



THE
CrossFit JOURNAL

NOT TAKING IT SITTING DOWN

BY MAUREEN O'HAGAN

Kelly and Juliet Starrett work to prevent poor movement by supplying kids with stand-up desks at school.



After witnessing sloppy mechanics at their daughter's field day, Kelly and Juliet Starrett were motivated to confront the culprit: sitting.

In the spring of 2013, Kelly Starrett and his wife, Juliet, volunteered to help out at their daughter's elementary-school field day in Marin County, California. The experience was eye-opening.

Far too many kids seemed to be physically compromised. They saw kids who couldn't get themselves into burlap sacks for the sack races, much less hop to the finish line. They saw kids whose running mechanics were a mess. Specifically, they were heel striking—something they weren't doing before first grade.

Running on your heel vs. on your midfoot might seem like a small difference, but as a doctor of physical therapy, Kelly recognized a mechanical fault that could lead to some lifelong issues. And it was also a symptom of something much larger.

"We left the field day and we were pretty bummed," Juliet said.

The problem, the Starretts believe, is mobility: At the ripe old age of 7, 8 and 9, the children were already showing compromised hip function. Yet the Starretts had seen these same kids running around like champions a few years earlier. So what had happened?

Kelly, who runs San Francisco CrossFit, chewed on the problem for a while. He thought about the elite athletes he trains and what he's learned working with them. He thought about kids and their daily activities. And he came to a conclusion: "We were forced to confront sitting."

Confront, indeed. That day at the sack races has led the Starretts down a path they hope will start a nationwide standing revolution—beginning in the first grade.

The Dynamic Classroom

As the leader of the CrossFit Mobility Trainer Course, Kelly knows more than a few things about how the body works. So the idea that excessive sitting is a problem wasn't new to him or Juliet.

To be sure, it's possible to sit while maintaining decent spinal position—in theory. Mostly, however, humans slouch. They hunch their backs and drop their heads. Their trunk musculature shuts down. Their breathing labors under a compressed diaphragm. Their hip flexors are shortened.

Basically, sitting introduces kinks all throughout the system—both literal and figurative. Ever feel a tug in your back when

you rise from a seated position? It might be because sitting in that kinked position all day has taught your hip flexors they're supposed to be short and tight.

This habituation plays out in ways that have become predictable to Kelly, and he sees it manifested in elite military groups, cyclists, ballet dancers, football players and CrossFit athletes of every ability. So over the years, he's devised an arsenal of mobilizations to address these problems. But he also knows that a few minutes of, say, couch stretching, will not undo eight hours of sitting with a horrible spinal position. Lately, Kelly has been focusing a lot of attention on prevention in the form of standing desks. And his clients started to notice a difference: Their backs don't hurt anymore, their mechanics begin to normalize, and their performances improve.

**"You literally cannot
make a case for sitting."
—Kelly Starrett**

"What we've continually said is we're going to take the lessons we're learning about elite athletes and optimal human performance and spin that backwards to make it valuable to the rest of the population," Kelly said.

"All you have to do is go into any classroom, observe the kids' spines and you'll be horrified," Starrett said.

Then, he posed an incisive question: "If you know that sitting on an airplane crushes you," he asked, "why is it OK for your kid to sit (all day in school)?"

Spurred to action, Juliet really began digging into the research.

Excessive sitting has been linked with increased incidence of heart disease and diabetes; it appears to affect cholesterol and blood sugar. It's even been associated with decreased lifespan. As the new saying goes, "Sitting is the new smoking."

All of this still true for people who work out regularly. You simply can't counteract all those negatives with an hour or two of exercise each day.



Juliet Starrett was worried administrators, teachers and parents wouldn't hop on board with students having stand-up desks. She was pleasantly surprised.

Think about all that. Now think about how often you sit. And how often your kids sit. At breakfast, lunch and dinner. In the car or the school bus. All day in the classroom. An hour or more doing homework. Playing video games and watching TV.

And how often are they moving around?

Exactly.

The Starretts feel so strongly about this problem they see it as a public-health issue.

"The research is clear," Kelly said. "You literally cannot make a case for sitting."

Juliet's research turned up another interesting fact, too. You burn a lot more calories standing than you do sitting. Mark Benden, a researcher at the Texas A&M School of Public Health, ran a project in which several classrooms in Bryant, Texas, were equipped with standing desks. Kids in both the sitting and the standing classrooms were also outfitted with calorie monitors. Standing students burned 17 percent more calories than seated students. Overweight kids who stand burn 32 percent more calories than seated kids. The results were published in the

article ["The Impact of Stand-Biased Desks in Classrooms on Calorie Expenditure in Children."](#)

Juliet figured out that if a kid stands instead of sits, he could burn 30,000 to 50,000 more calories in a year, depending on his weight and how often he stands. When Juliet plugged her own vitals into an online calculator, she found that standing instead of sitting would burn as many calories as running 33 marathons.

It was an aha moment. Could standing desks help fight childhood obesity?

"The problem isn't as simple as sitting vs. standing," Juliet said. "Really, the problem is inactivity. But what are the simple, elegant solutions to the inactivity problem?"

Juliet found adjustable, kid-size standing desks for about US\$250 each. The Starretts decided they were willing to buy desks for their daughter's entire class at Vallecito Elementary. They listed the possible hurdles: the principal, the teacher and—most intimidating of all—the other parents.

This wasn't a group of CrossFitters who know Kelly and Juliet's work. To most people at Vallecito, they were just another mom and dad.



Research has shown kids who stand in school burn 17 percent more calories than those who sit, making stand-up desks part of the fight against obesity.

"I was a little nervous beforehand because parents do some crazy stuff," Juliet recalled. She added, "They probably already think we're weird."

The Starretts approached Principal Tracy Smith last spring, prepared for some drawn-out discussions.

As it turned out, their timing couldn't have been better. Gina Roberts, a kindergarten teacher, was being reassigned to the fourth grade but didn't yet have a fully outfitted classroom. Smith and Roberts agreed to give it a go. Over the summer, Smith sent letters to parents explaining the standing desks would be a trial. The Starretts promised not only to foot the bill for the desks but also to help adjust each desk to the proper height. In addition, they planned to check in periodically to see how the students, their parents and Roberts were feeling about their new classroom.

It turns out the parents weren't as wary as Juliet initially thought they would be. Their biggest concern was that their kid would get tired being on his or her feet all day long. Roberts reassured them the kids wouldn't be standing for hours on end and said she'd change things up every 15 minutes or so.

For Roberts, the excitement wasn't necessarily about the physical benefits of the new set-up. It was the idea that standing is good for the mind, too.

Benden, the researcher, said kids are better able to concentrate when they're not stuffed into chairs—chairs that typically come in just one size regardless of the student's height.

If you really think about it, putting kids in orderly rows of desks and chairs isn't all that natural.

If you really think about it, putting kids in orderly rows of desks and chairs isn't all that natural. "When you go into kindergarten, you say, 'Everybody sit down and be quiet,' and they moan and groan," Benden said in an interview. "It's almost like you're torturing them. You can see their little bodies are about to explode."

By letting kids stand, they “burn off some of that nervous energy,” Benden added. “It’s OK to fidget or wiggle or wobble. That motion will allow them to focus on their work.”

Visiting Classroom 36 at Vallecito, you’ll notice a few things immediately. First, it’s not laid out in orderly rows. Sometimes the students push their desks into groups; other times they circle up for an activity. Also, the desks are all different heights—as are the students. There’s almost a foot difference between the tallest and shortest in the class.

You’ll also notice the kids aren’t just standing there, still. The desks are outfitted with a hinged footrest, and as the kids listen to Roberts, many are swinging a foot back and forth.

“They’re fidgeting with their foot so they’re able to put their focus on me,” Roberts said.

When she’s not doing direct teaching, Roberts gives them some freedom. One day in mid-September, for example, she passed out a vocabulary test with these instructions: “When I give you your test, you can sit wherever you like or stand wherever you like, but you need to be away from others,” she said.

Some kids stayed put; others sat or even lay on the floor. Some grabbed one of six small stools and sort of perched at their desks.

“If you learn better by sitting, great,” Smith noted. “If you learn better moving around, that’s great too.”

Kelly sees all that getting up and down from the ground as another benefit.

“We just parlayed a whole lot of extra movement into the environment,” he said. “You have to understand that the movement-rich brain is ready to learn. And it’s very, very powerful.”

It’s worth noting the stand-up desks are a big change for students, yet a few weeks into the school year, they were doing well with it. They were behaving. They were sharing the stools. They were listening to Roberts. Sure, there was some poking and giggling as the students moved about the classroom. But, as Roberts said, “That’s just fourth grade.”

Standing to Be Standard?

Benden has said probably a few hundred classrooms around the world have tried standing desks. He thinks the numbers will soon grow.

The Starretts want to help make that happen. They’re forming a nonprofit, Stand Up Kids, that will help educate people about the benefits of standing desks, and, hopefully, encourage donors to fund standing classrooms around the country. They’re also writing a book on the perils of sitting on how to combat them.

As the owners of a gym, they see how important all this is. It’s hard to get people to stretch to counteract all that harm they’ve done to themselves with excessive sitting, but what if, from a very young age, you set yourself up right? What if you get your body accustomed to standing instead of sitting? What if you didn’t get such tight hips in the first place?

The possibilities are exciting.

“We certainly don’t think standing desks are the end-all,” Juliet said. “But we think they’re the simplest, most elegant solution.” ■

About the Author

Maureen O’Hagan is a Seattle-based journalist who is the recipient of numerous national writing and reporting awards. Skeptical by nature, she tried CrossFit for a newspaper story in 2009. Now she’s hooked.



The Starretts are forming a nonprofit called Stand Up Kids to help educate people about the benefits of standing desks, especially for children.