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American College of Cardiology Scientific Sessions

BodyMedia targeting lifestyle 'adjustments' via SenseWear

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NEW ORLEANS — If there is anything that serves to reveal and highlight the not-so-pleasant truth buried within the euphemism "healthcare," it is a medical conference, and the annual scientific meeting of the **American College of Cardiology** (Washington) is just one of many good examples demonstrating this.

The exhibits, the clinical presentations, the poster sessions, the press conferences at medical conferences almost exclusively focus not on health but on sickness, and on drug and device therapies that address the problem of healthy cells and healthy organs gone bad.

There are some exceptions (that prove the rule).

General Electric Healthcare (Waukesha, Wisconsin) is pushing its emphasis on "predictive medicine" to guide preventive health, and there is increasing development by many companies of "personalized medicine" as a way to look forward and figure out what early therapies may be necessary to stave off illness.

And it was refreshing to visit **BodyMedia** (Pittsburgh) at its booth in the massive exhibition hall of the Marial Convention Center, BodyMedia is an early-stage company doing battle against the growing wave of an over-abundance of food, too many sedentary jobs, too little exercise and not many methods for figuring out how all this can be changed.

Diets don't do it, argues Chris Pacione, director of customer marketing at BodyMedia, and there is considerable evidence that he is correct, given the many studies indicating that dieters usually eventually regain and add to their lost weight.

Rather, BodyMedia's device — the SenseWear Body Monitoring System — is focused on "lifestyle adjustments," Pacione told *Medical Device Daily*.

While the system can be used to treat and manage serious metabolic disorders ranging from diabetes to pulmonary disease, it can provide valuable information to those simply wanting to lose some weight, by gaining some understanding of their activity level to maintain good health.

The opposite scenario, Pacione noted, is that a "cookie a day" can add 10 pounds over the course of a year.

The primary device in the SenseWear system is an arm-band-worn monitor, weighing a tad less than 3 ounces, that continuously gathers in data which can then be translated to information that a person, and that person's physician, can use for understanding actual activity level — what his or her body is doing, and doing metabolically, minute-to-minute, day-to-day.

Donna Wolf, PhD, clinical research manager for BodyMedia, noted that given engrained habits and the various claims on our attention, most people don't really have a good idea of caloric input and energy output. And so the system provides an objective guide for making lifestyle alterations, and a clear alternative to draconian diet regimens.

"It's an education" that people can't get in a lab or really any other way, she told *MDD*.

The monitor collects four kinds of data — temperature of the skin, galvanic skin response, heat flux, and a measurement of motion via an accelerometer — which are then massaged by company-developed algorithms that translate these measurements into descriptors of energy expenditures, such as duration of activity, the number of steps a person takes, the time spent lying down and duration of sleep.

Requiring just two standard AA batteries, the monitor is worn continuously and can help to tell how well you sleep, even when you turn over during the night, according to Wolf.

The device can collect up to two weeks of such data, with the information then exportable to a computer for analysis. Analysis is made explainable via reports and "graphical" presentations. The entire data can be analyzed or particular time periods can be examined for a closer look.

SenseWear was first developed as a research tool and is now being marketed to physicians.

There is no reimbursement in place, Pacione acknowledged, but he noted that it is easily affordable out-of-pocket.

The system is sold to physicians who then can make it available to patients at a small charge to help them understand energy "expenditure," give them objective information about this and then guide behavioral modifications. This is invaluable information — at perhaps around \$50 a week — that can't be collected so easily any other way, noted Pacione.

At the ACC sessions, the company was also introducing a new accessory to the system, a trendy-looking device — looking, and worn like, a watch — that wirelessly captures the data from the monitor to provide the wearer a real-time sense of the data being gathered.

With its showcasing of the SenseWear system at the ACC, BodyMedia also reported recent results from a study published in *The American Journal of Clinical Nutrition*, comparing the system to the "doubly labeled water method," described by BodyMedia as the gold standard in measuring energy expenditures. The report said that the SenseWear system offers similar accuracy. ■