

# Manage My Surgery

<https://play.google.com/store/apps/details?id=com.higgsboson.health.mms&hl=en&gl=US>

Digital health solutions have been shown to enhance outcomes for individuals with chronic medical illnesses, but few have been validated for surgical patients. The digital health platform **Manage My Surgery** (MMS) has been validated for spine surgery as a feasible method for patients along their surgical journey through in-app education and completion of patient-reported outcomes surveys.

The aim of a study is to determine the rates of 90-day emergency room (ER) visits, readmissions, and complications in patients undergoing spine surgery using MMS compared to patients using traditional perioperative care alone.

Patients undergoing spine surgery at a US-based academic hospital were invited to use MMS perioperatively between December 2017 and September 2021. All patients received standard perioperative care and were classified as MMS users if they logged into the app. Demographic information and 90-day outcomes were acquired via electronic health record review. The odds ratios of having 90-day ER visits, readmissions, mild complications, and severe complications between the MMS and non-MMS groups were estimated using logistic regression models.

A total of 1015 patients were invited, with 679 using MMS. MMS users and nonusers had similar demographics: the average ages were 57.9 (SD 12.5) years and 61.5 (SD 12.7) years, 54.1% (367/679) and 47.3% (159/336) were male, and 90.1% (612/679) and 88.7% (298/336) had commercial or Medicare insurance, respectively. Cervical fusions (559/1015, 55.07%) and single-approach lumbar fusions (231/1015, 22.76%) were the most common procedures for all patients. MMS users had a lower 90-day readmission rate (55/679, 8.1%) than did nonusers (30/336, 8.9%). Mild complications (MMS: 56/679, 8.3%; non-MMS: 32/336, 9.5%) and severe complications (MMS: 66/679, 9.7%; non-MMS: 43/336, 12.8%) were also lower in MMS users. MMS users had a lower 90-day ER visit rate (MMS: 62/679, 9.1%; non-MMS: 45/336, 13.4%). After adjustments were made for age and sex, the odds of having 90-day ER visits for MMS users were 32% lower than those for nonusers, but this difference was not statistically significant (odds ratio 0.68, 95% CI 0.45-1.02; P=.06).

This is one of the first studies to show differences in acute outcomes for people undergoing spine surgery who use a digital digital healthcare app. This study found a correlation between MMS use and fewer postsurgical ER visits in a large group of spine surgery patients. A planned randomized controlled trial will provide additional evidence of whether this digital health tool can be used as an intervention to improve patient outcomes <sup>1)</sup>

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Venkatraman V, Kirsch EP, Luo E, Kunte S, Ponder M, Gellad ZF, Liu B, Lee HJ, Jung SH, Haglund MM, Lad SP. Outcomes With a Mobile Digital Health Platform for Patients Undergoing Spine Surgery: Retrospective Analysis. JMIR Perioper Med. 2022 Oct 26;5(1):e38690. doi: 10.2196/38690. PMID: 36287589.

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