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## Developing an Educational Pamphlet for Patients Undergoing Interscalene Blocks with Liposomal Bupivacaine Exparel

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## Developing an Educational Pamphlet for Exparel® Interscalene Blocks

### **Executive Summary**

#### **Introduction of the Problem**

According to the American Orthopedic Society for Sports Medicine, more than 1.4 million shoulder arthroscopies are performed worldwide each year (Athwal, 2019). There are also over one million total joint arthroplasties (> 54,000 shoulder arthroplasties) performed in the United States annually, with an expectation for the number to increase to nearly 4 million by 2030 (Etkin & Springer, 2017). Typically, analgesia for shoulder surgery is accomplished through a combination of intravenous medications and brachial plexus block—interscalene block (ISB).

Exparel®, liposomal bupivacaine, received FDA approval in 2015 due to efficacy and accomplished safety profile for surgical infiltration (Pacira Pharmaceuticals, 2019). On April 6, 2018, Exparel® was approved for use in ISBs. Due to recent FDA approval, educational materials for patients receiving Exparel® ISBs are scarce. The host facility for this project is a tertiary care center with a busy orthopedic surgical service. For this reason, there was need for a pamphlet to provide education to patients undergoing shoulder surgery receiving Exparel® ISB.

#### **Literature Review**

Pain management after shoulder surgery is a major concern in the perioperative period that can influence participation in physical therapy, discharge from the hospital or outpatient surgery center, and patient satisfaction (Namdari et al., 2018). With the growing opioid epidemic, national focus has shifted to the use and misuse of opioids in all areas of medicine. For this reason, noteworthy alternative practices which avoid or reduce opioid use, such as peripheral nerve blocks, are highly encouraged (Namdari et al., 2018). ISB is the peripheral nerve block of

choice for shoulder surgery. Exparel® or liposomal bupivacaine, a type of local anesthetic, has an onset within 30 minutes and therapeutic plasma levels can persist for up to 120 hours (Pacira Pharmaceutical, 2018).

The impact of low health literacy on well-being is a recognized factor for unfavorable patient outcomes. Most adults read at an eighth-grade level, and 20% of the population reads at or below a fifth-grade level; however, most health care materials are written at a tenth-grade level (Hedelund-Lausen et al., 2018). Low health literacy is associated with increased illness, lower adherence to chronic disease management, and low patient satisfaction scores (Hedelund Lausen et al., 2018). Providers must address health literacy issues to improve health equity and optimize engagement in available health care services.

The use of patient informational pamphlets has shown great benefits, especially in the improvement of patient recall (Sustersic, Gauchet, Foote, & Bosson, 2017). According to a systematic review, the effectiveness of pamphlets was not limited to distribution at a single timepoint (Teo, Li, Tan, & Munro, 2019). Regardless of when the text was given, there was documented benefit to pamphlets. The contents of the project pamphlet included education on Exparel® interscalene block benefits, side effects, postoperative expectations, and contact information for any questions after discharge.

## **Project Methods**

This project developed and introduced an educational pamphlet for adults undergoing Exparel® ISBs at a large tertiary care center in central Illinois in an effort to promote knowledge and improve patient outcomes. Evidence-based information retrieved from the literature review in conjunction with the external stakeholder was used to develop the pamphlet prototype. The pamphlet and summary of the literature review was presented via a voiceover PowerPoint

emailed to potential participants in the anesthesia group. Actual project participants totaled one anesthesiologist, 10 CRNAs, and one RN. Their feedback was used to better tailor the pamphlet specific to the facility's needs. Following aesthetic changes made by the facility's marketing department, the pamphlet should be made available to patients by Fall of 2021.

This quality improvement project was deemed exempt by Southern Illinois University Edwardsville's Institutional Review Board (IRB). Following IRB, the project was reviewed and approved for implementation by the project's external stakeholder. This project posed minimal risks, such as time inconvenience, to those who attended the presentation and completed the post-presentation survey.

## **Evaluation**

At the conclusion of the PowerPoint presentation and pamphlet prototype dissemination, participants were asked to complete a nine question survey. Additionally, a comment section was included for participants to add any thoughts on how to further improve the pamphlet. As an assessment for the overall readability of the pamphlet, the Flesch-Kincaid readability scale was used to ensure the material was at eighth grade level. According to the scale, the material scored a seven (meaning the reading difficulty was at seventh grade level). The goal pamphlet readability score below an eighth-grade level was accomplished.

Further analysis of the survey results demonstrated twelve participants completed the survey in its entirety. Under the comment sections, two comments were left, both praising the quality and efficacy of the pamphlet content. A 10-point Likert scale was used for the remaining questions. Eleven out of twelve participants claimed they would "very likely" use the pamphlet for patient dissemination. One out of the twelve participants "neither would nor would not" use the pamphlet for patient dissemination. This participant did not leave any additional feedback.

The introduction of the pamphlet prototype to the host facility was an overall success. Originally, the presentation and dissemination were to be done in person, but COVID-19 restrictions necessitated a deviation from that plan. Having to implement in a virtual format, and participants completing an electronic survey proved to be significant limitations to the project. The result was reduced participation and decreased overall feedback. Nevertheless, most participants supported the introduction of the pamphlet into clinical practice.

When new marketed drugs like Exparel® are made available for clinical use, there is vast literature made available to providers on the drug's use; however, patient resources are often lacking. Health literacy and access to health information vary tremendously among patients based on a multitude of factors (geographical location, language barriers, access to transportation, socioeconomic status, etc.). By being committed to quality improvement projects and applying evidence-based materials to the clinical setting routinely, healthcare facilities can significantly bridge the disparity in health and knowledge among patients, ultimately promoting their autonomy in treatment choices.

### **Impact on Practice**

The purpose of this project was to review the available literature on Exparel® ISBs and develop an educational pamphlet with respect to health literacy for patients. The immediate impact of the project was prototype development and introduction. The long-term impact of the project may include increased knowledge of patients regarding Exparel® ISBs for pain management after shoulder surgery. The pamphlet explains home care and includes the anesthesia department's contact information if questions arise. Having such a transparency in information-sharing may lead to better patient outcomes. One recommendation for future

implementation of a project similar to this would be an in-person presentation to encourage participation and staff engagement about the pamphlet and ideas for enhancement.

## **Conclusion**

Patient informational pamphlets have shown great benefits, especially in the improvement of patient recall (Sustersic, Gauchet, Foote, & Bosson, 2017). The pamphlet's readability at a seventh-grade level aligns with health literacy recommendations. This maximizes the number of patients that may gain beneficial knowledge about their care. The survey results suggested the pamphlet and implementation of the project were successful. This pamphlet may help ensure patients' concerns are addressed and improve the overall patient experience and satisfaction at this facility. In the future, projects which develop other types of patient education pamphlets would continue to promote health literacy and enhance patient knowledge.

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