

THE BENEFITS OF SPINAL ANESTHESIA AND LIPOSOMAL BUPIVACAINE IN TOTAL KNEE ARTHROPLASTY

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Background Information: Patients who underwent Total Knee Arthroplasty (TKA), and who received general anesthesia with peripheral nerve block (PNB) experienced excellent pain control immediately post op. However this combination resulted in the patient experiencing delayed and decreased ambulation and prolonged length of stay.

Objectives of Project: To investigate if the use of spinal anesthesia and liposomal bupivacaine compared to general anesthesia and PNB will improve ambulation, length of stay and ability to discharge to home versus rehab.

Process of Implementation: An interdisciplinary orthopedic team was formed to redefine our practice to improve the outcomes for our TKA patients. The team included anesthesia, orthopedic surgeons, nurses, and therapists. An EBSCO search of perioperative, orthopedic and PeriAnesthesia journals was completed. The literature indicated that spinal anesthesia provides adequate pain control and has fewer complications than general anesthesia. Also, liposomal bupivacaine provides pain management consistent with that of PNB; however the use of liposomal bupivacaine improved early ambulation and lengths of stay. This evidence was reviewed by the team that ultimately decided to implement the use of spinal anesthesia along with the use of liposomal bupivacaine on TKA patients. A four month chart analysis of TKA patients who received general anesthesia and PNB was compared to a four month analysis of TKA patients who received spinal anesthetic and liposomal bupivacaine.

Statement of Successful Practice: From this change in practice came significant improved patient outcomes. The length of stay significantly decreased by 1.3 days. The rate that patients were able to be discharged home, instead of to a rehabilitation facility, increased by 34%. All ambulation variables (distance walked on postop day zero, greatest distance walked, accumulative distance walked and average distance walked per day) showed a statistically significant improvement.

Implications for Advancing the Practice of Perianesthesia Nursing: It is recommended for PeriAnesthesia nurses to collaborate with other disciplines and consider risk factors and outcomes that extend beyond the immediate post-operative period. This study has led to the PeriAnesthesia nurses to inquire if these changes have decreased the use of opioids in the immediate post-op phase in this population. Further investigation is needed to determine if the hypothesis is true.