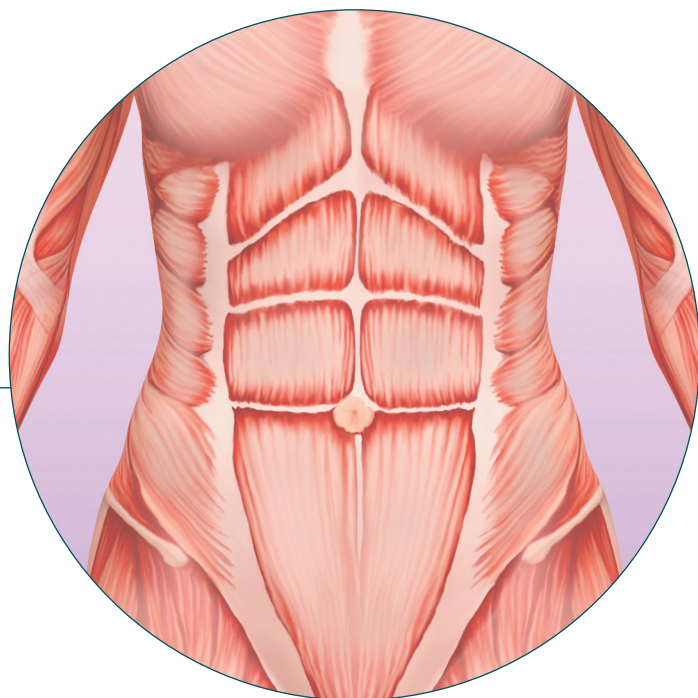


NON-OPIOID  
**EXPAREL**<sup>®</sup>  
(bupivacaine liposome injectable suspension)

# A COMPREHENSIVE GUIDE TO DELIVERING EFFECTIVE ANALGESIA WITH ABDOMINAL-WALL FIELD BLOCKS

Enhance recovery with regional analgesic approaches



All dosing and administration information contained within this brochure refers to adult patients only.

## Indication

EXPAREL is indicated for single-dose infiltration in patients aged 6 years and older to produce postsurgical local analgesia and in adults 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 on page 10 and refer to accompanying full Prescribing Information, which is also available at [www.EXPAREL.com](http://www.EXPAREL.com).

# ABDOMINAL-WALL FIELD BLOCKS ARE AN IMPORTANT PART OF A MULTIMODAL STRATEGY FOR POSTSURGICAL PAIN MANAGEMENT

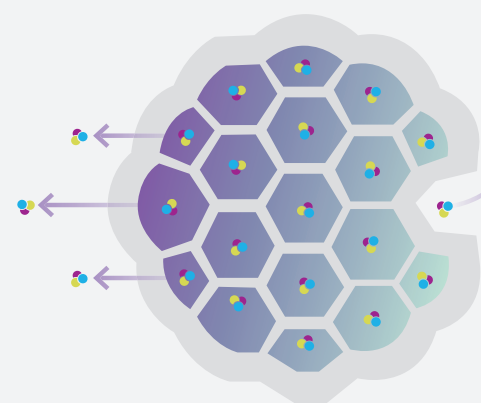
Using a long-lasting local anesthetic can provide effective regional analgesia for a range of abdominal procedures to enhance postsurgical recovery<sup>1,2</sup>

- A local anesthetic is deposited and spread within the musculofascial plane to provide sensory blockade to nerves contained within the anatomical plane<sup>1</sup>
- Ultrasound guidance allows for visualization of the needle and precise placement of local anesthetics within the plane<sup>1,2</sup>
- Multiple blocks can be used in combination to achieve full coverage of the surgical site<sup>1</sup>
- Appropriate for open procedures with large abdominal incisions and laparoscopic procedures with multiple port sites across different parts of the abdomen<sup>1</sup>

The unique properties of EXPAREL allow for a prolonged analgesic effect

- The broad indication of EXPAREL allows for both surgical site infiltration to produce local analgesia and field blocks to produce regional analgesia

EXPAREL: a long-lasting, non-opioid option for postsurgical pain control



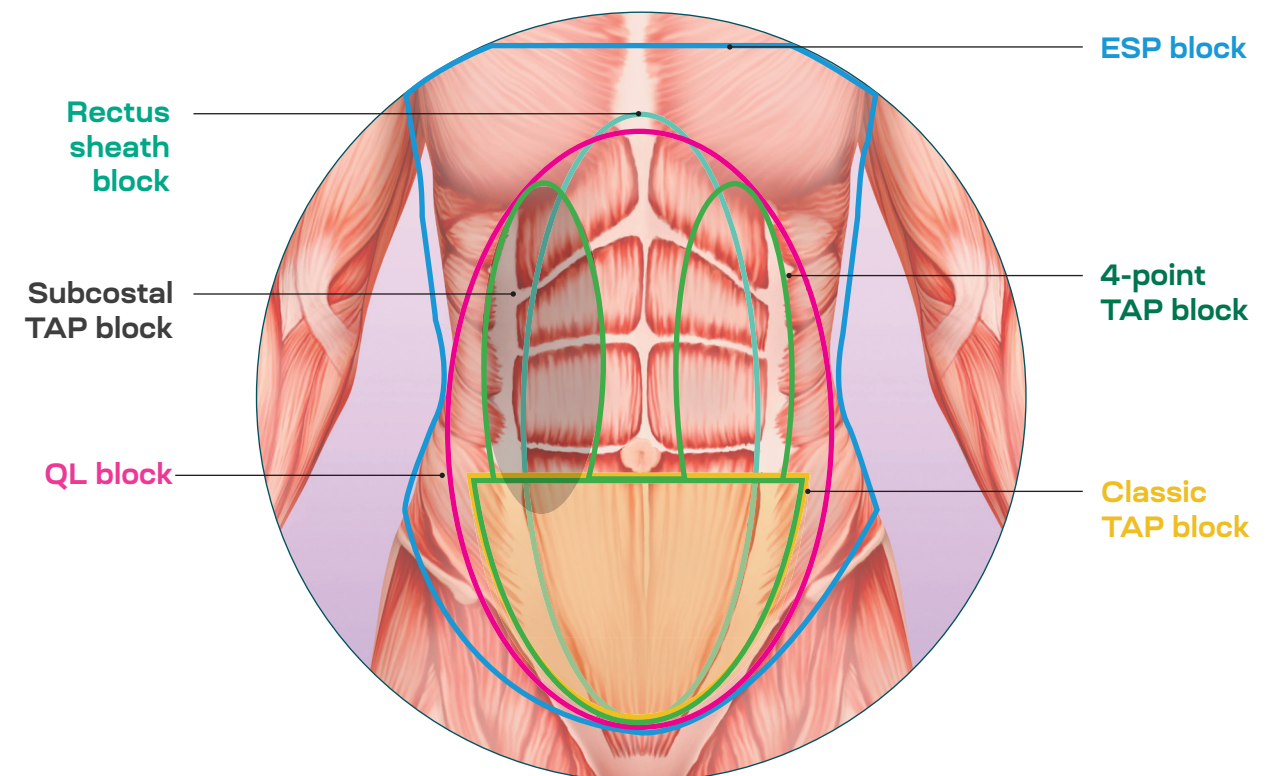
- ENCAPSULATES bupivacaine in a suspension of multivesicular liposomes
- ACHIEVES targeted analgesia at the surgical site
- PROVIDES safe, consistent levels of bupivacaine<sup>3</sup>
- ELIMINATES the need for catheters and pumps that may hinder recovery<sup>4</sup>
- EXTENDS analgesic duration while reducing the need for opioids\*

\*The clinical benefit of the decrease in opioid consumption was not demonstrated in the pivotal trials.

Please see Important Safety Information on page 10 and refer to accompanying full Prescribing Information, which is also available at [www.EXPAREL.com](http://www.EXPAREL.com).

# ABDOMINAL PLANE BLOCKS ARE EFFECTIVE IN DELIVERING REGIONAL ANALGESIA<sup>1</sup>

Select the appropriate field block based on areas of coverage needed for the procedure, considering incision site and surgical site<sup>1</sup>



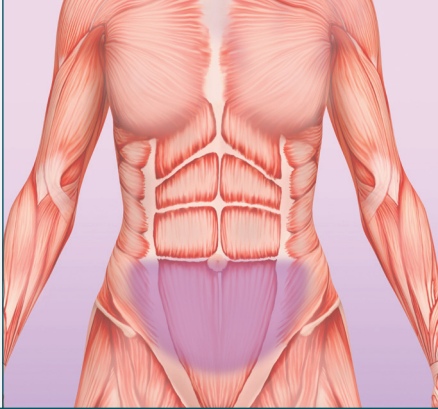
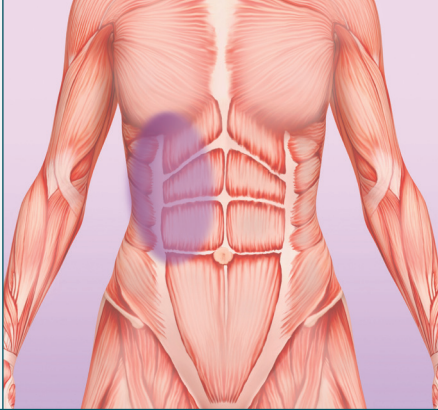
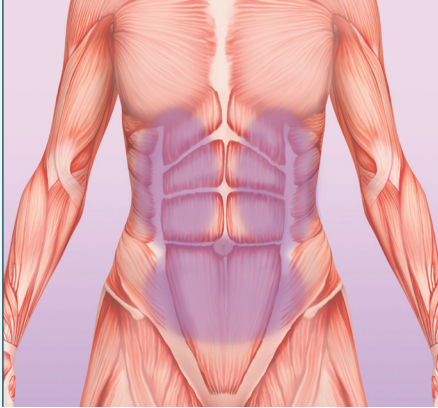
## Sensory block achieved in several areas

- **Classic TAP block<sup>5</sup>**  
Yellow semicircle over the lower abdomen (dermatomes T10 to L1)
- **Subcostal TAP block<sup>5</sup>**  
Can vary, but occurs approximately in the shaded gray area in the upper abdominal quadrant (dermatomes T6 to T10-T12)
- **4-point TAP block<sup>6</sup>**  
Green outline overlapping the areas of coverage of classic and subcostal TAP blocks (dermatomes T6 to T10-T12)
- **Rectus sheath block<sup>6</sup>**  
Narrow teal oval over abdominal midline (dermatomes T6 to T12)
- **QL block<sup>7</sup>**  
Large pink oval over abdominal midline (dermatomes T4 to L1)
- **ESP block<sup>8</sup>**  
Large blue outline over abdominal area (dermatomes T6 to L1)

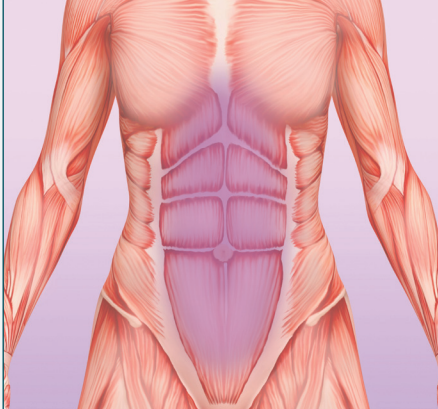
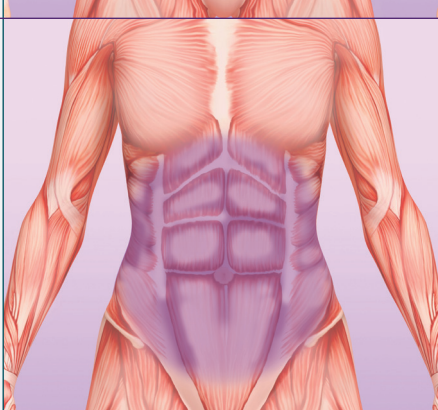
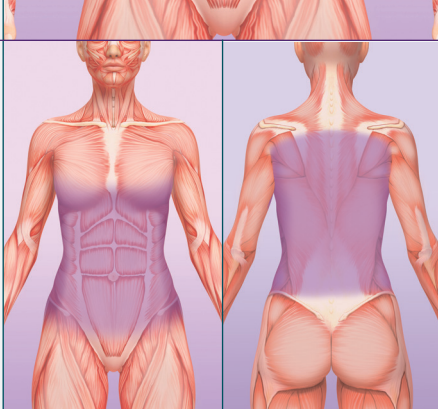
ESP=erector spinae plane; QL=quadratus lumborum; TAP=transversus abdominis plane.

**NON-OPIOID  
EXPAREL<sup>®</sup>**  
(bupivacaine liposome injectable suspension)

## ABDOMINAL-WALL FIELD BLOCKS PROVIDE BROAD ANALGESIC COVERAGE...

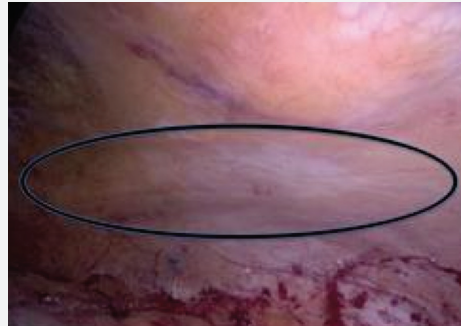
	Area of sensory block	Placement of local anesthetic	Common applications/ procedures
<b>Classic TAP block</b>		In the fascial plane between the internal oblique and the transversus abdominis muscles <sup>9,10</sup>	<ul style="list-style-type: none"> <li>Lower abdominal surgeries (incisions below the umbilicus)<sup>11</sup> <ul style="list-style-type: none"> <li>- Pfannenstiel incision (eg, C-section, myomectomy)<sup>2,12</sup></li> <li>- Hysterectomy<sup>2</sup></li> <li>- Colectomy<sup>13</sup></li> </ul> </li> </ul>
<b>Subcostal TAP block</b>		Between the rectus abdominis and the posterior rectus sheath or between the rectus abdominis and the transversus abdominis <sup>6</sup>	<ul style="list-style-type: none"> <li>Upper abdominal surgeries (incisions above the umbilicus)<sup>11</sup> <ul style="list-style-type: none"> <li>- Upper midline laparotomy<sup>5</sup></li> <li>- Laparoscopic/robotic surgery<sup>14</sup></li> </ul> </li> <li>- Can be added to a classic TAP block for coverage above and below the umbilicus<sup>15</sup></li> </ul>
<b>4-point TAP block</b>		Placed at the 4 injection sites used for a bilateral classic TAP block and subcostal TAP block <sup>1</sup>	<ul style="list-style-type: none"> <li>Major abdominal surgeries (combination block anesthetizes entire abdominal wall)<sup>16</sup> <ul style="list-style-type: none"> <li>- Laparoscopy with multiple port sites above and below the umbilicus</li> <li>- Abdominal-wall repair<sup>16</sup></li> <li>- Colorectal<sup>15</sup></li> <li>- Bariatric<sup>17</sup></li> </ul> </li> </ul>

## ACROSS A VARIETY OF ABDOMINAL PROCEDURES

	Area of sensory block	Placement of local anesthetic	Common applications/ procedures
<b>Rectus sheath block</b>		In the posterior border of the rectus abdominis muscle and the rectus sheath <sup>18</sup>	<ul style="list-style-type: none"> <li>Midline incisions, including<sup>18</sup> <ul style="list-style-type: none"> <li>- Umbilical hernia repairs</li> <li>- Incisional hernia repairs</li> <li>- Periumbilical laparoscopic port sites<sup>19</sup></li> </ul> </li> </ul>
<b>QL block</b>		May be placed posterior to the QL, between the psoas muscle and the QL muscle or at the junction of the external oblique and internal oblique aponeurosis and the QL <sup>6</sup>	<ul style="list-style-type: none"> <li>QL blocks have been used in procedures requiring more extensive abdominal-wall coverage, including<sup>15,20</sup> <ul style="list-style-type: none"> <li>- Large-bowel resection</li> <li>- Open prostatectomy</li> </ul> </li> </ul>
<b>ESP block</b>		Placed posterior to a selected thoracic transverse process beneath the erector spinae muscle <sup>21</sup>	<ul style="list-style-type: none"> <li>Incisions and procedures involving the flank<sup>21</sup> <ul style="list-style-type: none"> <li>- Nephrectomy<sup>8</sup></li> <li>- Hepatobiliary<sup>22</sup></li> <li>- Inguinal hernia repair<sup>8</sup></li> <li>- Thoracic surgery<sup>22</sup></li> <li>- Spine surgeries <ul style="list-style-type: none"> <li>- Laminectomy<sup>23</sup></li> <li>- Discectomy<sup>24</sup></li> </ul> </li> </ul> </li> </ul>

## THE VERSATILITY OF EXPAREL EXTENDS TO LAPAROSCOPIC PROCEDURES

For minimally invasive or laparoscopic procedures, local anesthetic can be deposited into fascial planes under direct visualization<sup>25</sup>

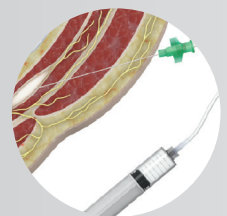


View from the laparoscopic camera directed at the anterolateral abdominal wall










Internal bulge reflecting visible local anesthetic infiltration into the TAP block

Images courtesy of Deborah Keller, MD.



Laparoscopic view of a smooth transversus abdominis muscle bulge indicates that the needle penetration is at the appropriate depth and the injectate is in the correct fascial plane. This should be done under direct visualization to ensure that the needle does not penetrate the peritoneum.

## SAMPLE DOSING CHART FOR USING EXPAREL IN VARIOUS BILATERAL ABDOMINAL-WALL FIELD BLOCKS

	Dosing examples based on bilateral blocks	Real-world examples: Case reports/videos
<b>Classic TAP block</b>	EXPAREL 20 mL (266 mg) + bupivacaine HCl 0.25% 20 mL + NS 20 mL = 60 mL (30 mL per side)	Open hysterectomy case report 
<b>Subcostal TAP block</b>	EXPAREL 20 mL (266 mg) + bupivacaine HCl 0.25% 20 mL + NS 20 mL = 60 mL (30 mL per side)	Video of Dr Hutchins performing a subcostal TAP block 
<b>4-point TAP block</b>	EXPAREL 20 mL (266 mg) + bupivacaine HCl 0.25% 60 mL = 80 mL (20 mL per quadrant)	Robotic total colectomy and end ileostomy case report 
<b>Rectus sheath block</b>	EXPAREL 20 mL (266 mg) + bupivacaine HCl 0.25% 20 mL = 40 mL (20 mL per side)	Video of Dr Hutchins performing a rectus sheath block 
<b>Laparoscopic TAP block</b>	EXPAREL 20 mL (266 mg) + bupivacaine HCl 0.5% 30 mL + NS 150 mL = 200 mL (75 mL per side for TAP, 10 mL per port site x 5 sites)	Laparoscopic sleeve gastrectomy case report 
<b>QL block</b>	EXPAREL 20 mL (266 mg) + bupivacaine HCl 0.25% 20 mL + NS 10 to 20 mL = 50 to 60 mL (25 to 30 mL per side)	Video of Dr Hutchins performing a QL block 
<b>ESP block</b>	EXPAREL 20 mL (266 mg) + bupivacaine HCl 0.25% 40 mL = 60 mL (30 mL per side)	Laparoscopic hemicolectomy case report 

Please note that all dosing examples are based on bilateral blocks.

NS=normal saline.

Please see Important Safety Information on page 10 and refer to accompanying full Prescribing Information, which is also available at [www.EXPAREL.com](http://www.EXPAREL.com).

## DOSING CONSIDERATIONS FOR OPTIMAL PAIN CONTROL AND COVERAGE

The following are important factors to consider when deciding on the appropriate dosing to cover the surgical site and fascial plane:

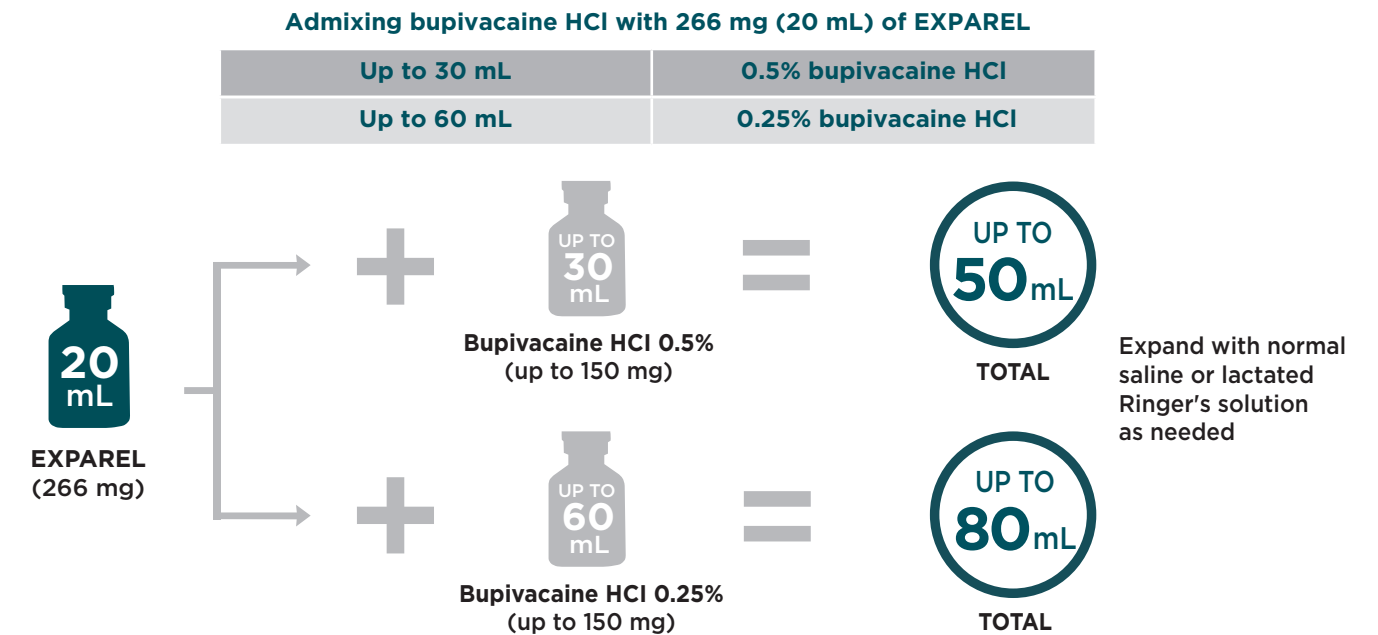
- Intended for single-dose administration only
- Size of the surgical site and the neuroanatomy
- In adults, the maximum dose should not exceed 266 mg (20 mL)
  - Recommended dose of EXPAREL for patients 6 to <17 years of age is 4 mg/kg (up to a maximum of 266 mg)
- Abdominal field blocks require a larger volume of local anesthetic mixture to ensure adequate spread and coverage across the fascial plane
  - Use the 266 mg (20 mL) vial of EXPAREL for abdominal field blocks and in larger procedures
- Patient factors that could impact safety of an amide local anesthetic



## PROPER ADMINISTRATION IS CRUCIAL TO ENSURING LONG-LASTING ANALGESIA

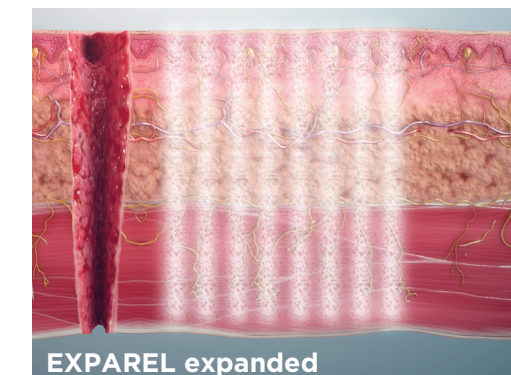
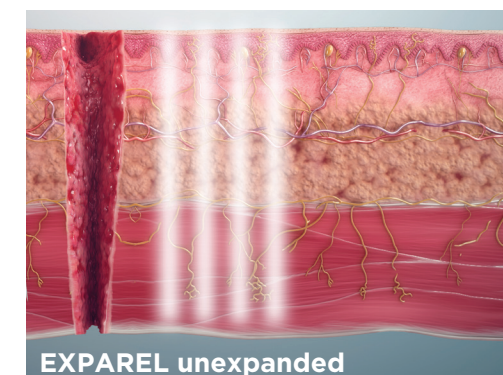
Admix with bupivacaine HCl to provide early analgesic coverage immediately after surgery

- Keep a 1:2 ratio of the milligram dose of bupivacaine HCl to EXPAREL
- One 20 mL vial of EXPAREL can be admixed with up to 30 mL of 0.5% bupivacaine or up to 60 mL of 0.25% bupivacaine HCl



EXPAREL can be expanded to provide better analgesic coverage for larger surgical sites

- Expand the volume to disperse EXPAREL throughout the fascial plane
  - Expand with normal saline (0.9%) or lactated Ringer's solution up to a total volume of 300 mL
  - Maintain a minimum concentration of 0.89 mg/mL



Please see Important Safety Information on page 10 and refer to accompanying full Prescribing Information, which is also available at [www.EXPAREL.com](http://www.EXPAREL.com).

**NON-OPIOID**  
**EXPAREL**<sup>®</sup>  
(bupivacaine liposome injectable suspension)

# IMPORTANT SAFETY INFORMATION

## Indication

EXPAREL® (bupivacaine liposome injectable suspension) is indicated for single-dose infiltration in patients aged 6 years and older to produce postsurgical local analgesia and in adults as an interscalene brachial plexus nerve block to produce postsurgical regional analgesia. Safety and efficacy have not been established in other nerve blocks.

## 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.

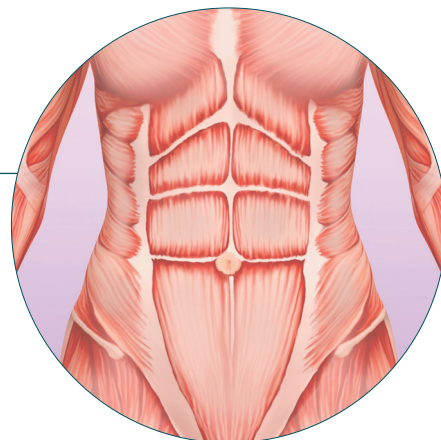
**Methemoglobinemia:** Cases of methemoglobinemia have been reported with local anesthetic use.

Full Prescribing Information is available at [www.EXPAREL.com](http://www.EXPAREL.com).

# REFERENCES

- Gadsden J, Ayad S, Gonzales JJ, Mehta J, Boublik J, Hutchins J. Evolution of transversus abdominis plane infiltration techniques for postsurgical analgesia following abdominal surgeries. *Local Reg Anesth*. 2015;8:113-117.
- Young MJ, Gorlin AW, Modest VE, Quraishi SA. Clinical implications of the transversus abdominis plane block in adults. *Anesthesiol Res Pract*. 2012;2012:731645.
- Bramlett K, Onel E, Viscusi ER, Jones K. A randomized, double-blind, dose-ranging study comparing wound infiltration of DepoFoam bupivacaine, an extended-release liposomal bupivacaine, to bupivacaine HCl for postsurgical analgesia in total knee arthroplasty. *Knee*. 2012;19(5):530-536.
- Grissinger M. Improved safety needed in handling elastomeric reservoir balls used for pain relief. *P T*. 2013;38(5):243-245.
- Niraj G, Kelkar A, Powell R. Ultrasound-guided subcostal transversus abdominis plane block. *IJPUT*. 2010;1(1):9-12.
- Go R, Huang YY, Weyker PD, Webb CA. Truncal blocks for perioperative pain management: a review of the literature and evolving techniques. *Pain Manag*. 2016;6(5):455-468.
- Elsharkawy H, Bendtsen TF. Ultrasound-guided transversus abdominis plane and quadratus lumborum blocks. New York School of Regional Anesthesia website. <https://www.nysora.com/regional-anesthesia-for-specific-surgical-procedures/abdomen/ultrasound-guided-transversus-abdominis-plane-quadratus-lumborum-blocks>. Accessed March 24, 2022.
- Luis-Navarro JC, Seda-Guzmán M, Luis-Moreno C, Chin KJ. Erector spinae plane block in abdominal surgery: case series. *Indian J Anaesth*. 2018;62(7):549-554.
- Rafi AN. Abdominal field block: a new approach via the lumbar triangle. *Anaesthesia*. 2001;56(10):1024-1026.
- McDonnell JG, O'Donnell BD, Farrell T, et al. Transversus abdominis plane block: a cadaveric and radiological evaluation. *Reg Anesth Pain Med*. 2007;32(5):399-404.
- Webster K. Ultrasound guided rectus sheath block-analgesia for abdominal surgery. *Update Anaesth*. 2010;26:12-17.
- Farhat AE, Effat DM, Elkafrawy ME. TAP block with dexamethasone as a pain treatment modality after lower abdominal gynecological procedures. *Al Azhar Int Med J*. 2021;2(4):9-15.
- Favuzza J, Brady K, Delaney CP. Transversus abdominis plane blocks and enhanced recovery pathways: making the 23-h hospital stay a realistic goal after laparoscopic colorectal surgery. *Surg Endosc*. 2013;27(7):2481-2486.
- Hutchins J, Delaney D, Vogel RI, et al. Ultrasound guided subcostal transversus abdominis plane (TAP) infiltration with liposomal bupivacaine for patients undergoing robotic assisted hysterectomy: a prospective randomized controlled study. *Gynecol Oncol*. 2015;138(3):609-613.
- Børglum J, Jensen K. Abdominal surgery: advances in the use of ultrasound-guided truncal blocks for perioperative pain management. In: Derbel F, ed. *Abdominal Surgery*. Rijeka, Croatia: InTech; 2012:69-94.
- Børglum J, Maschmann C, Belhage B, Jensen K. Ultrasound-guided bilateral dual transversus abdominis plane block: a new four-point approach. *Acta Anaesthesiol Scand*. 2011;55(6):658-663.
- Bhakta A, Glotzer O, Ata A, Tafen M, Stain S, Singh P. Analgesic efficacy of laparoscopic-guided transverse abdominis plane block using liposomal bupivacaine in bariatric surgery. *Am J Surg*. 2018;215(4):643-646.
- Yarwood J, Berrill A. Nerve blocks of the anterior abdominal wall. *Cont Educ Anaesth Crit Care Pain*. 2010;10(6):182-186.
- Saxena R, Joshi S, Srivastava K, Tiwari S, Sharma N, Valecha UK. Comparative study of ultrasound-guided abdominal field blocks versus port infiltration in laparoscopic cholecystectomies for post-operative pain relief. *Indian J Anaesth*. 2016;60(8):578-583.
- Elsharkawy H. How I do it: ultrasound-guided quadratus lumborum block. American Society of Regional Anesthesia and Pain Medicine website. <https://www.asra.com/news-publications/asra-updates/blog-landing/legacy-b-blog-posts/2022/02/06/ultrasound-guided-quadratus-lumborum-block-how-do-i-do-it/>. Accessed March 24, 2022.
- Chung K, Kim ED. Erector spinae plane block at the lower thoracic level for postoperative pain management after spinal cord stimulation implantation. *Pain Med*. 2018;19(11):2330-2332.
- Ayub A, Talawar P, Kumar R, Bhoi D, Singh Y. Erector spinae block a safe, simple and effective analgesic technique for major hepatobiliary surgery with thrombocytopenia. *Egypt J Anaesth*. 2018;34:169-172.
- Kline J, Chin KJ. Modified dual-injection lumbar erector spinae plane (ESP) block for opioid-free anesthesia in multilevel lumbar laminectomy. *Korean J Anesthesiol*. 2019;72(2):188-190.
- Goyal A, Kamath S, Kalgudi P, Krishnakumar M. Perioperative analgesia with erector spinae plane block for cervical spine instrumentation surgery. *Saudi J Anaesth*. 2020;14(2):263-264.
- Chetwood A, Agrawal S, Hrouda D, Doyle P. Laparoscopic assisted transversus abdominis plane block: a novel insertion technique during laparoscopic nephrectomy. *Anaesthesia*. 2011;66(4):317-318.

# SUPPORT YOUR PATIENTS' POSTSURGICAL RECOVERY WITH REGIONAL ANALGESIA USING EXPAREL



- Use regional field block(s) as part of a multimodal strategy to provide effective postsurgical pain management for various abdominal procedures<sup>1,2</sup>
- EXPAREL is a versatile, long-lasting anesthetic that provides regional analgesia via infiltration into the surgical site or fascial plane
- Ultrasound guidance and laparoscopy enable precise placement of EXPAREL within the fascial plane, allowing for targeted analgesia<sup>1,2</sup>



Sign up for the EXPAREL Events Program to get access to exclusive hands-on training and workshops on regional analgesia techniques, including field blocks

