Teaching Tip

Health Care Management: Using Predictive Analytics to Prevent Post-Surgical Falls after Hip or Knee Replacement Surgery

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Abstract

The adult population in the United States is more physically active and are living longer than prior generations. Due to the advancement in surgical techniques and the increased number of active people, there has been an rise in the number of hip and knee replacement surgeries. This rise in the number of surgeries is expected to continue. Post-surgical care is a critical component to a successful patient recovery. After surgery, patients experience limited mobility while the muscles around the impacted joints need time for inflammation to subside. Physicians and other medical providers are concerned that patients do not experience falls during this time as it may lead to subsequent more serious injuries. A sample dataset of patients who underwent elective hip or knee surgery from January 2014 to March 2020 has been provided.to analyze other medical conditions that may contribute to the likelihood of a patient falling. The goal is to identify important factors that can assist in predicting the probability of a patient falling after surgery.

Keywords: health care analytics, data science, predictive analytics, SAS Enterprise Miner™

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