

Administration Case Report With EXPAREL

This case report represents the individual experience of Dr John W. Munz and is intended to demonstrate his methodology for using EXPAREL in an ankle fracture surgery.

Pacira BioSciences, Inc. recognizes that there are alternative methodologies for administering local anesthetics, as well as individual patient considerations when selecting the dose for a specific procedure.

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.

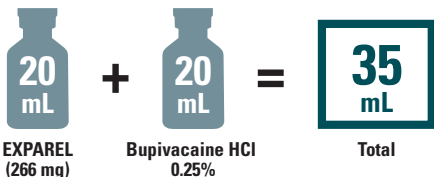
CASE INFORMATION

Physician Name	John W. Munz, MD
Affiliation	Orthopedic Trauma Surgeon University of Texas Health and McGovern Medical School Memorial Hermann Hospital Houston, TX
Surgical Case Performed	Open reduction and internal fixation of right trimalleolar ankle fracture
Inpatient or Outpatient Procedure	Outpatient

PATIENT CHARACTERISTICS

Gender	Female
Age	36 years
Patient History and Characteristics	Patient presented 9 days prior with a trimalleolar fracture of the right ankle with compromised medial soft tissue due to a fall down the stairs and is returning for surgery. The patient had a history of nausea with opioid medications and requested to avoid taking any opioid medications.

PROCEDURAL DETAILS

Incision Size	Posterolateral: 15 cm (prone position) Medial: 7 cm (supine position)
Preoperative Analgesics Used	PO acetaminophen 500 mg
Intraoperative Analgesics Used	Fentanyl upon induction of general anesthesia
Dose of EXPAREL and Total Volume Used	 <p>The diagram illustrates the combination of two 20 mL vials. The first vial is labeled '20 mL EXPAREL (266 mg)'. The second vial is labeled '20 mL Bupivacaine HCl 0.25%'. A plus sign (+) is between them, followed by an equals sign (=). To the right of the equals sign is a box containing '35 mL Total'.</p>

PO, by mouth.

The recommended dose of EXPAREL is based on the size of the surgical site, the volume required to cover the area, and individual patient factors that may impact the safety of an amide local anesthetic. The maximum dose of EXPAREL should not exceed 266 mg.

EXPAREL can be administered unexpanded (20 mL) or expanded to increase volume up to a total of 300 mL (final concentration of 0.89 mg/mL [ie, 1:14 dilution by volume]) with normal (0.9%) saline or lactated Ringer's solution.

Bupivacaine HCl may be administered immediately before EXPAREL or admixed in the same syringe, as long as the ratio of the milligram dose of bupivacaine HCl to EXPAREL does not exceed 1:2. Admixing may impact the pharmacokinetic and/or physicochemical properties of EXPAREL, and this effect is concentration dependent. The toxic effects of these drugs are additive and their administration should be used with caution, including monitoring for neurologic and cardiovascular effects related to local anesthetic systemic toxicity. Other than with bupivacaine, EXPAREL should not be admixed with other drugs prior to administration.

Please see Important Safety Information on the last page and refer to accompanying full Prescribing Information for complete Dosage and Administration information before using EXPAREL.

INFILTRATION NOTES

ASSESSED THE SIZE OF THE SURGICAL SITE AND DEPTH OF TISSUE, THEN PREPARED INJECTION MATERIALS ACCORDINGLY

In this procedure, Dr Munz determined a total volume of 35 mL would be needed to cover the surgical site. He admixed 20 mL of EXPAREL® (bupivacaine liposome injectable suspension) with 15 mL of 0.25% bupivacaine HCl. Bupivacaine HCl was added to provide short-term local analgesia in the postanesthesia care unit that overlapped with the long-term local analgesia provided by EXPAREL.

DIVIDED INJECTATE INTO SYRINGES WITH NEEDLE SIZES APPROPRIATE FOR INFILTRATION (23-GAUGE) AND PLANNED WHICH AREAS TO INFILTRATE WITH EACH INJECTION

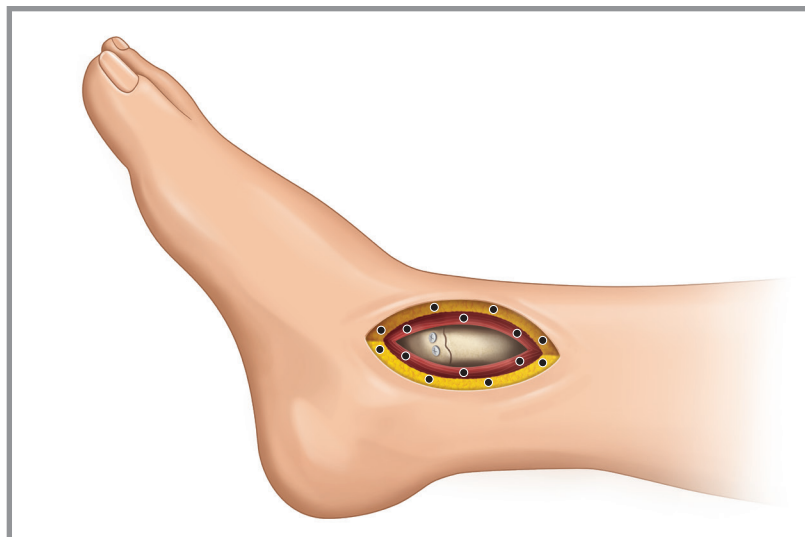
For this procedure, Dr Munz divided the injectate into two 20-mL syringes using 23-gauge needles and infiltrated as follows:



Dr Munz did not use a smaller needle (eg, 27 gauge) due to concerns about shearing of liposomes and the early release of EXPAREL.



- **Step #1:**
Posterolateral incision

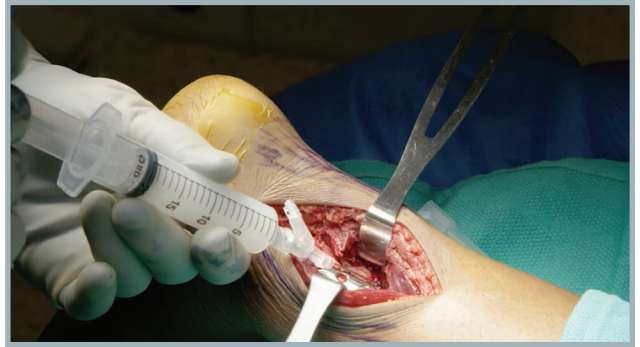


- **Step #2:**
Medial incision

INFILTRATION NOTES (cont)

■ Step #1:

After completion of the posterolateral approach and fixation, the incision was irrigated and infiltrated with 20 mL of the EXPAREL (266 mg/20 mL) injectate. 1 to 2 mL was infiltrated every 1.0 to 1.5 cm into the deepest layers (periosteum, muscular, and dermal layers) and the subcutaneous layers.



■ Step #2:

After completion of the medial approach and fixation, the incision was irrigated and infiltrated with 15 mL of the EXPAREL injectate. 1 to 2 mL was infiltrated every 1.0 to 1.5 cm into the deepest layers (periosteum, muscular, and dermal layers) and the subcutaneous layers.

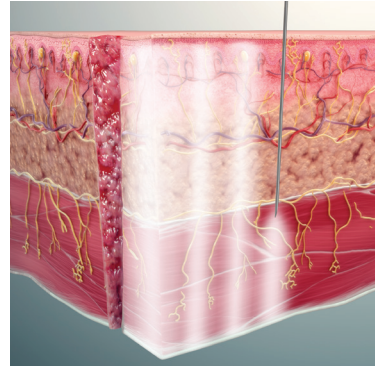


Slowly inject as the needle is withdrawn to create a column of medication, ensuring analgesic coverage throughout all layers.

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PROPER TECHNIQUE IS CRUCIAL FOR ANALGESIC COVERAGE

Dr Munz infiltrated EXPAREL® (bupivacaine liposome injectable suspension) into all tissue layers using a moving needle technique. With a moving needle technique, the injections were spread in a fanlike pattern and occurred as the needle was both inserted and withdrawn to maximize the coverage area. This technique was systematically and meticulously repeated at each injection site, with overlapping diffusion of EXPAREL to ensure there were no gaps in analgesic coverage.



Watch Dr Munz infiltrate with EXPAREL at www.EXPAREL.com

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.

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.

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.

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.

Cardiovascular System Reactions: Toxic blood concentrations depress cardiac conductivity and excitability 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.

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.

Disclosure: Dr Munz is a paid consultant for Pacira BioSciences, Inc.