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Presentation Abstract

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Title: Rapid Recovery Protocol in Total Knee Arthroplasty

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Abstract: INTRODUCTION: As patient expectations rise in total knee replacements, and volume continues to grow as predicted, more awareness with regard to cost is evident and essential. "Fast track" joint replacement has emerged as a potential cost savings to the system and at the same time, may allow for a better patient experience. Much emphasis, however, has been placed on "minimally invasive total knee replacement," the surgical approach to the knee replacement, robotic knee replacement, and partial knee replacements to allow for a faster recovery. The aim of this study was to evaluate the impact of a pharmaceutical "rapid recovery protocol" in the setting of total knee replacement with no change in surgical technique, incision, or implants. METHODS: All total knee arthroplasty (TKA) patients underwent surgery in a regional hospital not affiliated with an outpatient surgery center. All patients had TKA performed by a single surgeon with no change in surgical technique across groups, which utilizes a medial parapatellar approach with a standard length incision. Prior to the rapid recovery protocol, TKA patients received a general anesthetic with a peripheral femoral nerve block and perioperative narcotic pain medicine for pain control. The new protocol involved a general anesthetic, intraoperative administration of a long acting local analgesic (bupivacaine liposome injectable suspension) and scheduled postoperative intravenous acetaminophen and ketorolac tromethamine for 24 hours; while narcotics were minimized and used only as a breakthrough modality. The last 50 TKAs performed without the protocol were compared to the first 50 TKAs with the new protocol. No patients were excluded. Data was prospectively gathered and discharge day, pain scores and complications were compared. RESULTS: Patients in the rapid recovery protocol had a mean discharge day of 1.7 compared to 3.2 days in the pre-rapid recovery protocol population ($p < 0.0001$). Pain scores were significantly better in the rapid recovery group with a post operative day one average of 3.2 compared to 4.8 in the pre rapid recovery group ($p < 0.0001$). Narcotic consumption was significantly less in the rapid recovery group. Complication rate was not significantly different between the two groups. There were significantly less patients in the rapid recovery group requiring transitional care or extended rehab compared to the pre rapid recovery group. DISCUSSION AND CONCLUSION: The data presented in this study shows the positive impact and potential advantage of an easily translatable protocol by strategically using non-narcotic medicines during the perioperative period in total knee arthroplasty. The day of discharge is 1.5 days faster, pain scores are markedly better, and the overall healthcare costs are diminished due to less need for hospitalization and less patients requiring transitional care or skilled nursing.