

# **An Arizona State Study: Movement in the Workplace**

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It's not an unrelated coincidence: During the past 50 years, most jobs have become less physical and obesity rates are rising. Today, most people spend most of their time at work sitting at a computer or talking on the phone, and as a result they burn fewer calories—at least 150 fewer per day, according to a 2011 study conducted by the U.S. Bureau of Labor Statistics. Less activity at work has been identified as a key contributor to the rise of obesity in America.

Sitting down on the job isn't just a U.S. problem, and weight gain isn't the only negative impact on people's health. A study in London showed that bus drivers had higher rates of heart disease than ticket-takers, who moved around on the job. Another recent study, a data review of 18 different studies published in the Australian journal *Diabetologia*, revealed that adults now spend 50-70% of their time sitting, leading to higher risks for diabetes and cardiovascular disease, and even earlier death.

It's becoming clearer all the time that finding ways to encourage workers to move more throughout the day can be critically important for their health. At Arizona State University, administrators at the College of Health Solutions and the College of Nursing and Health Innovation took on that challenge as they planned a new workplace for their staffs—a complete renovation of the 5th floor of a university-owned building in downtown Phoenix. Starting with the blank canvas of a completely open floorplate with large windows and impressive views, they challenged the design team to leverage the space in every possible way to benefit their staffs and enhance their programs.

“Our vision was to have an ambience of productivity and peak performance,” says Teri Pipe, dean of the College of Nursing and Health Innovation. “One of the key aspects of that was to have natural light permeating the space so our staffs can look out and see our beautiful desert surroundings. Another important conceptual piece was having people from different backgrounds and professions work together, to have the space reinforce the message that working together was important. And then, finally, we wanted to make sure our people would have opportunities to be physically active at work, because health, creativity, both short and long-term memory, agility in terms of being able to see things differently mentally—all of that is tied to how active we are in a day.”

“As leaders in health education, we wanted our physical space and design features to be providers of health and wellness instead of the opposite, which is too often the case,” echoes Keith D. Lindor, executive vice provost and dean of the College of Health Solutions. “It's important for us to be role models in a positive way.”

## **MEASURING THE IMPACT OF PHYSICAL SPACE**

To improve the work environment for their employees, ASU administrators were eager to introduce significant changes. The project also presented an ideal opportunity for the colleges' researchers to conduct what they term "a natural experiment"—involving their own staff as participants in a research project to measure the effects of the physical work environment on physical health, cognition and stress levels. With the help of a grant from Obesity Solutions, a Virginia G. Piper Charitable Trust-funded initiative of Mayo Clinic and ASU, the project goal was to reengineer physical activity into the workplace by having employees stand, move and walk more frequently on the job. Steelcase, along with Phoenix dealer Target Commercial Interiors, is collaborating with ASU on the project.

The joint effort aims to demonstrate that a workplace designed to encourage movement is a good investment on a scale that can pay off in improved worker health, wellbeing and productivity.

Before staff members moved into the new space, researchers took baseline measurements ranging from weight and cholesterol levels to assessments of the amount of time workers sat and moved about during the day. Employees were equipped with devices on their thighs to gauge the amount of time they sat or stood during the day in the office and at home. Accelerometers on their wrists track movements, physical activity and sleep patterns. The pre-move assessments will be compared with follow-up data collected four months later.

In addition to comparing weight, blood pressure, biomarkers (glucose, insulin, cholesterol, etc.), activity levels and sleep patterns, researchers will also determine whether movement and standing at work improves reaction times, decision-making, multi-tasking, job satisfaction and overall workplace productivity, including less absenteeism.

The researchers are also gathering data from a control group—office workers in a different building who are being exposed only to "ergonomics intervention"—healthful tips and information, but no changes in their physical workspace.

By comparing the data sets, the researchers hope to gain quantitative evidence that workplaces designed to provoke frequent movement have significant and positive impact on people's physical, cognitive and emotional wellbeing. The project offers a unique opportunity to study the impact of changes to the whole environment where employees work, not just an individual workstation, notes Matthew Buman, assistant professor in ASU's School of Nutrition and Health Promotion and the project's principal investigator who's done most of his research in the area of sedentary behavior in the workplace.

## **A MORE ACTIVE WAY OF WORKING**

Before moving into their new workplace in July, employees were given the opportunity to choose between height-adjustable sit/stand desks or traditional seated-height: 80% chose the height-adjustable option. To support posture changes and movement, the renovated 16,456-square-foot space also features Walkstation, an integrated treadmill and worksurface. Available to everyone throughout the day, two Walkstations are appealingly located in an open setting near a large window with natural light. Another Walkstation setting offers privacy in an enclosed room.

Low-paneled workstations throughout the workspace allow co-workers to stand up and collaborate or sit down for more focus and privacy, instead of working in closed-off private offices as they did in the past. In addition, the new space features a palette of shared places—conference areas, team spaces, lounges, a kitchenette, wide corridors with natural light, even a yoga room—all intended to get people moving and interacting more.

“Our leadership decided they really wanted to take a step out and do something innovative within the university setting,” says Buman. “As health researchers, we wanted to take advantage of that decision and evaluate it to see what impact it has on health and productivity”.

“If we can demonstrate that this sort of change can produce health improvements and, perhaps more importantly, even workplace productivity improvements.... If we can do this on a large scale, now we’re talking about a potential to really make a dent in the world’s obesity epidemic.”

## **MAKING MOVEMENT AT WORK INTENTIONAL**

Changing body habits also involves changing minds. To encourage employees to leverage what the new space has to offer, the project team mounted a campaign to promote moving more at work. In addition to creating flyers, they set up an email-based support system that offers tips—not mandates—on using the new environment.

“The framework that we used was: Stand more, change postures while sitting, move more. We tried to make it really simple,” says Buman. “We weren’t advocating exercise, just moving. In fact, exercise is not mentioned at all in any of our material.”

Adapting material from previous research by scientists such as Dr. Genevieve Healy and Professor Neville Owen of Australia, the project team has suggested employees stroll over to a co-worker’s office to chat rather than sending an email, or use headsets so they can stand rather than sit during conference calls. They’re also given specific information on how to use the Walkstations, citing the calories burned and other health benefits. Staff members receive a one-page “motivational newsletter” every-other week in their email, with a link they can use to ask specific questions of the project team.

Buman stresses that the college’s top administrators introduced and endorsed the move to a healthier workspace. “It came from the administration, which is really important—the buy-in from the top,” he says. “If you’re going to provide these types of facilities and opportunities for your employees, then you need to back it up ... give them the message that you support them actively trying to make those changes. ”

In keeping with their philosophy to literally walk the talk, the deans both work in the new space along with their staffs. They requested smaller-than-typical offices and a shared conference room, instead of two separate ones, to free up space for common areas that everyone can use. Pipe has used a Walkstation in her office for several years to stay fit and productive, so she was a convincing advocate for the benefits.

The deans are encouraging staff members to step away from their desks about once an hour (dance breaks have been known to occur), and they frequently conduct walking meetings, complete with a “meeting in progress” sign to let others know they’re not being rude when they don’t stop to chat. In addition to physical exercise and mental stimulation, walking meetings have a beneficial side effect, says Pipe: “When you’re walking side by side on the sidewalk, you’re signaling that you’re approaching the world together. It adds a sense of common purpose, that you’re solving problems together.”

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## **HELPING PEOPLE BE THEIR BEST**

Especially amid growing attention on the obesity crisis, Buman calls the project a “win-win”—good for ASU employees and promising potential benefits worldwide. “We’re interested in finding health solutions and ways to improve the health of our whole society,” he says.

Other studies, Buman says, have shown that workers are unlikely to alter their behavior unless the overall infrastructure permits and encourages those changes.

“It’s hard to get people to stand at work if they don’t have the type of options that allow them to stand at work and be productive,” says Buman. “You can’t just tell someone to stand more at work. You have to actually provide them the opportunity to change.”

“They moved these departments from a relatively static and typical-looking environment to one that really does address the need for people to move more and change their postures,” says Maren Channer, marketing product manager for Steelcase’s FitWork group.

“It seems that many adults have lost the habits we may have established as children when we developed through physical activity,” says Lindor. “I think that if you can also develop good habits in your working life that will maintain muscle tone, bone mass—the things we know come from standing and exercising—then you are much more like to stay healthy as you age. We know the opposite will happen if people get too sedentary.”

“One of the things that we know from our research,” says Channer, “is that when you put these kinds of tools into a work environment, if one person begins to stand up, their neighbor will stand up. It becomes viral. They challenge each other.”

In addition to increasing movement, reducing stress among their staffs is an equally important goal that the deans share. “We talk about the importance of healthy environments around us, but there’s also the ‘inside of us’ environment, and the interaction between our work space and who we are is really very closely related,” says Pipe. “Having an aesthetically pleasing, productive workplace impacts our stress levels and the way we can focus on the work we need to do. We all have a piece of making the world a better place. And we can do that much more effectively if there’s coherence and balance between our inner self and the outer environment.”

It will take several more months to collect and analyze all the data, but the deans are already seeing signs of change and progress.

“It’s amazing to sometimes see the whole office standing, and they talk about how much better they feel for having done that,” says Lindor. “And I watch relationships evolving as people use this space. People see each other every day, multiple times a day, and interact. When people were sequestered in private offices, that virtually never happened. I think it really helps the morale of the workplace. I was struck one time on a Sunday afternoon when I came up here to do some work and there were five people also up here. We’ve created a place where people want to be.”

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