**Corporate Update** 

**November 7, 2018** 



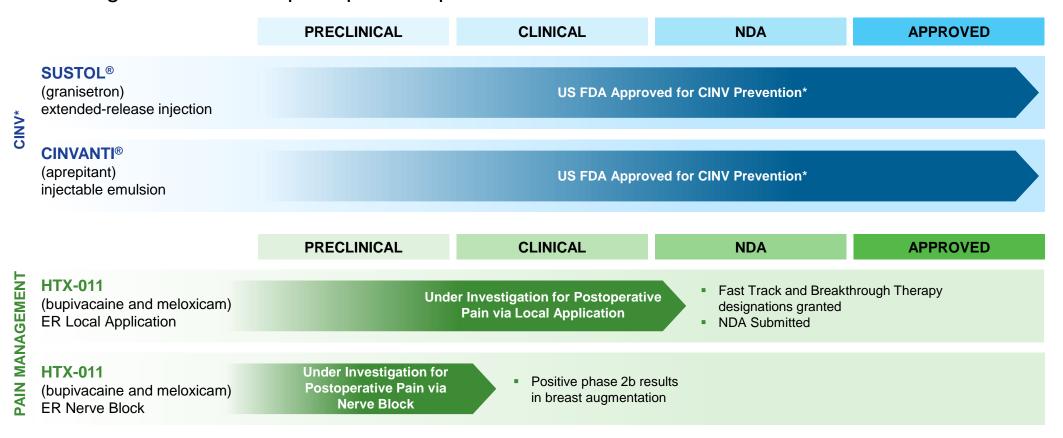
### **Forward-Looking Statements**

This presentation contains "forward-looking statements" as defined by the Private Securities Litigation Reform Act of 1995. We caution investors that forward-looking statements are based on management's expectations and assumptions as of the date of this presentation, and involve substantial risks and uncertainties that could cause our clinical development programs, future results, performance or achievements to differ significantly from those expressed or implied by the forward-looking statements. These risks and uncertainties include, but are not limited to, those associated with: the full-year 2018 net product sales guidance for the CINV franchise; acceptance of the HTX-011 NDA as submitted; whether the FDA approves the HTX-011 NDA as submitted; the anticipated commercial launch of HTX-011; the potential market opportunity for HTX-011; and other risks and uncertainties identified in the Company's filings with the Securities and Exchange Commission. Forward-looking statements reflect our analysis only on their stated date, and we take no obligation to update or revise these statements except as may be required by law.



### **Heron Pipeline**

We are currently developing and commercializing pharmaceutical products for patients suffering from cancer or postoperative pain:



<sup>\*</sup>CINV: Chemotherapy-induced nausea and vomiting. SUSTOL® (granisetron) extended-release injection is indicated in combination with other antiemetics in adults for the prevention of acute and delayed nausea and vomiting associated with initial and repeat courses of moderately emetogenic chemotherapy (MEC) or anthracycline and cyclophosphamide (AC) combination chemotherapy regimens. CINVANTI® (aprepitant) injectable emulsion, in combination with other antiemetic agents, is indicated in adults for the prevention of acute and delayed nausea and vomiting associated with initial and repeat courses of highly emetogenic cancer chemotherapy (HEC) including high-dose cisplatin and nausea and vomiting associated with initial and repeat courses of moderately emetogenic cancer chemotherapy (MEC). CINVANTI has not been studied for treatment of established nausea and vomiting.



# HTX-011 for Postoperative Pain Management Has Received FDA Breakthrough Therapy Designation

- Breakthrough Therapy designation (BTD) designed to expedite development and review of drugs:
  - Intended to treat serious conditions; and
  - For which preliminary clinical evidence indicates substantial improvement over available therapies on clinically significant endpoint(s)
- Designation granted by FDA based on results of completed Phase 2 studies and Phase 3 studies
  - HTX-011 produced significant reductions in both pain intensity through 72 hours and need for opioids post-surgery compared to placebo and bupivacaine solution, the standard of care
- Based on BTD, FDA also granted a Rolling Review of HTX-011 new drug application (NDA) to facilitate their timely review
  - NDA submitted in October



Postoperative
Pain and its
Impact on the
Opioid Crisis



## The Cost of Opioids How Postoperative Opioids Can Be a Doorway to Addiction

#### **MORE THAN 50 MILLION**

surgical procedures happen in the United States.<sup>1</sup>

80%

of patients undergoing a surgical procedure are prescribed opioids for pain management.<sup>2</sup>

As many as

6.5%

of patients who take
opioids to manage pain
after surgery may become persistent
opioid users.1

That equals about

#### 2.6 MILLION PEOPLE.1

Of these 2.6 million persistent opioid users, approximately

440,000

will become addicted to opioids.3



A LITTER IN



In addition, opioid discharge prescriptions filled by recovering surgical patients result in more than

1 billion unused pills.<sup>4,5</sup>

**70%** of all these opioid tablets rego unused.<sup>2</sup>

e **90%** of these pills remain inside the home in unsecured locations.<sup>6</sup>

**32%** of all opioid addicts report first opioid exposure through leftover pills.<sup>7</sup>

More than

#### \$13 billion

of the annual healthcare costs associated with addiction can be attributed to postoperative pain management.<sup>1,3,8</sup>



References: 1. Brummett, Chad M., et al. 2017. "New Persistent Opioid Use After Minor and Major Surgical Procedures in US Adults." JAMA Surgery 152 (6): e170504. doi:10.1001/jamasurg.2017.0504.

2. Hill, Maureen V., et al. 2017. "Wide Variation and Excessive Dosage of Opioid Prescriptions for Common General Surgical Procedures." Annals of Surgery 265 (4): 709 -714.

3. Banta-Green, et al (2009). Opioid use behaviors, mental health and pain—Development of a typology of chronic pain patients. Drug and Alcohol Dependence 104(1-2), 34-42. https://doi.org/10.1016/j.drugalcdep.2009.03.021.

4. CDC 2017: Centers for Disease Control and Prevention. Opioid Overdose: U.S. Prescribing Rates Map. Available at https://www.cdc.gov/drugoverdose/maps/rxrate-maps.html. Accessed 8 March 2018.

5. Levy et al. "Trends in Opioid Analgesic-Prescribing Rates by Specialty, U.S., 2007-2012." Am J Prev Med. 2015;49(3):409-413.

6. Bates, et al. 2011.

"Overprescription of Postoperative Narcotics: A Look at Postoperative Pain Medication Delivery, Consumption and Disposal in Urological Practice." The Journal of Urology 185 (2): 551-55. doi:10.1016/j.juro. 2010.09.088.

7. Canfield, Marta C., et al. 2010.

"Prescription Opioid Use Among Patients Seeking Treatment for Opioid Dependence:" Journal of Addiction Medicine 4 (2): 108-13. doi:10.1097/ADM.0b013e3181b5a713.

8. The Council of Economic Advisers, 2017. The Underestimated Cost of the Opioid Crisis.



### Heron's Goals For Postoperative Pain Program

- Our philosophy is that:
  - 1. Opioids play an important role for reduction of severe pain, but should be used as a last resort, rather than the first step in pain management
  - 2. Reduction in the use of opioids should not come at the cost of patients experiencing more pain (the concept that good pain management is important was not wrong, we just relied too much on opioids to achieve that goal)
- Using our technology as part of a multi-modal postoperative pain regimen, our goal is to:
  - Eliminate the need for opioids to control postoperative pain in as close to 100% of patients as possible, making discharge prescriptions for opioids unnecessary in the outpatient setting
  - Provide sufficient pain reduction in the inpatient setting that opioids are rarely used for rescue
  - Provide better pain control than conventional reliance on opioids

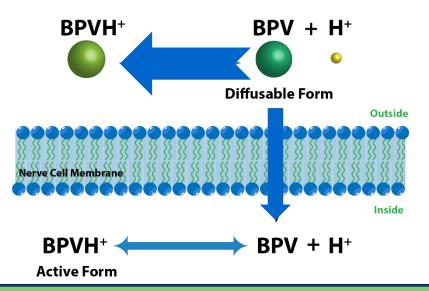


HTX-011
Mechanism of
Action



### A Potential Hypothesis: Inflammation, pH, and Local Anesthetic Failure

**Local Anesthetics Exist in a Balance Between Water- and Lipid-Soluble Forms** 



Inflammation produces an acidic environment

With a one pH unit drop, 10-fold less bupivacaine is able to penetrate the nerve cell membrane

- With a pKa of 8.1, bupivacaine is sensitive to reduced pH
- The acidic environment associated with inflammation results in far less drug penetrating the nerve membrane and reduced anesthetic effects<sup>1,2</sup>

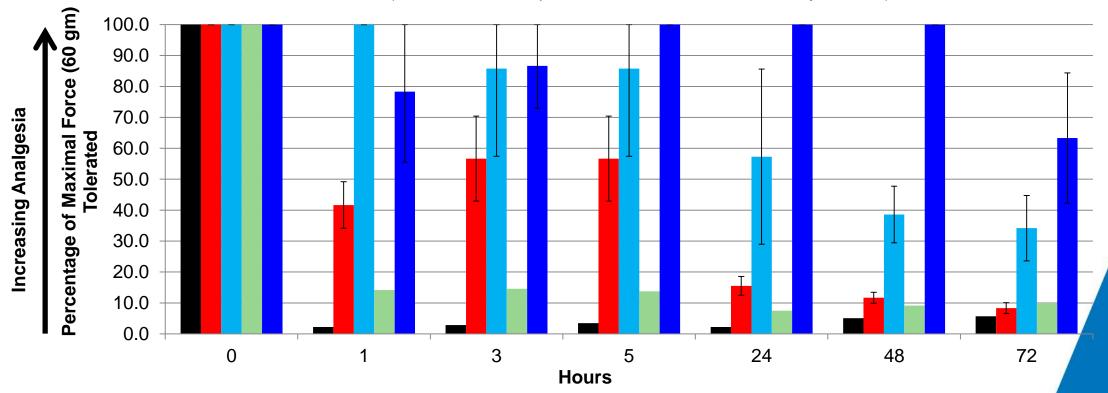


<sup>1.</sup> Hargreaves, K, Keiser, K, Local anesthetic failure in endodontics: Mechanisms and Management, Endodontic Topics 1:26–39 2002

<sup>2.</sup> Local anesthetic nerve penetration model adapted from Becker and Reed. Anesth Prog 53:98–109 2006

#### HTX-011 is Designed to Produce Marked Analgesia Through the First 72 Hours After Surgery as Demonstrated in this Preclinical Model<sup>1</sup>

- Saline Control
- Liposomal Bupivacaine<sup>2</sup>
- Biochronomer ER Bupivacaine
- Biochronomer ER Meloxicam
- HTX-011 (Biochronomer Bupivacaine + Meloxicam with 3-day release)

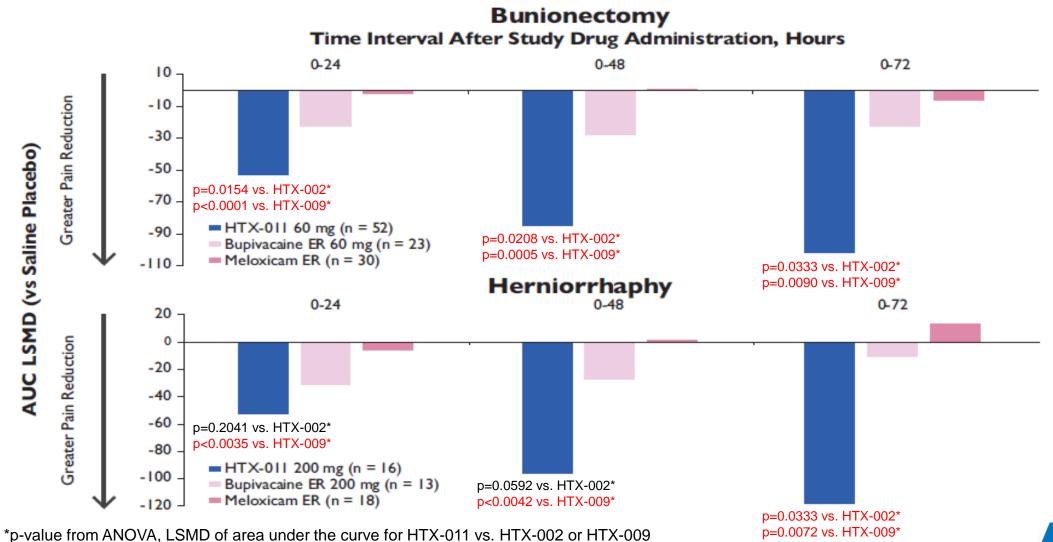


<sup>&</sup>lt;sup>1</sup> Postoperative pain model in pigs from Castle et al, 2013 EPJ



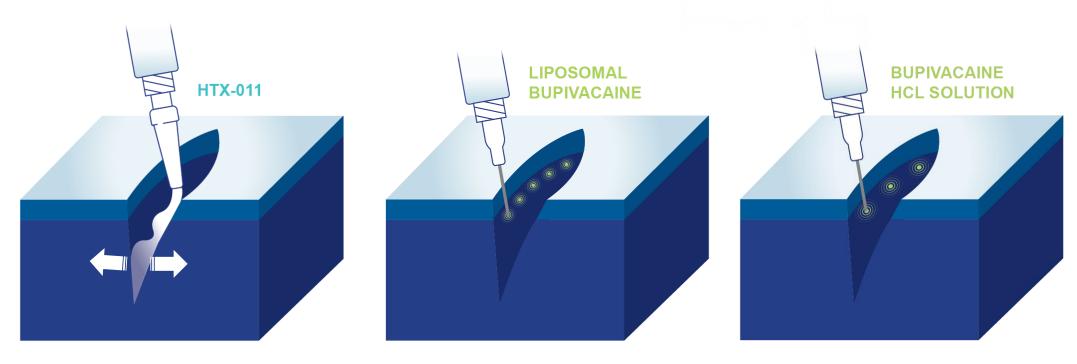
<sup>&</sup>lt;sup>2</sup> Human dose of liposomal bupivacaine with 40% smaller incision

## HTX-011 Reduces Pain Better Than the Individual Components in Both Bunionectomy and Herniorhaphy Phase 2 Studies



## HTX-011 is Applied into the Surgical Site at the End of Surgery Without a Needle

HTX-011 is a single-dose application administered via a needle-free syringe to directly coat the affected tissue within the surgical site prior to suturing





## Seven Active-Controlled Studies Showing Significantly Better Pain Reduction With HTX-011 Than Bupivacaine Included in NDA

Study	Phase	Surgical Model	Tissue Type	Significant for Pain Reduction vs. PBO	Significant for Pain Reduction vs. BPV	Significant Reduction in Opioid Use
202	2	Hernia Repair	Soft	✓	✓	✓
203	2	Abdominoplasty	Soft	✓	✓	✓
208	2	Bunionectomy	Bony	✓	✓	✓
209	2b	TKA	Bony	✓	✓	✓
211	2b	Breast Augmentation	Soft	✓	✓	✓
301	3	Bunionectomy	Bony	✓	✓	✓
302	3	Hernia Repair	Soft	✓	✓	✓



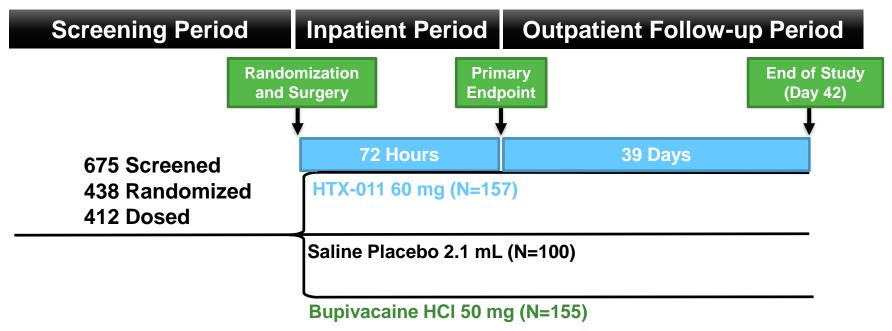
## HTX-011 Clinical Development

**EPOCH 1: Bunionectomy Results** 



## **EPOCH 1 Bunionectomy: Study Design**

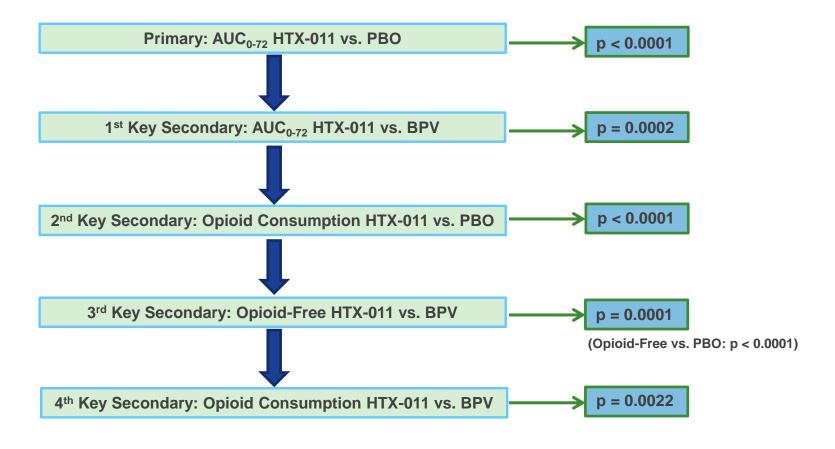
- N = 412 (3:2:3 to HTX-011 60 mg, saline placebo, or bupivacaine HCl 50 mg)
- 438 subjects were randomized and 412 were dosed (ITT Population)
- 13 sites in the United States



1 subject (006-1018) was randomized to Bupivacaine HCl but received saline placebo



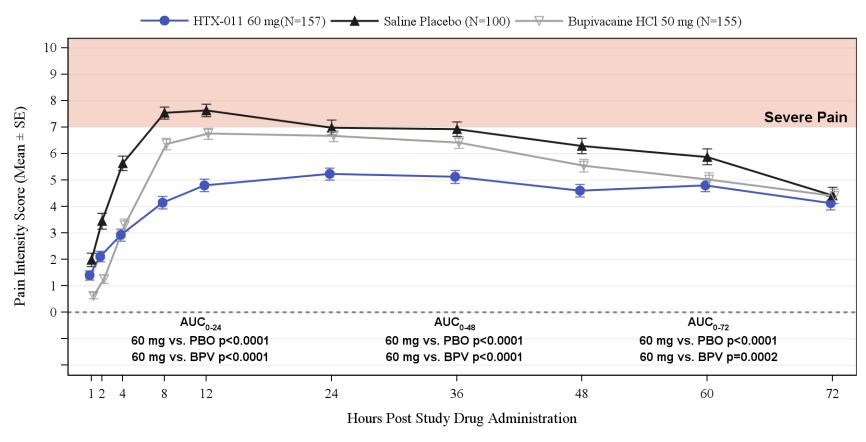
### **EPOCH 1 Bunionectomy: Results Hierarchy**

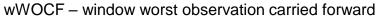


PBO: saline placebo; BPV: bupivacaine HCl



### **EPOCH 1 Bunionectomy: Mean Pain Intensity**

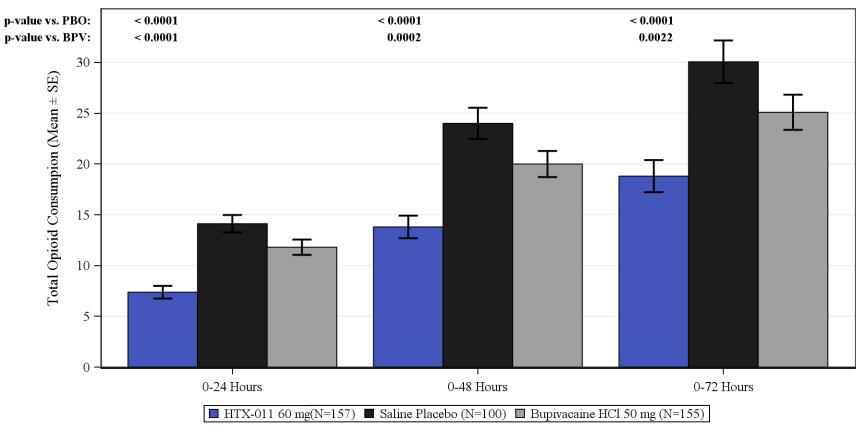




Source: Figure 14.2.7



# **EPOCH 1 Bunionectomy: Total Postoperative Opioid Consumption (MME)**

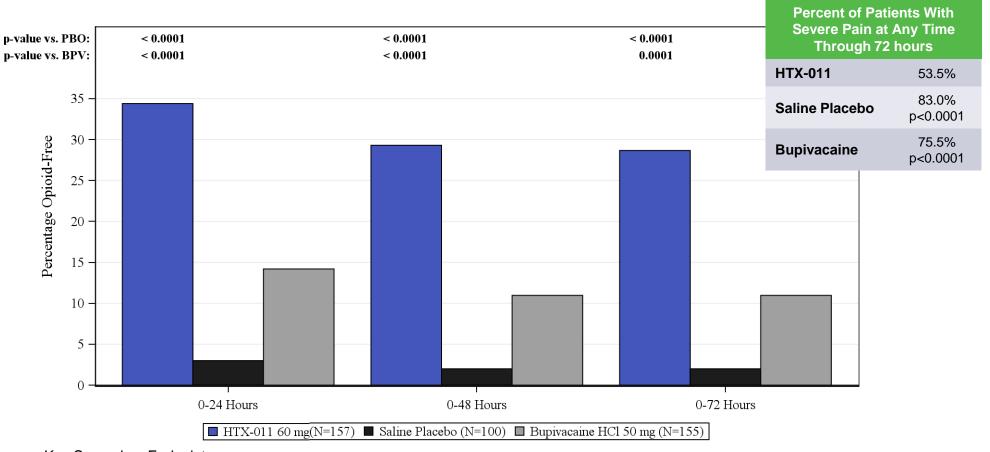


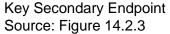
Key Secondary Endpoint Source: Figure 14.2.2

MME = morphine milligram equivalents



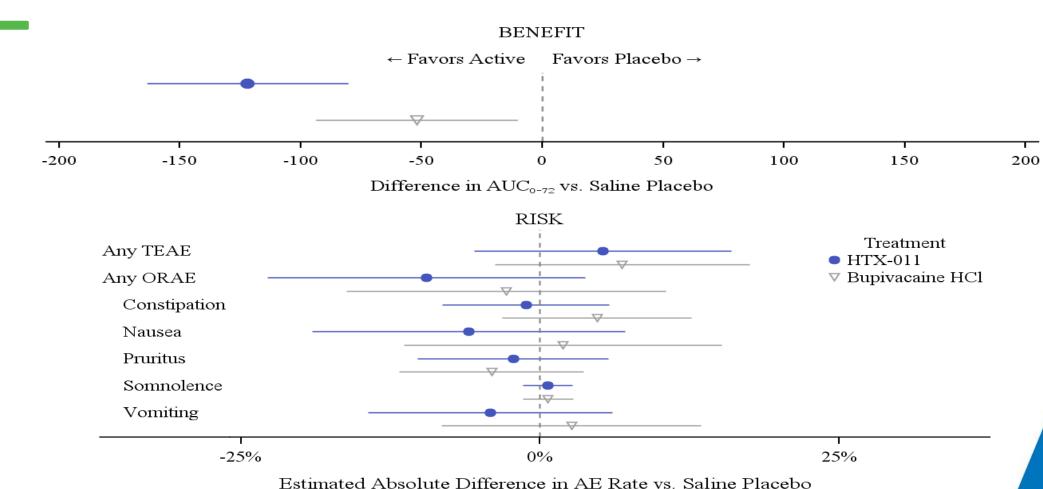
## **EPOCH 1 Bunionectomy: Percentage of Subjects Who Are Opioid-Free**







### **EPOCH 1 Bunionectomy: Benefit – Risk for HTX-011**





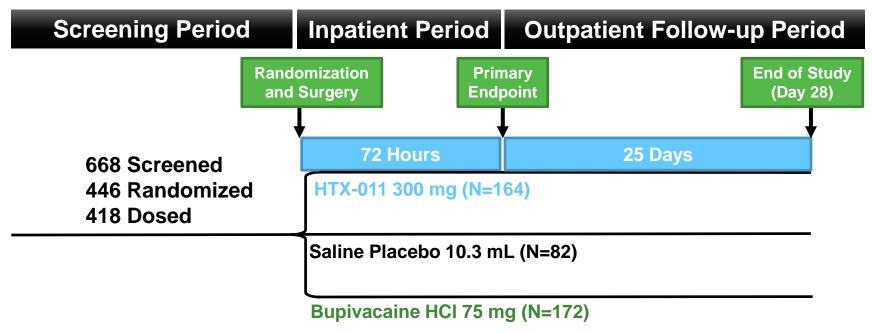
## HTX-011 Clinical Development

EPOCH 2: Hernia Repair Results



### **EPOCH 2 Herniorrhaphy: Study Design**

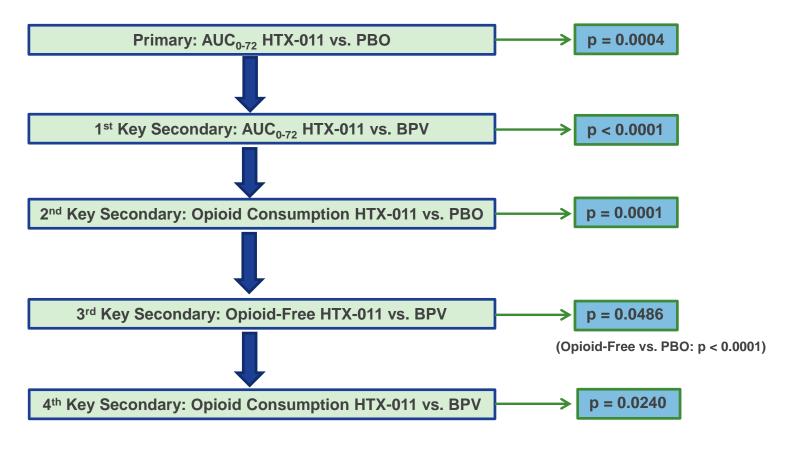
- N= 418 (2:1:2 to HTX-011 300 mg, saline placebo, or bupivacaine HCl 75 mg)
- 446 subjects were randomized and 418 were dosed (ITT Population)
- 17 sites in 2 countries (United States, Belgium)



1 subject (005-2018) was randomized to HTX-011 but received Bupivacaine HCl



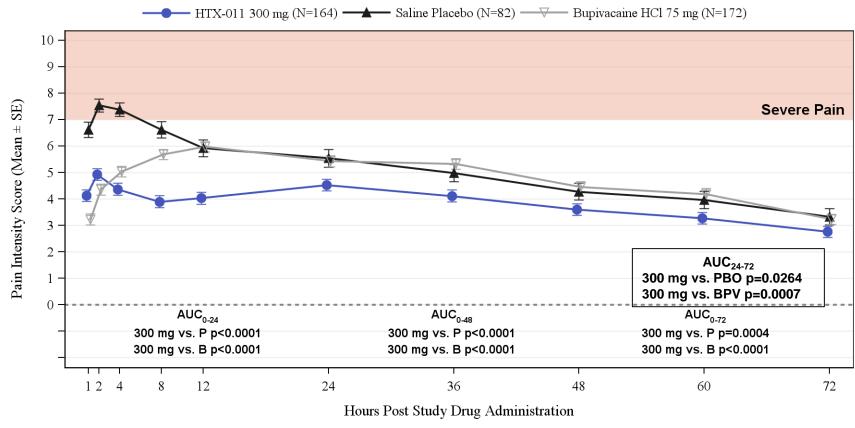
### **EPOCH 2 Herniorrhaphy: Results Hierarchy**

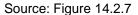


PBO: saline placebo; BPV: bupivacaine HCl



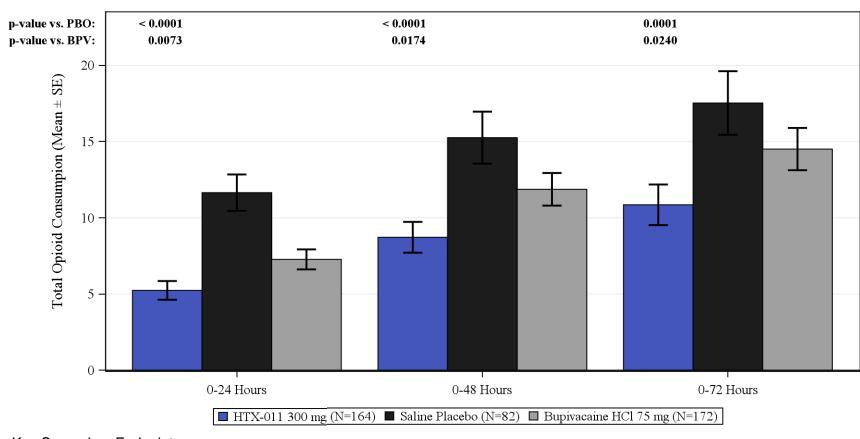
### **EPOCH 2 Herniorrhaphy: Mean Pain Intensity**







## **EPOCH 2 Herniorrhaphy: Total Postoperative Opioid Consumption (MME)**

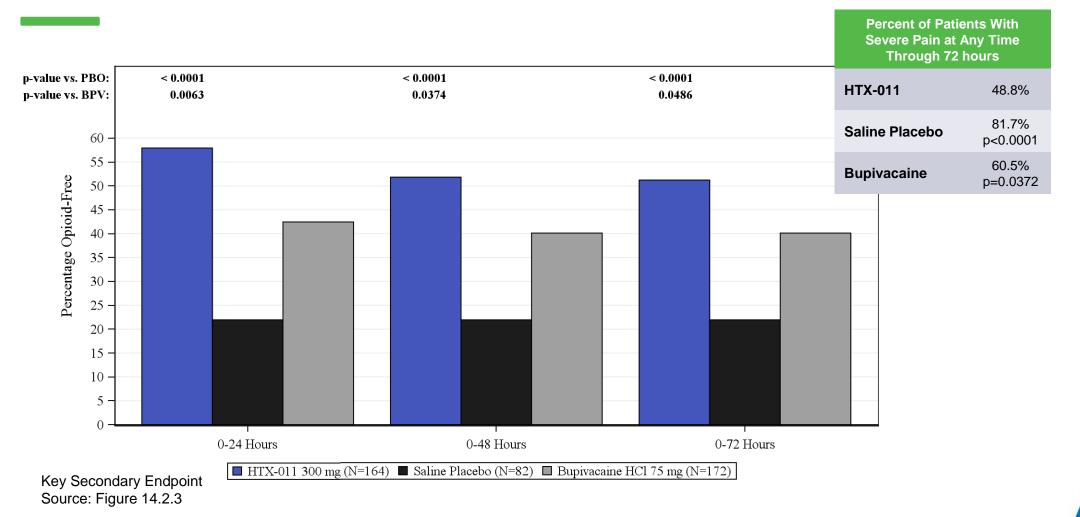


Key Secondary Endpoint Source: Figure 14.2.2

MME = morphine milligram equivalents

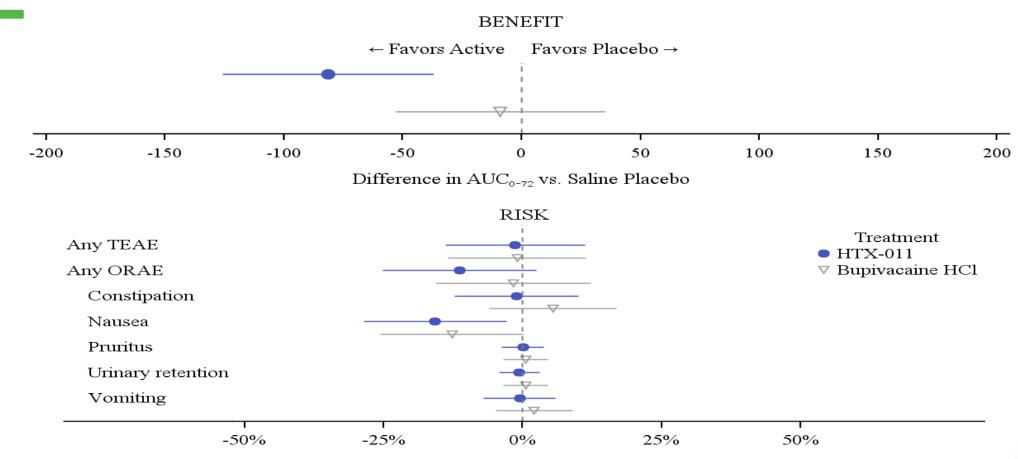


## **EPOCH 2 Herniorrhaphy: Percentage of Subjects Who Are Opioid-Free**





### **EPOCH 2 Herniorrhaphy: Benefit – Risk for HTX-011**



Estimated Absolute Difference in AE Rate vs. Saline Placebo

← Favors Active Favors Placebo →



## HTX-011 Clinical Development

Phase 2b Total Knee Arthroplasty (TKA) Study



### Study 209 Phase 2b: Total Knee Arthroplasty

## HTX-011 400 mg Instillation N = 58

# HTX-011 400 mg Instillation, plus ropivacaine 50 mg injected to posterior capsule N = 56

Saline Placebo Injection N = 53

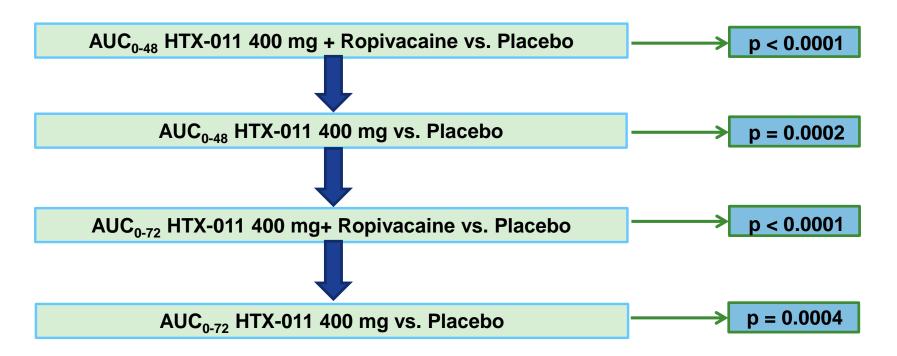
Bupivacaine 125 mg
Injection
N = 55

- Pre-op Medication: acetaminophen (IV) 1 g, pregabalin (oral) 150 mg
- HTX-011 Administration Technique: needle-free instillation of 100 mg for posterior capsule & 300 mg for remaining tissue
- Ropivacaine Administration Technique: 50 mg injected into posterior capsule
- Post-op Medication: only opioid rescue medication available



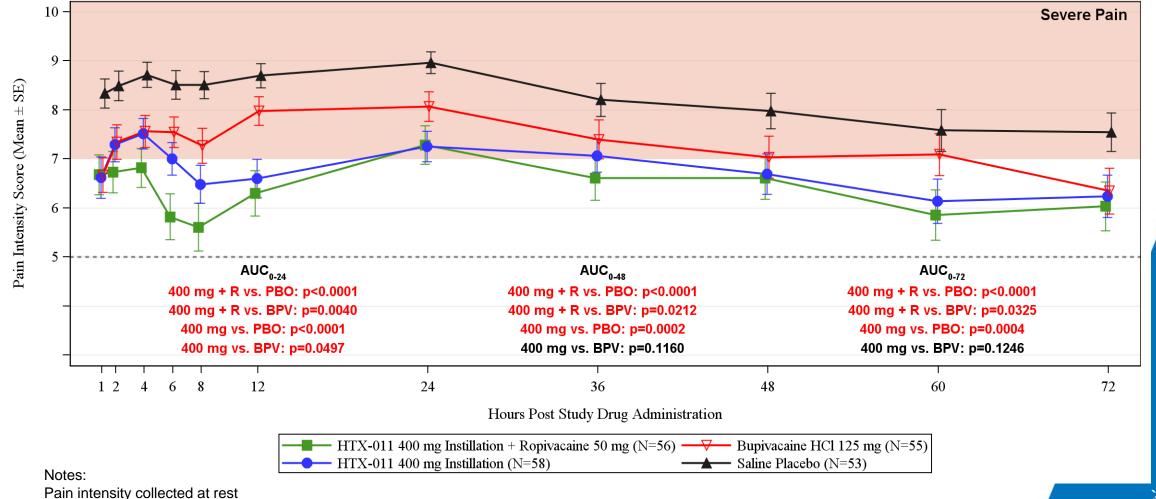
### **Study 209 TKA: Results Hierarchy**

HTX-011 via instillation achieved primary and key secondary endpoints for reduction in pain intensity scores at rest (NRS-R)



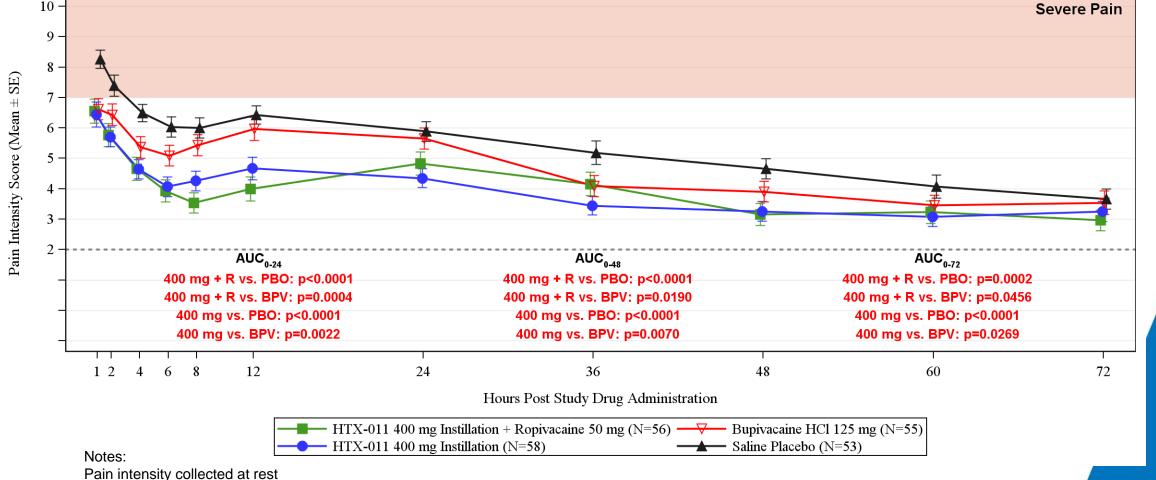


# Study 209: Significant Separation between HTX-011 Arms and Placebo through 72 Hours for Pain at Rest





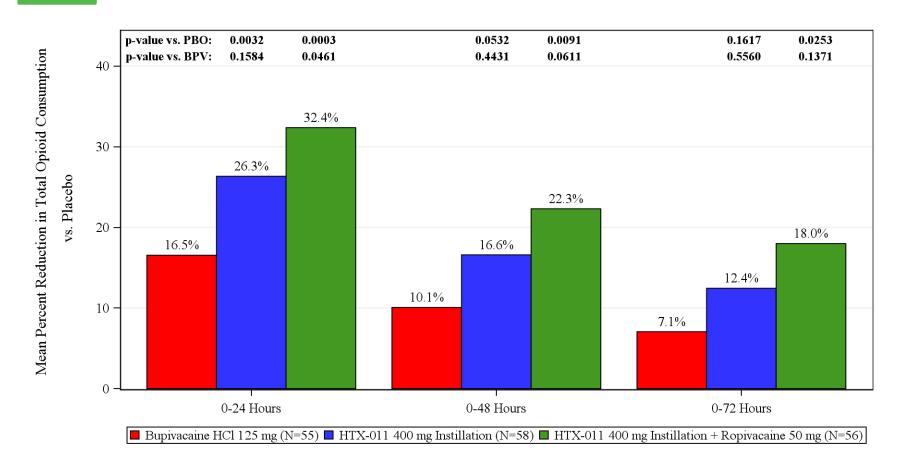
## Study 209: HTX-011 Significantly Superior to Both Placebo and Bupivacaine Through 72 Hours Without Adjusting for Opioid Use





LOCF for missing data and no adjustment for use of opioid rescue medication

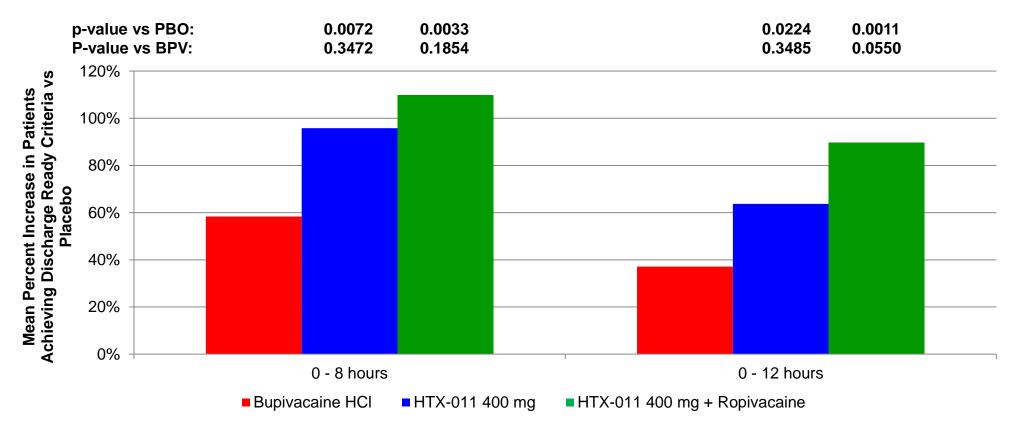
## Study 209 TKA: HTX-011 plus Ropivacaine Significantly Reduces Opioid Use vs. Placebo through 72 Hours







## Study 209 TKA: Significant Increase Compared to Placebo in Patients Achieving "Discharge Ready" MPADDS Criteria\* in First 12 Hours

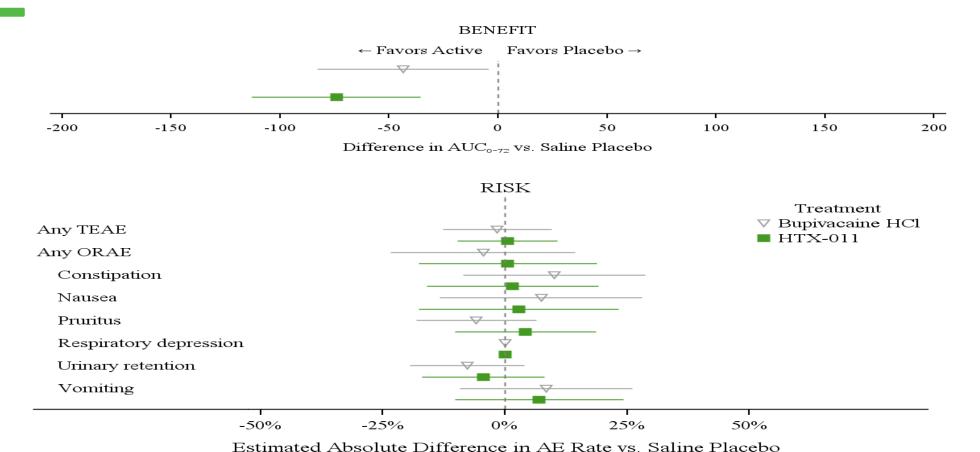


<sup>\*</sup>MPADSS, modified postanaesthetic discharge scoring system. The proportion of subjects who first achieve an MPADSS score ≥9 at each timepoint was analyzed cumulatively. P-values from Fisher's exact test.

Source: Table 14.2.13.2



### Study 209 TKA: Benefit – Risk for HTX-011







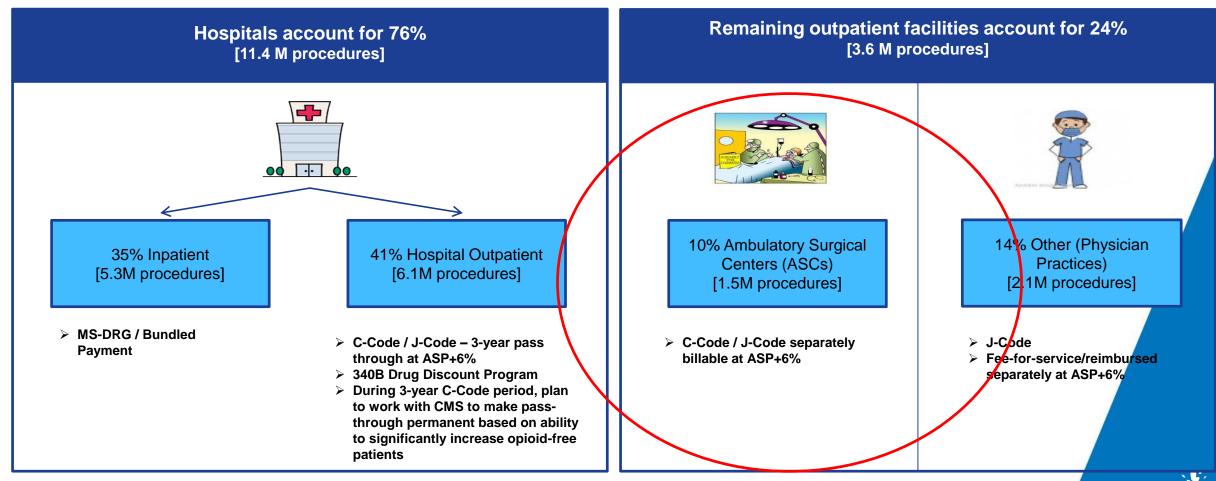
## **Safety Summary**

HTX-011 was generally well tolerated across all Phase 2 and Phase 3 studies with no clinically meaningful differences in:

- Overall adverse events
- The incidence of serious adverse events
- Premature discontinuations due to adverse events
- Potential local anesthetic systemic toxicity (LAST) adverse events
- Potential wound healing related adverse events in 4 of 5 surgical models
  - Small imbalance in wound healing events in bunionectomy likely due to the vasodilatory effects of bupivacaine with superficial surgery; incidence higher for bupivacaine HCl and HTX-011 compared with the saline placebo. No wound healing imbalances in the other 4 surgical models
- No deaths on HTX-011 (one on bupivacaine)



## 9.7 Million Out of the 15 Million Initial Target Procedures (65%) Will Have ASP+6% Reimbursement At Launch\*





## 340b Hospital Summary

- ~2258 hospitals (excluding children's & psych)
  - Perform 8.4M outpatient surgeries
  - 4.4M inpatient surgeries/year
- Manufacturers required to provide 23.1% discount off ASP/WAC
- Effective January 1, 2018, CMS reimbursement to hospitals for 340B drugs changed significantly from ASP+6% to ASP-22.5%
- Change enables CMS to capture most of the discounts manufacturers provide eligible hospitals
- Products with pass-through status are exempt from this reimbursement change

#### **340B Drug Reimbursement**

Without C-Code	With C-Code
ASP - 22.5%	ASP + 6%



# Being Second to Market is NOT a Significant Obstacle to Commercial Success

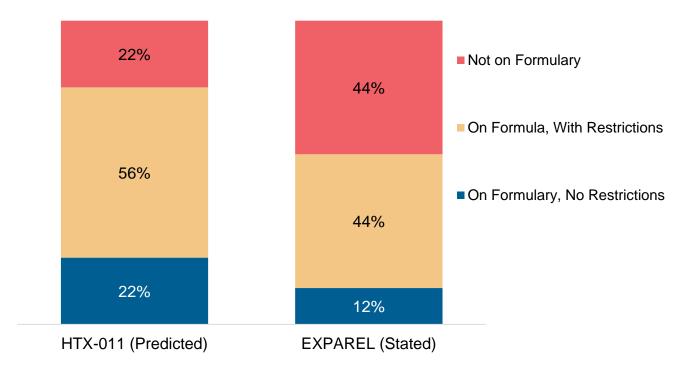
- Penetration of Exparel is so low (<6% of the addressable market), that it provides a similarly small obstacle to the acceptance of HTX-011
  - Across most product attributes, surveyed surgeons and pharmacy directors consistently prefer HTX-011 over Exparel based on their view of:
    - Unique mechanism of action
    - Superior efficacy profile of HTX-011, with significant benefit over bupivacaine HCI
    - Significant reduction in severe pain resulting in significant increase in opioid-free patients
    - Simple route of administration eliminating the need for up to 120 injections, with no need for extensive training
  - Surveyed pharmacy directors state that they would be provide better access to HTX-011 than the access currently enjoyed by EXPAREL

Sources: DRG Pharmacy Director Surveys



## Pharmacy Directors State That They Would Provide Better Access to HTX-011 Than Currently Available to EXPAREL

Formulary Status of Exparel vs. Expected HTX-011 Status

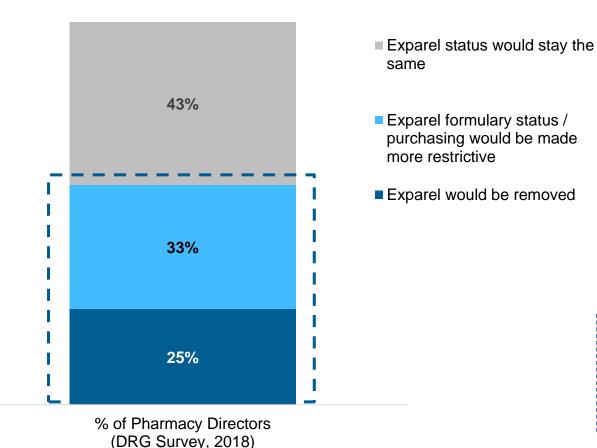


Sources: DRG Pharmacy Director Surveys



## **Up to 25% of Pharmacy Directors Report That Exparel Would be Removed From Formulary When HTX-011 Becomes Available**

## Impact of HTX-011 Launch on Exparel Formulary Status



#### Most pharmacy directors indicate HTX-011 would displace Exparel on formulary

- Over 50% of pharmacy directors report that if HTX-011 became available on their institution's formulary, Exparel would be subject to greater restrictions or would be entirely removed from formulary
- For institution's with less formulary consolidation, Exparel may continue to be stocked to accommodate a small segment of patients not using HTX-011

"We can **encourage use of [HTX-011]** by making use of **standing order sets** and our EMR system, so if we continued to carry Exparel, we would
make it restricted to only patients contraindicated to Product X."

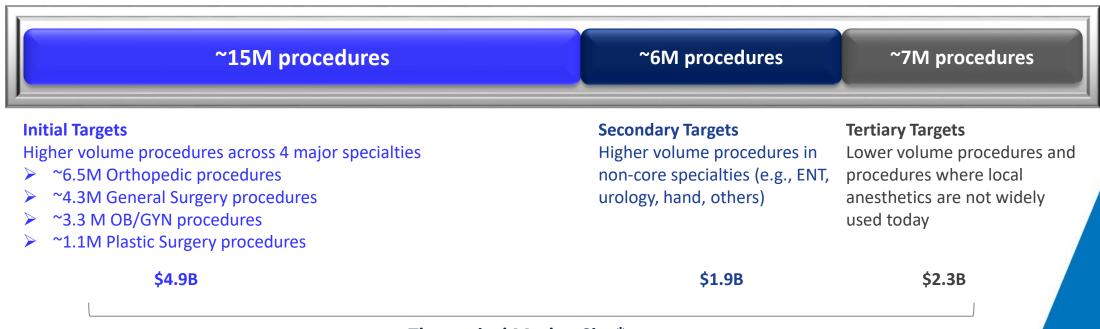
— Pharmacy Director



## **Large US Market Opportunity**

#### **Theoretical and Target Market**

~28M Annual US Surgical Procedures Requiring Postoperative Pain Management That Were Considered Potentially Suited For HTX-011







<sup>\*</sup>Based on the current WAC of Exparel

## High-Value Procedures in Initial Target Market

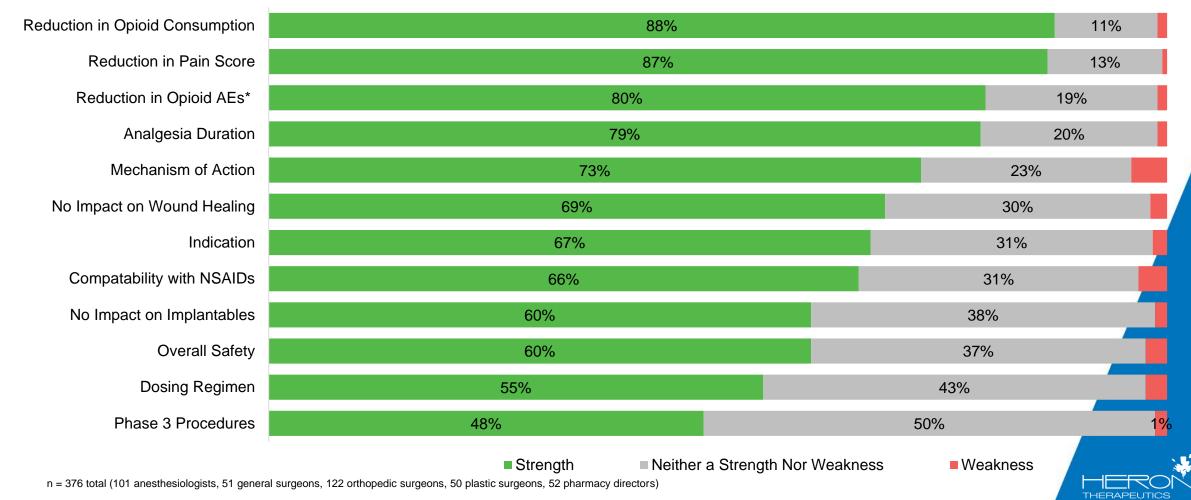
	Procedure	Annual Volume ('000s, US, 2015)						Overall % Local Anesthetic Use
	Flocedule	Total Procedures	Inpatient	Outpatient (C-code)	ASC (C-Code)	Medicare	Non- Medicare	Survey
Ortho Surgery	Knee arthroplasty	815	721	65	28	41%	59%*	87%
	Hip arthroplasty	337	325	7	5	43%	57%*	81%
	Shoulder arthroplasty	107	96	8	2	47%	52%*	89%
	Rotator cuff repair	550	11	343	192	27%	73%*	86%
	Spine procedures	750	463	249	36	35%	65%*	95%
General Surgery	Hernia repair	1,096	200	777	106	25%	74%	77%
	Hemorrhoidectomy	504	10	147	73	9%	37%*	88%
	Colon and small bowel resection	483	461	18	0.7	33%	66%*	82%
Plastic Surgery	Abdominoplasty	160	29	118	11	16%	83%	72%
	Mammoplasty	>300	10	92	19	6%	34%	85%
OB/GYN	C-Section	1,285	1273	6.1	0	2%	98%*	32%

<sup>\*</sup>Note: For settings in which procedure-specific breakdown of Medicare vs. non-Medicare was not available, the overall Medicare vs. non-Medicare breakdown was applied to the total volume of procedures occurring in the given setting



# Overwhelmingly Positive Response by Physicians and Pharmacists to HTX-011's Target Product Profile

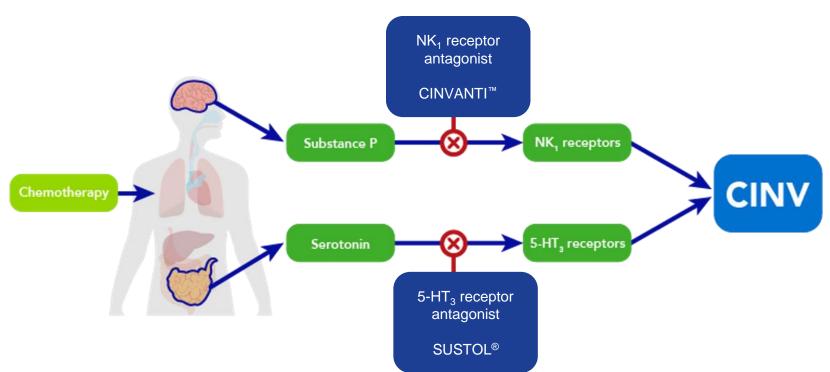
#### **HTX-011 Target Product Profile: Strengths**



# CINV Commercial Products



# CINV Prophylaxis Typically Requires Two Complimentary Mechanisms of Action



#### NK<sub>1</sub> receptor antagonists

- Substance P is primary driver of delayed CINV, but related to ~15% of acute failures
- EMEND® IV (fosaprepitant), which has 90% share of the US NK<sub>1</sub> market, contains the synthetic surfactant polysorbate 80 that has been associated with serious hypersensitivity and infusion site reactions

#### 5-HT<sub>3</sub> receptor antagonists

- These are the backbone of CINV prophylaxis
- Excessive serotonin release is the primary driver for CINV in the acute phase and secondary driver in the delayed phase



# Heron's CINV Portfolio Continues to Outperform All Recent CINV Branded Launches

100

50

Jan

Feb

# Approximate administrations in First 18 Months (launch aligned) 136,000 CINVANTI administrations in first 9 months: 154,000

### 

235

Jun

Jul

206

May

159

Apr

Mar

Sources: IMS DDD; Heron actuals (distributor 867 reports); due to data availability, Sancuso data includes actuals for launch months 3-12 and estimates for months 1-2; Varubi includes actuals for launch months 1-15 and estimates for months 16-18

**SUSTOL** 

(2016)

20,000

Varubi

(2015)

6,000

Akynzeo

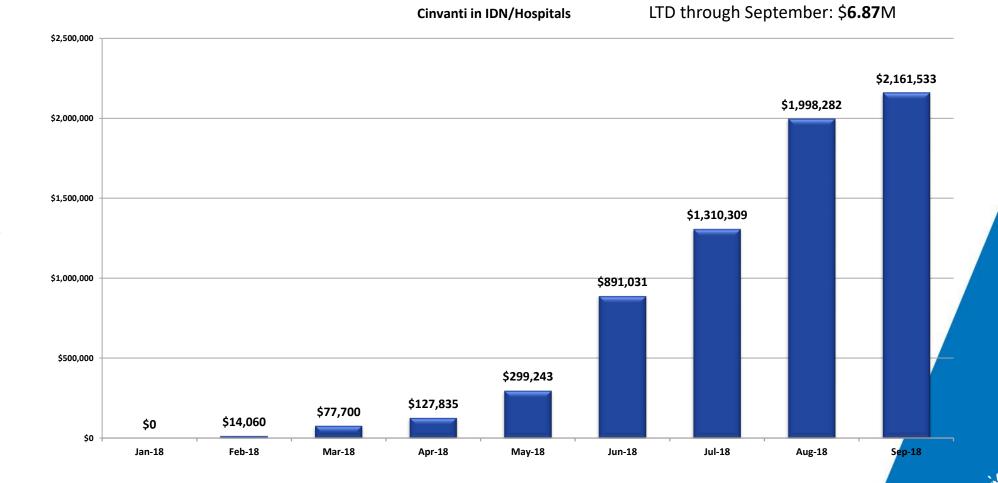
(2014)

Sancuso

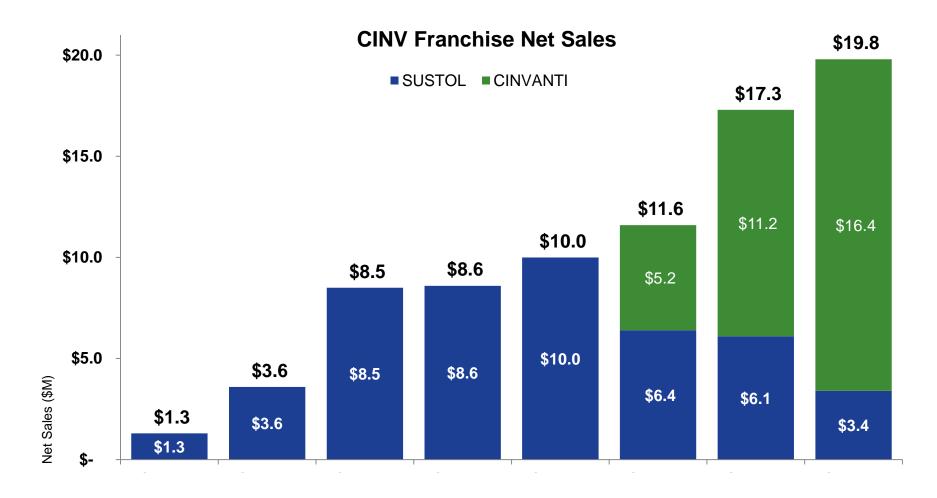
(2008)

# **Hospital Success Driven by Leveraging Pass Through Status**

**51%** of units sold were derived from 340B and Pass through Status



## Heron CINV Portfolio achieved \$19.8M Q3 2018 Net Sales





## **2018 CINV Franchise Outlook**



**SUSTOL®**: We continue to expect core SUSTOL business to be weak during the palonosetron arbitrage with growth thereafter



#### **CINVANTI®**

- We believe it has the best overall profile compared to the other available NK₁ antagonists
- Offers strong strategic and operational fit with existing commercial organization
- We continue to see steady growth in the marketplace
- CINVANTI (aprepitant)injectable emulsion receives unique J-Code J0185 effective January 1, 2019
- Expect updated label in Q1 for IV push



#### **CINV Franchise**

2018 guidance: raising from \$60M-70M to \$70M-\$72M



## **Financial Summary**

#### CINV Net Product Sales Guidance Raised to \$70 Million to \$72 Million.

Summary Statement of Operations and Net Cash Used in Operations (In thousands, except per share data)	Three Months Ended September 30, 2018	Nine Months Ended September 30, 2018
Net product sales	\$ 19,786	\$ 48,630
Operating expenses <sup>1</sup>	61,566	181,253
Other income, net	3,434	3,342
Net loss <sup>1</sup>	\$ (38,346)	\$ (129,281)
Net loss per share <sup>2</sup>	\$ (0.49)	\$ (1.81)
Net cash used in operations	\$ (35,876)	\$ (158,318)

Condensed Balance Sheet Data (In thousands)	September 30, 2018
Cash, cash equivalents and short-term investments	\$ 364,800
Accounts receivable, net	\$ 53,633
Total assets	\$ 470,896
Total stockholders' equity	\$ 406,808

Common shares outstanding at September 30, 2018 totaled 78.0 million.



<sup>&</sup>lt;sup>1</sup> Includes \$8.1 million and \$23.6 million of non-cash, stock-based compensation expense for the three and nine months ended September 30, 2018, respectively. <sup>2</sup> Based on 77.8 million and 71.5 million weighted-average common shares outstanding for the three and nine months ended September 30, 2018, respectively.

