

Administration Case Report: Cesarean Delivery

This case report represents the individual experience of Dr Elizabeth Cherot, and is intended to demonstrate her methodology for using EXPAREL in a patient undergoing a cesarean delivery.

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.

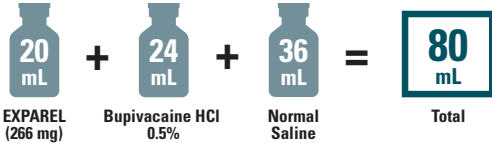
CASE INFORMATION

Physician Name	Elizabeth Cherot, MD, MBA
Affiliation	Obstetrician and Gynecologist Axia Women's Health, Voorhees, NJ Brunswick Hills Obstetrics & Gynecology, East Brunswick, NJ
Surgical Case Performed	Cesarean delivery
Inpatient or Outpatient Procedure	Inpatient

PATIENT CHARACTERISTICS

Gender	Female
Age	34 years
Patient History and Characteristics	39 weeks gestation, weight 165 lb, blood pressure 130/80 mm Hg Past obstetric history includes 1 live birth via cesarean delivery due to breech presentation and 1 miscarriage at 8 weeks gestation

PROCEDURAL DETAILS

Incision Size	12-cm Joel-Cohen
Intraoperative Anesthesia	Combined spinal/epidural anesthesia: hyperbaric bupivacaine 0.75% 13.5 mg + morphine 150 mcg + fentanyl 15 mcg
Dose of EXPAREL and Total Volume Used	 <p>20 mL EXPAREL (266 mg) + 24 mL Bupivacaine HCl 0.5% + 36 mL Normal Saline = 80 mL Total</p>

MULTIMODAL ANALGESIA AND ENHANCED RECOVERY AFTER SURGERY PROTOCOL

Preoperative Medications Used	At least 2 hours before the procedure: IV cefazolin 1 g, IV dexamethasone 10 mg, IV ondansetron 4 mg, TD scopolamine patch
Intraoperative Medications Used	80 mL of expanded EXPAREL
Postoperative Medications Used	First 24 hours postoperatively: IV acetaminophen 1000 mg, IV ketorolac 15 mg; patient initiated on a postoperative diet Up to 72 hours postoperatively and through discharge: PO acetaminophen 650 mg q6h*, PO ibuprofen 600 mg q6h*

IV=intravenous; PO=by mouth; q6h=every 6 hours; TD=transdermal.

*Dose intervals were designed so patient received alternating doses of PO acetaminophen or PO ibuprofen every 3 hours.

INFILTRATION NOTES

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

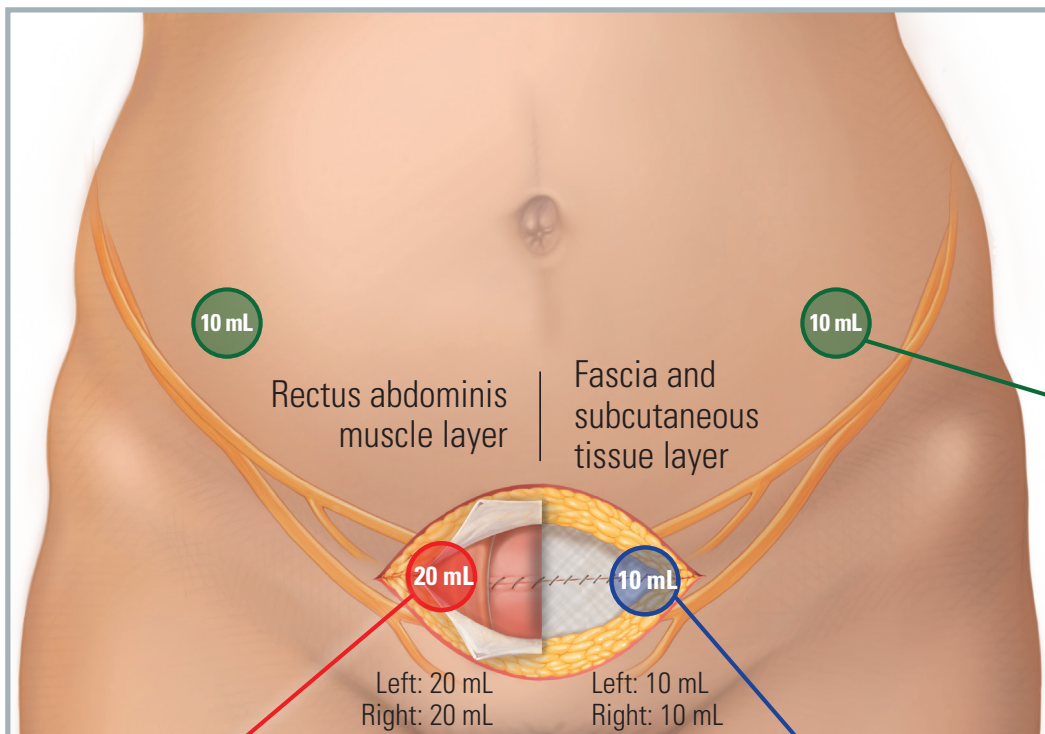
In this procedure, Dr Cherot determined a total volume of 80 mL would be needed to cover the surgical site. She expanded 20 mL of EXPAREL® (bupivacaine liposome injectable suspension) with 24 mL of bupivacaine HCl 0.5% and 36 mL of normal saline. Bupivacaine HCl was added to provide early-onset analgesia and bridge the time to onset of the long-acting local analgesia provided by EXPAREL.



In cases that require a higher total volume, such as those involving larger incisions, Dr Cherot may add normal saline to increase the total volume to 100 mL.

DIVIDED INJECTATE INTO SYRINGES WITH NEEDLE SIZES APPROPRIATE FOR INFILTRATION (20- TO 25-GAUGE) AND PLANNED WHICH AREAS TO INFILTRATE WITH EACH INJECTION

For this procedure, Dr Cherot divided the injectate into four 20-mL syringes with 22-gauge needles.



- **Step #1:**
Bilateral infiltration
(20 mL per side, 40 mL total) of the
anterior rectus abdominis muscle
and rectus sheath

- **Step #2:**
Bilateral infiltration
(10 mL per side, 20 mL total)
of fascia and subcutaneous tissue

- **Step #3:**
Bilateral field blocks
(10 mL per side,
20 mL total)

INFILTRATION NOTES (cont)

AFTER CLOSURE OF THE UTERUS AND PERITONEUM

■ Step #1: Rectus abdominis muscle

Dr Cherot began by infiltrating 40 mL of expanded EXPAREL® (bupivacaine liposome injectable suspension) bilaterally into the anterior rectus abdominis muscle and rectus sheath. She infiltrated 20 mL of EXPAREL on each side, injecting parallel to the surgical plane in a fan-like pattern. Dr Cherot delivered approximately 5 mL of EXPAREL deep into the tissue with each injection to ensure optimal coverage of the area. She infiltrated as she moved the needle to optimize coverage with the EXPAREL admixture. She then reapproximated the fascia before continuing with the remaining infiltration steps.

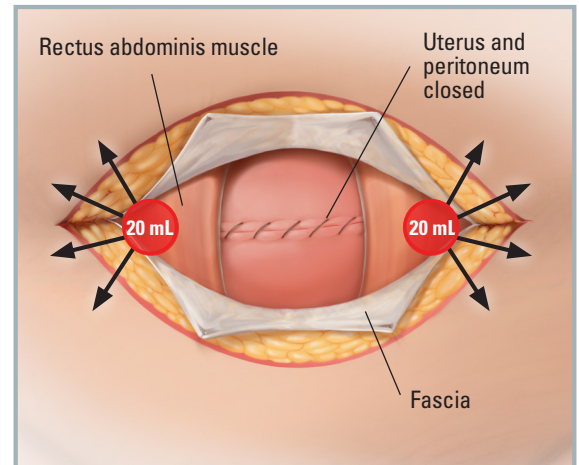


FIGURE 1. Rectus abdominis muscle



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.

AFTER REAPPROXIMATION OF THE FASCIA

■ Step #2: Fascia and subcutaneous tissue

Next, Dr Cherot infiltrated 20 mL of EXPAREL bilaterally from the corners of the fascial incision site. She infiltrated in a fan-like pattern, delivering 3 to 4 mL of EXPAREL with each injection, for a total of 10 mL on each side. Dr Cherot infiltrated above and below the fascia and into the subcutaneous tissue, parallel and along the natural lateral descending curvature of the fascial plane. She infiltrated out toward the iliohypogastric and ilioinguinal nerves as well as the obliques, where aponeurosis begins to form the rectus sheath.

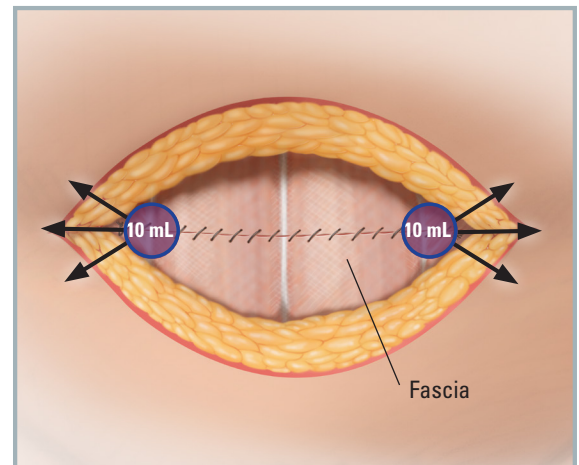


FIGURE 2. Fascia and subcutaneous tissue

AFTER SKIN CLOSURE

■ Step #3: Bilateral field block

Finally, Dr Cherot performed bilateral field blocks, infiltrating 2 fingerbreadths superior and medial to the anterior superior iliac crest. She infiltrated 10 mL of EXPAREL on each side, perpendicular to the surgical plane, making sure to deliver EXPAREL deep into the abdominal wall. This step provides a field block of the ilioinguinal nerves, addressing pain from any innervation closer to the incision.

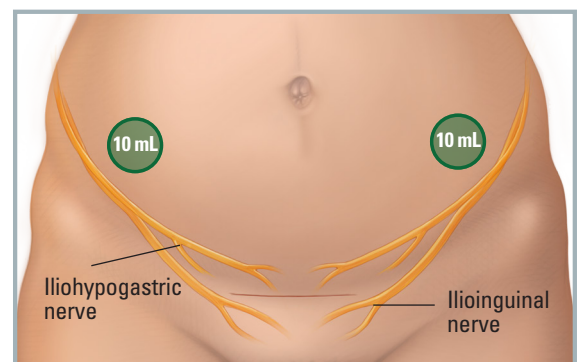


FIGURE 3. Bilateral field block



Learn more about **EXPAREL** and watch infiltration videos at www.EXPAREL.com

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, EXPAREL should not be admixed with other drugs prior to administration.

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 Cherot is a paid consultant for Pacira BioSciences, Inc.

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