

Fitness the New-Fangled Way

By Gary Scheiner MS, CDE

Greetings from Philadelphia International Airport! Airports are fascinating places... great for seeing what people look like and how they act under unusual circumstances. At this moment, I see a lot of truly overweight people, and I see most folks treating the moving walkways like they're on a ride at Disney World – just standing there, inching slowly along, staring blankly at the passing drywall. I don't know... maybe the two are related. Have we really become this lazy? Have we "convenienced" our way out of being in shape? Have electronic toilet flushers, soap dispensers and water faucets taken away our last opportunity to burn any calories at all?

We already know about the value of physical activity in managing diabetes. Exercise remains the best tool for improving insulin sensitivity, and it is one of the most potent means for lowering blood sugar levels. Given our inability to avoid labor-saving devices, maybe it's time to use technology to *increase* physical activity rather than decrease it.

A few years ago, one of my clients came in praising something called DDR (Dance-Dance-Revolution), a combination video game and dance floor matt that gives the user points for matching their dance steps to on-screen commands. "I just love the music, the colors and the lights," she said. "It's fun. I don't even realize I'm exercising." I guess that says a lot. After all, who wouldn't rather "play" than "work"out?

A number of companies produce gaming systems with a major physical activity component. These include Konami, which makes the Dance Dance Revolution (DDR)

game for the Sony Playstation; Nintendo, which makes WiiFit and Wii Conditioning games for the Wii system; SSD Company, which makes Xavix; Medway, which makes Cybex; and Light-Space Corp, which makes LightSpace games. In fact, these types of interactive games are becoming so popular that the term "*exergaming*" has been coined.

A recently-completed study at Brigham Young University sought to answer the question, "How much exercise does one really get from exergaming?" The researchers hooked subjects up to equipment that measures their energy expenditure and let them play away. They compared the energy burned playing the various games to the energy burned walking at a moderate (3 MPH) pace. They found that Wii Boxing actually burned fewer calories than walking. However, Dance Dance Revolution burned about 10% more energy than walking. Cybex Trazer burned about 20% more, LightSpace burned about 30% more, and Xavix burned 40% more.

Because Sony makes some of the more popular exergames, we asked our clients to rate their exertion levels while playing some of them. Based on their assessments, we estimated the caloric expenditure:

Wii Exergame	Burns about as many calories as
Yoga Exercises Balance Bubble Table Tilt	Slow dancing Walking 2.5 MPH
Basic Step	Gardening Walking 3.0 MPH
Ski Slalom	Lifting Weights Walking 3.5-4.0 MPH
Hula Hoop Obstacle Course Tennis	Moderate Bicycling Slow jog 4.5 MPH
Super Hula Hoop Basic Run Rowing	Cross-Country Skiing Jogging 5.0 MPH
Free Run	Swimming laps Running 6.0 MPH

Of course, there can be considerable differences based on the way you play the game. If you lolly-gag through the obstacle course without concern for your time, you might as well be hanging out at the water cooler. If you turn Yoga into some sort of personal fitness challenge, your caloric expenditure might rival running. Nevertheless, there is something special about exergaming. People of all ages can have some serious fun while they exercise. And likewise, people can burn plenty of calories while playing or watching TV.

Treat exergames the same as you would a traditional exercise session. Reductions in mealtime rapid-acting insulin are in order when playing after meals. And for those who take basal insulin or oral medications that can cause hypoglycemia (sulfonylureas or meglitinides), snacks are usually required when playing between or before meals. Since blood sugar levels are known to affect speed, stamina, range of motion and mental sharpness, do what you can to optimize your glucose level while playing... lest your scores suffer and your kids, friends and partners make fun of you.

Given that exergames are fun ways to burn calories and can be performed indoors in a relatively small space, they have the potential to kick-start just about anyone's exercise program. If you already exercise regularly, exergames may be a nice addition or diversion to your usual routine. Who knows where they might take take you? Before you know it, you might even have the stamina to *walk* on a moving walkway at the airport.

Editor's Note: Gary Scheiner is a Certified Diabetes Educator with a private practice, Integrated Diabetes Services (www.integrateddiabetes.com), near Philadelphia. He also serves as "Dean" of Type-1 University (www.type1university.com), a web-based school of higher learning for insulin users, offering live and prerecorded courses on a variety of topics. Gary and his staff provide diabetes management and education services via phone and the Internet for children and adults worldwide. For more information, contact gary@integrateddiabetes.com, or call (877) 735-3648.