THE USE OF EXPAREL IN PECTORAL FIELD BLOCKS FOR BREAST PROCEDURES

EXPAREL is indicated for single-dose infiltration in adults to produce postsurgical local analgesia and as an interscalene brachial plexus nerve block to produce postsurgical regional analgesia. Safety and efficacy have not been established in other nerve blocks.

Please see Important Safety Information throughout and refer to accompanying full Prescribing Information.
Field block infiltration, or fascial plane infiltration, can be an effective technique in a multimodal analgesic strategy¹,²

- **A PECS (ultrasound-guided medial and lateral pectoralis nerve) block** is a less invasive technique for providing analgesia after breast surgery compared with standard approaches, such as thoracic epidural, paravertebral, intercostal nerve, and intrapleural blocks²,³

- In PECS I and PECS II field infiltration, ultrasound guidance can be used to identify the appropriate fascial plane(s) and deposit local anesthetic to provide regional analgesia²
  - PECS blocks are applied in the pectoral and axillary regions, with the muscles in both regions innervated by the brachial plexus³

- A PECS block can be administered by the anesthesiologist or surgeon; direct injection during open surgery is also possible²

- These techniques provide effective analgesia after breast surgery and, unlike thoracic paravertebral and epidural blocks, are not associated with sympathetic block²

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### Areas covered by a PECS I or PECS II block

- **External anterior view of areas covered by PECS I and PECS II nerve blocks³**

- **PECS I block**
  - Devised to anesthetize the medial and lateral pectoral nerves, which innervate the pectoralis muscles

- **PECS II block**
  - Extends the block to provide blockade of the upper intercostal nerves

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**Important Safety Information**

EXPAREL is contraindicated in obstetrical paracervical block anesthesia.

Adverse reactions reported with an incidence greater than or equal to 10% following EXPAREL administration via infiltration were nausea, constipation, and vomiting; adverse reactions reported with an incidence greater than or equal to 10% following EXPAREL administration via interscalene brachial plexus nerve block were nausea, pyrexia, and constipation.
Consider the neuroanatomy to target the appropriate nerves for a PECS block

Internal view of nerves to target with a PECS block

PECS I block
- The lateral and medial pectoral nerves lie in the fascial plane between the pectoralis major and minor muscles

PECS II block
- Spinal nerves T2 to T4 lie in the fascial plane between the pectoralis minor and serratus anterior muscles

Internal sagittal view of where to inject local anesthetic

PECS I block
- Injection between the pectoralis major and minor muscles

PECS II block
- Injection between the pectoralis muscles and a second injection between the serratus anterior and pectoralis minor muscles

Important Safety Information (continued)

If EXPAREL and other non-bupivacaine local anesthetics, including lidocaine, are administered at the same site, there may be an immediate release of bupivacaine from EXPAREL. Therefore, EXPAREL may be administered to the same site 20 minutes after injecting lidocaine.

EXPAREL is not recommended to be used in the following patient population: patients <18 years old and/or pregnant patients.

Because amide-type local anesthetics, such as bupivacaine, are metabolized by the liver, EXPAREL should be used cautiously in patients with hepatic disease.

Please refer to accompanying full Prescribing Information.
Performing a PECS I block for pectoral and breast procedures

PECS I block
- Involves hydrodissection of the plane between the pectoral muscles with local anesthetic
- Main landmarks for point of injection under ultrasound guidance are:
  - Pectoralis major muscle
  - Pectoralis minor muscle
  - Pectoral branch of thoracoacromial artery
- A PECS I block does not reliably block pain at the serratus muscle

Nerves involved:
- Medial pectoral nerve (C8, T1)
- Lateral pectoral nerve (C5, C6, C7)

Common applications/procedures for a PECS I block
- Surgeries involving the pectoralis major muscle
- Breast expanders
- Traumatic chest injuries
- Portacath
- Pacemaker insertion

Administering EXPAREL in a PECS I block
- For a bilateral PECS I block, a minimum of 20 mL of volume (10 mL per side) is generally used in clinical practice

Important Safety Information (continued)

Warnings and Precautions Specific to EXPAREL
Avoid additional use of local anesthetics within 96 hours following administration of EXPAREL.
EXPAREL is not recommended for the following types or routes of administration: epidural, intrathecal, regional nerve blocks other than interscalene brachial plexus nerve block, or intravascular or intra-articular use.
The potential sensory and/or motor loss with EXPAREL is temporary and varies in degree and duration depending on the site of injection and dosage administered and may last for up to 5 days, as seen in clinical trials.
Performing a PECS II block for more extensive pectoral and breast procedures

PECS II block
The goal is to infiltrate 2 fascial compartments by dividing the dose and injecting²
• Between the pectoral nerves (the pectoral fascia and clavipectoral fascia)
• Under the pectoralis minor muscle (between the clavipectoral fascia and the superficial border of the serratus muscle)

Nerves involved include⁴
• Long thoracic nerve (nerve to serratus anterior)
• Thoracic intercostal nerves from T2 to T6
• Thoracodorsal nerve (nerve to latissimus dorsi)

Common applications/procedures for a PECS II block
• More extensive breast surgery involving the serratus anterior and the axilla
• Tumor resection
• Sentinel node excision
• Axillary clearance
• Tissue expanders

Administering EXPAREL in a PECS II block
• For a bilateral PECS II block, a minimum of 40 mL of volume (20 mL per side) is generally used in clinical practice

Important Safety Information (continued)

Warnings and Precautions for Bupivacaine-Containing Products

Central Nervous System (CNS) Reactions: There have been reports of adverse neurologic reactions with the use of local anesthetics. These include persistent anesthesia and paresthesia. CNS reactions are characterized by excitation and/or depression.

Please refer to accompanying full Prescribing Information.
Dosing and administration information for EXPAREL

Dosing considerations
- Size of the surgical site
- Volume needed to cover the width and depth of site
- Patient factors that could impact safety of an amide local anesthetic
- Maximum dose should not exceed 266 mg (20 mL)
- Intended for single-dose administration only

Determine the right volume to cover the surgical site
- Consider the size of the surgical site and the neuroanatomy
- Expand the volume to disperse liposomes throughout the surgical site
- Enough multivesicular liposomes must be available at the pain receptors to continuously release bupivacaine, ensuring long-lasting analgesia
- For large surgical sites, the 266 mg (20 mL) vial of EXPAREL can be expanded with normal (0.9%) saline or lactated Ringer’s solution up to a total volume of 300 mL

Important Safety Information (continued)

Warnings and Precautions for Bupivacaine-Containing Products (continued)

Cardiovascular System Reactions: Toxic blood concentrations depress cardiac conductivity and excitation which may lead to dysrhythmias, sometimes leading to death.

Allergic Reactions: Allergic-type reactions (eg, anaphylaxis and angioedema) are rare and may occur as a result of hypersensitivity to the local anesthetic or to other formulation ingredients.
For early analgesic coverage, administer with bupivacaine HCl

- Bupivacaine HCl may be administered immediately before EXPAREL or admixed in the same syringe
- Keep a 1:2 ratio of the milligram dose of bupivacaine HCl to EXPAREL. In determining the ratio, consider
  - One 20 mL vial of EXPAREL contains 266 mg of free-base bupivacaine, which is molar equivalent to
    300 mg of bupivacaine HCl
  - One 30 mL vial of 0.5% bupivacaine contains 150 mg of bupivacaine HCl
- Admixing may impact the pharmacokinetic/pharmacodynamic properties of EXPAREL; the effect is
  concentration dependent

Example of admixing

Important Safety Information (continued)

Warnings and Precautions for Bupivacaine-Containing Products (continued)

Chondrolysis: There have been reports of chondrolysis (mostly in the shoulder joint) following intra-articular infusion of local anesthetics, which is an unapproved use.

Methemoglobinemia: Cases of methemoglobinemia have been reported with local anesthetic use.

Please refer to accompanying full Prescribing Information.
Indication
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Visit www.EXPAREL.com to discover more

Please refer to accompanying full Prescribing Information.
For more information, please visit www.EXPAREL.com or call 1-855-RX-EXPAREL (793-9727).