship. Judges did not know any arrangement's state of origin or even that arrangements had come from different states. Possible total scores for each arrangement ranged from 10 to 50 … The judges' ratings of floral arrangements were essentially the same no matter which state the arrangements came from, regulated Louisiana or unregulated Texas."

After judging the arrangements, the florists discussed the experiment in focus groups. Carpenter reported, "Many in the focus groups thought that instead of producing quality florists, the licensing scheme served two purposes—raising money for the state and shutting out competition."

Adam B. Summers, a policy analyst for Reason Foundation, also said superfluous licensing laws often exist purely to enhance the bottom line of lobbying industries and businesses.

"By getting the government to enact or increase regulations, while generally exempting themselves from the new requirements, current practitioners raise the costs of doing business for anyone else," he wrote in his study "Occupational Licensing: Ranking the States and Exploring Alternatives." "This reduces competition and increases profits."

Not even monks are immune to pervasive monopoly attempts by industry leaders.

For centuries, Benedictine monks have buried their own in simple wooden caskets handmade at the monastery. Saint Joseph Abbey, a monastery in Saint Benedict, Louisiana, has long continued that tradition, burying their dead in caskets made of the same cypress the monastery harvested and sold to support its educational and medical needs.

After Hurricane Katrina devastated the monastery's timber supply in 2005, Deacon Mark Coudrain suggested the monastery buy timber and sell homemade caskets to support itself. In his pre-monastic life, Coudrain had been a cabinet maker, and locals had often inquired about purchasing the caskets.

The monks built a woodshop in an old cafeteria, eventually expanding to a 5,000-square-foot space in a separate building.

David G. Spielman

Saint Joseph Abbey began making and selling caskets to support itself and to minister to the grieving. The state of Louisiana told the monks they would have to operate a funeral home to continue their practices.

With stations for woodcutting, assembly, sanding, finishing and upholstering, Coudrain said casket making serves as a physical symbol of the Benedictine life of devotion.

"The Benedictine lifestyle is prayer and work," he said. "It's sort of an environment of prayer. We all pray for the people who are going to be in them."

Supplying mourners with caskets directly, he added, has helped the monks to minister to the grief stricken.

"People come in at a very difficult time sometimes to look at the caskets," he said. "In essence, we try to make the casket purchase as simple as possible while being there and helping to share in their grief."

But one month after publicizing Saint Joseph Woodworks in an article appearing in the Archdiocese of New Orleans newspaper, The Clarion Herald, on Dec. 11, 2007, the monastery received a cease-and-desist order from the Louisiana State Board of Embalmers and Funeral Directors.

Unbeknownst to the monks, it was a crime to sell funeral merchandise without a funeral-director's license—even though Louisiana law does not even require caskets for burial.

Unbeknownst to the monks, it was a crime to sell funeral merchandise without a funeral-director's license—even though Louisiana law does not even require caskets for burial. To obtain a license, monks would have to spend one year as apprentices at a funeral home, pass a funeral-industry exam and convert the monastery into a funeral establishment by installing embalming equipment and building a 30-person chapel.

Courtesy of Institute for Justice

Following in her teacher's footsteps, Nivea Earl went on to win a braiding-regulation lawsuit in March 2015 in Arkansas.

"It was quite a shock," Coudrain said. "We had no idea this would be illegal."

It wasn't illegal for the monks to make the caskets or even to sell them out of state—they just couldn't sell caskets in Louisiana without giving the board a cut.

"What was legal was we could sell them to funeral homes, and they could resell them," Coudrain said. "But we could not sell them directly to the public, which was our whole point in being able to minister (to the public)."

The board's latitude regarding sales of caskets to funeral homes for resale is easily understood when you consider how much the monks charged per casket: $1,500-$2,000 compared with the $2,000-$10,000 charged by funeral homes.

For three years, the monks attempted to persuade state legislature to amend the law.

"Each time, it never got off committee," Coudrain said. "What we saw was a very strong lobby."

After being subpoenaed in 2010, Coudrain, along with Abbot Justin Brown, filed suit against the board, citing the Due Process and Privileges Clause of the 14th Amendment to the U.S. Constitution. Meanwhile, the monastery continued to sell caskets, unwilling to halt their ministry to the bereaved.

"At a certain point in the litigation my father died, and I sold my mother a casket," Coudrain said. "We could have been fined and jailed because I sold my mother a casket."

After a federal judge ruled in the monastery's favor, the U.S. District Court for the Eastern District of Louisiana denied the Louisiana Board of Embalmers and Funeral Directors' motion to dismiss the monastery's challenge in 2011. Two years later, Saint Joseph Abbey claimed victory when the U.S. Supreme Court rejected the board's petition to hear the case and overturn the District Court decision.

Red Tape for Decades

In the months after Brantley was arrested for braiding hair without a cosmetology license and an injunction was placed on her salon, she continued to braid from inside her home. But the client base she had cultivated over the past decade slowly tapered off, frightened away by gossip and hearsay spread by Brantley's licensed competitors. As her business dwindled, she lost her apartment and was forced to move in with a family member, her five children in tow.

"My kids literally became homeless," she said, tearing up at the memory. "I felt like I was in captivity, like I had done a hideous crime to someone, and all I wanted to do was feed my babies."

She earned a partial victory when, in 2007, after a decade-long legal battle, the Texas legislature overturned the law requiring braiders to have a cosmetology license and implemented a license specific to braiders.

"What that means is every girl who has been braiding since they were 9 can now braid for money and not be in violation of any regulation laws," she said.

But her fight was not over. Because the new braiding license was written in as a part of the state's barbering statute, Brantley was legally obligated to obtain a barber-instructor's license to teach braiding.

Teaching braiding to the next generation was just as important to Brantley as the practice itself, she said.

"There are so many people in the community braiding, and they want to work," she said. "They are already working informally in their communities. They already have a marketplace. … If we are allowed to use our hands to make an honest living, then women won't be on welfare. Women won't be homeless. This is the only economic upward mobility we have, and that is the beauty and the art of ancestral braiding."

Though she had taught braiding ever since she opened her salon, as her studio, The Institute of Ancestral Braiding, grew in notoriety, Texas officials took notice of her once more. In 2013, she was ordered by the state to get a barber-instructor's license.

To do so, Brantley would have to complete a 1,500-hour curriculum for a barber's license and a 750-hour curriculum for barber instructors, and she would have to pass four exams covering material irrelevant to braiders, such as cutting, shaving, shampooing, bleaching and straightening. Additionally, she would have to convert her studio to a barbering school by spending more than $20,000 to relocate to a 2,000 square-foot space and install 10 workstations with reclining chairs, five sinks, several hooded hair dryers and more. She would even have to place a sign on her storefront advertising her studio as a barbering school.

Again, Brantley sued, bringing the issue to federal court. After a 19-month legal battle, a federal judge in Austin ruled in her favor in January 2015, declaring the law unconstitutional after lawyers for the state failed to find even one example of a barbering school that taught hair-braiding curriculum. She was now free to pass her skills on to the next generation. Three months later, the state of Texas deregulated hair braiding completely with a unanimous vote by the Texas House of Representatives. Nivea Earl, one of Brantley's former students, even went on to win her own braiding-regulation lawsuit in March 2015 in Arkansas.

It was a privilege that came at tremendous cost: decades of jumping through hoops and cutting through red tape.

"This has debilitated my life for the last 20 years, not being able to work for myself and pass it down in the way that I would like to," Brantley said. "I had to do it the way I'm doing it now, and that's one little strand of hair at a time." ■

ABOUT THE AUTHOR

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THE CrossFit JOURNAL

More Pop at the Top—Part 2

Bill Starr describes additional drills to help you finish the pull and clean big weight.

By Bill Starr **May 2015**

Shaun Cleary/CrossFit Journal

Editor's note: Bill Starr completed this article before he passed away April 7, 2015, in Maryland.

In September 2009, the CrossFit Journal published my article "More Pop at the Top," which described how to do high pulls, shrugs, isometric contractions and throws to improve the numbers on any type of pulling movement. In this

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piece, I'll describe a somewhat different approach to a very basic exercise and explain how to do a few others that are rather unique.

Having a strong finish is critical to moving heavy weights in the full clean. Without a powerful finish, the lifter does not have adequate time to move under the bar and rack it securely, no matter how quick he might be. Plus, the velocity of the bar must be increasing at the top of the pull. I've watched many a lifter pull a weight almost up to the neck yet fail to rack it because it had come to a standstill.

Then there is the factor of timing. In order to make a personal record in the clean, the lifter must pull the weight high enough with an explosive punch at the finish, and he must also know exactly when to move under the bar. A nanosecond too soon or too late and the lift is lost. I've included a couple of exercises that not only enhance the top pull but also greatly improve timing.

I'm going to begin with the power clean, an exercise familiar to every CrossFit athlete or anyone using the Big Three (bench press, squat and power clean) from my book "The Strongest Shall Survive." Power cleans will help the athlete learn the correct line of action when pulling a bar from the floor to his shoulders, and they will also help him strengthen all the muscles and attachments involved in the lift.

Done correctly, power cleans will improve shoulder flexibility, timing, quickness and coordination, and these improvements carry over to any and all athletic endeavors. Power cleans also do an excellent job of strengthening the major muscle groups of the body in a proportionate manner. That's why they're called "the athlete's exercise."

Feet on the Floor

Nearly every coach I know who is training an athlete to be an Olympic lifter teaches him to skip his feet to the side at the finish of the power clean. The coaches think doing so will help the athletes learn to drive down into the bottom position faster in order to rack the clean. I take a different approach. I want my aspiring Olympic lifters to do power cleans without moving their feet at the finish.

"But that will not allow them to move faster under the bar," you might be thinking. "And that's an important phase of the lift."

Shaun Cleary/CrossFit Journal

With heavy loads, perfect timing is everything at the finish.

Bear with me. I want the lifters to keep their feet planted firmly when power cleaning because this forces them to pull harder at the top. Whenever an athlete's feet leave the floor, he no longer has a base from which to pull the bar higher. He depends completely on momentum generated before his feet left the floor.

All the Olympic lifters from the '40s, '50s and '60s power-cleaned without moving their feet. They were doing power cleans mostly for their presses, and by planting their feet, they were able to rack the weight and get set for the press instantly. If they moved their feet, which happened sometimes because their pull was off line or wasn't quite strong enough, they had to take valuable time resetting their feet on a line before pressing the weight. That extra move usually ended up causing the lift to be a failure.

I learned the Olympic lifts by looking at photos in magazines and did power cleans for my overhead presses. If my feet moved at all, it had a very adverse effect on my press. And when I began learning how to do full cleans, I had no problem moving to the bottom position quickly.

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Ruby Wolff/CrossFit Journal

Bars pulled to shoulder height can still result in a missed lift if athletes lack a strong finish and savage aggression.

At the Dallas Y where I trained while I was going through Southern Methodist University in Texas, Sid Henry was in charge of coaching the Olympic lifters, and he had a rule that if a lifter moved his feet even a tiny bit, that power clean didn't count and he had to do the set again. He was extra strict if the lifter was trying to set a gym record.

It's my contention that having an athlete skip his feet to the side when he's power cleaning does not help him move faster to the bottom when he's doing a full clean.

It's my contention that having an athlete skip his feet to the side when he's power cleaning does not help him move faster to the bottom when he's doing a full clean. They're two different lifts. What skipping the feet does is prevent him from leaning into the climbing weight nearly as much as if he had planted his feet, and that extra 1 or 2 inches of height can be the difference between success and failure.

This change from planting the feet and moving them at the finish of the power clean came about when the press was dropped from Olympic lifting in 1972. Because it no longer mattered whether the feet were set for the press, it made logical sense to start skipping them to the side while power cleaning. The assumption was that if the feet moved faster on the power clean, they would move faster on the full clean. But the cold, hard truth is this: No matter how fast a lifter moves his feet on a full clean, if the bar has not been pulled high enough and provided with a final, powerful shrug, he will not have enough time to get under the bar.

I have watched lifters skip their feet to the side before they have given the bar that final punch upward. That wasn't a problem as long as the weights were relatively light, but when they attempted to clean taxing poundages, they were unable to rack the weight no matter how fast they moved.

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Brett Smith/CrossFit Journal

The kneeling clean. Note that the elbows should drive up and out at the finish (upper right) before the athlete swiftly and smoothly racks the bar.

Power cleaning without moving your feet makes you pull longer. Pulling longer helps you move the bar a bit higher, and that translates to more time to drive to the bottom position and rack the weight.

If this seems a bit off base, consider this: When you do high pulls or shrugs, your feet stay firmly planted at the top end of the movement. Why? Because that allows you to pull the bar higher. Any attempt to move your feet and the bar comes to a dead stop.

However, some lifters don't really want to change the way they have been power cleaning. Skipping their feet feels more natural than planting them. In those cases, I provide them with a rather unique exercise that will help them learn how to pull the bar higher and longer. Only a few know of this exercise because I have only taught it to my more advanced Olympic lifters. I came up with the idea when I was coaching Steve Dussia at the University of Hawaii. I already had him doing hang cleans, but I felt he needed something extra in order to move his clean higher. The great thing about working with "Big Steve" was that he was game for any crazy idea I came up with.

I called the exercise "kneeling cleans." These can be done with minimum equipment and space. A standard bar works even better than an Olympic bar because it forces the lifter to turn the bar over at the end of the pull. Very little weight is needed, and the starting position can be varied by using metal 5s, 10s, 25s, 35s and 45s on the bar. I started Dussia with 10s on an Olympic bar—65 lb. Make sure you use some type of firm cushioning to protect your knees.

Tuck the bar in tight to your thighs and make sure your frontal deltoids are out in front of the bar. In one fluid movement, bring the bar up and rack it on your shoulders. If you allow your torso to rotate back too soon, the finish will be much more difficult. At the finish, your elbows must be up and out, not up and back. Once you turn your elbows back, you are no longer able to extend the bar upward.

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And because it's difficult to create any momentum in this short-range movement, you must maintain pressure on the bar until you have it racked. There is no floating time.

I asked Dussia to provide some comment on kneeling cleans because he did the exercise more than any other lifter I ever trained.

He wrote: "I always considered kneeling cleans one of my most productive accessory exercises for three reasons. First, it forces you to start with your shoulders well ahead of the bar when the bar is above knee height. Otherwise, you can't generate any pull to speak of. Also, it helps to develop a perfect head position to allow for maximum trap contraction. Lastly, it requires rapid elbow movement to rack the weight. All of these things converted nicely to full cleans."

He added: "It's crucial not to implement any kind of reverse curl movement to finish the lift. This exercise is not meant to be a substitute for power cleans, but they are useful as warm-ups for that lift. It is also a nice complement to hang cleans and high pulls in a rack."

Before Dussia did kneeling cleans, he was cleaning 340 as a 181-pounder who never took any form of strength-enhancing drug. After he went through a routine that included kneeling cleans, heavy hang cleans and shrugs, he cleaned 380. This was in 1975, when only a handful of light heavyweights in the country were handling that much weight in the clean. And many of those who were lifting that amount were not clean.

The most he used in the kneeling cleans was 165 x 5 and 190 for a single. He usually did the cleans in sets of 5s, but every so often I would have him do some singles. Those single reps forced him to concentrate even more.

Hanging With Barski

I think one of the reasons kneeling cleans helped Dussia improve his full clean by 40 lb. was because he also did hang cleans at the same time. Hang cleans are my favorite for improving the full movement, and I often call them "Barski" cleans because Bob Bednarski was the first person I ever saw doing them in the York Gym. He had

Thomas Campitelli/CrossFit Journal

A well-timed finish prepares the athlete to dive under the bar and receive it in a rock-solid position.

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been taught how to do them by his coach, Joe Mills. As soon as I tried them, I was sold on their value. I could feel how they forced me to pull longer and provide more snap to the finish. Otherwise, I didn't have a prayer of racking the weight.

If you start using the hook grip every time you do power cleans, power snatches, full cleans and full snatches, hooking will become as natural as breathing.

Do not use straps when doing hang cleans. Never. It's just too risky. You must be able to dump the weight when you're unable to rack it correctly. Kenny Moore had relocated to York from Lenoir, North Carolina, and lifted along with me as often as he could. He joined me in sessions of hang cleans but had difficulty maintaining his grip once the weights got heavy, so he resorted to using straps. I did my best to get him to stop using them, but he was hardheaded and insisted he could dump the bar if he had to.

He did just that a few times, but at one workout the bar crashed down on him. It was out front, and he was unable to release the bar. The full force of the weight drove down into his hands, which were extended upward to rack the bar. I don't recall just how much weight he was using, but it was over 300 lb. His left hand took the brunt of the downward force and split open between his thumb and forefinger. Many stitches, lots of pain and a long healing process followed.

Hang cleans need to be done using a hook grip. The hook grip will allow you to lock onto very heavy weights. I used it for my deadlifts and could move as much weight hooking the bar as I could using straps. Simply hook your thumb under the bar and lock it in place by placing your forefinger and middle finger over it. And squeeze it tight. Because this is a new and different sort of pressure on the fingers of some athletes, it will hurt until they have been using the hook grip for some time. To alleviate some of the pressure and pain, wrap strips of tape around the joint in your thumb—but only two wraps. More tape will tend to bunch up and create problems.

If you start using the hook grip every time you do power cleans, power snatches, full cleans and full snatches, hooking will become as natural as breathing.

Form points for the hang clean: Assume the same starting position you use for cleaning. Grip the bar just like you do for power cleaning as well. Stand up with the bar and take a moment to tighten every muscle in your body from your feet to your neck. Lower the bar to just above your knees. Don't lower it too far. That will cause your back to round, and you don't want that.

As soon as you lower the bar to the correct spot, drive your hips forward, pull your elbows up and out and extend high on your toes. The power provided by the traps and calves will make the bar leap upward. At that moment, explode to the bottom position, all the while controlling the bar. You don't want the bar to crash down on you. You want

Brian Sullivan/CrossFit Journal

"Layback" is a key part of an aggressive finish and helps ensure the bar does not swing away from the lifter.

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Shaun Cleary/CrossFit Journal

Bill Starr advises that using hang cleans in training will give lifters a great deal of confidence when the bars must come from the floor in competitions.

to actually guide it onto your shoulders. Once the bar is racked firmly, stand up. Take a moment to make sure your feet are exactly where you want them, then do another rep. Then one more. The third rep is the money rep. That's the one that will help you clean more weight.

The third is the hardest rep by far. You're tired from the first reps, so you have to concentrate even harder on the small form points in order to be successful with that final rep. When you're able to keep the bar snug to your body, put 100 percent effort in your shrug, climb high on your toes and then erupt to the bottom position with the bar fully under your control, you will reap the benefits of the exercise right away.

That third rep will feel exactly like your second and third attempts in a contest. One of the most important aspects of this exercise is it builds a huge amount of confidence in the clean. You know without any doubt that you are in charge of a lift if you have pulled the bar off the floor in the correct line and have it just above the knees with more speed than you could generate in a hang clean.

While you're learning hang cleans, stay with poundages you can handle with a bit of room to spare. But once you get the feel of the exercise, you need to load up the bar: They only work if you push them to the limit. Should you start missing more reps than you make, back the weight down and figure out why you're missing. More than likely, it's because you aren't providing a strong enough finish. The tendency of all beginners is to cut the pull. They're anxious to get to that bottom position. But you must wait and wait some more before driving into the hole. Learn how to stay with the pull longer and you will soon be moving weight 8, 10 and 12 inches higher than before, which gives you a lot more time to guide the bar into a perfect rack.

About 6 sets of 3 are enough for hang cleans. When you get really weary, you're not going to be able to do them perfectly, and they need to be done perfectly or you'll build in some bad form habits.

To give you some idea of what to shoot for, when Dussia moved his clean from 340 to 380, he was able to hang-clean 350 for a double.

After I spent a good bit of time learning how to do hang cleans correctly, I was able to triple 360 as a 198-pounder, and I moved my clean from 405 to 446 over the course of a couple of years.

Besides enhancing confidence, hang cleans are extremely valuable in improving timing for full cleans. By drilling the hang cleans, you learn exactly when to make that move to the bottom. The difference between moving too soon to the bottom and moving too late is no more than the blinking of an eye. To be able to pinpoint the exact moment to make the move to the bottom is worth 30 or 40 lb.

Once a week is enough for hang cleans. This piece is about improving the clean, but snatches can also be done from the hang.

From the Vault

There's one more exercise I want to present, although I'm not sure it's one many lifters should try. I include it because the only lifter I ever saw do it was also the athlete I consider the smoothest cleaner in the history of Olympic lifting: Clyde Emrich.

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Brett Smith/CrossFit Journal

"Hopper pulls" might help athletes improve their timing, but the possibility of equipment damage and injury makes the movement quite risky.

Emrich trained at the Irving Park Y in Chicago, Illinois. When I was attending graduate school at George Williams College in Wisconsin and working at the Park Ridge Y, I would try to get to Irving Park as often as possible so I could train with Emrich, Fred Schultz, Chuck Nootens, Jon Ranklin and Steve Sakoulas. They were all terrific lifters and great guys. Emrich was one of the lifters I had admired when I first got involved in Olympic lifting. He had placed third at the '54 Worlds in Vienna and won the silver medal in '55 at Munich, along with numerous national titles.

I called the exercise he did "hopper pulls," although I'm not sure what he called them. He would place a loaded barbell on the very end of a flat bench, then clean it. Then he stood up with the weight and lowered it back to the end of the bench. But he wouldn't lower it carefully to the bench. Rather, he drove the bar into the bench so it rebounded upward rather forcefully. He would do 4 or 5 reps in this manner, then add more weight. He often worked up to close to 400 lb. His pull had to be very exact for him to be able to rack the bar and ride it down to the deep bottom position because his legs were almost touching the bench. Every rep was done perfectly, and I never saw him miss a single one.

Back at my Park Ridge Y weight room, I tried doing some hoppers. I decided their greatest benefit was to help with my timing whenever I pulled a weight much higher than I needed to in order to rack it, such as in the warm-up attempts for my clean and jerks.

I didn't do this movement very often for two reasons: I felt hang cleans were more useful, and I was fearful of damaging a bar by rebounding it off the bench. But if I happened to be in a gym that had some slightly bent bars, I would do a few sets of hoppers.

Editor's note: As the author has indicated, this is a very rare movement which carries a significant risk of damaging equipment and/or personal injury due to the use of barbells and benches in a manner outside the scope of intended

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use. Due to the risks involved, athletes should consider this movement only as an interesting part of weightlifting history as opposed to incorporating it into a training regimen.

I can't say hoppers helped my cleans very much, but they certainly had a positive influence on Emrich's cleaning. During the 1963 lifting season, from January to April, there was a meet held every Sunday at one of the YMCAs in Chicago. I lifted in all of them, and Emrich seldom missed a contest. At that time, the world record in the clean and jerk for the 198-lb. class was 418 and change. At the meets, Emrich would open with a ridiculously easy 380 or 390 and go right to 420 to break the record. He would clean that poundage as smooth as silk two and sometimes three times—when he chose to take an extra attempt—only to miss the jerk every time. He never failed to clean that weight, which would have earned him a world record. Why he didn't spend more time improving his jerk, I do not know, but in my estimation, he was capable of cleaning 440 lb.

Shaun Cleary

Finish!

Finish the Pull!

If the finish of the clean is your weak point, give these exercises a try. Power cleans without moving your feet, kneeling cleans and hang cleans will help you to make your finish stronger, and when that happens, your clean improves significantly.

Blend these exercises into your strength program and continue to do heavy high pulls, shrugs and isotonic-isometric contractions so the start and middle of your cleans stay strong. Make improvement on all of these lifts and your full cleans will move up right away. Having confidence in those final attempts in a contest gives you an edge against your opponents, and that's a very satisfying feeling.

✦

About the Author

Bill Starr coached at the 1968 Olympics in Mexico City, the 1970 Olympic Weightlifting World Championship in Columbus, Ohio, and the 1975 World Powerlifting Championships in Birmingham, England. He was selected as head coach of the 1969 team that competed in the Tournament of Americas in Mayaguez, Puerto Rico, where the United States won the team title, making him the first active lifter to be head coach of an international Olympic weightlifting team. Starr is the author of the books "The Strongest Shall Survive: Strength Training for Football" and "Defying Gravity," which can be found at The Aasgaard Company Bookstore. Starr died April 7, 2015, in Maryland.

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THE
CrossFit JOURNAL

Enemy Unseen

Veterans living with post-traumatic stress disorder find comfort through CrossFit.

By Chris Cooper **May 2015**

Tai Randall/CrossFit Journal

The American Veterans Disabled for Life Memorial in Washington, D.C., honors those armed-forces veterans who have been permanently disabled during their service.

Twenty-two veterans will kill themselves today, according to the nonprofit group Iraq and Afghanistan Veterans of America (IAVA).

Officially added to the third edition of the "Diagnostic and Statistical Manual of Mental Disorders" in 1980, post-traumatic stress disorder (PTSD) is a relatively new name for a condition that's been around as long as war. Unfortunately, its popular

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image is one of weakness—picture a crazy old shell-shocked uncle in wartime comedies—and few seek help.

Left untreated, PTSD is devastating. A 2012 report by the Department of Veterans Affairs (VA) shows almost 25 percent of all suicides in the United States are committed by veterans. Female veterans are more likely to attempt suicide; male veterans are more likely to succeed.

After battling a visible enemy, many veterans return home to find they've brought an unseen foe with them. Can coached fitness supply an ally in the fight on the home front?

Home, With Scars

David Lochelt, a paratrooper, was trained as a forward observer and served in Vietnam with E Company Recon, 4th Battalion, 503rd Infantry, 173rd Airborne Brigade. He spent two years sweating and fighting before he was honorably discharged from the army at 22 in 1970. He holds specific details of his service in Vietnam close to his chest.

"The term 'PTSD' hadn't been invented yet," Lochelt said. "They called it 'shell shock' or 'battle fatigue.' But I didn't think I had it."

Lochelt, now 67, began his post-service life with heavy drinking and drug use.

"For about six years I was rolling around the country," he said. "I was a musician, and I rolled around, played music and did drugs and alcohol."

At the time, Lochelt thought it was just part of the culture but now recognizes the pattern of PTSD.

After an alcohol-induced seizure in 1976, he found help in a 12-step program. He included exercise as a distraction.

"I became a runner," he said. "I ran marathons, did triathlons. I had two knee surgeries. I ran through my 30s, 40s and into my 50s. But I could still only sleep if I really put in a lot of miles."

He added: "When you're running, you can still think—know what I mean? I can have flashbacks while riding my bike."

Lochelt found CrossFit through another veteran's PTSD story online. After starting at CrossFit Portland in Oregon in June 2014, he started sleeping at night.

Courtesy of David and Lori Lochelt

Before leaving to fight in the Vietnam War, David Lochelt had to pose for this so-called "death picture." The U.S. Army kept it on file in case they needed it to identify his body.

PTSD and the Brain

The brain can rewire itself to meet the needs of its environment. This adaptability is necessary for survival but can also be a detriment.

When placed in a prolonged state of stress, the amygdala (responsible for fight-or-flight responses) enlarges by commandeering free neurons around its borders. The result is a state of heightened readiness—called "alarm" by neuroscientists—that keeps the body at full alert. When stress is removed, the amygdala should downsize to its normal state.

But when the stress isn't removed, the hippocampus—responsible for memory retrieval and distinguishing between new information and memory—shrinks. The brain loses its ability to provide context for new information; memories can appear to be happening in the present. To make matters worse, the ventromedial prefrontal cortex—which regulates response to fear—also

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shrinks with prolonged stress, and the brain loses its ability to determine appropriate levels of response.

It's a downward spiral: The brain is primed to perceive threats, memories are confused with the present, and the response to stress is exaggerated. The amygdala keeps growing while the hippocampus shrinks, and even mild stressors are amplified.

While the brain is very plastic, it isn't made of rubber, and it doesn't bounce. Even mild jarring over time can cause long-term damage. Football players who have suffered a concussion show reduced hippocampal volume decades after their last game, which can trigger a descent into depression, memory loss and other conditions similar to the long-term effects of PTSD.

PTSD and traumatic brain injury (TBI) can go hand in hand. One might cause the other in some cases, or both can be sustained at the same time but carry different symptoms.

Courtesy of David and Lori Lochelt

Today David Lochelt finds CrossFit occupies his mind, helping to make his PTSD manageable.

Lochelt thinks the PTSD suffered by Vietnam veterans is primarily psychological, while that suffered by Iraq and Afghanistan vets might be more physical. In other words, he thinks the nature of warfare is changing the nature of brain injury.

It's a downward spiral: The brain is primed to perceive threats, memories are confused with the present, and the response to stress is exaggerated.

"These IEDs are bigger and stronger now. In Vietnam, we had smaller booby traps, like hand-grenade size. We mostly had loss of limbs," he said. "And we were walking on trails. Soldiers now are in a carrier."

The concussive force inside a carrier hit with an IED can have a reverberating effect on the brain. When a blast occurs outside, its shock is dissipated. Inside a carrier, the blast is absorbed by the bodies of the carrier's occupants.

Whether the nature of PTSD is different now is debatable, but what's clear is blast-induced neurotrauma and "mild TBIs" can create just as many problems as shrapnel. In fact, the National Geographic article "Blast Force" referred to brain trauma as the "signature injury of the Iraq and Afghanistan campaigns."

A Constant Battle

Brett Casavant knows the interplay between TBI and PTSD all too well.

A machine gunner with the 1st Battalion, 8th Marines, 2nd Marine Division in Iraq, Casavant suffered a series of head injuries in his 20s while deployed between 2002 and 2008.

"Once, my truck was hit with an IED. I was never fully unconscious but don't remember the rest of the day at all," he said, evidencing a classic concussion symptom.

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He also had a "lot of rockets land inside the area where we were sleeping."

Though these incidents occurred several times, no documentation of injury exists because Casavant's records were blown up in attacks.

Casavant, now 32, began suffering headaches while still in Iraq and noticed a loss of balance and coordination. He started writing things down on paper and said other soldiers would occasionally have to cover up his forgetfulness. He was medically retired in 2008 with a very general diagnosis:

"Due to injuries sustained in Iraq."

In other words, he was retired without a diagnosed brain injury, though he almost certainly had one. Casavant said the diagnostic technology simply wasn't available then.

"Now, they have triage set up for head injuries. They're looking for it," he said.

Casavant's vague injury diagnosis qualified him for a pension that was "ridiculously low but included health-care coverage." After six years as a soldier, Casavant had to try and create a new life with a broken back and damaged brain.

When Casavant's squad lost a man, he—as team leader—was forced to carry over twice his body weight in ammunition and gear for the unit's machine gun. When he jumped over a wall into a stairwell with the load, he ruptured several discs in his lower back. He returned home with a TBI, PTSD, degenerative disc disease with annular tears, spinal stenosis, lumbar radiculopathy and lumbar neuropathy. He needed help just to walk, couldn't think straight and still replayed battle scenes in his mind on an endless loop.

"That's when depression set in," he said.

Casavant knew his recovery would involve exercise.

Chris Cooper/CrossFit Journal

Brett Casavant works out at an adaptive-athlete seminar at Reebok CrossFit Bare Cove in Massachusetts.

He credits his wife—his high-school sweetheart—with pushing him to seek help. At her urging, Casavant sought both mental help and physical therapy.

"Seeking help early on helped me stay sane," he said. "One guy I was with in the Marine Corps for four years came back and locked himself in the basement. But I had a purpose."

Casavant knew his recovery would involve exercise but wasn't sure he could handle CrossFit workouts.

"I learned about CrossFit while at Quantico (in 2007). It was always in my mind, but I didn't think I could do it, so I started at Planet Fitness," he said.

"But it wasn't making me happy. I was by myself doing everything, and I just kept thinking about it. So when I found out about what Chef (David Wallach) was doing at (CrossFit) Rubicon, it opened my eyes to the community within the community."

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Chris Cooper/CrossFit Journal

Brett Casavant learned of CrossFit while in the Marine Corps. Today he shares his story as part of the Crossroads Adaptive Athletic Alliance seminar team.

Headquartered in Vienna, Virginia, Wallach's Crossroads program for adaptive athletes has introduced many amputees and PTSD victims to CrossFit. Casavant now travels with the Crossroads Adaptive Athletic Alliance (CAAA) seminar team, sharing his story with affiliate owners and coaches several times each year. CAAA's mission is to "facilitate the reintegration of permanently-injured athletes back into both the sporting community and community at large through sport," according to its site.

Unfortunately, Casavant's story is atypical. As a 2014 member survey conducted by the IAVA revealed, many veterans are still hesitant to get help: 27 percent of survey respondents believed they had a "mental health injury" but were not seeking care. Their reasons: 46 percent didn't want to be perceived differently by friends, family or peers, and 33 percent were concerned it might affect their careers.

The IAVA is taking steps to increase awareness and access to care. President Barack Obama signed the Clay Hunt Suicide Prevention for American Veterans Act into law Feb. 12, 2015. Among other things, it will help the Department of Veterans Affairs recruit psychiatry students to ease the PTSD caseload. The act facilitates networks not unlike the 12-step peer-support group through which Lochelt finally sought help.

Each aspect can be part of a survivor's strategy, but none will break the cycle completely. Lochelt struggles daily, but he believes he's on the right track. When asked if he has daily thoughts of suicide, his answer was simple:

"Yes."

He continued: "There have been literally thousands of times when I didn't want to survive. But I usually had a reason: my kids or my wonderful wife and grandchildren."

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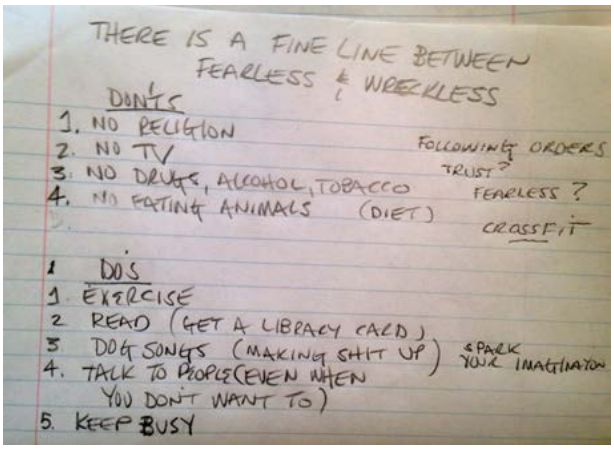

Courtesy of David and Lori Lochelt

David Lochelt created a list of do's and don'ts on which to focus. The blueprint reminds him of what's important as he tries to keep his PTSD in check.

If PTSD is a battle, his family members are allies.

"I think they're depending on me not to do it. To not commit suicide," he said.

Over the years, Lochelt has put together a list of do's and don'ts that help keep him grounded. He wrote down his "plan" before his phone interview with the CrossFit Journal.

Lochelt lists familiar reasons for enjoying CrossFit—novelty, challenge and community—but especially enjoys the regular break from thinking.

"The moment I walk through the door, all I think about is CrossFit because I'm getting instructions about the workout of the day. I never look to see what it is before I go. I just show up and do whatever I can with that workout. And in that hour or even a little more sometimes, my mind is, like, flushed. It's absolutely amazing. I think I'm getting endorphins in a different way. I think, scientifically, that's what is happening to me."

In other words, Lochelt feels a full hour of engaged coaching helps him break the stress-response cycle of PTSD. Casavant agreed.

"It gives me something positive to focus on and gives me a break from all the things bouncing around in my head," he said.

Though it's not always easy to make the 5-a.m. class, Casavant relies on his military training to get his boots on the floor in the morning.

"I know if I don't go, I'm not going to be a better person or a better father," he said. "I'm not a Marine if I don't follow through when I'm tired. I've done more stuff when I'm in pain, more stuff when I'm tired—I know I can do it, but it's a battle."

The mental break is helpful, and the 2006 article "The Protective Role of Exercise on Stress System Dysregulation and Comorbidities" underscored "the beneficial effects of regular exercise in preventing or ameliorating the metabolic and psychological comorbidities induced by chronic stress." The study presented in the more recent article "Exercise Augmentation of Exposure Therapy for PTSD: Rationale and Pilot Efficacy Data" showed increased levels of brain-derived neurotrophic factor (BDNF) in PTSD victims post-exercise. BDNF helps with the production of new neurons and synapses, a critical process for replacing cyclical responses to fear.

And other athletes suffering from PTSD have recounted the benefits of group exercise in such CrossFit Journal articles as "Post -Traumatic Stress Disorder: Finding Purpose Through CrossFit" and "Virtuosity 5: Therapy." Whether the evidence is scientific or anecdotal, Lochelt doesn't need to be convinced.

"I'm not going to mess with it. I just know it works. It's not a cure, but it's amazing what it does for me," Lochelt said.

"They (the VA) put lots of people on antidepressants, but I'm going to CrossFit. That's what I say. Don't try to do this alone. You won't."

✦

About the Author

Chris Cooper is a CrossFit Journal contributor. He owns CrossFit Catalyst in Sault Ste. Marie, Ontario, and is a founder of CrossFit Brain.

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