

Improving Your Health by Ditching Desks and Chairs

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✓ Fact Checked

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STORY AT-A-GLANCE

- › For every hour you sit down, your life expectancy decreases by two hours. For comparison, every cigarette smoked reduces life expectancy by 11 minutes
- › Your body was designed for full range of motion, and simply standing does not optimize your physiology either. The key is movement, not simply standing statically. Sitting can also be healthy when done correctly
- › Sitting cross-legged on the floor is a healthy position, improving the range of motion in your hips

Editor's Note: This article is a reprint. It was originally published November 27, 2016.

Kelly Starrett, who has a Ph.D. in physical therapy, is the author of "[Deskbound: Standing Up to a Sitting World](#)." It's a real eye-opener, and has helped me address some of my own movement challenges.

I read about 150 books a year and last year the best book I read was "The Metabolic Theory of Cancer." This year I would have to give that honor to Kelly's book. I have read many books on posture and movement, but his was the best.

If you have a desk job, this book is a veritable gold mine of helpful guidance that can improve your health and well-being. Kelly is one of the leaders in the CrossFit movement and stresses the importance of proper body mechanics, both in and outside the gym.

His first book, "[Becoming a Supple Leopard](#)," addresses biomechanical inadequacies that might increase your risk of injury.

"[A]s I was addressing football teams and soldiers, we were seeing the same sequel of problems – a lot of forward [leaning] head or neck, stiff upper back, and inability to put the arms over the head ... lower back dysfunction, short hips and over striding," Kelly says.

"What we realized [is that] most were engaged in an activity that went against physiology ... [W]hat's happening today, because of the changing environment, we're sitting a lot more. We have a lot more technology ... We commute more.

We're making this very basic adaptation error, and that is we're not moving enough. What's interesting about the sitting versus standing conversation is it's really the wrong conversation. The right conversation is moving versus not moving ...

When we stand up, we [upregulate] the whole physical being. That really ends up being the most important conversations – bringing the consciousness to the fact that, as modern humans, we may not be able to move the way we were designed."

Optional Versus Non-Optional Sitting

In "Deskbound," Kelly quotes research from Dr. James Levine showing that for every hour you sit down, your life expectancy decreases by two hours. For comparison, every cigarette smoked reduces life expectancy by 11 minutes.

That means sitting down is far more hazardous to your health than smoking – a shocking revelation for most, I'm sure.

However, Kelly notes that you cannot simply replace sitting with standing. Your body was designed for full range of motion, and simply standing does not optimize your

physiology either. Also, sitting CAN be beneficial, when done right. In other words, there's a skill to sitting in a way that's beneficial to health.

"Let's just clean up our sitting hygiene," he says. "Look at your sitting time, and divide your life into optional sitting and non-optional sitting ...

You may have to sit in a meeting or sit in your car – those things are non-optional. But the rest of it, you can really get a big upregulation and function just by ditching that optional sitting."

Blocking Unwanted Behavior

In the video, you see Kelly sitting down. It appears as though he's sitting on a couch, but this is actually an optical illusion. He's sitting on the floor, and that is one of the strategies he presents in his book.

It's not uncommon for people to sit for 13 hours a day, and the challenge is to replace sitting with movement, not simply standing.

*"If anyone has ever had a job or they've had to stand for long periods of time, statically, it is brutal ... Go to your local yoga class and ask for a good dose of *tadasana*; standing pose, standing meditation, and you'll last two or three minutes before you start to burn and fatigue ...*

It takes skill in standing, but how do we create an environment that reflects the physiology instead of making the physiology of the body conform to the environment?

When we address or teach about strength and conditioning, or about behaviors or patterns, we try to make what we call blocked behaviors, blocked patterns, where you don't have to make a decision; the decision is made for you.

For example, when I come back after lunch and there's no chair. Instead I go up to my standing moving station at my desk. I'm automatically going to do the

right thing. I don't have to make a decision about raising my desk or getting out of the chair ...

[O]ne of the nice pieces about creating a movement-rich environment is that you automatically get these contextual signals and cues that say 'I need to sit' or 'I need to work.'

So I'm sitting at a table cross-legged. What that does is it starts to give me more movement options. Now I'm taking my hips to a more full-range of motion, and it's a break from the standing that I was doing earlier."

The Sitting-Rising Test Predicts Mortality Risk

There's a well-validated study showing that your ability to rise off the floor from a seated position can predict your risk for early mortality. (See video above for a demonstration.) If you have to use both hands and knees, or use something to help you get up off the floor, chances are you may be weak or have poor range of motion.

Historically, humans have sat on the ground. We're supposed to be able to sit cross legged. We're supposed to be able to work on the ground. By setting up your environment to facilitate sitting on the floor or an exercise ball rather than a chair, your working hours can be more conducive to improving health and well-being.

The Importance of External Hip Rotation

In reading "Deskbound," I realized that a lack of optimal external hip rotation was the cause of my bunion. I calculate that I have walked or run over a quarter of a billion steps over the last 50 years. In my case it was the combination of insufficient hip rotation and a massive amount of walking/running. The general principle is that if you have a movement imbalance it will invariably tend to result in some type of injury over time.

Your hips and spine are like the chassis of the body machine. If you have a bend in the chassis, you will automatically experience downgraded function around your spine,

because the spine is prioritized during movement. To correct your posture, squeeze your buttocks. This will reorient your pelvis into the proper shape in relationship to your lumbar.

This alone will improve the function of your hips and shoulders. As you squeeze your buttocks, you will feel the outside of your legs tighten, and your feet will feel like they're pulling outward. This corrects the relationship between your femur and your pelvis, making your pelvis more stable on the femur, and your lumbar more stable on your pelvis.

"What you've done is integrated the trunk. Instead of just balancing around on a couple balls on the hips, you're suddenly integrated through a mechanical fascial muscular system to the ground. You'll notice that your arch stops collapsing, that you're creating the right amount of tension to support the structure ...

You're integrating all of your systems, because we're not just a bone system, we're not just a muscular system, and we're not just a connective tissue fascia system. We are a system of systems.

If you stand with your feet straight, and your weight is balanced over your arch so that your weight isn't on your heels and it's not too much on your toes, and you're just weighted evenly through the front of the foot, what you're going to find is you automatically create this rotation. [When] you lay down, your legs want to unwind. They actually fall out to the side ...

What you're seeing is that the natural structure of the body is set up to always create a passive external rotation tensionality in the system, so that when your feet are straight, you're automatically capturing this passive elastic winding of the body that supports the pelvis, supports the spine, and organizes all the way up to the top.

But what you experience when your feet are turned out ['duck walking'], you basically short-circuit that system and you start doing this thing where you look

for stability. So the knees come in, arches collapse, hip internally rotates [and] pelvis gimbles forward. We start to just see a stack of blocks that's trying to find its way in gravity instead of having a foundation and moving up from that foundation."

Pain as Indicator of Body Mechanics

Your body is a neurobiological mechanical system. Much of the pain, decreased mobility and stiffness people experience is not pathological. In most cases, it's simply the result of inefficient or incomplete movement. One way to improve your body mechanics is by sitting tall.

"Probably our most efficient elite cue that we can give is to pretend you're looking over a fence," Kelly says. "As you sit there, you're going to look up over a fence, notice how much taller you got standing and your head realigns."

When your body mechanics are efficient, your body has to compensate less, which translates into less tightness and pain. For example, if you turn your feet out when walking, one of the things that happens is that your calves aren't working properly.

Some of the muscles are shortened, others are extended, and some of the musculature that supports your arch has to work overtime — all because your body is trying to compensate for the improper foot alignment. "Duck walking" may even be a cause of bunions, as it places excess weight forces on that part of your foot.

All Tissues Should Be Painless to Compression

As Kelly notes, all tissues in your body should be painless when moderate compression is applied. If you use a foam roller on your leg, glutes, back or shoulders, and experience pain, you have unnatural stiffness in your body. To release the stiffness, contract the muscle while leaning into the foam roller for about five seconds, then release. Continue that contract and relax cycle until you feel those tissues start to relax and become less painful.

"What's great is that we have this beautiful neurologic measurement system built in. It's called breathing. How do you know that you're going too deep? If you cannot take a full breath in and a full breath out, you're going too deep.

Your brain will tell you, through your breathing, if you're giving too much input. So if you stop breathing while you're rolling, then you're working too deep. That's a miraculous way of keeping ourselves from doing too much harm to ourselves and integrating the brain back in," he says.

Do Soft Tissue Work Daily

Soft tissue work causes a big parasympathetic response in your body. What this means is it gets you OUT of your sympathetic fight or flight mode, allowing your body to down-regulate into recovery mode. Essentially, you can simulate the relaxation response you get from a massage by doing 10 or 15 minutes of soft tissue work on a foam roller.

While it's always great to get worked on by a professional, Kelly points out that it's actually more beneficial to do your own work, consistently, than getting, say, one massage every two weeks. Because what happens during the 13 days in between massage sessions? A few minutes of soft tissue work on a foam roller every day is likely to produce better, more lasting results.

"If you did 10 minutes a day, that's 70 minutes a week. That's 280 minutes in a month. It starts to aggregate into an astounding amount of time where you work on your chest or your forearms, and the bottom of your feet. You roll on those and they improve and become suppler ...

[P]rioritize the non-exercise activity, like walking, the basic sleep and a mobility practice, then add on top difficult training, add on top professional massage or rolfing, or anything else that you want to keep the body going.

But we have to democratize these practices and we have to be able to give people solutions that scale, because I'm not going to bring my daughters to a massage therapist. That's prohibitively expensive. But when we're hanging out

in the night, rolling our calves out, because that's what our family does, that's a really sustainable idea," Kelly says.

"It's useful to have a mobility practice where we spend 10 minutes a day ... taking care of our tissues, taking care of our muscular stiffness, taking care of our joints. If you're a walker, then we want you also to spend 10 minutes ... to work on your feet [today], and tomorrow you'll work on your hips ...

What we've tried to do in the back of the book is give people some very simple templates to begin a conversation about some simple myofascial pain, simple structural issues so that it becomes part of their lexicon. This is not some domain of an elite physical therapist or full-profit medicine.

This is what human beings should be able to do; we should be able to take care of ourselves ... Certainly if I move more during the day that will help, but there are some things that I can do that will really improve my mechanics. Ultimately, what we're talking about is about function."

Changing the Way Schools View Movement

Movement is particularly important for kids, and Kelly is hard at work getting local schools to switch from sit-down desks to standing desks. Last year, his daughters attended the first all-standing/moving school in the world, located in Vallecito, San Rafael, California. Every child in that school now has a standup desk, appropriately height adjusted for each child. Each desk also has a "fidget bar" that swings back and forth, allowing the kids to remain in constant motion.

"What we know is that there's a large genetic drive and genetic component to movement. Some people have a very large movement drive ... We've probably been medicating some of our best, most driving movers because they moved and fidgeted and got into trouble ...

Right now, for the first time in the history of our planet and certainly our nation, there are more obese Americans than non-obese Americans ... diabetes is up

400 percent in the last 10 years. We're seeing a whole kind of constellation of issues that come back to this one drive, which is we're not moving enough. We're not being human beings. We're using the [body] wrong.

What's been interesting about our experience is that in that school, we have 450 kids standing and moving ... and all the metrics that are coming out ... has seen achievement going up, has seen attention going up, has seen decreases in body mass index across kid populations. I mean, anything that's sort of important to you as a parent ... A standing, non-sitting intervention is a no-brainer."

Join the Standup Kids Movement

Kelly's initiative, called [Standup Kids](#), has partnered with a number of corporations, giving about 30,000 children the opportunity to move more in school. They've also partnered with University of California Berkeley and the local county public health department to try to get more research done. This is really something that needs to spread like wildfire across the nation, if we want to have any hope of rescuing our children from chronic dysfunction.

"The problem is when we take these top-down health initiative approaches, it's very bureaucratic and very difficult. And that's the wrong approach. Ultimately, we would love the state and national government, the federal government, to be able to support bottom-up initiatives. We realized that it was on us, ultimately, to start with our own daughter's classroom.

When we originally made this pitch to our principal three years ago – because [first] we did a little pilot classroom, then we did a few more – is that we were going to have to just make the case.

My wife is an attorney, she had prepared a brief to go before the Supreme Court and in two seconds, our principal was like, 'Yes. Totally. This makes perfect sense.' There was no resistance. The resistance primarily comes from our inability to raise funds fast enough to meet the current demand ...

Finland just put out a study that said their recommendation for kids is to get three hours of exercise a day, plus sunlight, plus all these other things. We've seen recess get hacked, most schools don't have PE. So we're making this big, big, big error ...

If you're interested in this idea ... go talk to [your child's] teacher, and then through StandUpKids.org, there are templates and resources for you to initiate a conversation about changing that single classroom."

The data is also showing that children with attention deficit/hyperactivity disorder (ADHD) cannot learn without moving. They need to be able to fidget constantly. The standup classroom allows these kids to excel in ways they've not been permitted to before.

Go Slow – Let Your Body Adjust to Increasing Movement

When you first start out, it's fairly unreasonable to think you'll be able to stand up all day when you're used to sitting down at work. Start by standing for 20 minutes a day. Do that for a week. The following week, bump it up to 40 minutes a day. The third week, make it a full hour. You need to give your body a chance to get used to the new loads and demands. At the end of each day, do 10 to 15 minutes' worth of soft tissue work on a foam roller to soften any tight spots.

I typically sit less than 30 minutes a day unless I am traveling, but as Kelly explains, an even better option would be to sit on the floor in a variety of different positions, which will help increase your flexibility and range of motion.

Kelly has a chapter in his book that discusses how to implement this transition. Also, don't get caught up in the idea that you cannot stand up at work unless you have an expensive standup desk. I purchased standup desks for all of my employees, and you can in fact get a good adjustable, motorized standup desk for less than \$1,000. If you cannot afford one, and your company cannot afford to give you one, there are cost-effective ways to improvise.

All you really need is a box. When I travel, I often use a wastebasket. I simply turn it upside down on the desk and put my laptop on it. That said, it would behoove employers to seriously consider making this investment.

"We want employers to understand that the research really does support that the most dangerous job you can have is to be an office worker. We see more muscular and skeletal problems in our office workers than we do in people who run oil rigs and do construction.

There's even a really interesting study that found smokers were healthier than non-smokers, because the smokers get up, walk 10 minutes to get outside, walk back. They were taking more breaks and actually doing more movement, even though they were smoking. The bottom line here is these are simple interventions that really can improve the quality of your life ...

If you're an employer ... a study by Mark Benden, [Ph.D.], of Texas A&M University ... [showed] a six-month intervention made a \$40 million [profit] for the company. All they did was have their employees [work] at standing stations. Turns out, everyone works a little bit better when they stand up. If you want to make this about money, make it about money.

If you want to make it about healthcare, I talked to a lot of HR directors and we are spending more money on muscular and skeletal problems, and back pain ... All we have to do is to have people be human beings at work, and that means more movement."

More Information

I highly recommend Kelly's book, "[Deskbound: Standing Up to a Sitting World](#)." I believe most people can benefit from it. With the holiday season right around the corner, why not get a copy for someone you care about? I just love books because, for a relatively inexpensive amount, you get all this wisdom.

He also has a YouTube channel called [MobilityWOD](#), which stands for Workout of the Day. The interventions he suggests are not only powerful, they're also inexpensive – in most cases free. When you consider the well-documented benefits of movement over sitting, implementing these strategies is really one of the best types of health insurance you can get.

"We really have always believed that if you give people the right information, they'll make the right decisions. The reason many of us haven't changed these aspects of our lives is that we didn't realize they were important," Kelly says. "[P]eople get overwhelmed [thinking] 'I have to go start this heavy duty movement practice, I need to start exercising.' You don't. The first order of business is to get more movement during the course of the day."