

Administration Case Report: Third-molar Extractions

This case report represents the individual experience of Dr Stuart E. Lieblich, and is intended to demonstrate his methodology for using EXPAREL in patients undergoing third-molar extractions.

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 a local anesthetic that produces postsurgical analgesia in patients aged 6 years and older. It is administered via single-dose infiltration. When infiltrated into the surgical site, it produces local analgesia. It may also be infiltrated in the fascial plane to produce regional analgesia as a regional field block. Regional anesthetic techniques to produce regional analgesia include, but are not limited to, transversus abdominis plane (TAP) block, pectoralis (PEC) and serratus anterior plane (SAP) blocks, erector spinae plane (ESP) block, and quadratus lumborum (QL) block. EXPAREL may also be administered as an interscalene brachial plexus nerve block in adults to produce postsurgical regional analgesia in total shoulder arthroplasty (TSA) and rotator cuff repair (RCR) procedures.


CASE INFORMATION

Physician Name	Stuart E. Lieblich, DMD
Affiliation	Department of Oral and Maxillofacial Surgery, University of Connecticut Avon Oral & Maxillofacial Surgery, Avon, CT
Surgical Case Performed	Third-molar extractions
Inpatient or Outpatient Procedure	Outpatient

PATIENT CHARACTERISTICS

Gender	Female
Age	19 years
Patient History and Characteristics	Recurrent lower-right pericoronitis
Pathology	Soft tissue impactions of teeth #1 and #16; partial bony impactions of teeth #17 and #32

PROCEDURAL DETAILS

Incision Size	2-cm sulcular incisions
Preoperative Analgesics Used	Upper Molars <ul style="list-style-type: none">• 2% lidocaine with 1:100,000 epinephrine for infiltration into the buccal and palatal aspects Lower Molars <ul style="list-style-type: none">• 2% lidocaine with 1:100,000 epinephrine for inferior alveolar nerve block and lingual nerve block in the mandible• 0.5% bupivacaine HCl with 1:100,000 epinephrine for inferior alveolar nerve block and long buccal nerve block
Intraoperative Analgesics Used	10 mL (133 mg) of EXPAREL (unexpanded)
Dose of EXPAREL and Total Volume Used	 EXPAREL (133 mg)

The recommended dose of EXPAREL for adults 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. The recommended dose of EXPAREL for patients aged 6 to <17 years old is 4 mg/kg, up to a maximum of 266 mg. The maximum dose of EXPAREL for interscalene brachial plexus nerve block in adults should not exceed 133 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 (which is approved for use in patients aged 12 and older) 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 neurological and cardiovascular effects related to local anesthetic systemic toxicity. Other than with bupivacaine HCl, 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, which is also available at www.EXPAREL.com.

INFILTRATION NOTES

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

In this procedure, the panoramic radiograph showed the soft tissue–impacted maxillary third molars and partial bony–impacted mandibular third molars.

Dr Lieblich assessed the surgical sites and determined he would need the following to provide analgesic coverage:

- 1.7 mL of 2% lidocaine with 1:100,000 epinephrine for infiltration into buccal aspect and 0.2 mL into palatal aspect of each upper third molar
- 1.7 mL of 2% lidocaine with 1:100,000 epinephrine for each lower inferior alveolar nerve block and lingual nerve block in the mandible
- 1.5 mL of 0.5% bupivacaine HCl with 1:100,000 epinephrine for each lower inferior alveolar nerve block
- 0.3 mL of 0.5% bupivacaine HCl with 1:100,000 epinephrine for each long buccal nerve block

Dr Lieblich also determined that he would need a total volume of approximately 10 mL of EXPAREL® (bupivacaine liposome injectable suspension) (unexpanded).

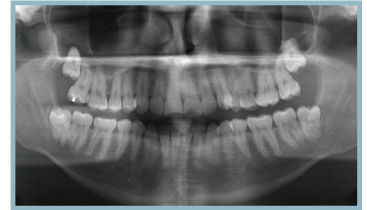


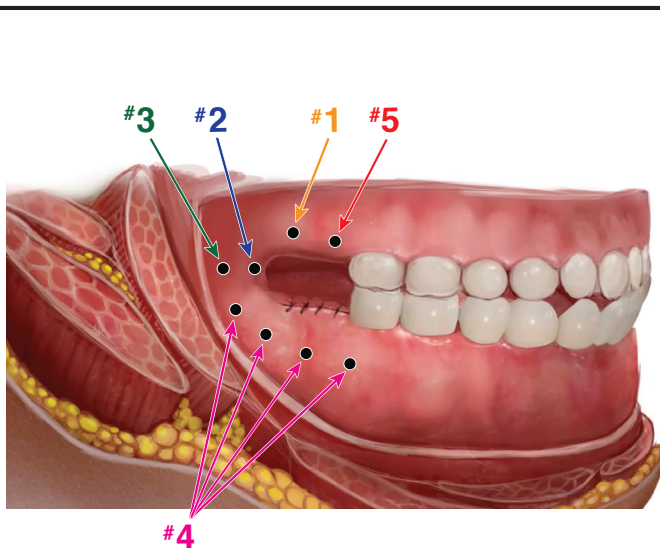
FIGURE 1. Panoramic radiograph



Dr Lieblich used bupivacaine HCl with epinephrine for the long buccal nerve block because non-bupivacaine-based local anesthetics, including lidocaine, may cause an immediate release of bupivacaine from EXPAREL if administered together locally. The administration of EXPAREL may follow the administration of lidocaine after a delay of 20 minutes or more. Formulations of bupivacaine other than EXPAREL should not be administered within 96 hours following administration of EXPAREL.

INFILTRATED INTO THE FOLLOWING AREAS USING A 22-GAUGE NEEDLE

Dr Lieblich planned to infiltrate as follows:



INFILTRATION AND NERVE BLOCK WITH NON-EXPAREL ANALGESICS

UPPER MOLARS

- **Step #1:** Buccal and palatal infiltration of teeth #1 and #16 (lidocaine with epinephrine)

LOWER MOLARS

- **Step #2:** Inferior alveolar and lingual nerve block for teeth #17 and #32 (lidocaine with epinephrine)
- **Step #3:** Inferior alveolar and long buccal nerve block (bupivacaine HCl with epinephrine)

INFILTRATION WITH EXPAREL

- **Step #4:** Lateral aspect of mandible for teeth #17 and #32
- **Step #5:** Buccal aspect of teeth #1 and #16

INFILTRATION NOTES (cont)

■ Step #1:

For teeth #1 and #16, Dr Lieblich infiltrated 1.7 mL of 2% lidocaine with 1:100,000 epinephrine into the buccal aspect and 0.2 mL into the palatal aspect.

■ Step #2:

For teeth #17 and #32, Dr Lieblich administered 1.7 mL of 2% lidocaine with 1:100,000 epinephrine into the inferior alveolar nerve and 1.7 mL into the lingual nerve in the mandible, on each side, to create nerve blocks.

■ Step #3:

Dr Lieblich infiltrated 1.5 mL of 0.5% bupivacaine HCl with 1:100,000 epinephrine into the inferior alveolar nerve and 0.3 mL into the long buccal nerve, on each side, to create nerve blocks.



Do not administer lidocaine into the soft tissues adjacent to the mandibular third-molar sites where EXPAREL is administered.

■ Step #4:

After primary closure, Dr Lieblich infiltrated 4 mL of EXPAREL along the lateral aspect of the mandible, on each side, as 4 separate 1-mL injections, for a total of 8 mL. For each injection, the needle was inserted into the base, aspirated, and then 1 mL of EXPAREL was injected as the needle was withdrawn, creating a column effect—ensuring maximum analgesic coverage.



FIGURE 2. Lateral aspect of mandible

■ Step #5:

Dr Lieblich then infiltrated 1 mL of EXPAREL into the buccal aspect of the upper third molars, on each side, for a total of 2 mL.

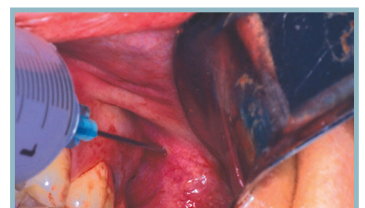
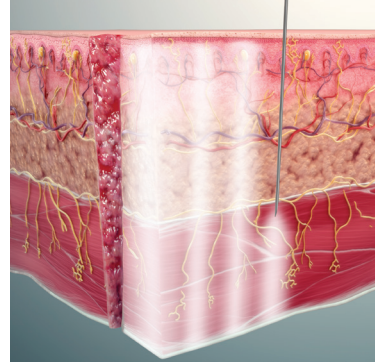


FIGURE 3. Buccal aspect of the upper third molars

INFILTRATION NOTES (cont)

PROPER TECHNIQUE IS CRUCIAL FOR ANALGESIC COVERAGE

Dr Lieblich 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 fan-like pattern and occurred as the needle was 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 infiltration with EXPAREL in a third-molar extraction procedure at www.EXPAREL.com

Important Safety Information

EXPAREL is contraindicated in obstetrical paracervical block anesthesia.

Adverse reactions reported in adults with an incidence greater than or equal to 10% following EXPAREL administration via infiltration were nausea, constipation, and vomiting; adverse reactions reported in adults with an incidence greater than or equal to 10% following EXPAREL administration via interscalene brachial plexus nerve block were nausea, pyrexia, and constipation.

Adverse reactions with an incidence greater than or equal to 10% following EXPAREL administration via infiltration in pediatric patients six to less than 17 years of age were nausea, vomiting, constipation, hypotension, anemia, muscle twitching, vision blurred, pruritus, and tachycardia.

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 populations: patients <6 years old for infiltration, patients younger than 18 years old for interscalene brachial plexus nerve block, 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 Lieblich is a paid consultant for Pacira BioSciences, Inc.

Full Prescribing Information is available at www.EXPAREL.com.