Clinical Comparative Study

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Introduction

This study is designed to evaluate the Strive G2 Device and Platform (G2) through an actual-use comparison study in order to determine whether or not the device improves patient outcomes by decreasing returns to the operating room, decreasing the need for consultation, decreasing use of opioid-based pain medication, and increasing patient compliance with physical therapy during the pre- and post-operative periods.

Results & Conclusion

An independent group studied 64 patients scheduled for knee replacements at an ambulatory surgery center. The study included 37 women and 27 men ranging from 45 to 73 years of age. 32 participants used Strive technology, and a 32 patient control group did not. All patients in both groups received instructions and a binder that patients traditionally receive for pre and postoperative care.

The study endeavored to find whether Strive technology could reduce returns to the OR, reduce the need for opioid based pain medication, and decrease the number of patient calls to providers.

Use of our technology for the Strive group permitted daily ROM readings to establish a pre-operative baseline for range of motion. It also allowed for daily tracking of exercises and the timely introduction of surveys and educational materials. Accordingly, these patients did not need to be seen in the clinical office setting to complete pre-operative exercises.

All patients received post-operative care through either Strive technology or traditional methods. Regardless of therapeutic path, access to care was always available. The primary differences in post-operative care were the care setting and the amount of data provided to the physicians and care team.

The number of study participants requiring additional surgical intervention was limited to 10 events. 7 patients (70%) were in the conventional care group, with one patient requiring 3 separate interventions. In contrast, only 3 (30%) of those using Strive technology required additional surgical intervention.

The use of opioid-based pain medication was determined based on the number of refills requested by study participants. Overall, 120 refills were requested. 102 requests (85% of the total) came from the conventional care group. In stark contrast, patients in the Strive group requested only 18 refills (15% of the total).

The overall number of participant calls to a clinic was 175. 163 calls (93% of the total) came from patients in the conventional care group, while only 12 (7% of the total) came from patients using Strive technology.

It is readily apparent that individuals using Strive technology experienced fewer adverse effects. These patients returned less frequently for additional surgical intervention, required less opioid-based pain medication and contacted clinical care teams less frequently for assistance.

To put these results in perspective, the incidence of knee pain in conventional care patients was more than an order of magnitude greater than in patients using Strive (31 vs 1). Similarly, leg pain without Strive technology was eight times more common than in patients using Strive (8 vs 1). Importantly, the incidence of patients calling the healthcare team with concerns about post-operative wound care were nine times more common in conventional care patients than in patients using Strive (9 vs 1). Patients receiving conventional care required more than twice as many surgical interventions as Strive patients (7 vs 3).

The impact on healthcare teams is evident in the marked reduction of telephone calls to clinic personnel. Conventional care patients outcalled Strive patients at a rate of 163 to 12. Even eliminating the calls from one patient who placed a very large number of calls (43), the number of calls was still 10 times greater (120 to 12) than with Strive patients.