Administration Case Report With EXPAREL

This case report represents the individual experience of Dr Stan Dysart and is intended to demonstrate his methodology for using EXPAREL in a specific orthopedic procedure.

Pacira Pharmaceuticals, 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 administration into the surgical site to produce postsurgical analgesia.

### CASE INFORMATION

<table>
<thead>
<tr>
<th><strong>Physician Name</strong></th>
<th>Stan Dysart, MD</th>
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<tbody>
<tr>
<td><strong>Affiliation</strong></td>
<td>Pinnacle Orthopaedics/Wellstar Health System</td>
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<tr>
<td><strong>Surgical Case Performed</strong></td>
<td>Total knee arthroplasty (TKA)</td>
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<tr>
<td><strong>Inpatient or Outpatient Procedure</strong></td>
<td>Inpatient</td>
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### PATIENT CHARACTERISTICS

<table>
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<tr>
<th><strong>Gender</strong></th>
<th>Male</th>
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<tbody>
<tr>
<td><strong>Age</strong></td>
<td>81 years</td>
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<td><strong>Patient History and Characteristics</strong></td>
<td>Patient previously underwent a successful left TKA</td>
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<td><strong>Pathology</strong></td>
<td>Patient has right knee osteoarthritis and is now undergoing a right TKA with an ERAS protocol</td>
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### PROCEDURAL DETAILS

| **Incision Size** | 15 cm |
| **Preoperative Analgesics Used** | AC block—20 mL of 0.25% bupivacaine with epinephrine |
| **Intraoperative Analgesics Used** | TIVA general—150-200 mcg/kg/min propofol titrated based on surgical needs; 50-100 mcg fentanyl as needed |
| **Periarticular injection with 20 mL EXPAREL and 50 mL 0.25% bupivacaine** |

| **Dose of EXPAREL and Total Volume Used** | 20 mL + 50 mL + 50 mL = 120 mL |

AC, adductor canal; ERAS, enhanced recovery after surgery; TIVA, total intravenous anesthesia.

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 undiluted (20 mL) or diluted 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 physiochemical 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 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 the accompanying full Prescribing Information for complete Dosage and Administration information before using EXPAREL.
INfiltration Notes

Prior to Cementation

- Syringe #1: Posterior capsule
- Syringe #2: Femur
- Syringe #3: Tibia, pes anserinus, medial collateral ligament (MCL), gutter
- Syringe #4: Circumferential periosteum

After completing the bony cuts, Dr. Dysart inserted a laminar spreader between the cut femur and tibia, exposing the posterior capsule of the knee. He then proceeded with infiltrating the injectate as follows:

- **Syringe #1:**
  - Medial and lateral infiltration of the posterior capsule
  - Medial infiltration of posterior capsule with approximately 10 needle sticks to create a field block
  - Lateral infiltration of posterior capsule with approximately 10 needle sticks

- **Syringe #2:**
  - Medial and lateral infiltration of femoral periosteal/synovial tissues and of suprapatellar tissue with 20 needle sticks of 1 mL to 1.5 mL per injection
  - Inject until a noticeable bubble forms. It is normal for there to be more dramatic swelling in this thick, fibrous layer than when soft tissue is infiltrated.

- **Syringe #3:**
  - Injection of fat pad, pes anserinus, MCL, and medial gutter, saturating the area

- **Syringe #4:**
  - Medial and lateral infiltration of the circumferential periosteum of the tibia using 15 to 20 needle sticks

- **Syringe #5:**
  - Injection of the synovial tissue beneath the quadriceps tendon and the retinacular tissue medially from the femur to the tibia

- **Syringe #6:**
  - Injection of the lateral gutter and the lateral retinacular tissue from the femur to the tibia. Residual volume is used in the subcutaneous tissue medially and laterally. There will likely be swelling of the tissue from fluid volume extravasation.

When infiltrating, stay in the tissue to reduce the amount of extravasation.

Please see Important Safety Information on the last page and refer to the accompanying full prescribing information for complete dosage and administration information before using EXPAREL.
**Important Safety Information**

EXPAREL is contraindicated in obstetrical paracervical block anesthesia.

In clinical trials, the most common adverse reactions (incidence ≥10%) following EXPAREL administration were nausea, constipation, and vomiting.

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. Patients with severe hepatic disease, because of their inability to metabolize local anesthetics normally, are at a greater risk of developing toxic plasma concentrations.

**Warnings and Precautions Specific to EXPAREL**

EXPAREL is not recommended for the following types or routes of administration: epidural, intrathecal, regional nerve blocks, or intravascular or intra-articular use.

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.

**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 paresthesias. 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 (e.g., 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.

**Disclosure:** Dr Dysart is a paid consultant for Pacira Pharmaceuticals, Inc.