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Standing Firm Trains Athletes' Weak Points

By [Kyle Stack](#)   June 29, 2011 | 3:00 pm | Categories: [Fitness](#), [Training](#)[@kylestack](#) · 767 followers

Athleticism doesn't just come from the weight room. And it's not always enhanced by cardio class, as Donna Snow learned one day while struggling to play a recreational football game with the agility and speed she expected of herself.

That day in the late '80s gave Snow the inspiration for an exercise device she would create nearly two decades later: a platform with a spinning disc, called [Standing Firm](#), that encourages a full rotation workout. Nowadays, its benefit is becoming increasingly valued by MLB, NBA and NFL teams as they look to correct muscle imbalances in their athletes.

Snow, a certified personal trainer through the National Academy of Sports Medicine who based Standing Firm in Pittsburgh, introduced the current model in 2007. (The popular [Bowflex](#) system

giving her the idea for 360-degree movement with resistance.) She used her experiences playing recreational sports to evaluate how she could move with improved fluidity and flexibility.

“I didn’t feel like I was in the great shape that you feel like you’re in after you finish a traditional cardio class,” Snow told Wired.com.

What Snow created Standing Firm to do is to train muscles that aren’t ordinarily used. Its rotational forces pull the body in a full circle of motion. Gripping the height-adjustable handle bars keep the user aligned, but it’s the activation of underused muscle fibers to maintain balance that Snow said makes Standing Firm unique.

The device is intended for single-leg use, which Snow said is important since most athletic movement is performed one leg at a time: walking, running and, at times, jumping.

The rotational training, Snow said, “puts that [muscle] contraction in the center of the muscle.” This occurs first in the body’s rotation before it takes on resistance, known as the pre-load stage. Once the body begins fighting the resistance, the sensory information in each muscle, located toward its center, encourages contraction of weaker muscles.

Gavin MacMillan, the founder of [Sports Science Lab](#) in San Juan Capistrano, California, and a user of Standing Firm in his complex for more than a year, explained to Wired.com how the body’s three muscle fibers – slow twitch, fast twitch A and fast twitch B — turn on during that process. When a muscle is stimulated by resistance, the nervous system sends a neuron to a motor unit to which it connects. (A motor unit contains a group of muscle fibers, which all contract when the unit is activated.) Those motor units tell the muscle to fire.

This creates a way for athletes to correct muscle imbalance by strengthening what’s weak. “It’s going deeper [into the muscle] than any free weight would do,” Snow said.

The NBA’s Phoenix Suns, a team famous for reviving and sustaining the careers of older players, from [Shaquille O’Neal](#) to [Grant Hill](#), began using Standing Firm toward the end of the 2010-11 regular season. Their head athletic trainer, [Aaron Nelson](#), noted he and his staff operate it as part of their daily preventative, corrective and rehabilitative programs.

“We have done exercises with both players and our sports medicine staff and have seen an immediate response,” Nelson told Wired.com by email. “You can feel specific muscles being challenged and working hard.”

While emphasizing the uniqueness of the device’s rotational component, Nelson added that the three bands providing different levels of resistance make exercises legitimately difficult for his players.

The NBA’s Minnesota Timberwolves, MLB’s Milwaukee Brewers and several collegiate athletic programs, including Duquesne University and Robert Morris University, also incorporate Standing Firm.

The Standing Firm system, which costs \$600 for a personal model with a 12-inch disc and \$2,000 for a professional model with 18-inch disc, also serves a role in injury prevention, as Nelson alluded to in

explaining his team's use.

MacMillan emphasized that weight room injuries are unfortunately too common, for both recreational and professional athletes. "Nobody says anything about it, but that's the reality of it," MacMillan said.

Indeed, an 18-year study conducted from 1990-2007 by the Center for Injury Research and Policy of The Research Institute at [Nationwide Children's Hospital](#) revealed that weight training-related injuries which were treated in US hospital emergency departments [increased by nearly 50 percent](#).

MacMillan said that weight room exercises tighten the hip capsule, an area from which most athletic movements are derived. To be able to stretch and strengthen the hip capsule with various ranges of motion and resistance is difficult, but it's something Standing Firm accomplishes, according to MacMillan.

Snow has her sights on introducing the device to the NFL, NHL and professional golfers. She also wants to take the device to fitness gyms, which she hopes to make happen during the first half of 2012. College and pro athletes are the focus for now, and as more athletes on that level use Standing Firm, as well as other non-traditional forms of training, they're finding that the weight room isn't the basis for generating athleticism that it was once considered to be.

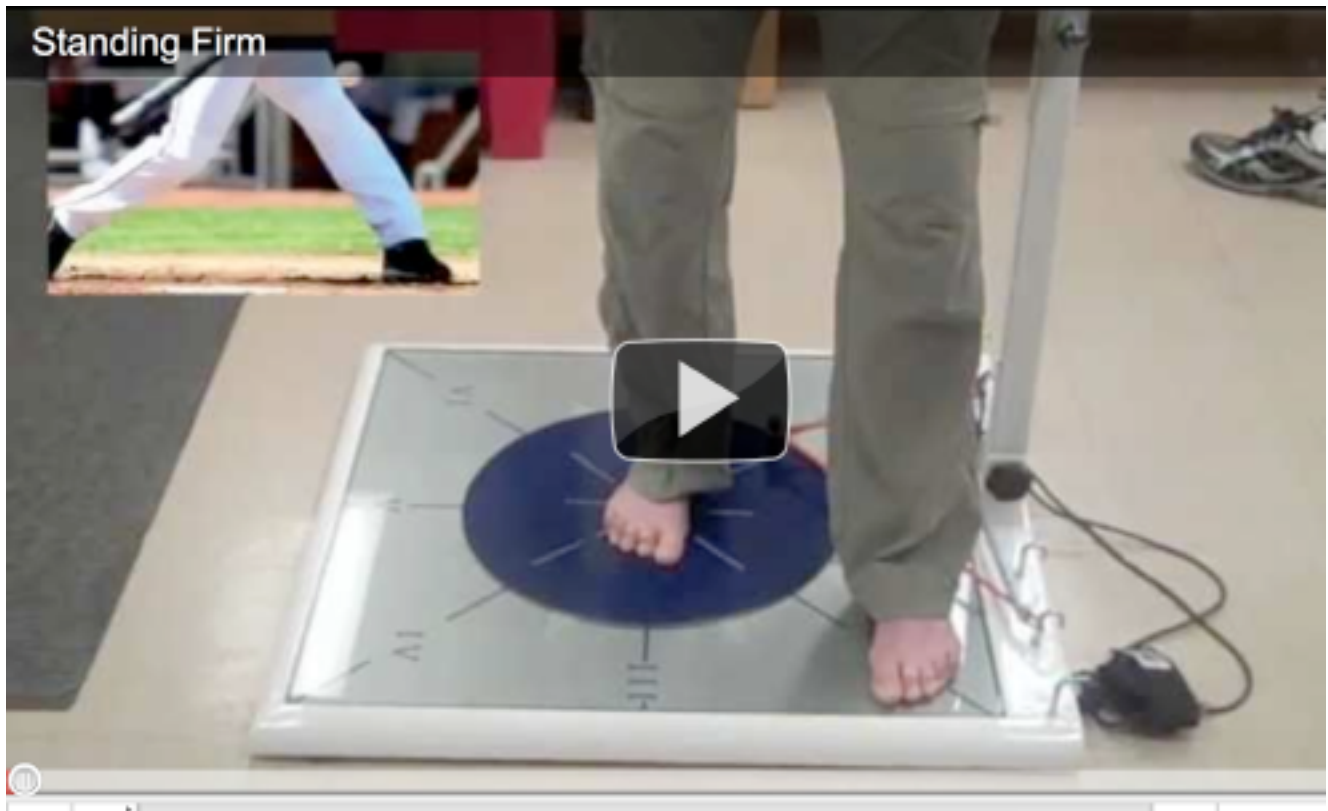


Photo: Shawn Toomey, Westminster College

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