



Topic Disposition Summary: Local Anesthetic Options to Reduce Post-op Opioid Use

Date: 8/15/2024

Nomination Number: 1086

Purpose: This document summarizes the information addressing a nomination submitted on February 20, 2024, through the Effective Health Care Website ([link to EHC posted topic nomination](#)). This information was used to inform the Evidence-based Practice Center (EPC) Program decisions about whether to produce an evidence report on the topic, and if so, what type of evidence report would be most suitable.

Issue: The nominator is seeking comparative effectiveness data on two local anesthetics—Zynrelef and Exparel—used in adults undergoing knee or hip replacement surgeries. These anesthetics have been used in replacement of opioids for pain control, and nominator interest focuses on outcomes including decreased opioid usage in morphine equivalents, ambulation distance, and patient-reported outcomes such as the Hip dysfunction and Osteoarthritis Outcome Score (HOOS) and the Knee injury and Osteoarthritis Outcome Score (KOOS).

Findings: The EPC Program will not develop a new systematic review because too few primary studies address the concerns of this nomination.

Background: The management of post-operative pain is crucial in reducing reliance on opioids, particularly in the context of major surgeries such as knee and hip replacements.¹⁻² Zynrelef (a combination of bupivacaine and meloxicam) and Exparel (liposomal bupivacaine) are both local anesthetics that have been proposed as effective strategies to reduce post-operative opioid use by providing extended pain relief at the surgical site.³⁻⁷ The concept is that by extending the duration of pain control, these agents can reduce the need for opioid medications, which are associated with numerous adverse effects and the potential for dependency. Both Zynrelef and Exparel are designed to deliver up to 72 hours of pain relief, however there is concern that Exparel may sometimes require supplementary pain management.⁵

However, despite the theoretical benefits and growing clinical interest, the available primary research directly comparing the efficacy of Zynrelef and Exparel is limited. Most of the data comes from individual trials with varying methodologies, populations, and surgical procedures, making it difficult to draw comprehensive conclusions. Moreover, while systematic reviews have been conducted on the use of these anesthetics individually, the comparative data specifically addressing their head-to-head effectiveness in reducing opioid use and improving patient outcomes in knee and hip replacement surgeries remain sparse. The lack of robust, high-quality primary studies limits the ability to perform a comprehensive systematic review that would adequately address the concerns raised by the nominator.

References

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Conflict of Interest: None of the investigators have any affiliations or financial involvement that conflicts with the material presented in this report.

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