

Latest gadgets give diets, workouts a high-tech boost

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The math formula for weight loss isn't hard to understand. There's calorie input and calorie output - what you eat and what you burn. When the energy input is less than the output, you lose weight. But as simple as it looks on paper, putting that formula into practice can be maddeningly complicated.

Fortunately, the past few years have given rise to a new crop of gadgets and software aimed at giving diets and workout routines a high-tech boost. And far from being electronic snake oil, nutrition researchers say many of these devices employ proven techniques to help consumers make better [lifestyle choices](#).

One of the biggest obstacles to weight loss, according to Penny Gordon-Larsen, associate professor in nutrition at the University of North Carolina-Chapel Hill, is that people aren't often aware of their calorie inputs and outputs.

"When you ask the general public, most of them can't tell you what they're eating," Gordon-Larsen said. "You need people to understand how much (work) they're doing."

That lack of awareness is something several devices, such as the Jawbone Up wristband and the Fitbit Ultra are looking to change. With the help of an [iPhone](#) app or website, the low-profile gadgets track stats from steps to sleep patterns and allow [dieters](#) to document their meals.

Just like the old-school pedometers that preceded them, devices like these can work because they allow people to self-regulate their own behavior, said Deborah Tate, an associate professor of [health behavior](#) and nutrition at UNC-Chapel Hill. It's a strategy that's effective even with other [health conditions](#).

"If you have diabetes and your blood sugar is high or low, you're going to make a change," Tate said.

Without such data, whether it's jotted down on paper or collected in an app, Tate said it can be difficult to adjust a weight-loss strategy when things aren't working.

"You can't go back and change anything," she said. "You can just wish it weren't so."

Tate has actually studied the use of a similar device called the Bodybugg, which tracks steps, calories burned and calories consumed. She said many types of monitoring can increase success rates, even for products like the Wi-Fi Body Scale, which measures weight and body mass index and automatically tracks them on a computer or smartphone.

"We know from many studies that more monitoring is strongly related to being successful," Tate said.

Many of these devices don't stop with just self-analysis. The Up and Fitbit give users the option of sharing their results on social networks and enlisting friends for challenges and support.

Nike+ also leverages a range of devices, from special sensors to armbands to smartphone apps, alongside a social network that celebrates jogging. RunKeeper takes a similar tack without requiring additional hardware, offering a free mobile app and site where users can log and

share routes and progress with their smartphones.

Fitocracy looks to go one step further, allowing users to enter their exercise regimens in return for points and achievements they can compare with friends.

Aside from turning active lifestyles into games, Tate said these features can help users tap into a support structure to keep them motivated and on track.

"Social support can be helpful for weight control, whether it's family or friends," Tate said.

She recommends that those looking to use these applications should communicate with their social networks about how to keep the pressure on or join in the fun. Explaining your goals on Facebook or Twitter (and even requesting encouraging "likes" or replies), she said, will help friends and family know you prefer to be held accountable and cheered on.

Traditional gaming companies also have gotten into the fitness act with new controller systems. Following on the heels of the Nintendo Wii (complete system \$150), which debuted motion controls in its original launch in 2006, both Sony and Microsoft rolled out their own versions in late 2010.

While the PlayStation Move (console add-on \$100) uses handheld controllers and a camera to track movement, the Kinect for Xbox 360 (console add-on \$150) uses a device that combines sensors, cameras and a microphone to track motion and sound on its own.

All three competitors support a variety of titles geared toward getting players moving. Some, like "Just Dance 3," get the heart racing as a side

effect of game play. Others, like "UFC Personal Trainer: The Ultimate Fitness System," are specifically marketed to guide players through workout routines to get them in shape.

While Tate said there's not a lot of evidence to suggest the majority of these titles get players into "vigorous amounts" of exercise, they can potentially help motivate those who struggle to keep up with more traditional routines.

"It's all about trying to get people up off the couch and burning calories," she said.

Both Tate and Gordon-Larsen point out that none of these devices are silver bullets for weight loss. No matter how slick the device, they still require sticking to a regimen, accurately and consistently supplying data, and paying attention to trends in your lifestyles.

"At the end of the day, if you never look at your app, there's no benefit from the device," Tate said.

And even if you do follow that simple weight-loss formula - and keep your energy input less than your energy output - remember that time and patience are two of the most important variables in any plan.

"It's really important for people to understand it is slow going. But even small amounts of weight loss are beneficial," Gordon-Larsen said.

TRACK YOUR EXERCISE SUCCESS:

-Bodybugg: Tracks steps, calories burned and consumed. \$179-\$250, www.bodybugg.com

-RunKeeper: No gadgets for sale, just a mobile app and site that allows runners to log and share routes and progress. Free, runkeeper.com

-Fitocracy: Web-based; record personal workouts and see how they compare to others. Free, www.fitocracy.com

-Jawbone Up: A wristband and iPhone app that tracks steps, distance, calories burned, pace, intensity level, active vs. inactive time, GPS routes and sleep patterns. Vibrates to remind you to move after periods of inactivity. Battery life: 10 days. \$100, jawbone.com/up
target="_blank">www.jawbone.com/up

-Fitbit Ultra: Measures your motion patterns to tell you calories burned, steps taken, distance traveled, and sleep quality. Also measures your vertical climb up stairs and hills. Specs: 2.125 inches by 0.75 inch and weighs 0.4 ounces. Battery life of 5 to 7 days. www.fitbit.com

-Wi-Fi Body Scale: Measures weight and body mass, and allows you to track and share the information with doctors, nutritionists or weight-loss partners. \$169, www.withings.com/en/bodyscale

-Nike+: Sensors, armbands and smartphone apps like a sports watch with GPS for \$199 that lets you keep track of laps or an app for your phone that for \$1.99 maps your runs, tracks your progress and brings you mid-run cheers every time your friends like or comment on your run status. www.nikeplus.com

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