

Digital fitness devices help patients monitor health and activity, improve outcomes

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Many orthopaedic patients are eager to track and improve their health and progress before, during and after treatment. A digital fitness device, technology already owned by 1 in 10 Americans, provides a unique opportunity for patients to monitor their activity levels, medication use, weight, sleep patterns, rehabilitation progress, and other personal health data, ultimately empowering them to improve clinical outcomes, according to a study presented today at the 2016 Annual Meeting of the American Academy of Orthopaedic Surgeons (AAOS).

The study is the first to objectively review applications of these devices specifically for orthopaedic care. With consumer sales soaring, "fitness devices have the potential to transform orthopaedic care," said lead study author Claudette Lajam, MD, an assistant professor of orthopaedic surgery at NYU Langone Medical Center. "If we can get people more involved in their care and help them get in better shape, then everyone wins—patients, physicians, and the entire health care system."

The study analyzed activity tracking, cost, interfaces, location of devices on the body, and other relevant features for 28 health devices named the most popular by top consumer tech magazines. The most common features were a pedometer (tracking distance traveled), in addition to monitors for heart rate, sleep and caloric intake, although many other features were available.

Dr. Lajam said data generated by fitness devices can be applied across different levels of orthopaedic care:

- Non-surgical patients can track behavior, activity levels and medication use and alter these factors to lose weight and maintain the best possible function in their extremities.
- Pre-operative patients can reduce risk for post-operative complications by reducing their weight, preventing diabetes through glucose monitoring, and identifying sleep disorders.
- Post-operative patients can evaluate rehabilitation progress and surgical outcomes by measuring walking distances and stairs climbed, and alter physical therapy for better recovery.

If authorized by patients, this data also can be sent to their doctor and health care team, via apps that interface with Apple HealthKit, Google Fit, and Microsoft HealthVault and electronic medical record systems.

Dr. Lajam said that with heightened emphasis on patient engagement and accountability, devices are an easy way for patients and physicians to share and document long-term activity. The study did not recommend specific devices, determine treatments based on information, or assess accuracy of data produced by the devices.

"We urge developers of these technologies to work with surgeons, patients, payers and hospitals to create meaningful applications that optimize patient care," Dr. Lajam said.

Provided by American Academy of Orthopaedic Surgeons

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