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Utilizing Activity Trackers to Increase Postoperative Ambulation: A Novel Strategy to Quantify Ambulation and Decrease Bariatric Surgery Postoperative Complications

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Utilizing Activity Trackers to Increase Postoperative Ambulation: A Novel Strategy to Quantify Ambulation and Decrease Bariatric Surgery Postoperative Complications

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Background
Early and frequent postoperative ambulation is routinely emphasized in surgical care, with some studies showing an association with decreased rates of venous thromboembolism (VTE) and pulmonary complications. However, it is often difficult for patients to walk after large operations. In addition, no accurate and objective measures are in standard practice to track patient ambulation. Activity trackers have increased in popularity among the general population as a tool to motivate exercise, but these devices are not commonly used in the perioperative environment. The aim of this study is to evaluate the use of an activity tracker as a tactic to increase postoperative ambulation and to possibly decrease postoperative complications.

Study Population
This study will be piloted in the bariatric surgery population at Boston Medical Center. Patients undergoing a primary bariatric operation will be included, except for those with contraindications to ambulation.

Outcomes
Our primary outcome will be the quantity of postoperative ambulation for patients in each of the two study groups. Secondary outcomes include both clinical and patient experience measures. Clinical outcomes, including postoperative complications, length of hospital stay, readmission, and weight loss, will be obtained through the MBSAQIP database. Patient experience outcomes will be obtained by a short survey administered during the two-week clinic visit.

Study Design
All patients will receive an activity tracker immediately after their operations and continue wearing it until their clinic visit two weeks later. Patients will be randomized into two groups, with one group receiving no ambulation feedback and the other group receiving twice daily ambulation feedback while hospitalized. During these discussions, patients will be informed of their quantity of ambulation and encouraged to achieve daily “step” goals.

Impact
Few studies have evaluated activity trackers in the postoperative setting. To our knowledge, none of these have been in the bariatric population, among whom ambulation is especially important due to the high risk of pulmonary complications and VTE events. Furthermore, no investigations have measured ambulation in both the inpatient and early outpatient postoperative setting. Our study will analyze the value of this new technology to serve as a clinical tool to encourage ambulation, while attempting to link quantitative ambulation measures with postoperative outcomes.

References
Images: Modus Health LLC, 2015