

# Corporate Update

March 11, 2019

---

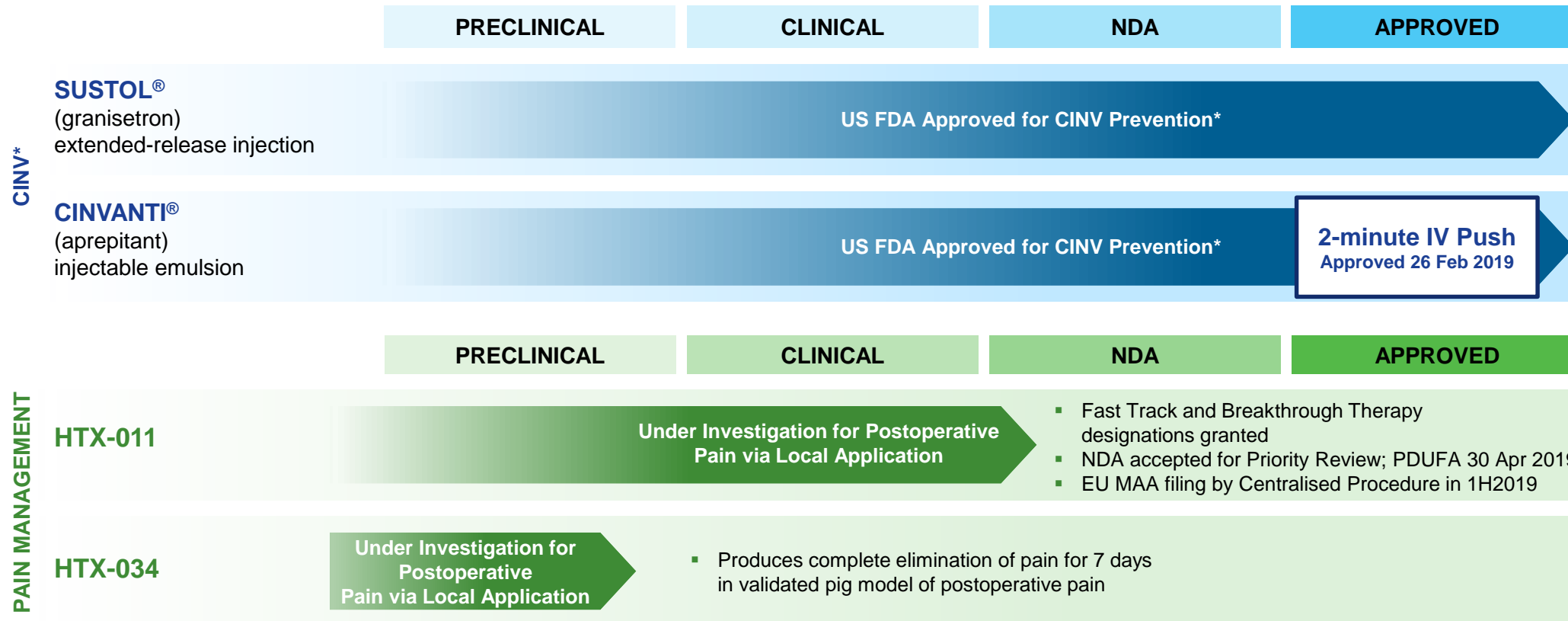


# Forward-Looking Statements

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 2019 net sales guidance for the CINV franchise; whether the FDA approves the HTX-011 NDA as submitted; the timing of the FDA's review process for HTX-011; whether the FDA will require an advisory committee meeting for HTX-011 in the future; whether the EMA accepts the HTX-011 MAA as submitted; whether the European Commission authorizes the MAA; the anticipated commercial launch of HTX-011; the potential market opportunity for HTX-011; the timing and results of the studies in the HTX-034 development program; 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:



\*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 and HTX-034 are an investigational new drugs and are not approved by the FDA or other regulatory authority**

# HTX-011 NDA for Postoperative Pain Management Has Received Priority Review

- FDA granted Priority Review to HTX-011 NDA with a PDUFA goal date of April 30, 2019
- HTX-011 received Fast Track designation in 4Q 2017 and Breakthrough Therapy designation in 2Q2018
  - Fast Track and Breakthrough Therapy products eligible for priority review if supported by clinical data at time of NDA submission
- Priority Review designation
  - for drugs that, if approved, would be significant improvements in safety or effectiveness of the treatment or prevention of serious conditions
  - intended to direct overall attention and resources of FDA to evaluation of such applications



# Competition So Concerned About HTX-011, Even Pre-approval They Are Actively Going Negative

## HTX-011 Breakthrough Therapy Designation Worries Competition



## HTX-011 – Hope or Hype?

By Lucy Hostetter, MD. Owner, Seattle Regenerative Medicine Center

### The Case Against HTX-11

HTX 011 (Heron Therapeutics, Inc) is an investigational drug granted fast track status by the FDA for use directly into incision sites, which claims to be a long acting local (LAL). The drug is a

There are problems with four of the studies that Heron has released on the investigational drug, which are briefly reviewed here:

## Study 301, EPOCH 1

multi-center study,  
FIX 011 at 60 mg,

serve to 72 hours for while this primary ensure that unless le a "positive" study primary outcome.

-011 to bupivacaine a shorter duration. They also under-  
e would have been  
ivalent dosing as  
would be expected  
X-011. That said,  
even the H1X-011  
ours and the only  
-011 "performed"  
acaine-HCl existed

It was performed in  
were different from  
nts receiving either  
in all fairness, they  
racaine HCl as that  
aine and would put  
ic toxicity (LAST).  
received HTX-011  
much higher dose  
ates there may be  
er formulation, but  
evaluating the data.  
cy, there was no  
l and bupivacaine-  
groups experiencing

**ΔVΔNOS**

# THE TRUTH IS

THERE'S ONLY AN "ON" SWITCH



**Long-acting locals (LALs) cannot be turned off or adjusted, should complications arise.**

You understand that every patient's recovery is different, making safe, customizable post-op pain therapy necessary. Yet newer, fixed-formulation LALs cannot be adjusted or turned off.

So, are LALs actually safe? It's important to consider the following:



**HTX-011 is an investigational formulation from Heron Therapeutics. This non-adjustable, single fixed dose of bupivacaine and meloxicam raises more questions about local infiltration of NSAIDs than it answers.**

Will a local NSAID be overkill at the site? Might this suppress inflammatory responses key to the healing process or increase bleeding risk? The available clinical data do not yet clarify these concerns.<sup>4</sup>

Avanos E-blast and Whitepaper



HERON  
THERAPEUTICS

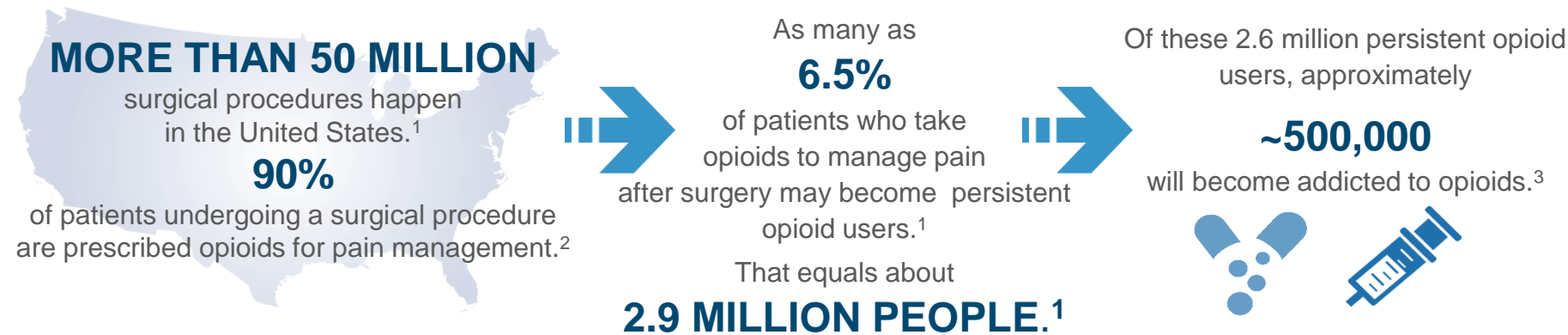
# Postoperative Pain and its Impact on the Opioid Crisis

---



# The Cost of Opioids

## How Postoperative Opioids Can Be a Doorway to Addiction



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 go unused.<sup>2</sup>

**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.
  3. 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; and
    - Provide better pain control than conventional reliance on opioids.



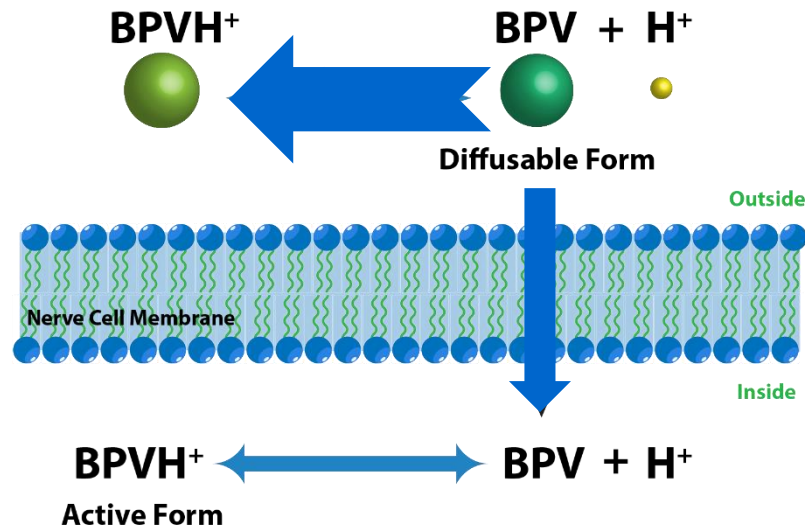
# **HTX-011**

## **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

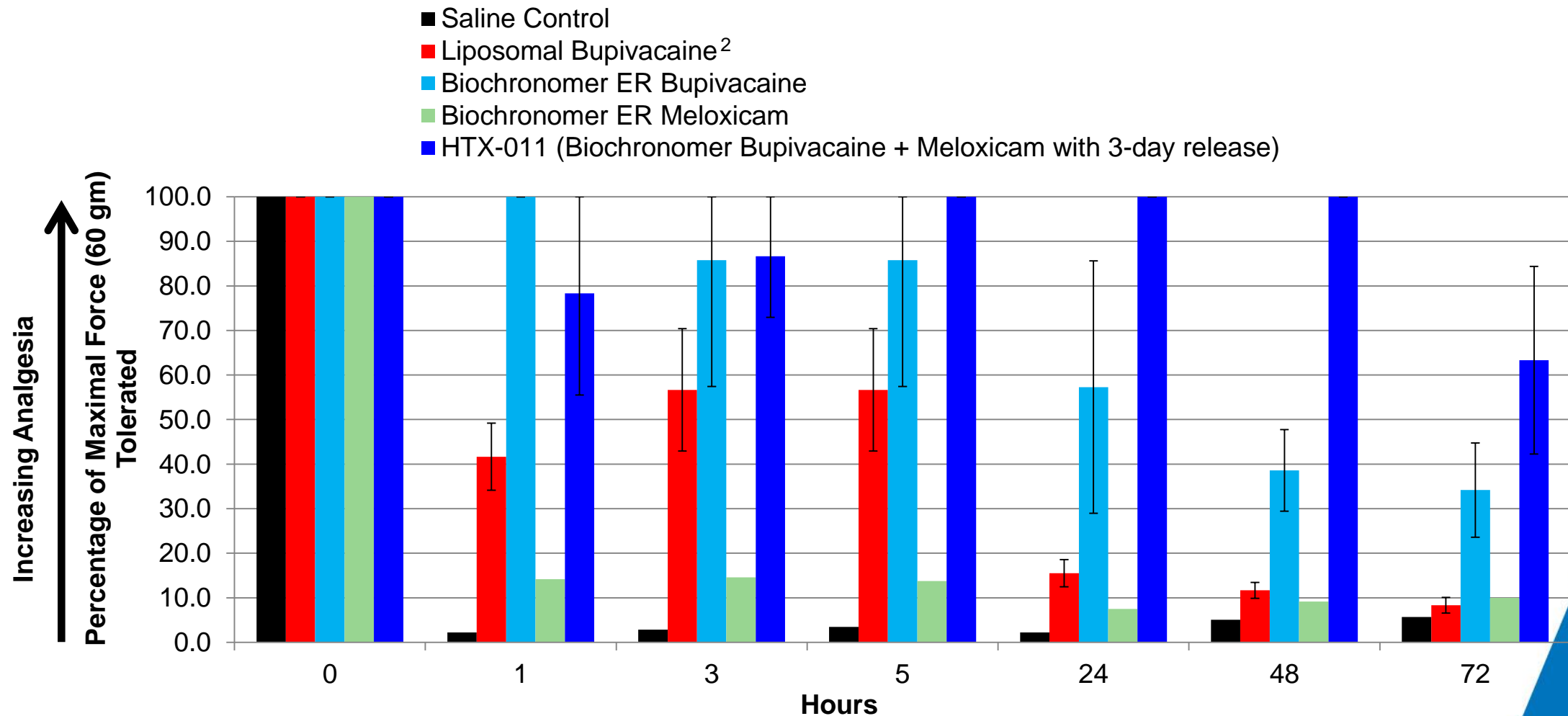
With a one pH unit drop, 10-fold less bupivacaine is able to penetrate the nerve cell membrane

- 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>

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

2. 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>

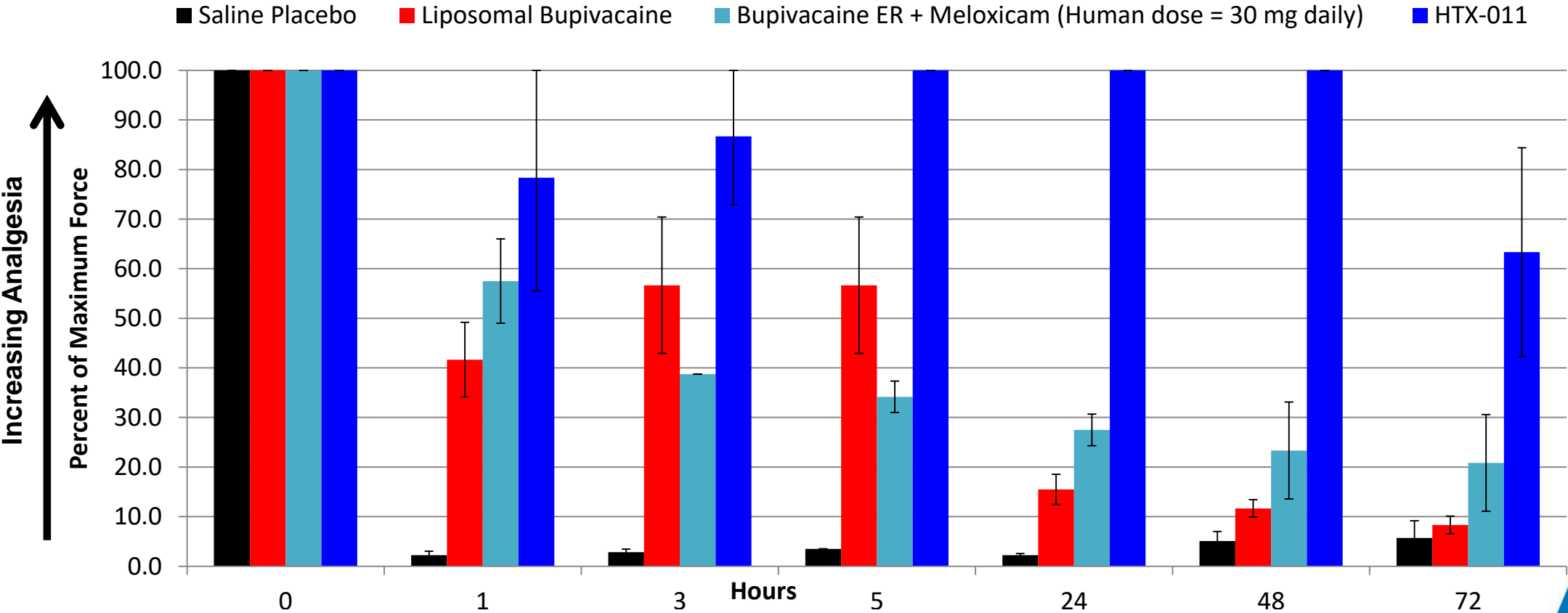


<sup>1</sup> Postoperative pain model in pigs from Castle et al, 2013 EPJ  
<sup>2</sup> Human dose of liposomal bupivacaine with 40% smaller incision

(n=4 pigs in each arm)

# Activity of HTX-011 Cannot Be Replicated By Systemic Administration of High-Dose Meloxicam Along With Extended Release Bupivacaine

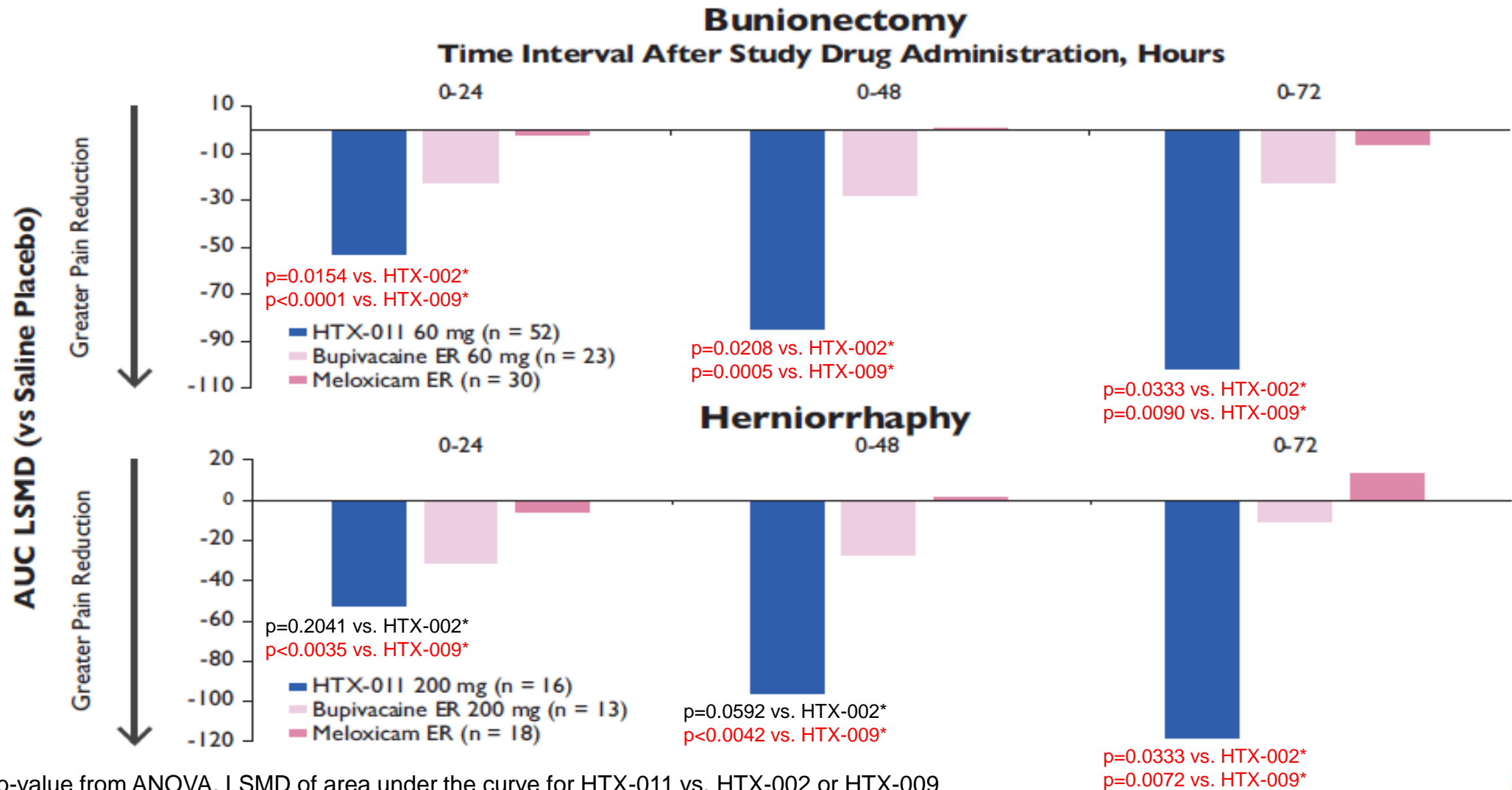
## Pig Postoperative Pain Model



\*Suprathreshold dose (human equivalent = 18 mg) of meloxicam administered SQ  
Post-operative pain model in pigs from Castle et al, 2013 EPJ



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



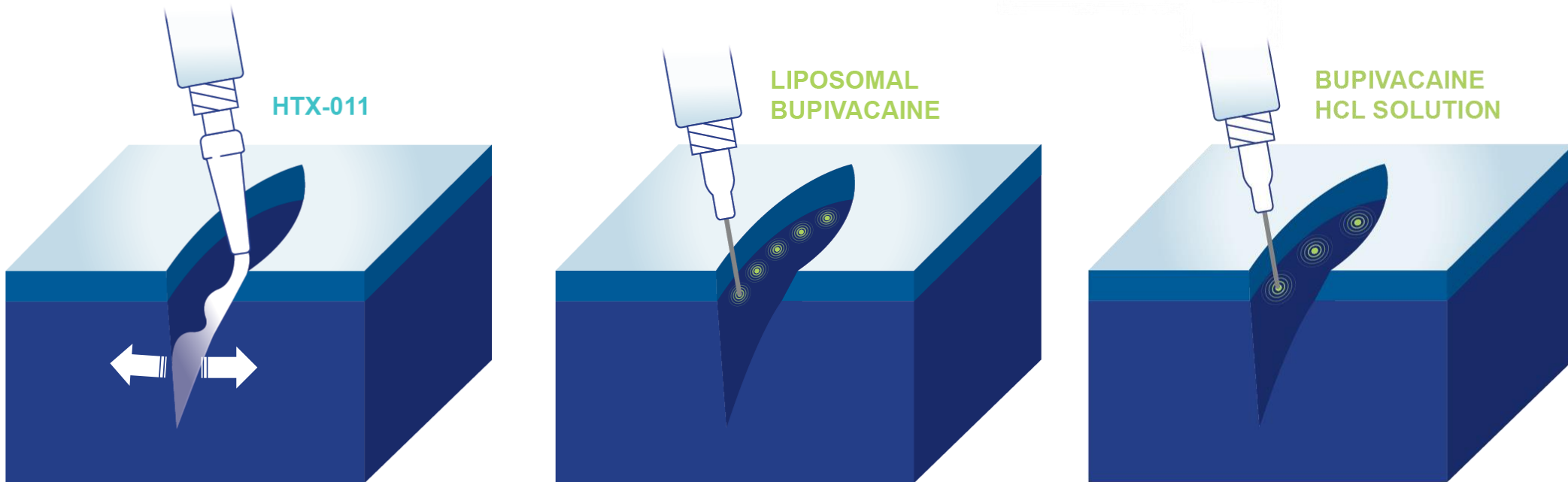
\*p-value from ANOVA, LSMD of area under the curve for HTX-011 vs. HTX-002 or HTX-009

HTX-011 is an investigational new drug and not approved by the FDA



# 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



Reference: Data on file.

# 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	Herniorrhaphy	Soft	✓	✓	✓
203	2	Abdominoplasty	Soft	✓	✓	✓
208	2	Bunionectomy	Bony	✓	✓	✓
209	2b	TKA	Bony	✓	✓	✓
211	2b	Breast Augmentation	Soft	✓	✓	✓
301	3	Bunionectomy	Bony	✓	✓	✓
302	3	Herniorrhaphy	Soft	✓	✓	✓

PBO = placebo; BPV = bupivacaine solution; TKA = total knee arthroplasty

**HTX-011 is an investigational new drug and not approved by the FDA**

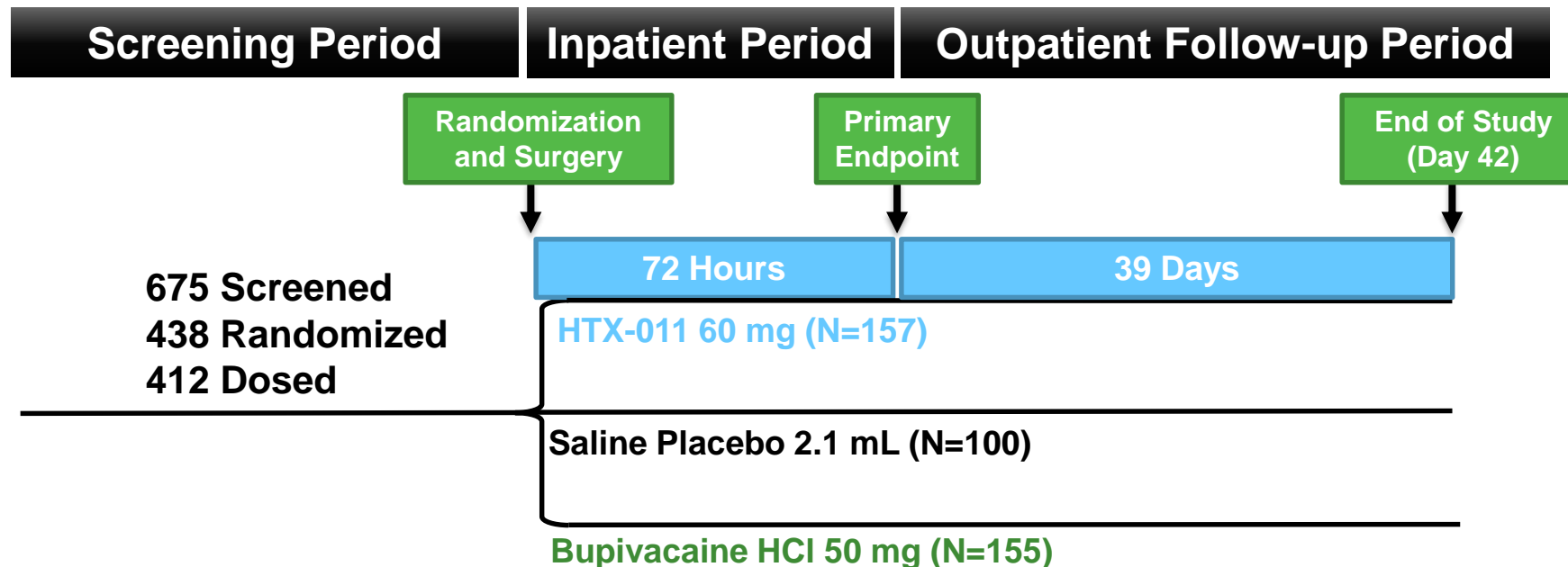
# EPOCH 1: Bunionectomy Results (Study 301)

---



# EPOCH 1 (Study 301) Bunionectomy: Study Design

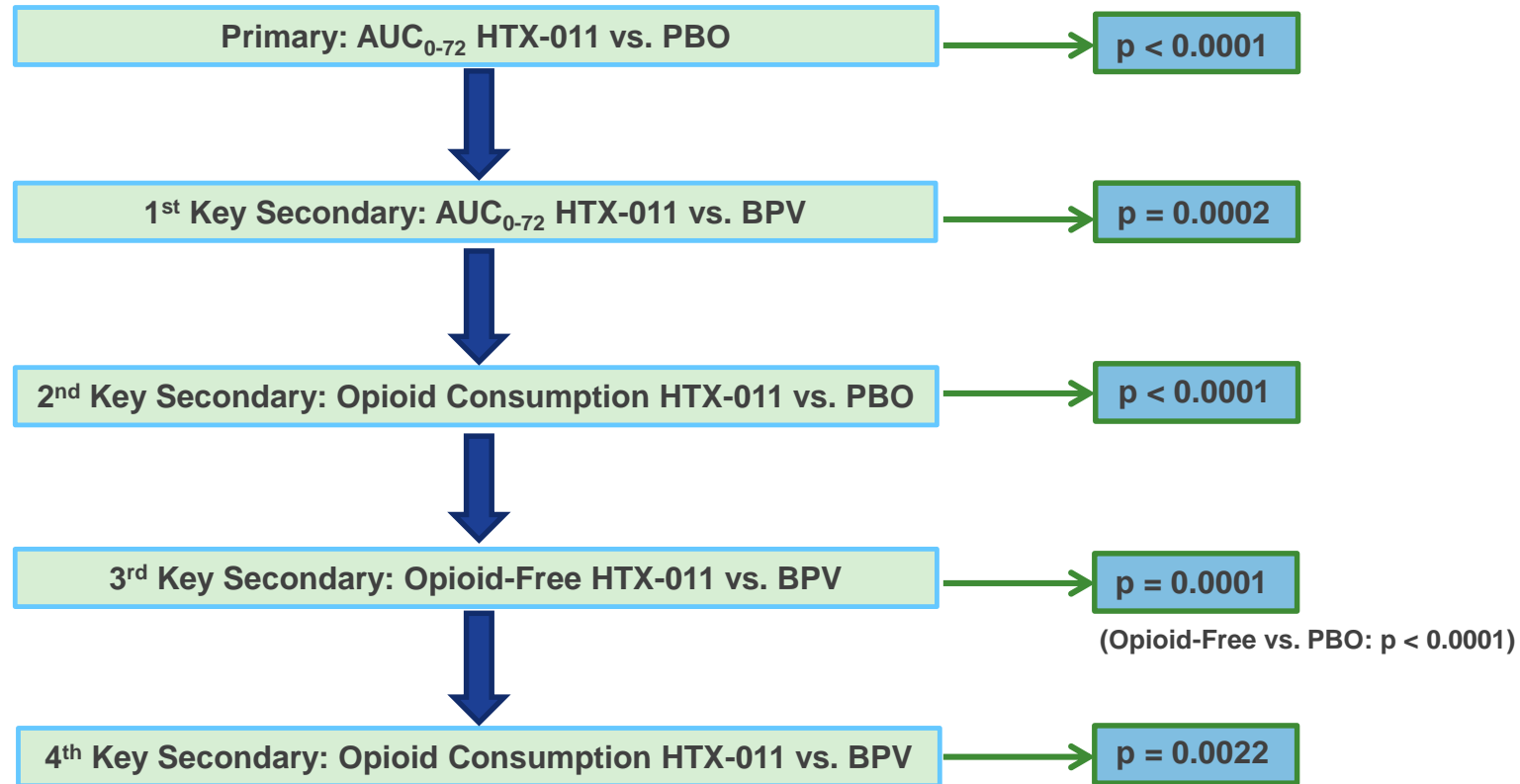
- N = 412 (3:2:3 to HTX-011 60 mg, saline placebo, or bupivacaine HCl 50 mg)
- 438 subjects were randomized and 412 were dosed (ITT Population)
- 13 sites in the United States



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

HTX-011 is an investigational new drug and not approved by the FDA

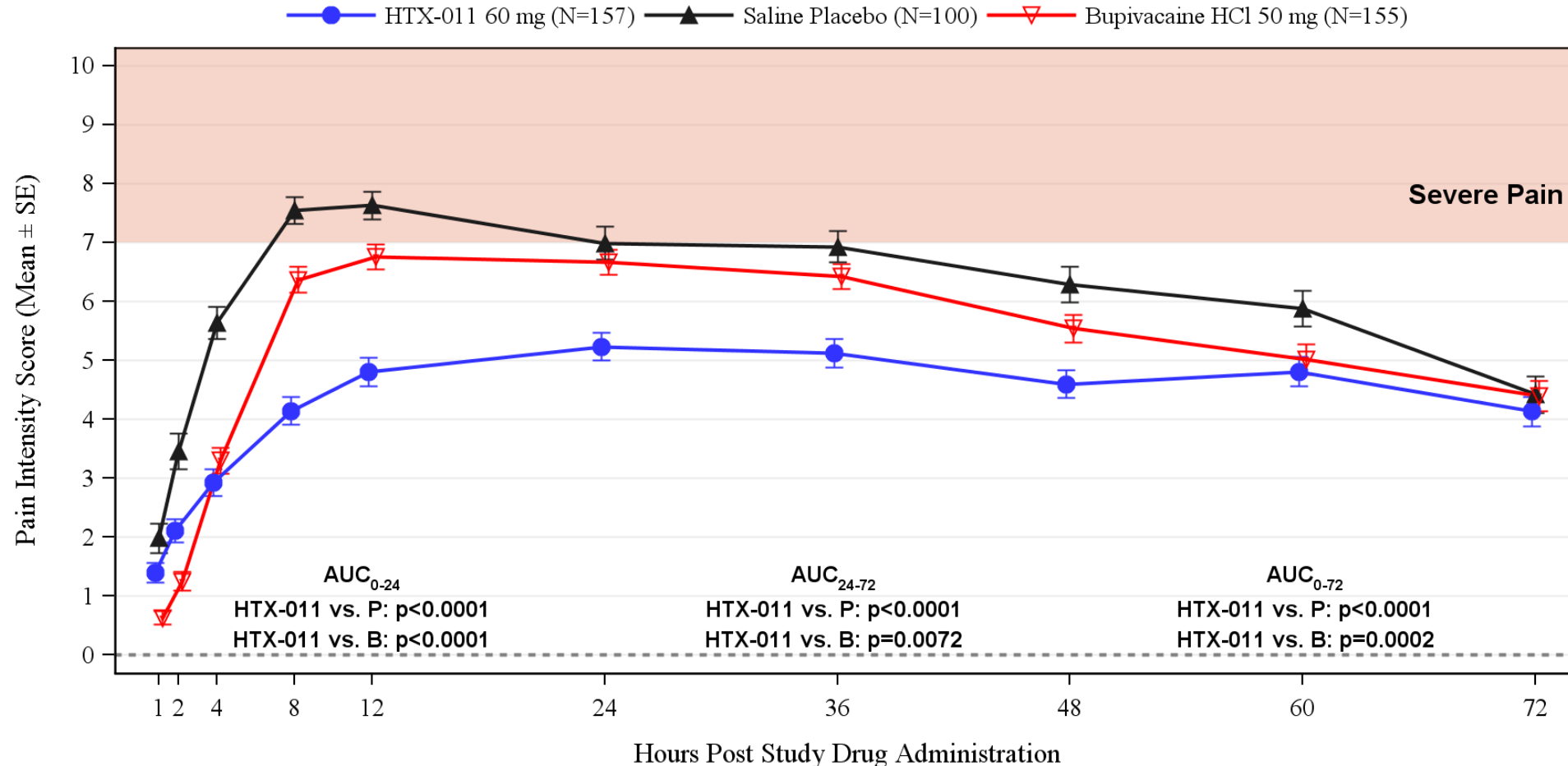
# EPOCH 1 Bunionectomy: Results Hierarchy



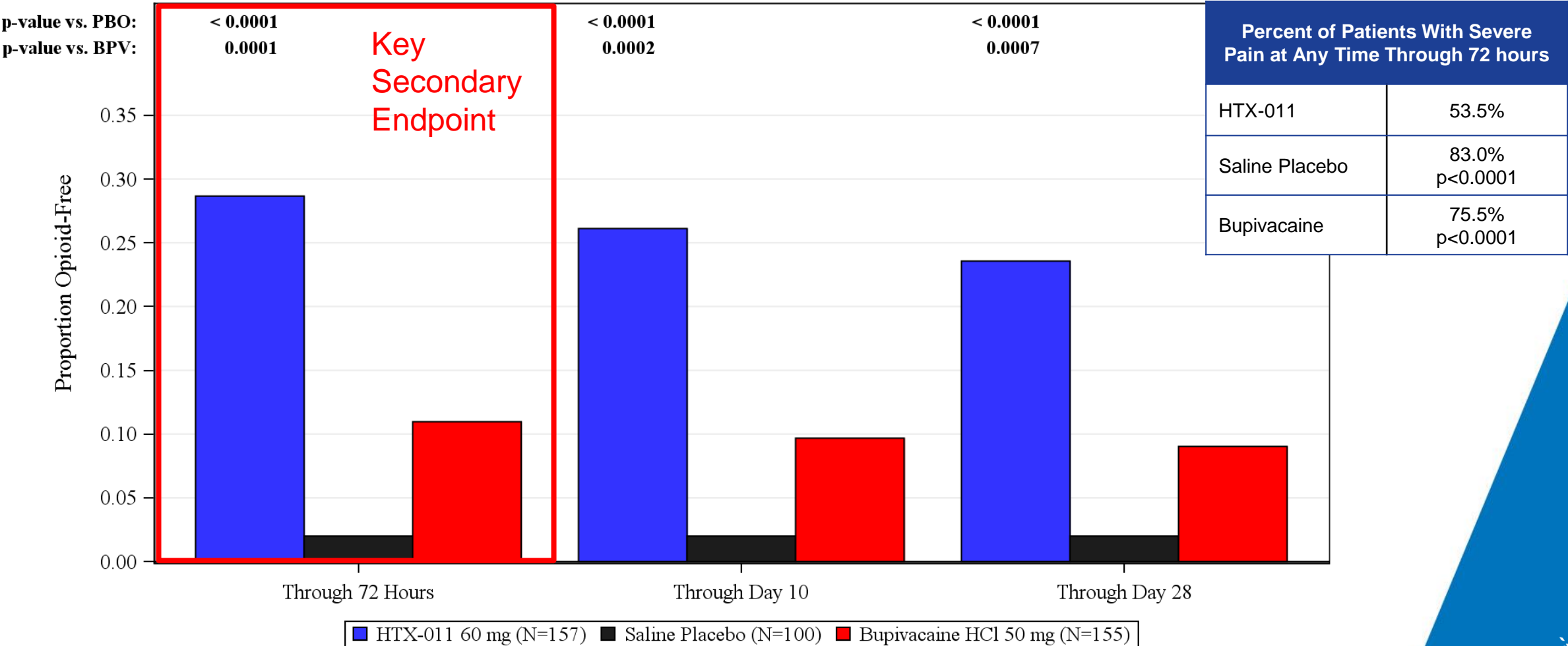
PBO: saline placebo; BPV: bupivacaine HCl

**HTX-011 is an investigational new drug and not approved by the FDA**

# EPOCH 1 Bunionectomy: Mean Pain Intensity



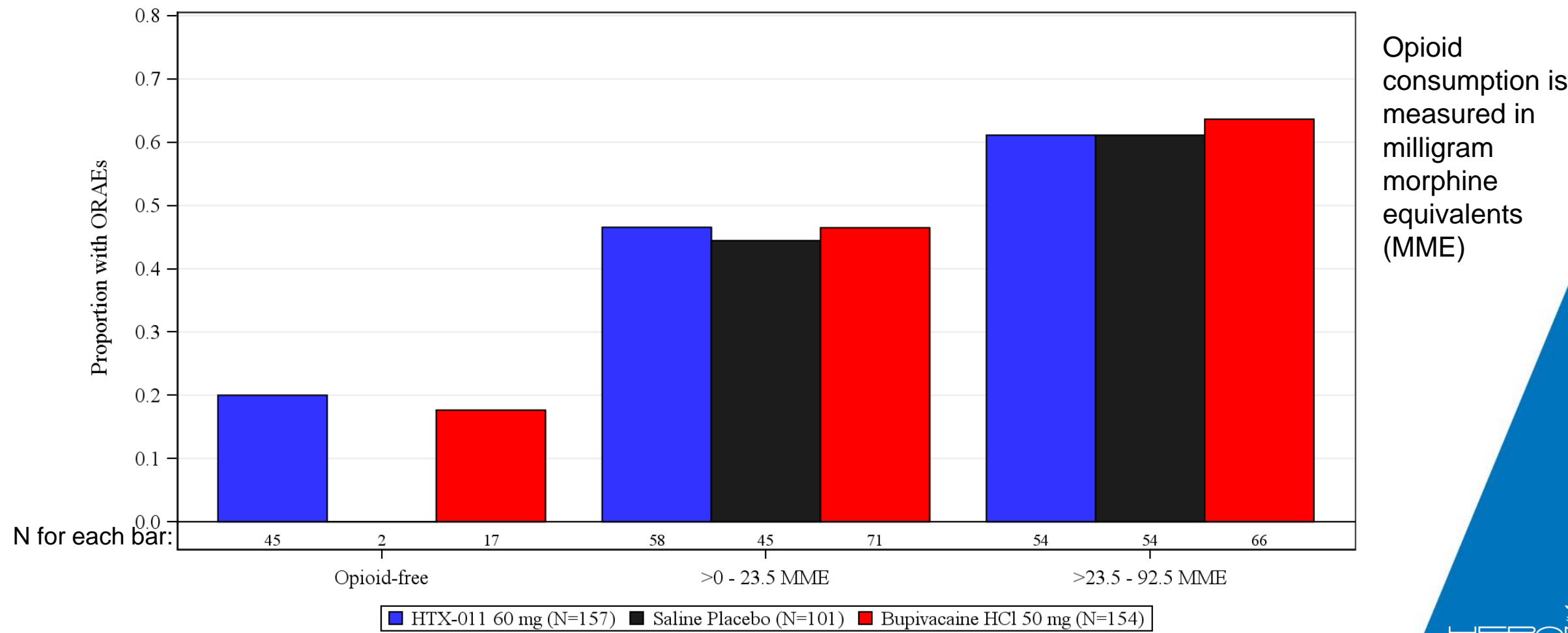
# EPOCH 1 Bunionectomy: Percentage of Subjects Who Are Opioid-Free Through 72 hours and Through Days 10 and 28



HTX-011 is an investigational new drug and not approved by the FDA

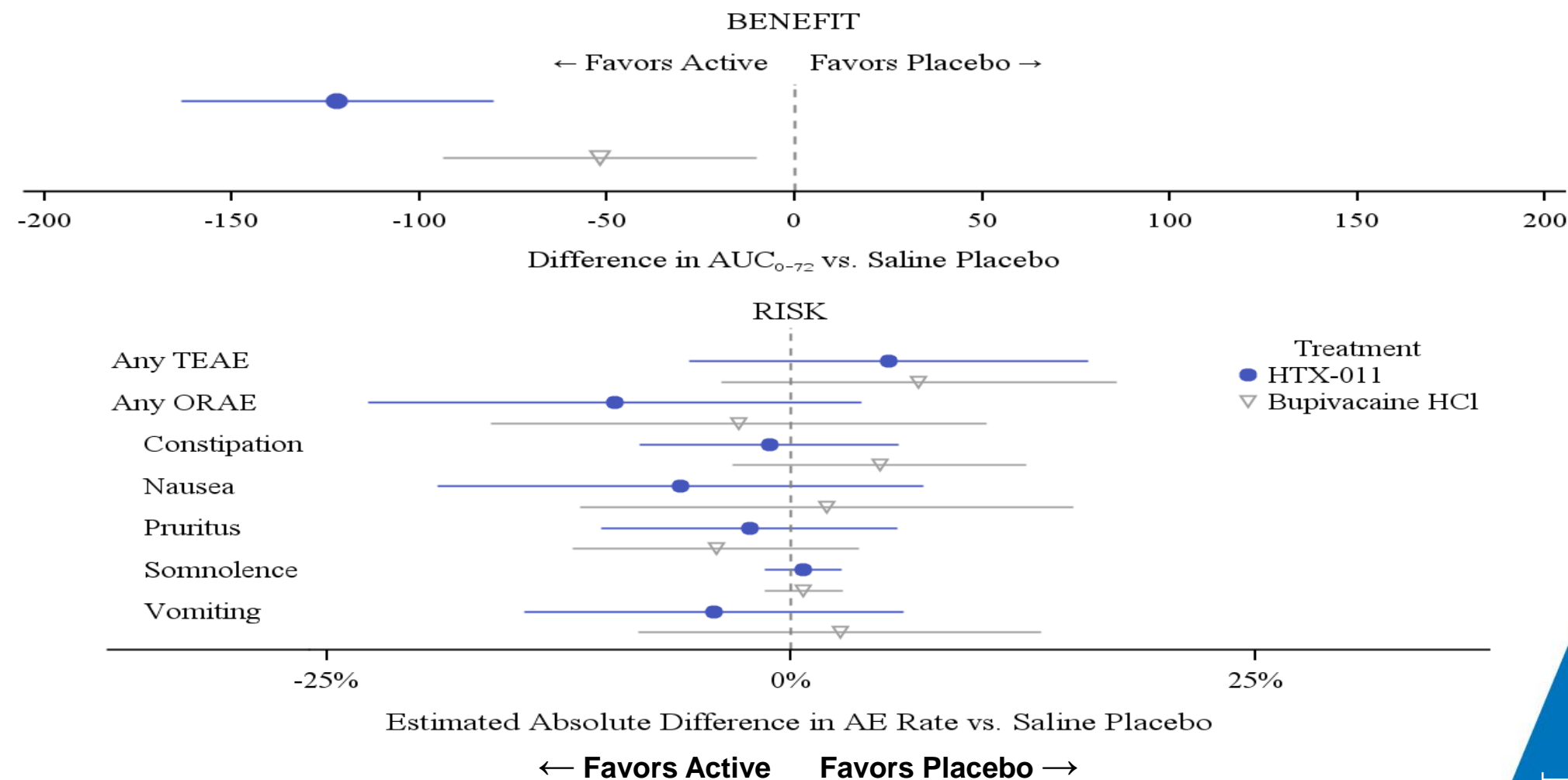


# EPOCH 1 Bunionectomy: HTX-011 Opioid-Free Subjects Have the Lowest Rate of Opioid-Related Adverse Events (ORAEs)



HTX-011 is an investigational new drug and not approved by the FDA

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



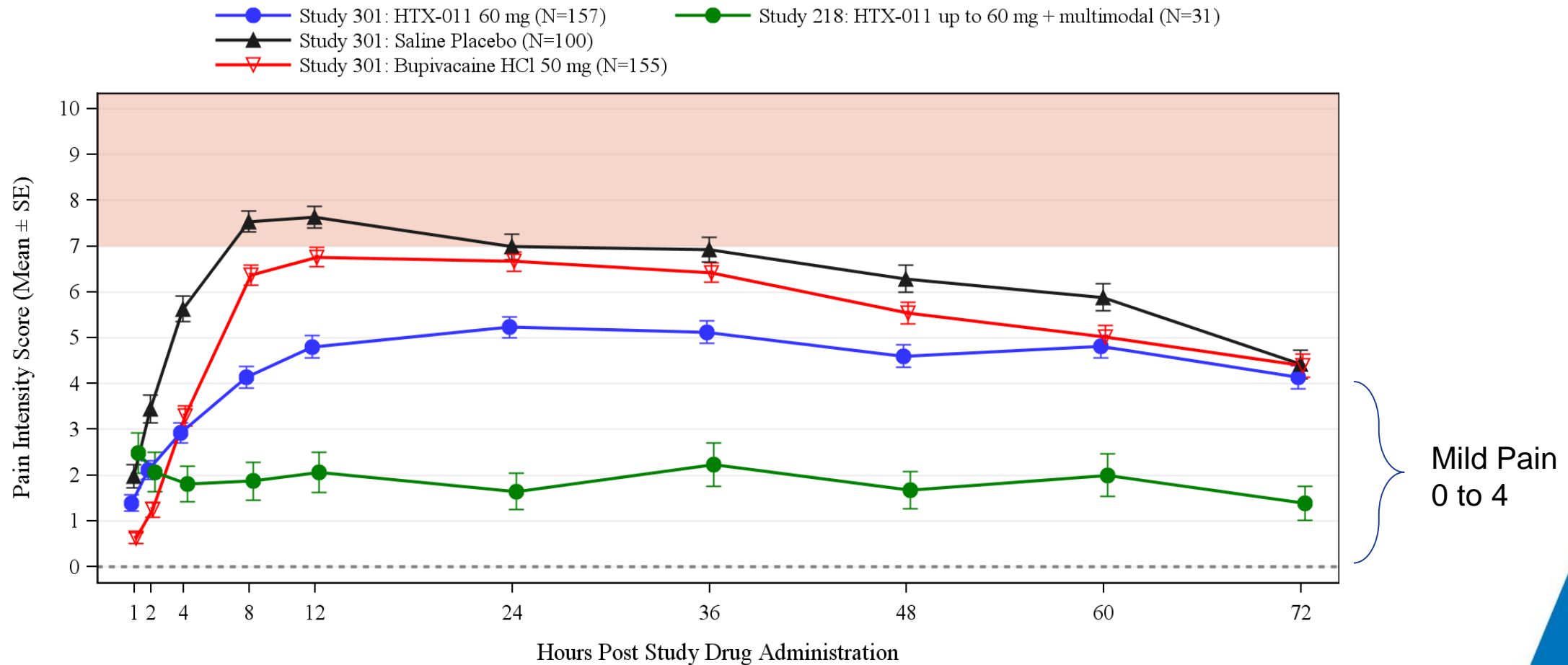
HTX-011 is an investigational new drug and not approved by the FDA

# Phase 2 Opioid Elimination Study in Bunionectomy (Study 218)

---

HTX-011 plus  
postoperative  
acetaminophen q 6h +  
ibuprofen q 6h

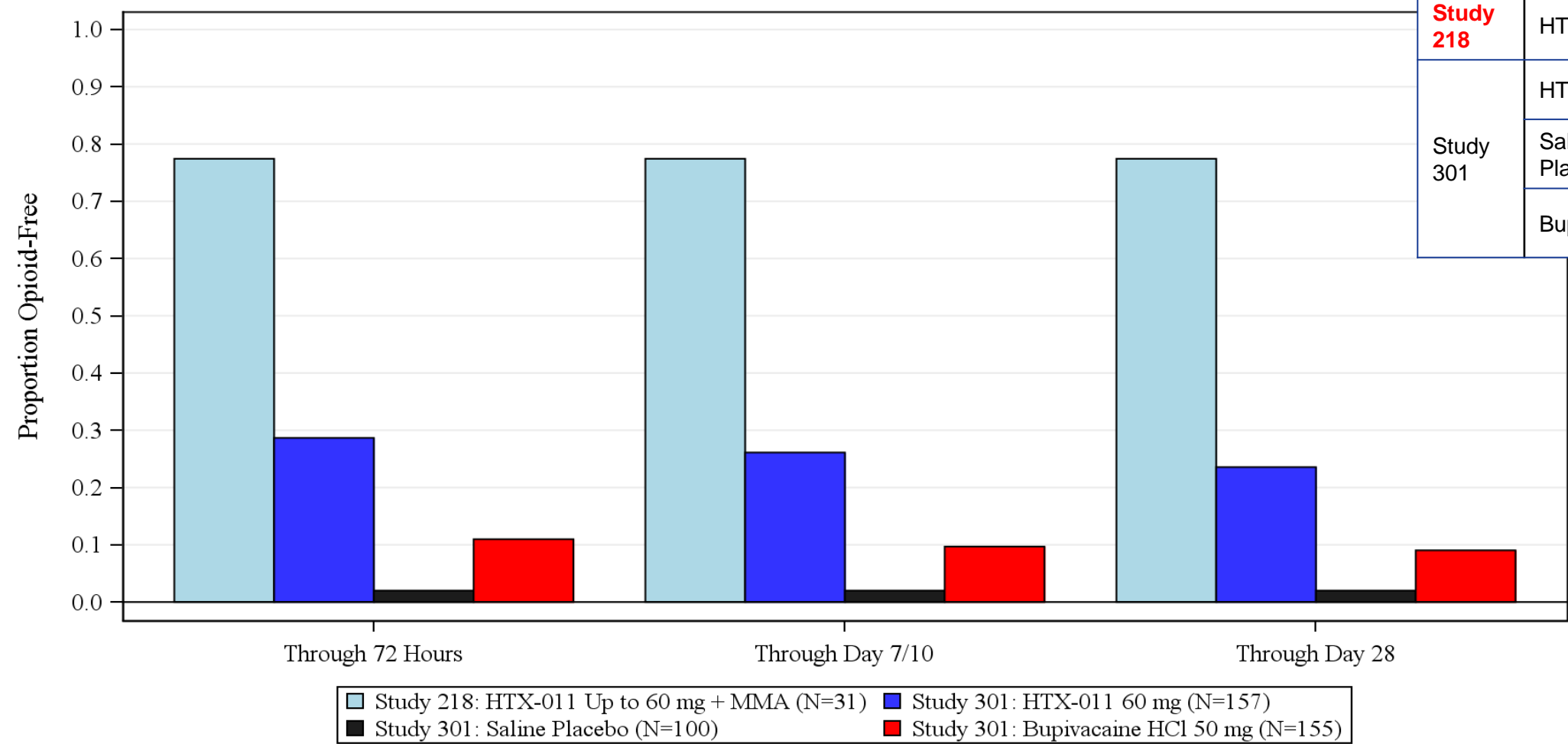
# Study 218 Bunionectomy: HTX-011 Plus Acetaminophen and Ibuprofen Kept Pain in the Mild Range Through 72 Hours



wwOCF for use of opioid rescue medication and LOCF for missing pain data

**HTX-011 is an investigational new drug and not approved by the FDA**

# Study 301 and Study 218 Bunionectomy: Proportion of Patients Opioid-Free

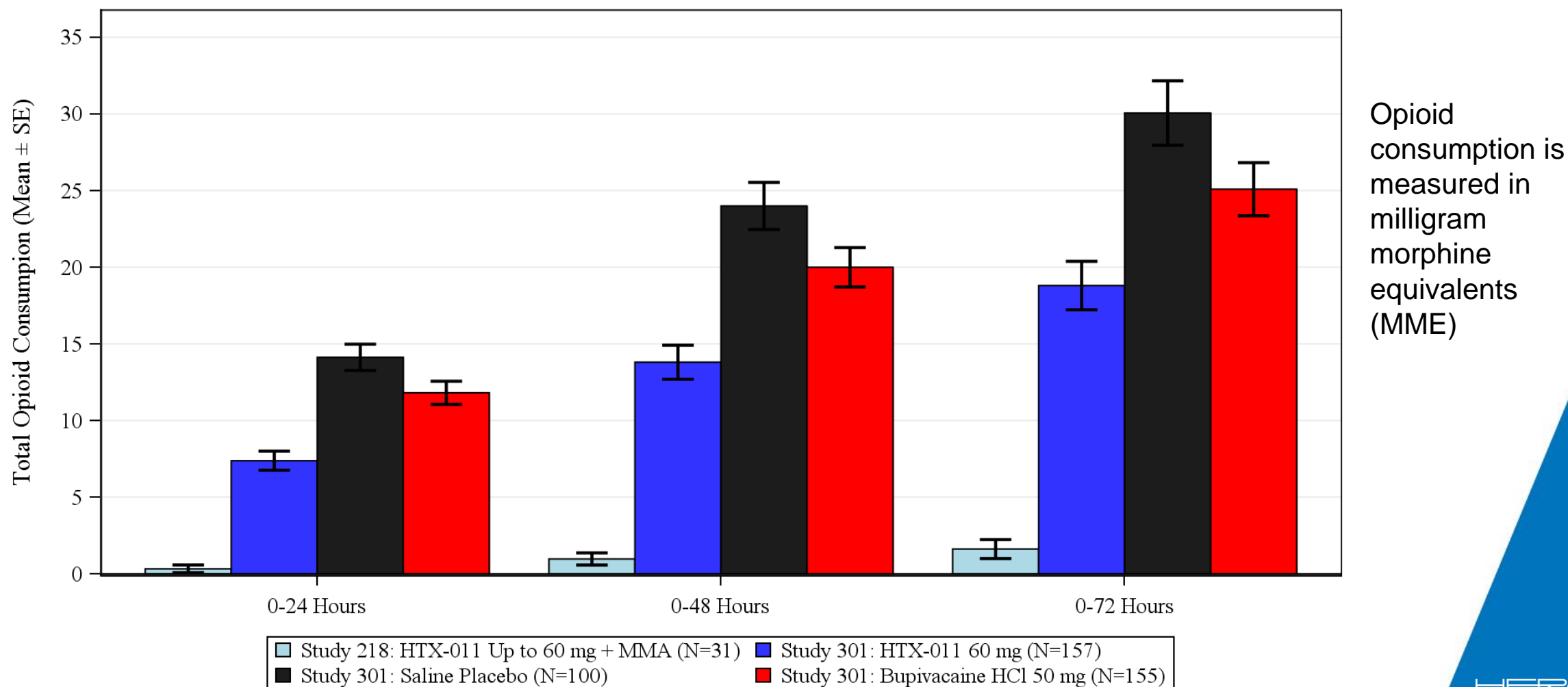


Percent of Patients With Severe Pain at Any Time Through 72 hours		
Study 218	HTX-011	29.0%
	HTX-011	53.5%
	Saline Placebo	83.0%
	Bupivacaine	75.5%

HTX-011 is an investigational new drug and not approved by the FDA



# Study 301 and Study 218 Bunionectomy: Mean Consumption of Opioid Rescue Medication



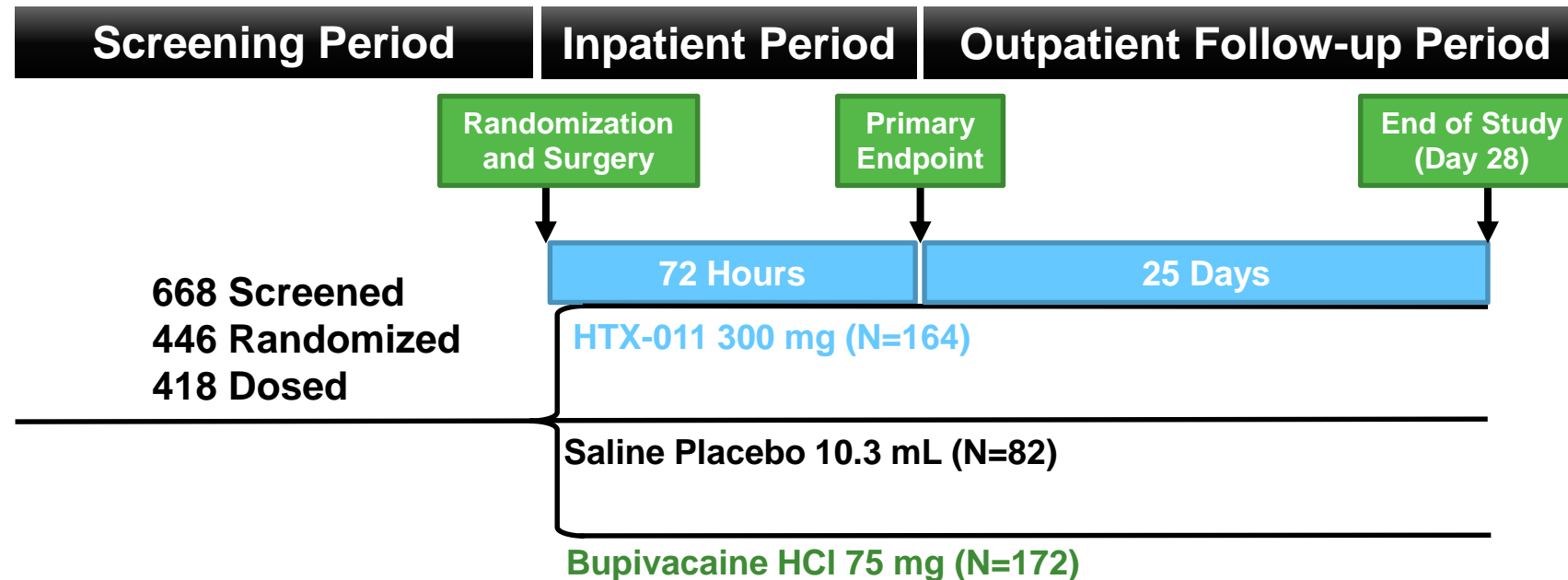
HTX-011 is an investigational new drug and not approved by the FDA

# EPOCH 2: Herniorrhaphy Results (Study 302)

---

# EPOCH 2 (Study 302) Herniorrhaphy: Study Design

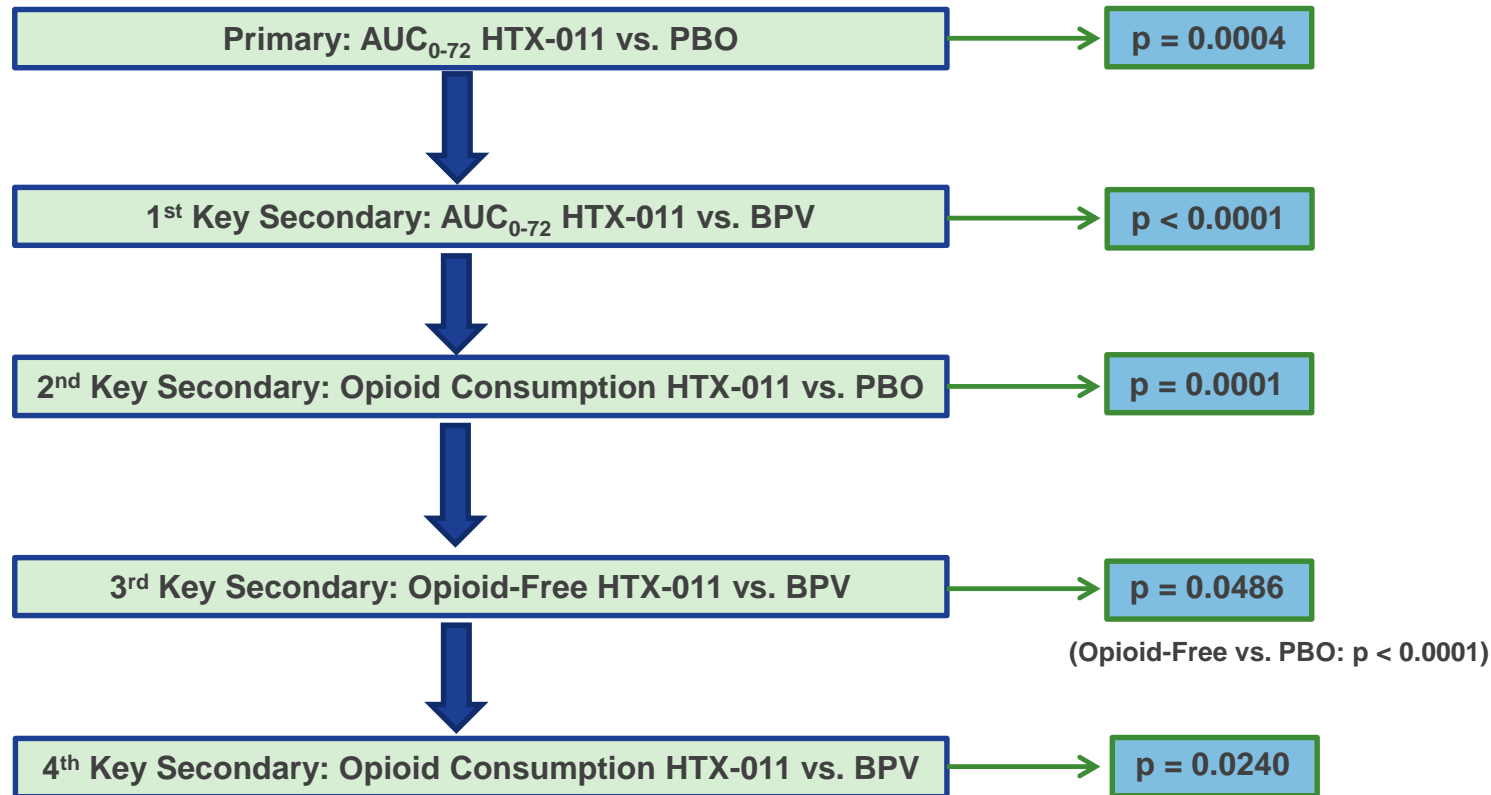
- N= 418 (2:1:2 to HTX-011 300 mg, saline placebo, or bupivacaine HCl 75 mg)
- 446 subjects were randomized and 418 were dosed (ITT Population)
- 17 sites in 2 countries (United States, Belgium)



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

HTX-011 is an investigational new drug and not approved by the FDA

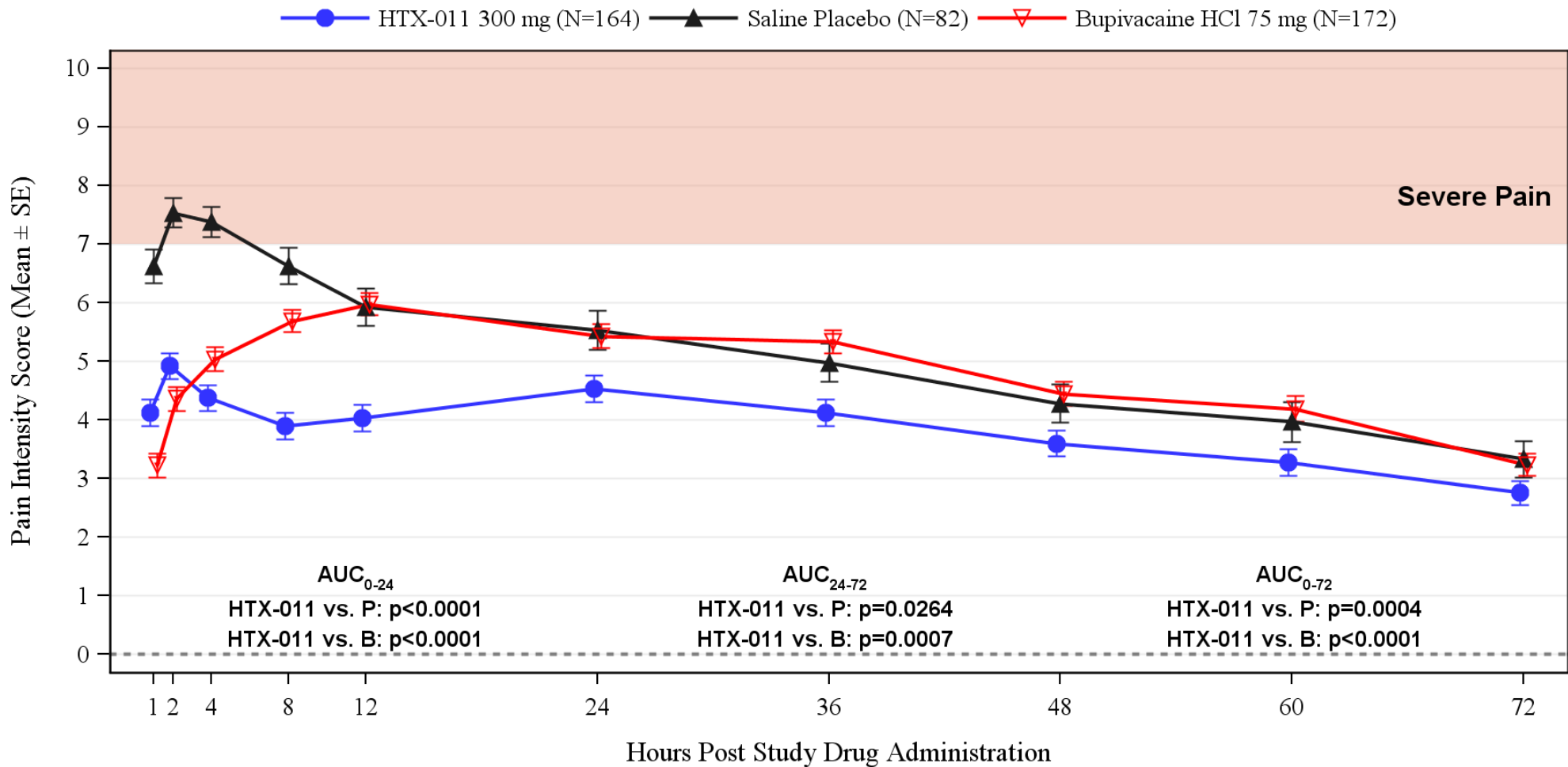
# EPOCH 2 Herniorrhaphy: Results Hierarchy



PBO: saline placebo; BPV: bupivacaine HCl

**HTX-011 is an investigational new drug and not approved by the FDA**

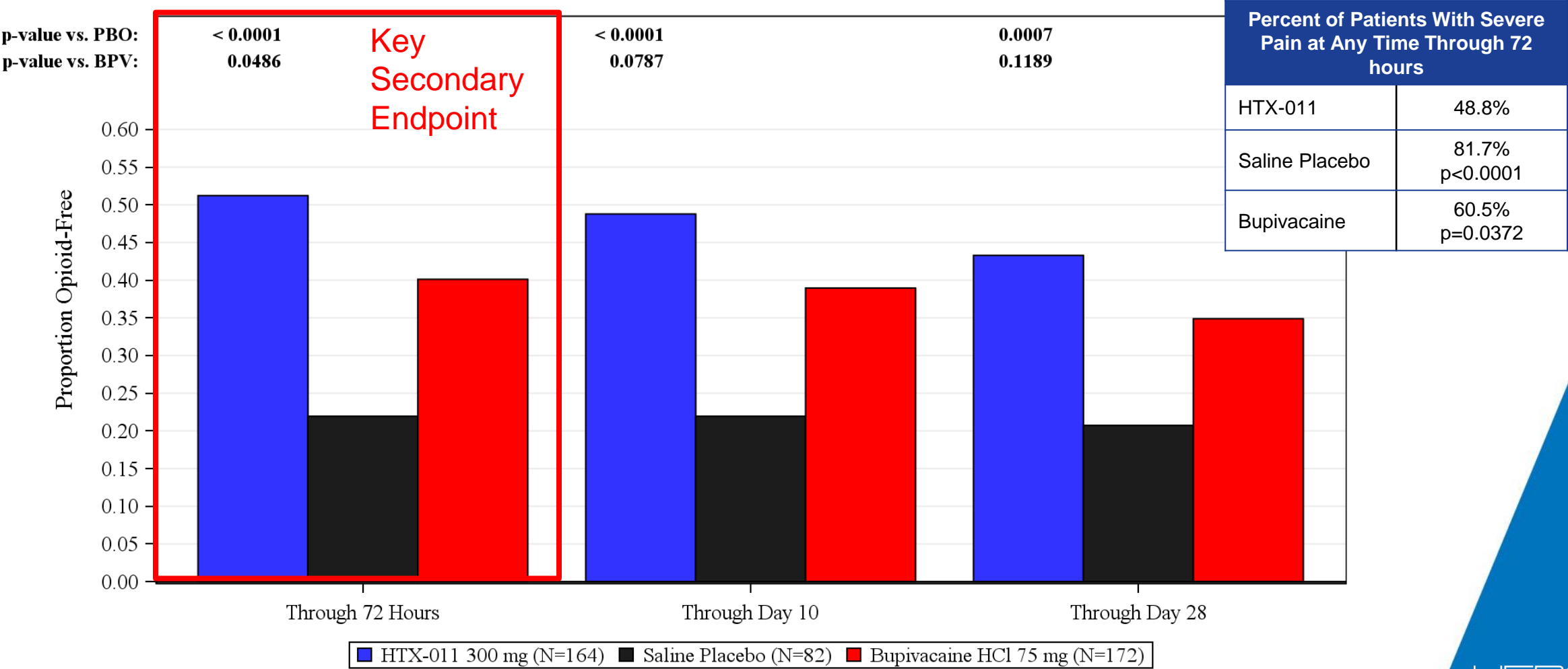
# EPOCH 2 Herniorrhaphy: Mean Pain Intensity





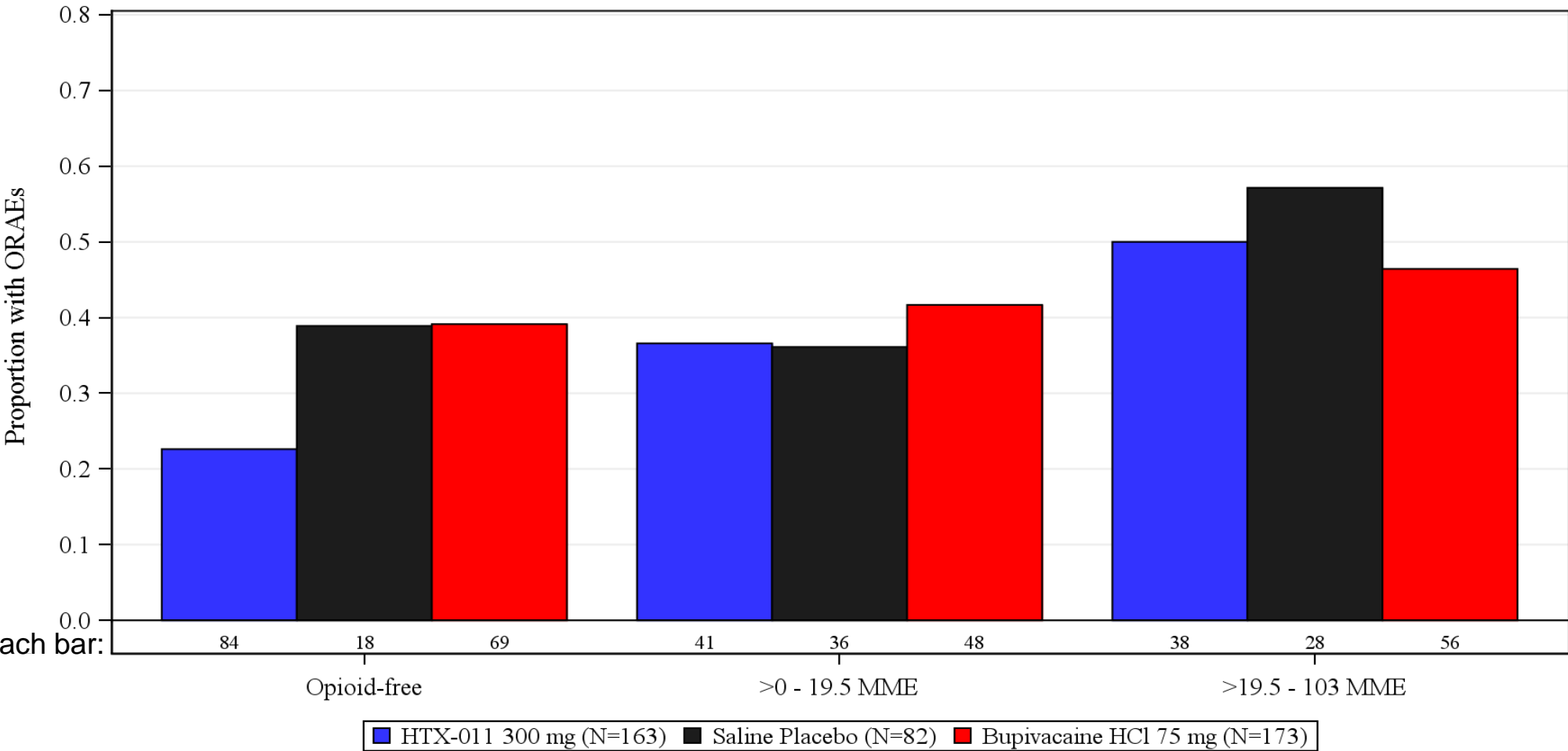
# EPOCH 2 Herniorrhaphy:

## Percentage of Subjects Who Are Opioid-Free Through Day 28



HTX-011 is an investigational new drug and not approved by the FDA

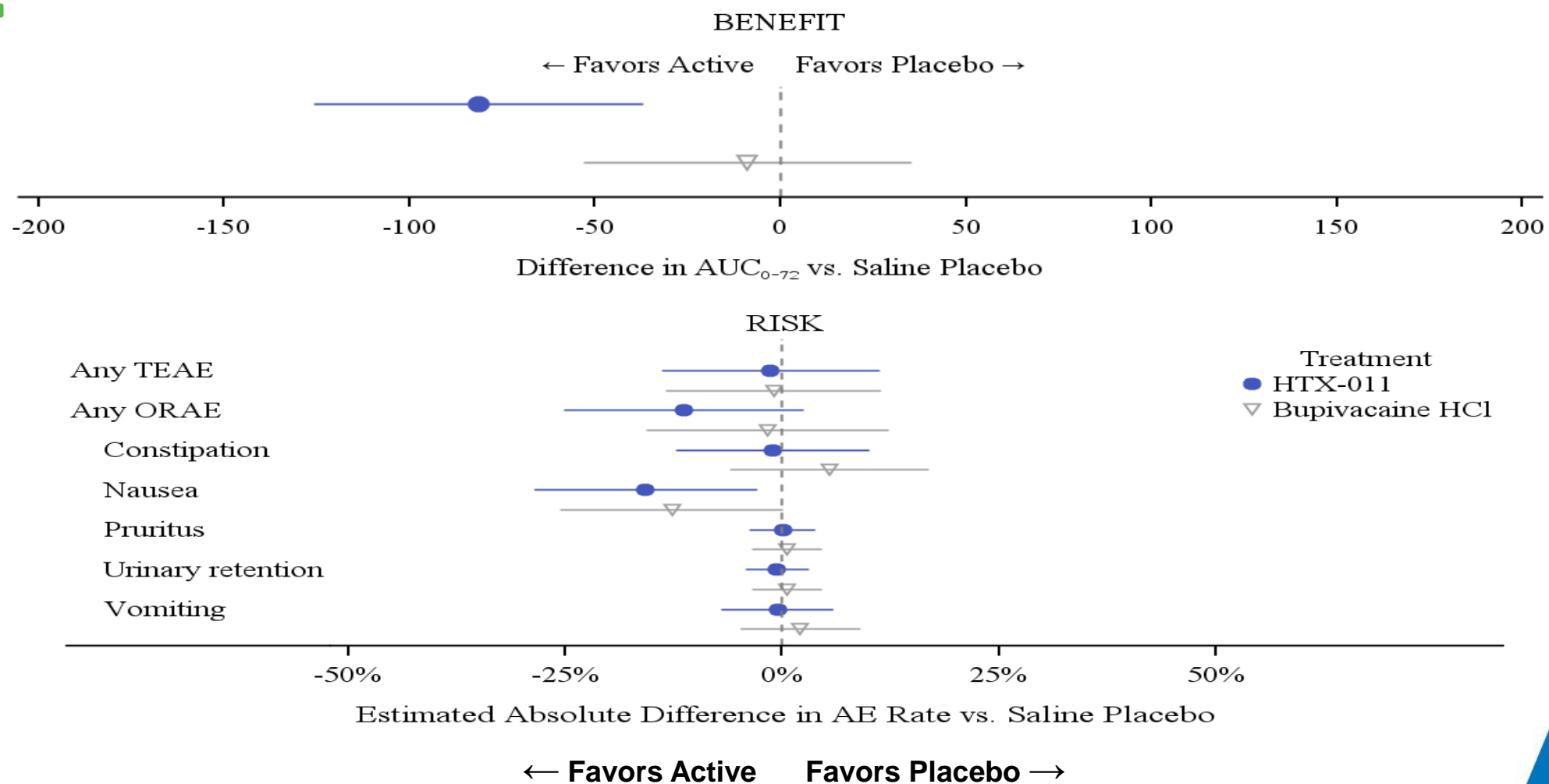
# EPOCH 2 Herniorrhaphy: HTX-011 Opioid-Free Subjects Have the Lowest Rate of Opioid-Related Adverse Events (ORAEs)



Opioid consumption is measured in milligram morphine equivalents (MME)

HTX-011 is an investigational new drug and not approved by the FDA

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



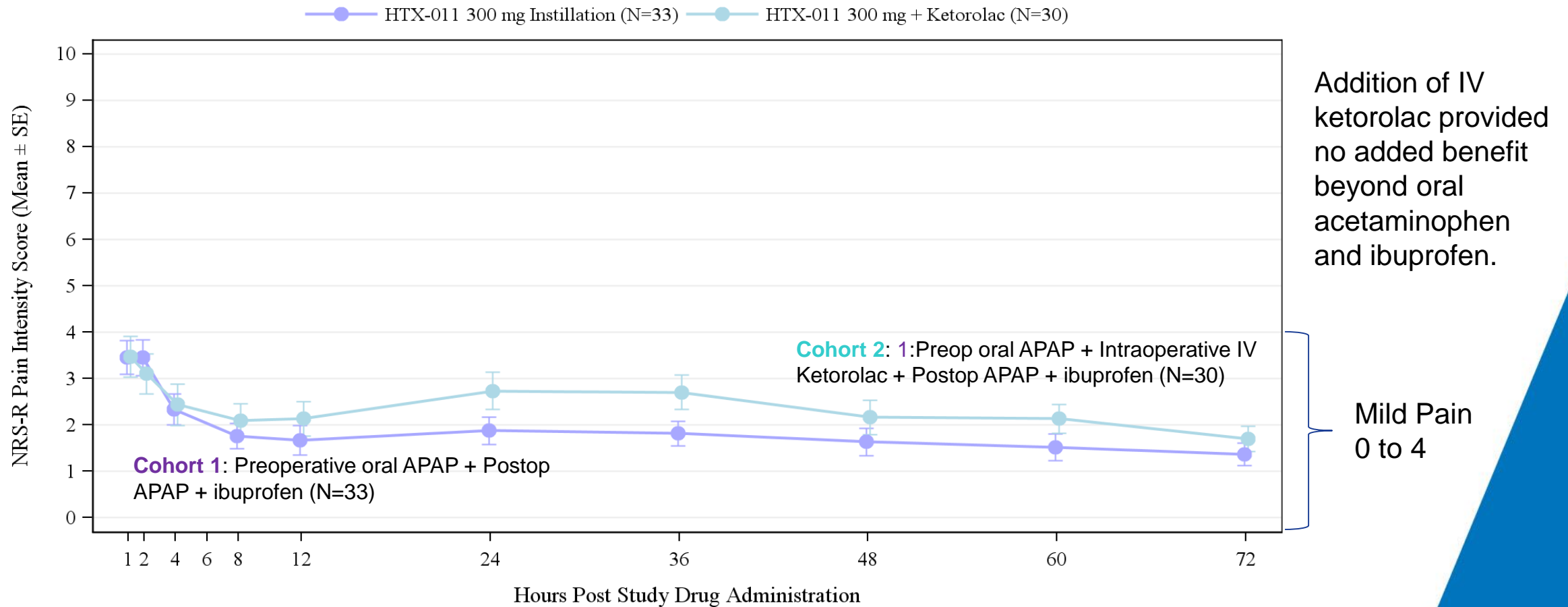
HTX-011 is an investigational new drug and not approved by the FDA

# Phase 2 Opioid Elimination Study in Herniorrhaphy (Study 215)



HTX-011 plus  
postoperative  
acetaminophen q 6h +  
ibuprofen q 6h

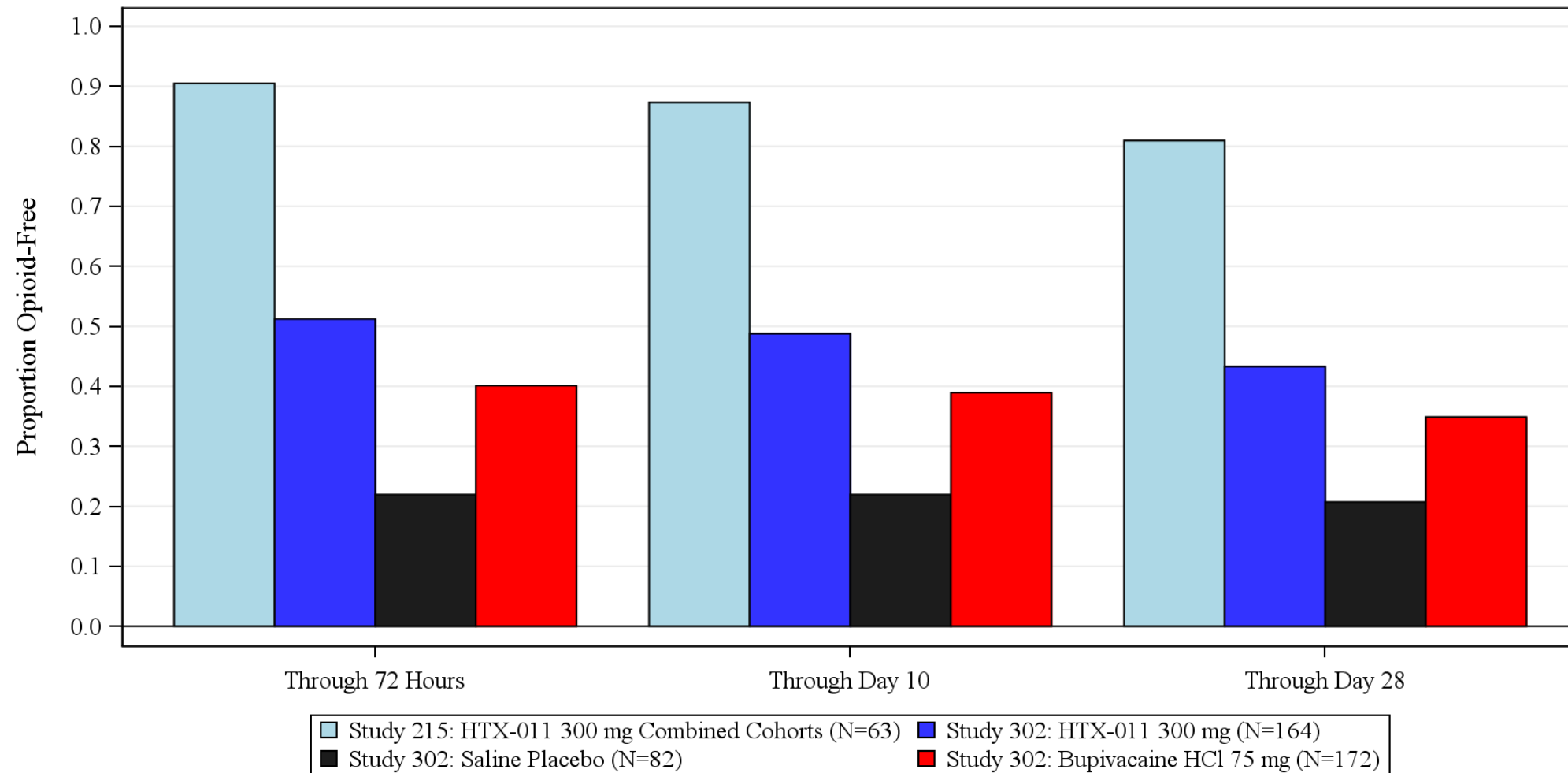
# Study 215 Herniorrhaphy: HTX-011 Plus Acetaminophen and Ibuprofen Kept Pain in the Mild Range Through 72 Hours



wWOCF for use of opioid rescue medication and LOCF for missing pain data

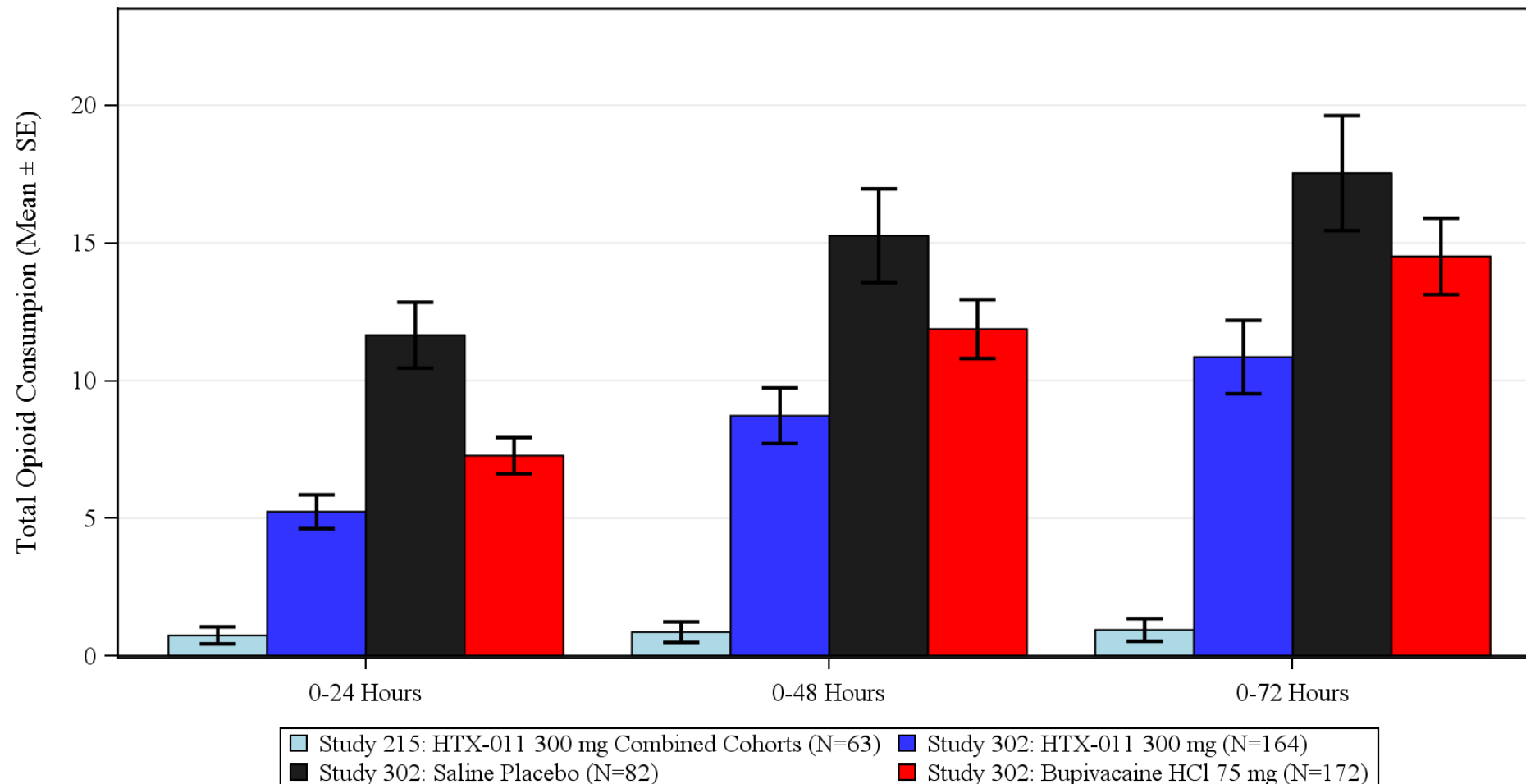


# Study 302 and Study 215 Herniorrhaphy: Proportion of Patients Opioid-Free



**HTX-011 is an investigational new drug and not approved by the FDA**

# Study 302 and Study 215 Herniorrhaphy: Mean Consumption of Opioid Rescue Medication



Opioid consumption is measured in milligram morphine equivalents (MME)

# Phase 2b Total Knee Arthroplasty (TKA) Study (Study 209)

---

# 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

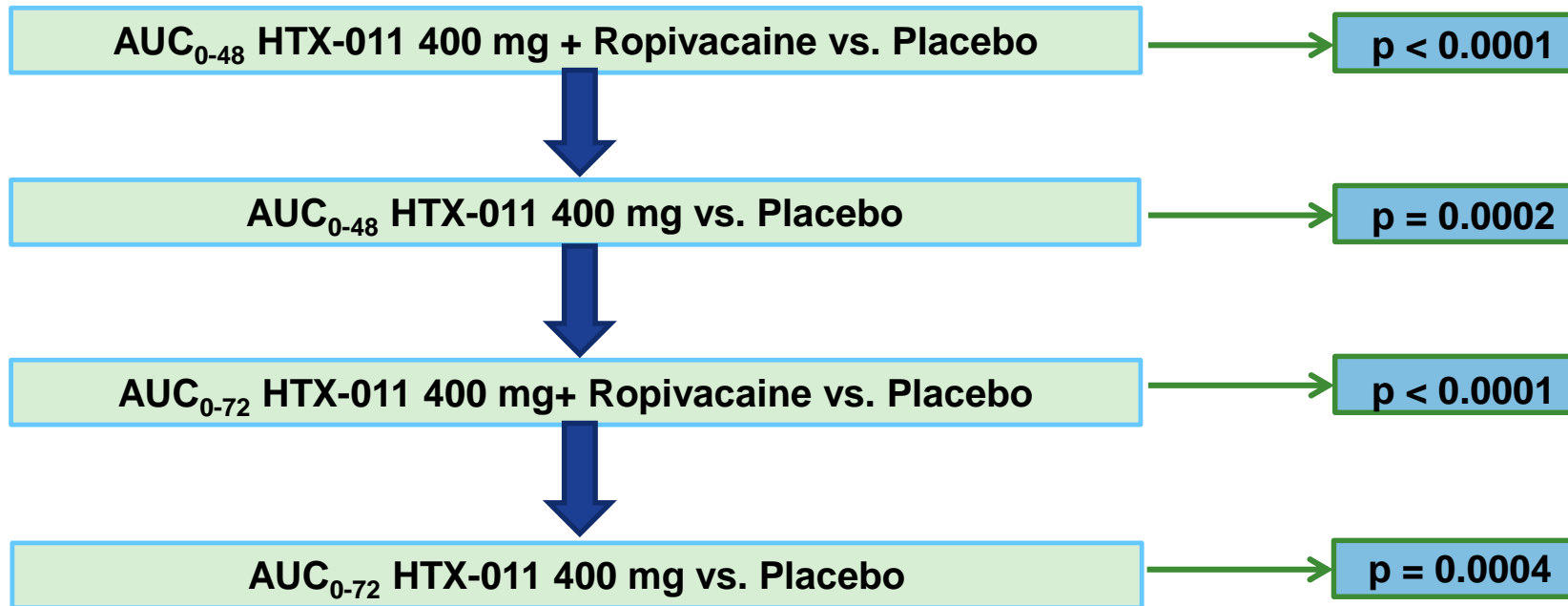
**Bupivacaine 125 mg**  
Injection  
N = 55

- 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

HTX-011 is an investigational new drug and not approved by the FDA

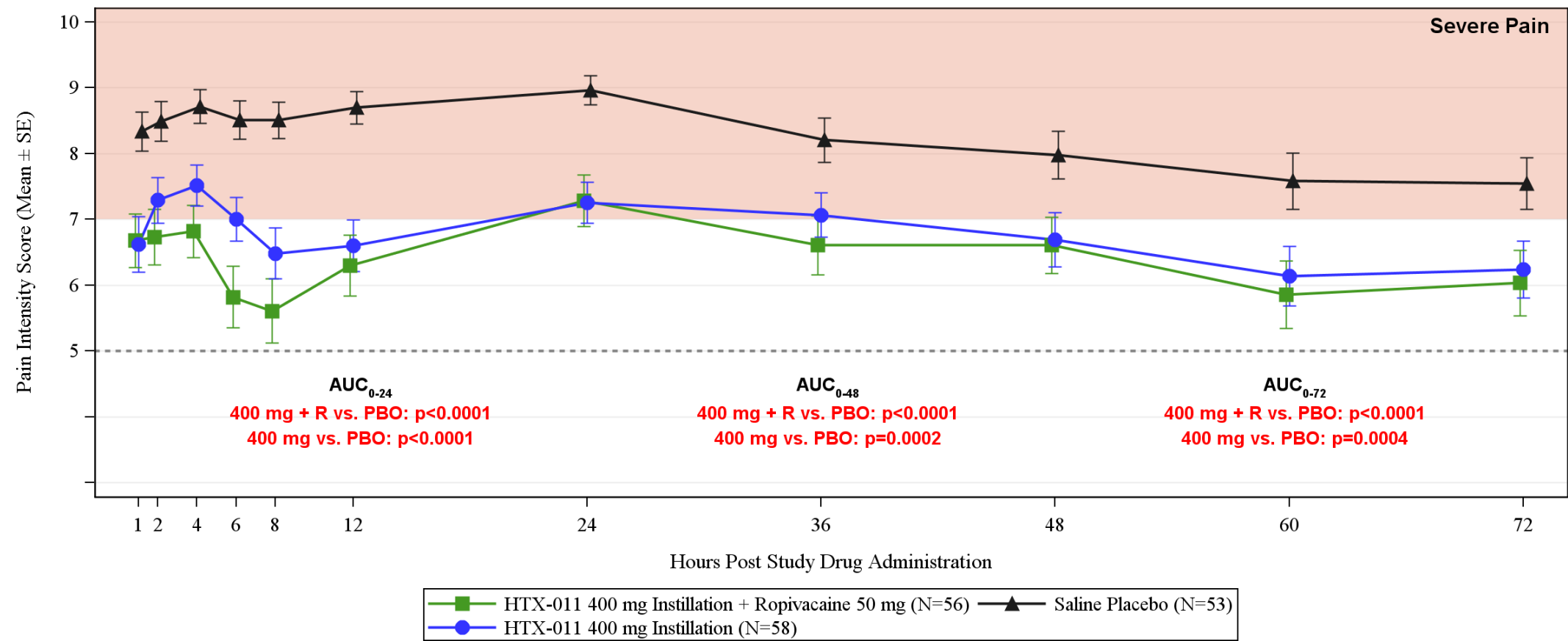
# Study 209 TKA: Results Hierarchy

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





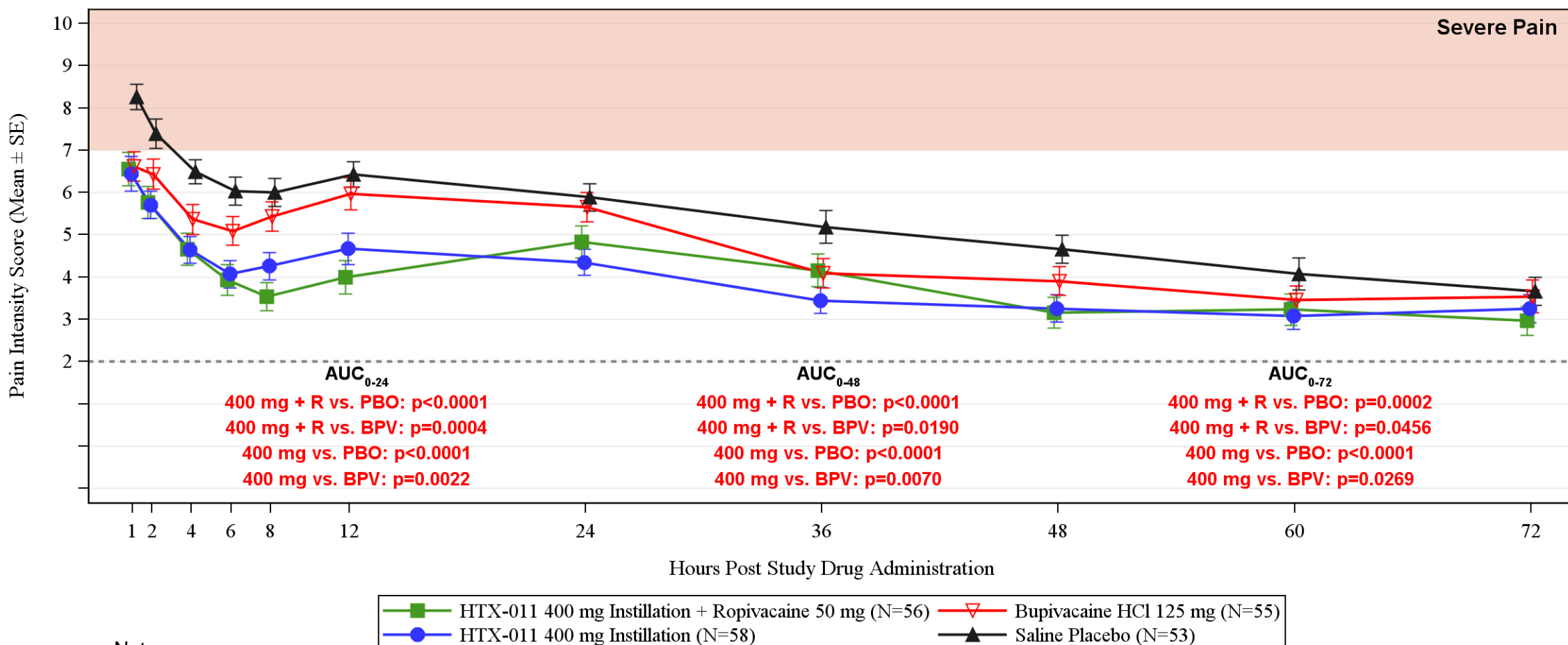
# Study 209 TKA: Significant Separation between HTX-011 Arms and Placebo through 72 Hours (Primary Endpoint)



wWOCF for use of opioid rescue medication and LOCF for missing pain data

HTX-011 is an investigational new drug and not approved by the FDA

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

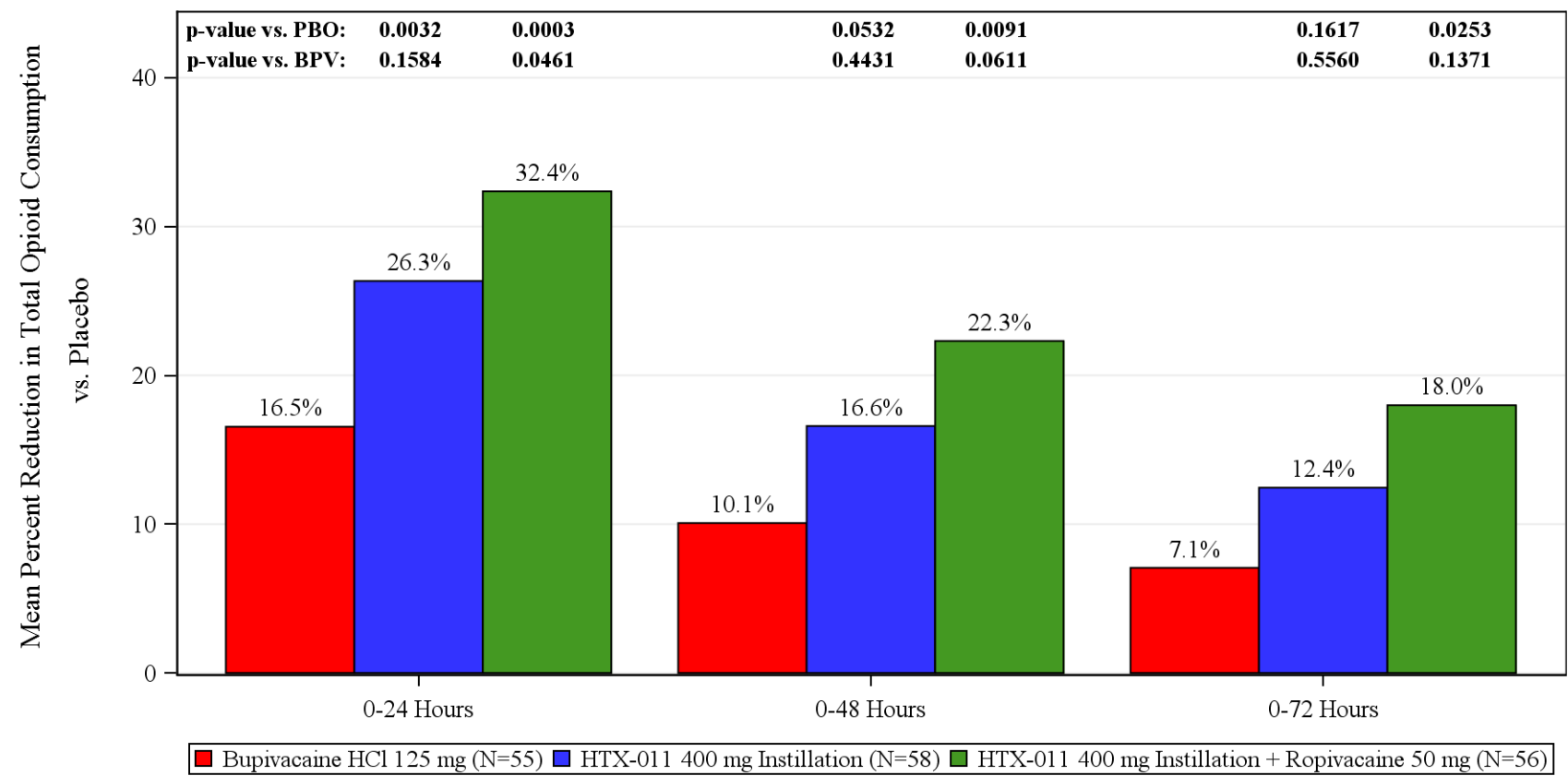


Notes:

Pain intensity collected at rest

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

# Study 209 TKA: HTX-011 Reduces Opioid Use through 72 Hours



Opioid consumption is measured in milligram morphine equivalents (MME).

Source: Figure 14.2.2.2      Percent change based on arithmetic means

# Exparel Pillar Study

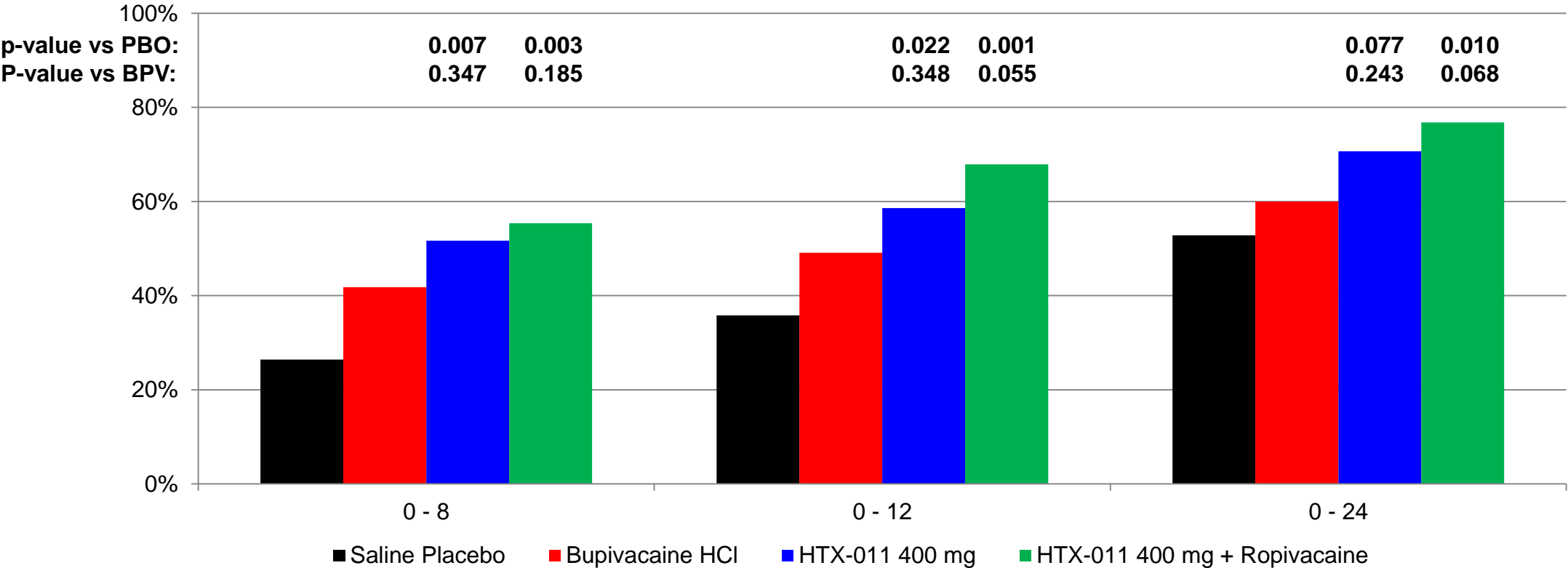
## Use of Geometric Mean Based on Log Transformed Data for Opioid Use Misrepresents the Difference Between Arms Due to Handling of Zero

Total Postsurgical Opioid Consumption (MME) 0-24 Hours Postsurgery <sup>1</sup>	With Liposomal Bupivacaine (N = 70)	Without Liposomal (N = 69)	Percent Decrease
Arithmetic Mean (SD)	45.5 (35.01)	56.8 (38.26)	20%
Geometric Mean	3.5	38.5	91%

The Value Imputed for Zero Has a Big Impact on Geometric Mean and Predominately Impacts Active Arm

Imputation for Zero	Exparel Geometric Mean Opioid Consumption	
	0 – 24 hrs <sup>1</sup>	12 – 48 hrs <sup>2</sup>
0.00001	3.5	18.7
0.00010	5.2	23.5
0.00100	7.7	29.6
0.01000	11.4	37.3
0.10000	17.0	47.0
1.00000	25.2	59.1

# Study 209 TKA: Significant Increase Compared to Placebo in Patients Achieving “Discharge Ready” MPADDS Criteria\* with HTX-011



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

Source: Table 14.2.13.2

# 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
- No deaths on HTX-011 (one on bupivacaine)



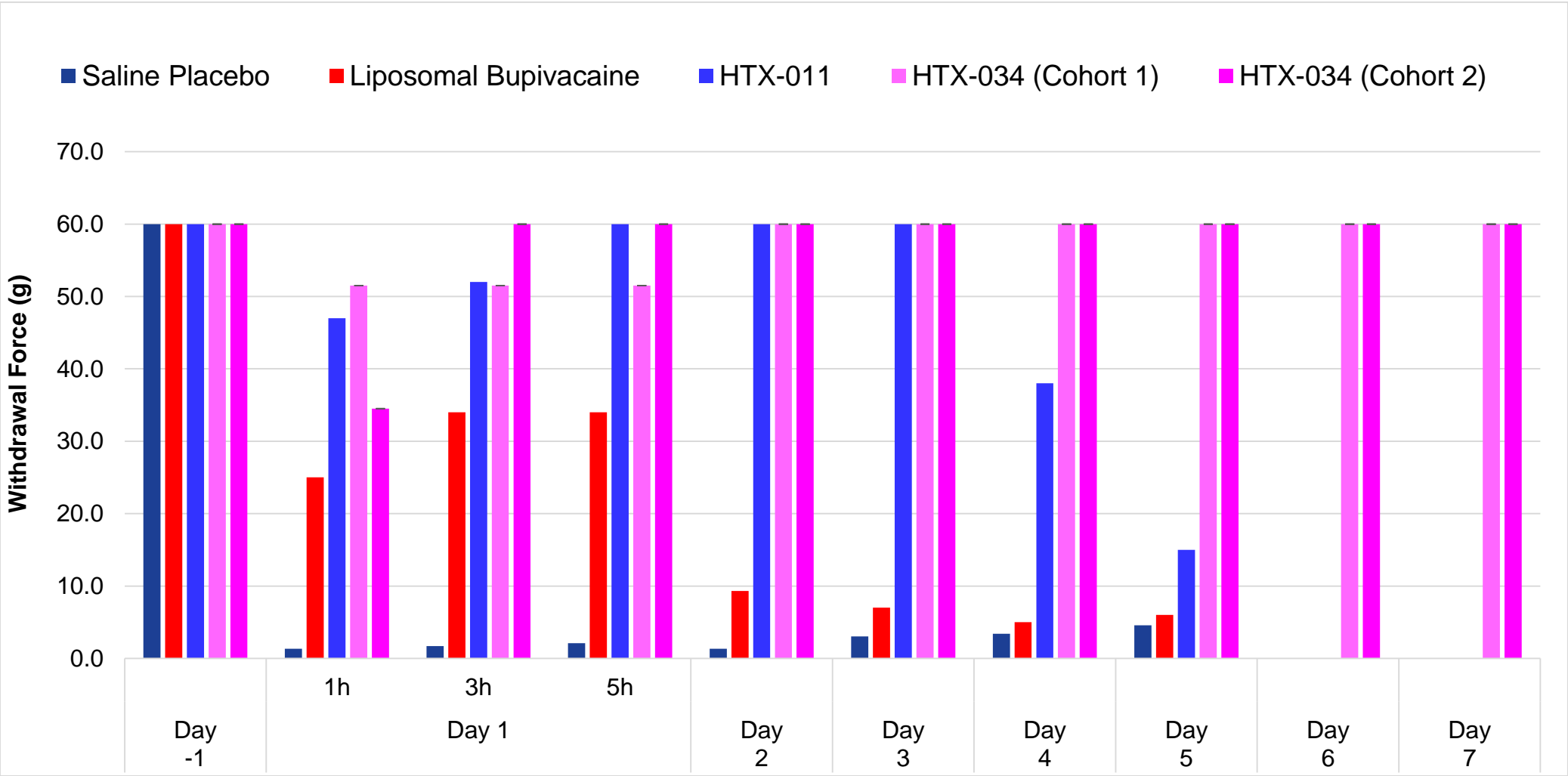
# HTX-034 Development

---

Next Generation Product  
for Postoperative Pain



# HTX-034 Produces Complete Elimination of Pain Through 7 Days in Pig Postoperative Pain Model



This validated pig model of postoperative pain has been predictive of clinical observations with HTX-011, HTX-002 and HTX-009

# The Commercialization of HTX-011

Advancing Pain Management



HTX-011 is an investigational new drug and not approved by the FDA

*Confidential*

# Established Platform With Experienced Teams in Place

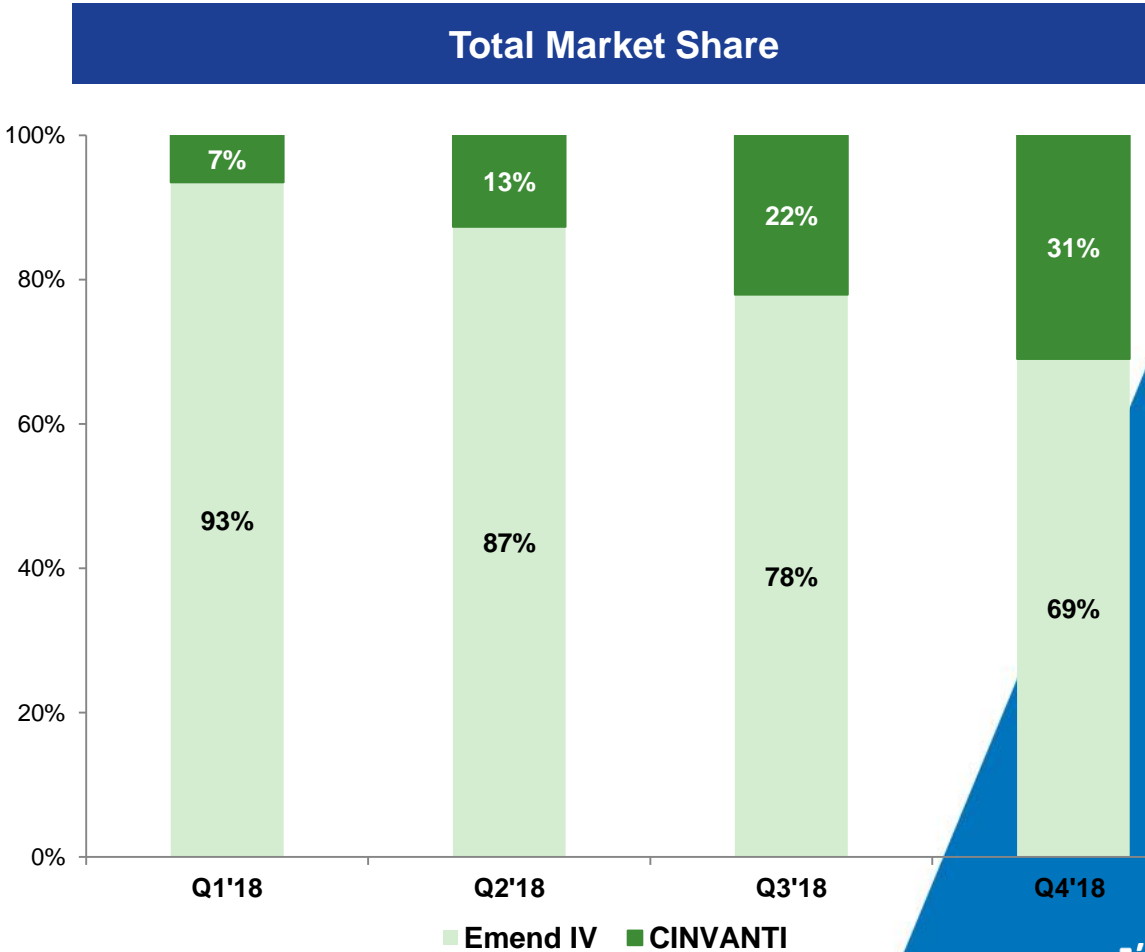
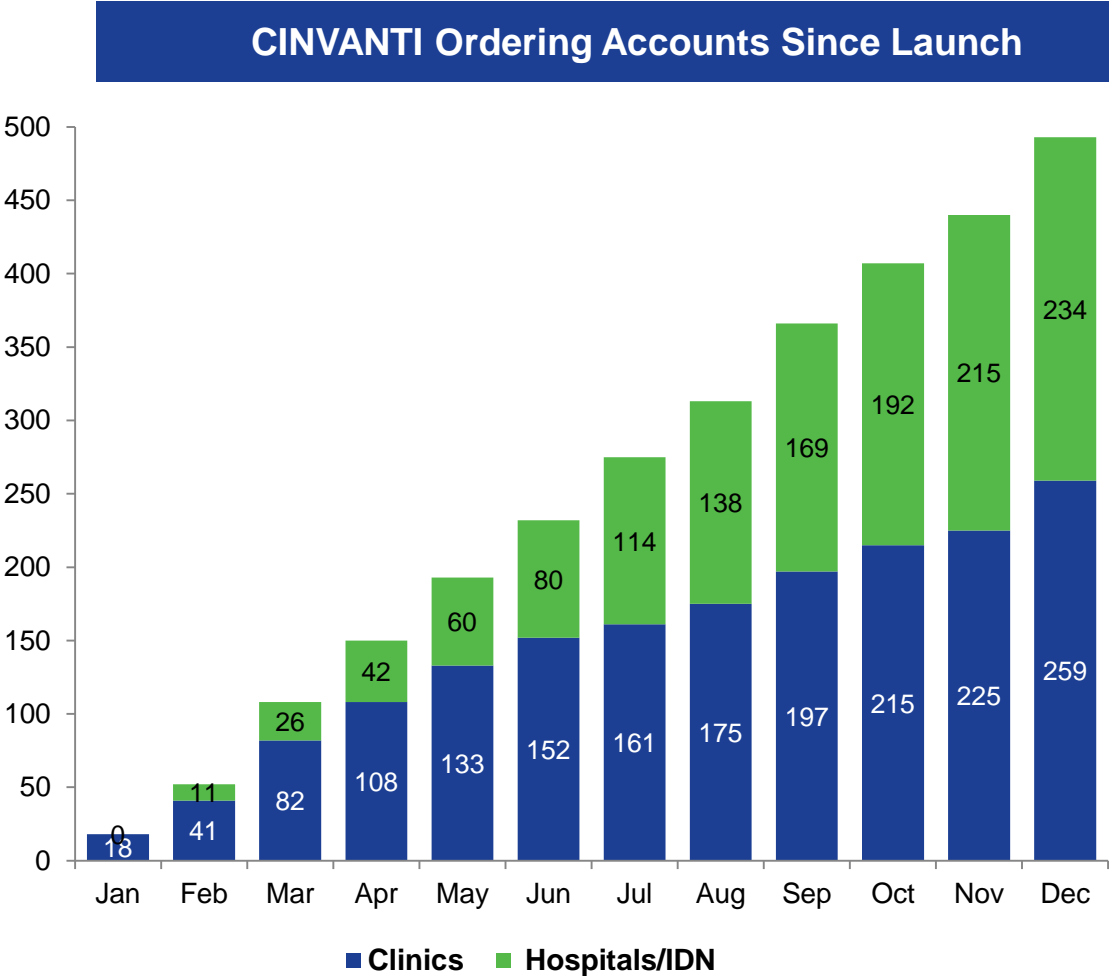
*We are prepared for the launch of HTX-011. Our critical teams are already in place, with extensive experience in successful hospital launches.*



## EXISTING PLATFORM ADVANTAGES

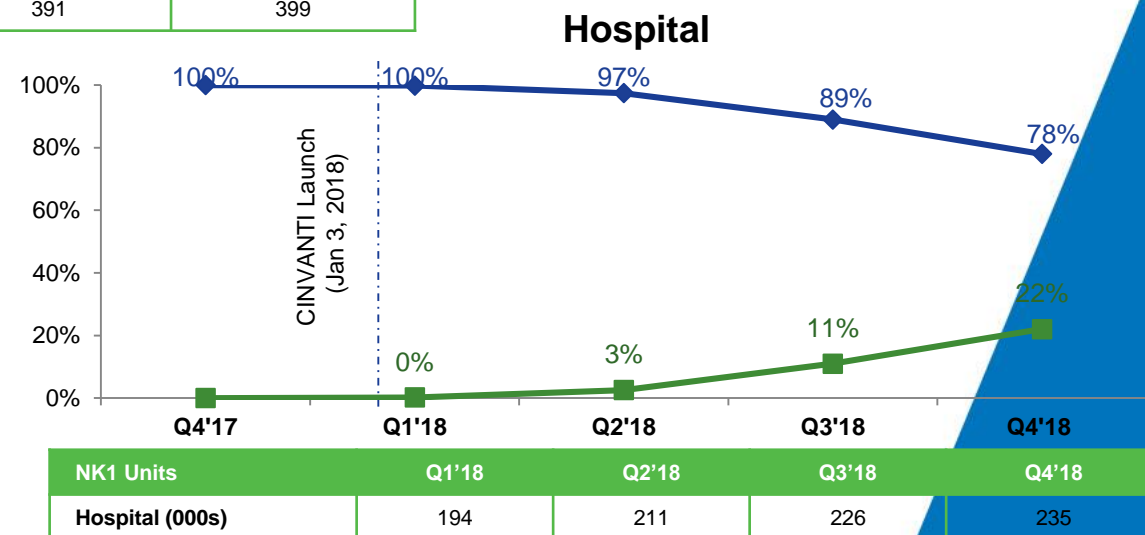
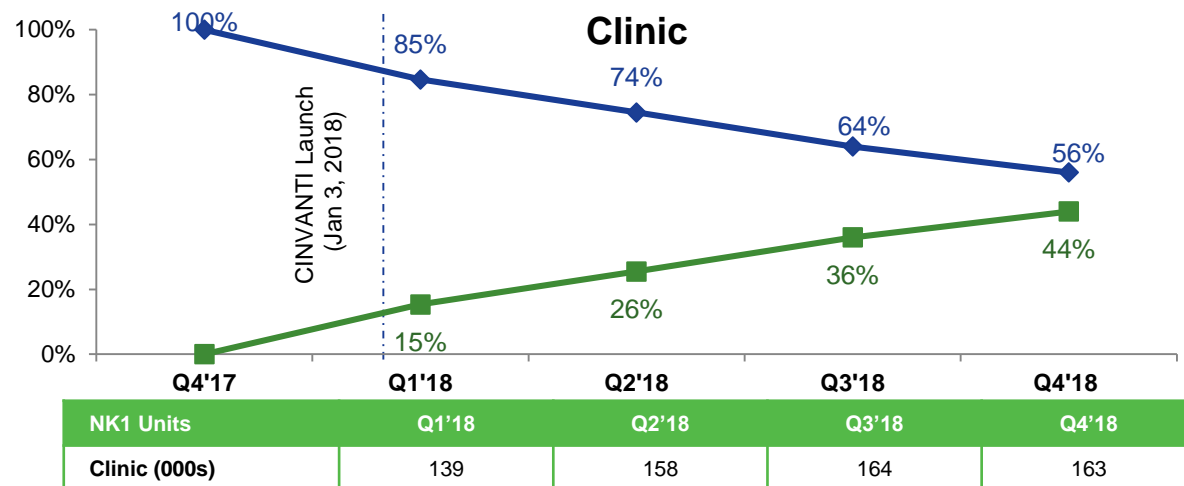
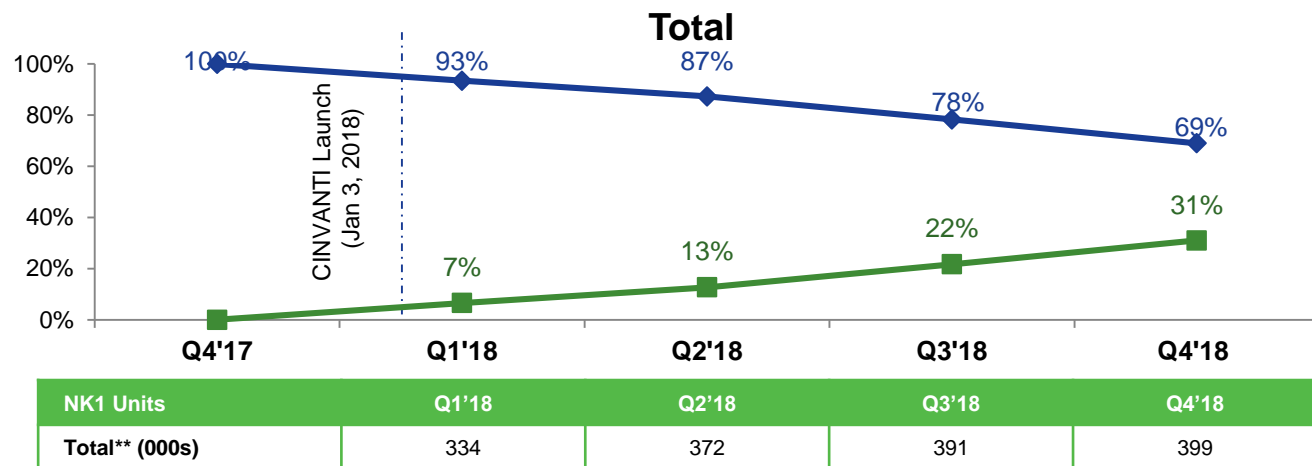
- ✓ Strong KOL relationships
- ✓ Successful hospital and pain management launch experience
- ✓ IND/hospital/ASC expertise and relationships
- ✓ Reimbursement infrastructure in place
- ✓ GPO contracts in place\*
- ✓ Full Line Wholesaler agreements and 3PL in place\*
- ✓ Safety monitoring structure in place
- ✓ Proven compliant execution
- ✓ Robust systems in place and pressure tested for blockbuster launch

# Commercial teams achieved rapid adoption of CINVANTI and captured one-third of the market in the first 12 months of launch



# Commercial teams demonstrated the ability to execute across both clinic and hospital

EMEND IV  
CINVANTI



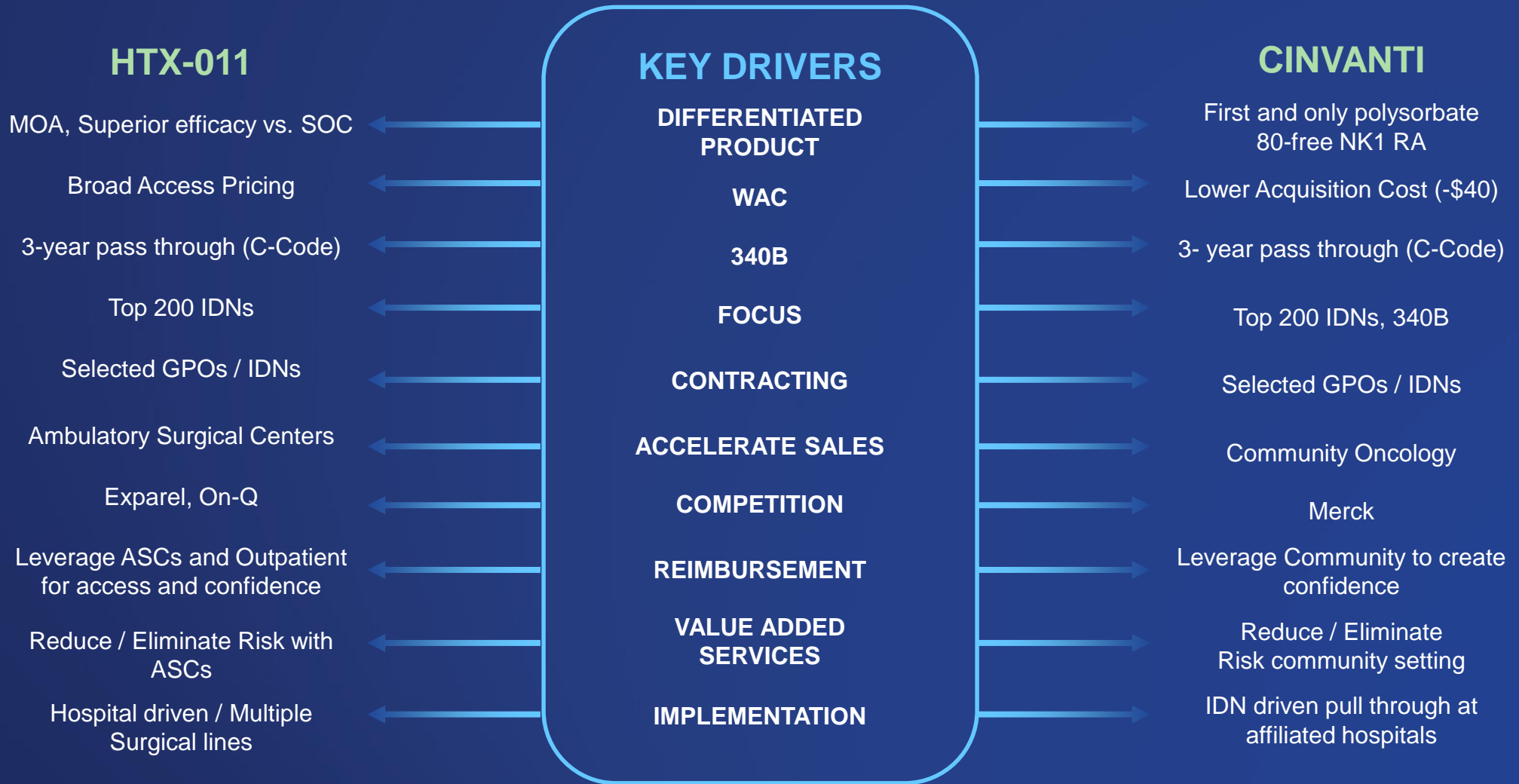
Source(s): Heron 867 data. Heron DDD 5HT3, NK1 Data

52 Share calculation Q1'18 – Q4'18 = Cinvanti Q Units/Cinvanti + Emend IV Q Units.

\*\* Total includes units classified as "Other" Class of Trade in data



# Key CINVANTI Learnings to Support HTX-011 Launch



# The Market is Large and Waiting for an Effective Non-opioid Solution

## Theoretical and Target Market

**~29M Annual US Surgical Procedures Requiring Postoperative Pain Management**

**~13.5M procedures**

### Initial Targets

Higher volume procedures across 4 major specialties

- ~5.9M Orthopedic
- ~4.2M General Surgery
- ~2.6M OB/GYN
- ~0.8M Plastic Surgery

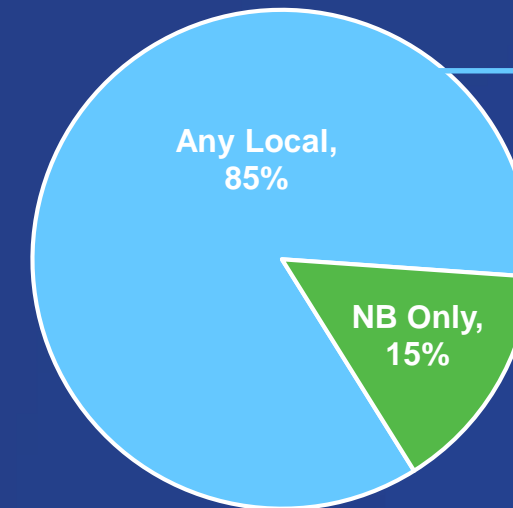
**~15.5M procedures**

### Secondary Targets

Other procedures requiring postoperative pain management but not amongst initial targets for one or more of these reasons:

- Non-core specialties
- Relatively lower pain scores
- Lower volume per procedure

**Local Anesthetic Route of Delivery \***



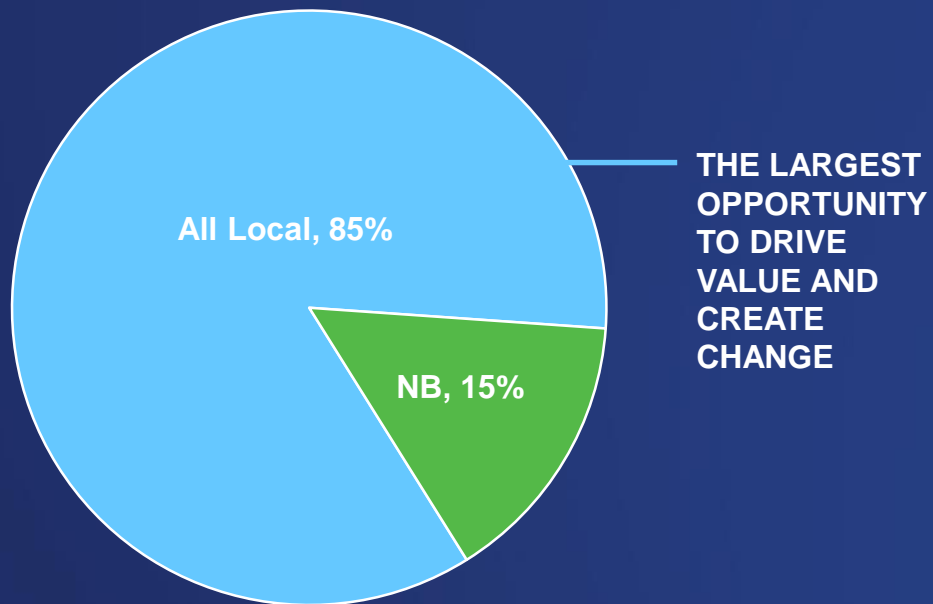
**THE LARGEST OPPORTUNITY TO DRIVE VALUE AND CREATE CHANGE**

NB: Nerve Block

\* Local Anesthetics are used in ~70% of procedures

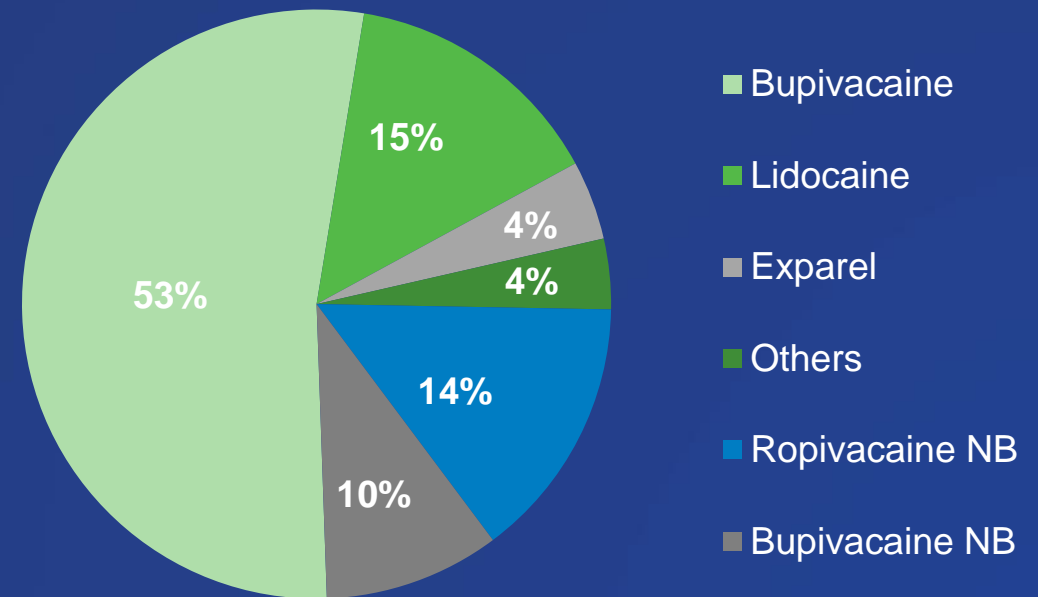
# HTX-011 is focused on the largest market opportunity

Local Anesthetic Route of Delivery



NB: Nerve Block

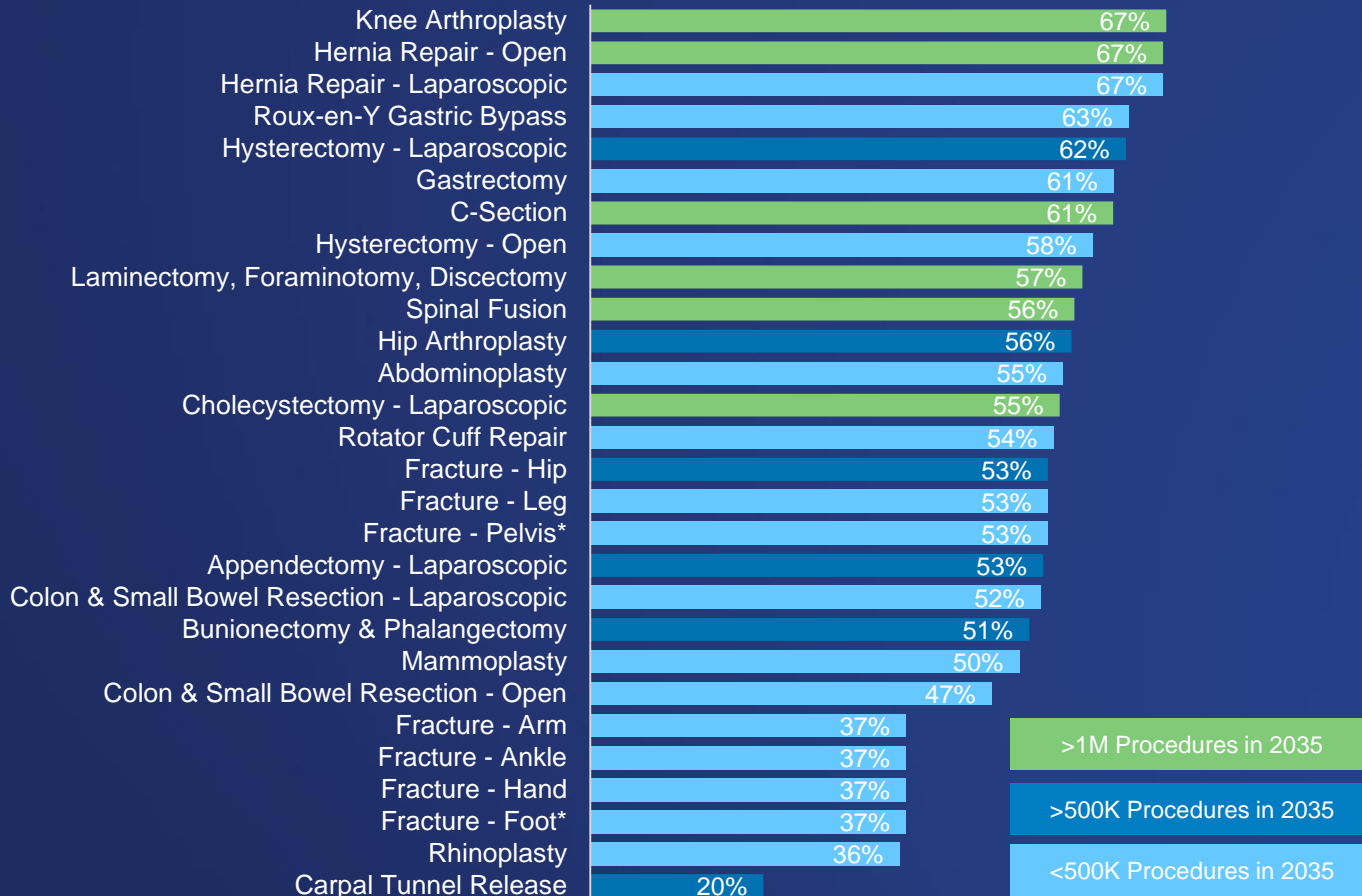
Local Anesthetic Volume Share



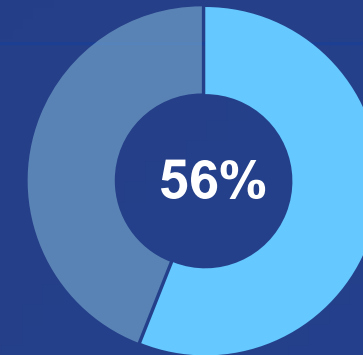
N = 22M Procedures

# Physicians indicated a raw preference share of 56% for HTX-011 across the covered procedures

Preference Share (% , Raw)



Overall Wt. Average Preference Share

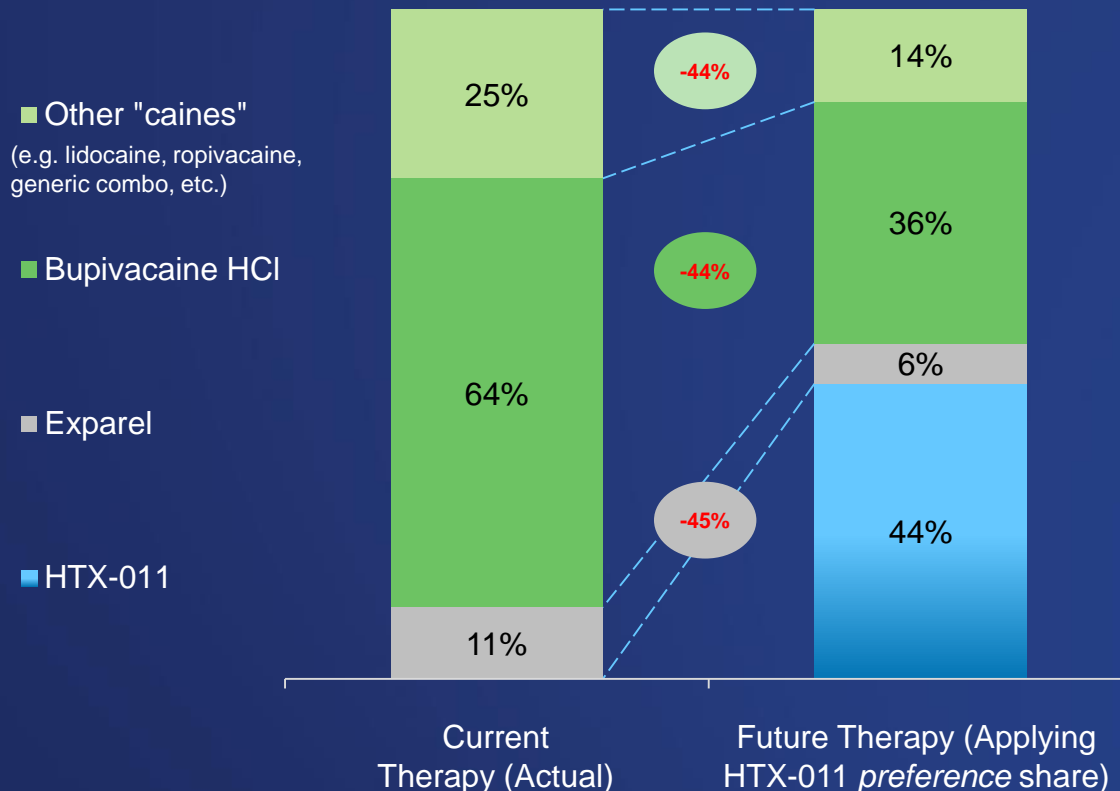


- Raw preference share for HTX-011 from physicians: 56%
- The top procedures where physicians expected to use HTX-011 were knee arthroplasty and hernia repair
- Several procedures saw higher raw preference shares than prior market research, notably knee & hip arthroplasty, C-section, laparoscopic hysterectomy and spine procedures

Reference: DRG Postoperative Pain Quantitative Research (Nov 2018) - n = 290 physicians; \*Less than 100K procedures at peak

# HTX-011 Enjoyed a Physician Preference Share of 44%

Adjusted Physician Preference Share Distribution



- HTX-011 is likely to initially convert share from Exparel, as well as the rest of the local anesthetics (bupivacaine & other "caines")
- There is an additional opportunity to convert physicians not using local anesthetics; physicians indicated a willingness to use HTX-011 in ~30% of procedures where they are currently not using local anesthetics

Current therapy based on Claims data from 2017 for Exparel, other agents are based on 2018 Physician Survey

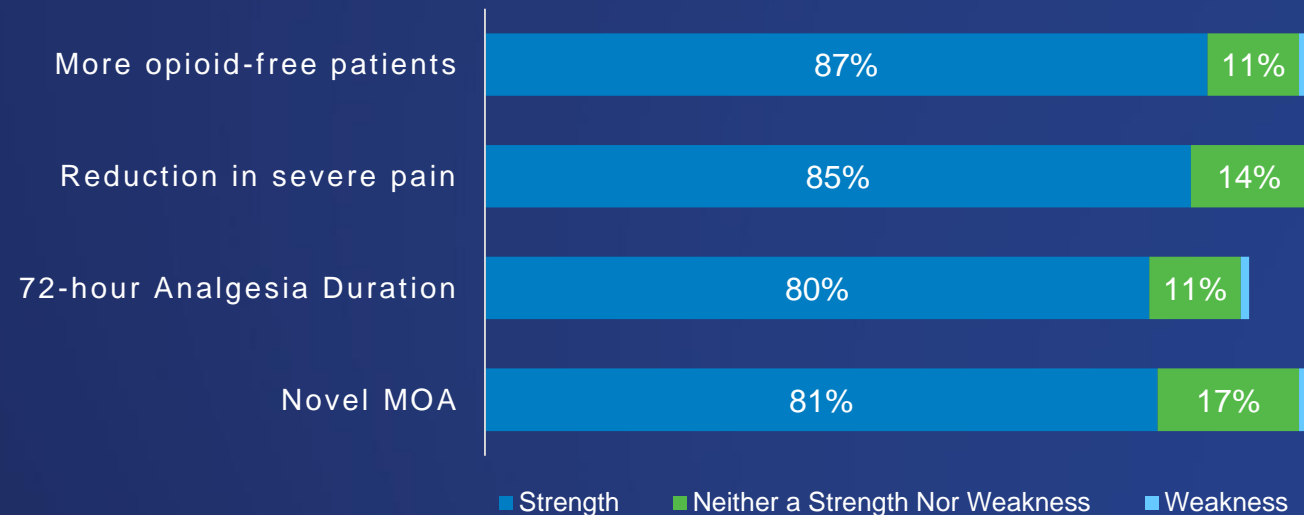
Data from analysis of physician static survey & conjoint - Sample includes n = 330 physicians

# Customers Value HTX-011's Superior Product Profile

# 71%

71% of physicians would advocate for HTX-011 to be on formulary

- **Highly favorable feedback** from both physicians and pharmacy directors, driven by key differentiators versus bupivacaine, including a novel MOA supported by superior pain reduction, opioid reduction, and opioid-free endpoints



# 60%

Aggregated preference share across specialties and key surgeries was 60%

- **High preference shares across initial target procedures**
- Based on phase 3 and 2b procedures (bunion, hernia, TKA), **64% would use in all procedures they deemed appropriate**
- **95% preferred bupivacaine (versus placebo) as the Phase 3 comparator**

# 68%

68% of Pharmacy Directors found HTX-011's profile more valuable than Exparel and 88% would grant access at an equivalent price

Reference: DRG Postoperative Pain Quantitative Research (Nov 2018) - n = 290 physicians;



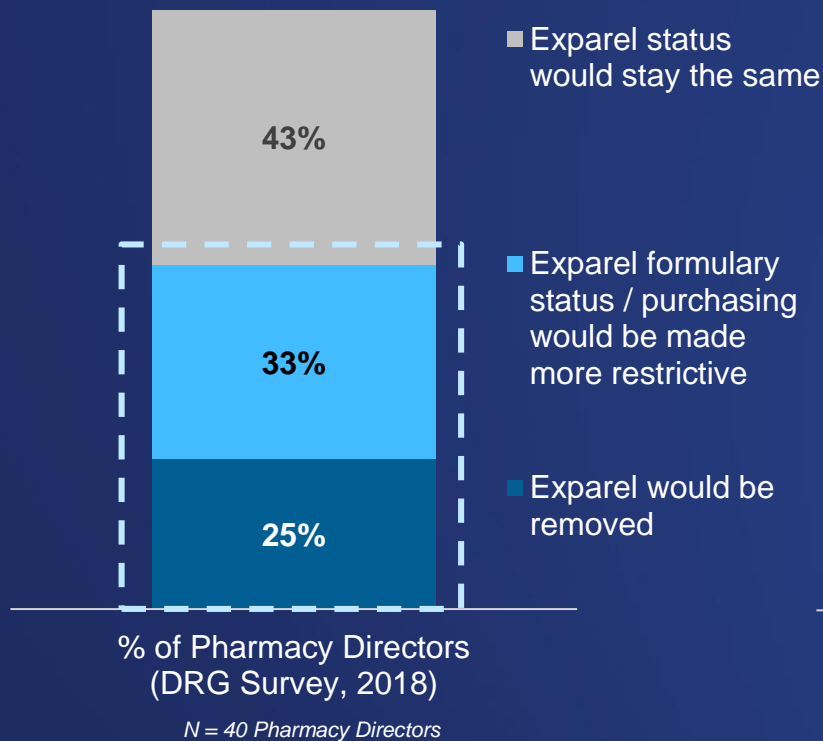
# Being Second to Market is NOT a Significant Obstacle to Commercial Success

**Exparel® is a small obstacle to HTX-011 uptake as its penetration is less than 6%**

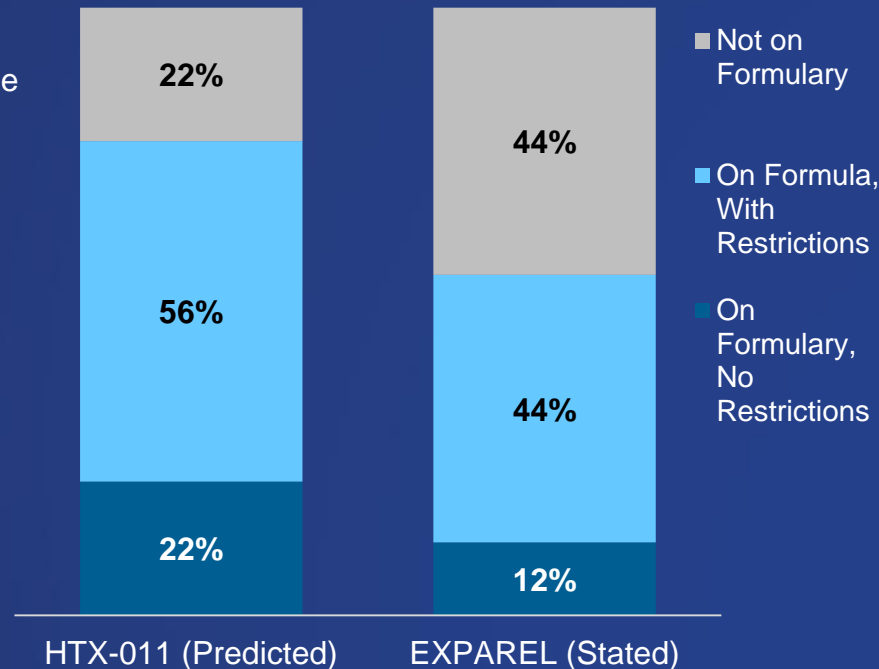
- Across product attributes, surgeons and pharmacy directors surveyed consistently prefer HTX-011 over Exparel for the following reasons:
  - Significant reduction in severe pain resulting in significant increase in opioid-free patients
  - Superior efficacy profile of HTX-011 through 72 hours, with significant benefit over bupivacaine HCl
  - Unique mechanism of action
  - 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 provide better access to HTX-011 than to Exparel

# Pharmacy Directors Prefer HTX-011 to Exparel®

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



## Formulary Status of Exparel vs. Expected HTX-011 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

Reference: DRG Pharmacy Director Survey (2018): Q27. What would happen to EXPAREL if Product X was approved on formulary at your institution?

# HTX-011 has Strategic Advantages Across Each Setting of Care

Clearly differentiated strategy supported by building advocacy with pharmacy, surgeons, and anesthesiologists

**13.5  
MILLION**  
INITIAL TARGET  
PROCEDURES

Hospitals account for 91%, including  
top 200 IDNs (12.3M procedures)

**52%**  
Hospital  
Inpatient  
(7M procedures)

- Part of DRG payment
- 3 SKUs/lower average cost
- ~50% connected 340B hospitals

**39%**  
Hospital  
Outpatient  
(5.3M procedures)

- 3-year pass through (C-Code)
- 340B opportunity
- High value IDN and procedure focus

Ambulatory surgical centers  
account for 8% (1.1M procedures)

**8%**  
Ambulatory Surgical  
Centers (ASCs)  
(1.1M procedures)

- ASP +6%
- Lower access barriers
- Targeted facilities
- Connected to top IDNs
- Targeted high value procedures

47% of the opportunity lends itself to  
favorable reimbursement and access

*The remaining 1% of procedures are performed at private physician practices*

# 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
- Discount does not impact ASP or best price calculations
- 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**


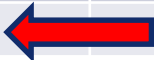
## 340B Drug Reimbursement

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

# Comparative Reimbursement (Derived From 2/20/2019 Leerink Report)

	Hospital Inpatient	Hospital Outpatient	Hospital Inpatient 340B	Hospital Outpatient 340B	Ambulatory Surgical Centers (ASCs)
Procedures (millions)	3.5	2.65	3.5	2.65	1.1
Procedures Mix	26.1%	19.8%	26.1%	19.8%	8.2%
Financial advantage?	Heron Advantage	Heron Advantage	Heron Advantaged Due to Outpatient NCR	Large Heron Advantage	Same

## HTX-011

Cost (assumes 10% discount & 23.1% to 340B Outpatient)	90%	90%	90%	76.9%	90%
Reimbursement	0	106%	0	106%	106%
	Part of DRG payment	C-Code for first 3 years allows for ASP+6%	Part of DRG payment	C-Code for first 3 years allows for ASP+6% reimbursement	ASP+6% reimbursement indefinitely
Profit Margin	-100.0% 	17.8%	-100% 	37.8%	17.8%

## Exparel

Cost (assumes standard 10% discount)	90%	90%	90%	--	90%
Reimbursement	0	0	0	0	106
Profit Margin	-100.0%	-100.0%	-100%	-100%	17.8%

# High-Value Procedures in Initial Target Market

	Procedure	Annual Volume (‘000s, US, 2015)						Overall % Local Anesthetic Use
		<b>Total Procedures</b>	<i>Inpatient</i>	<i>Outpatient (C-code)</i>	<i>ASC (C-Code)</i>	<i>Medicare</i>	<i>Non- Medicare</i>	<i>Survey</i>
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%

\*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

Completed studies



# Heron is Well Positioned to Execute a Blockbuster Launch for HTX-011

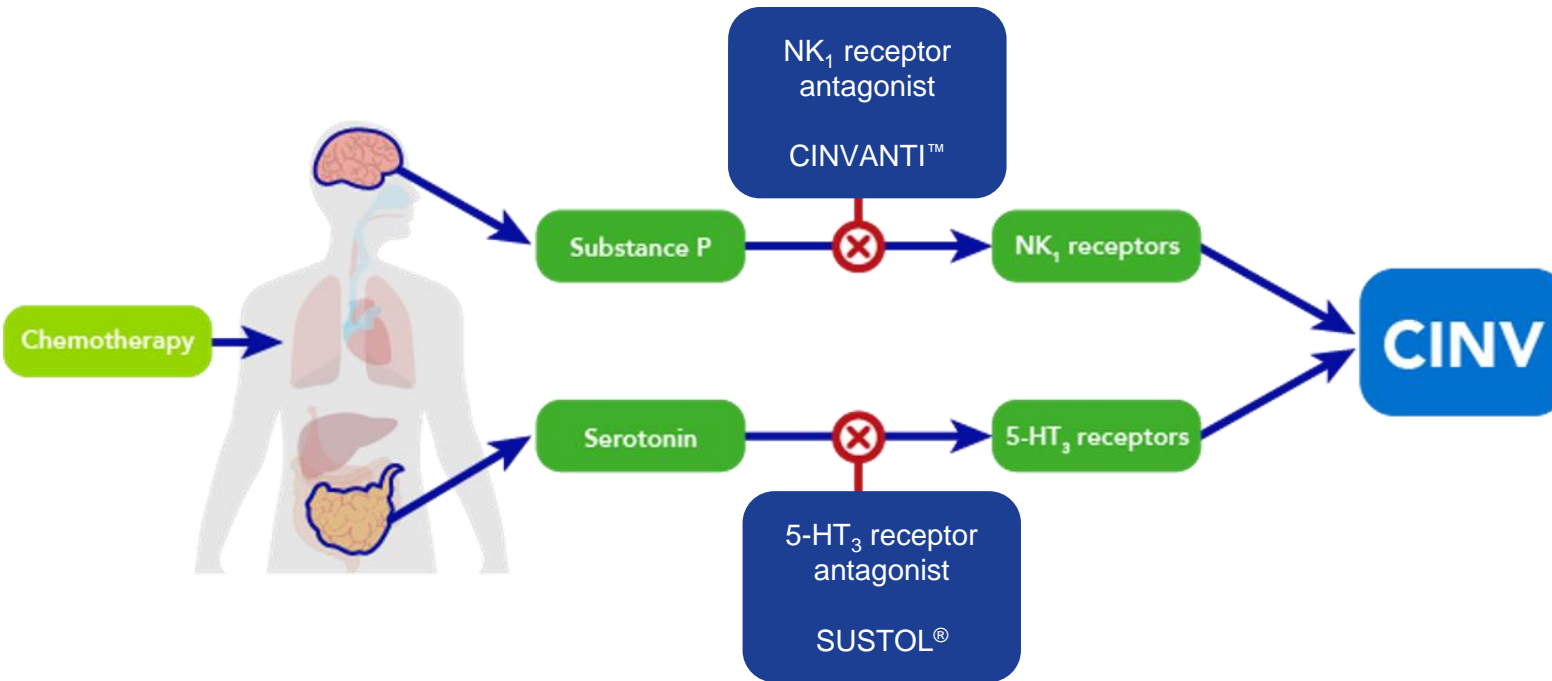
- ✓ Proven track record with hospital launch success
- ✓ Existing robust platform and structure to support launch
- ✓ Significant unmet need and market opportunity
- ✓ Highly focused launch strategy to accelerate sales
- ✓ Unprecedented value proposition

HTX-011 is an investigational new drug and not approved by the FDA

# CINV Commercial Products



# CINV Prophylaxis Typically Requires Two Complimentary Mechanisms of Action



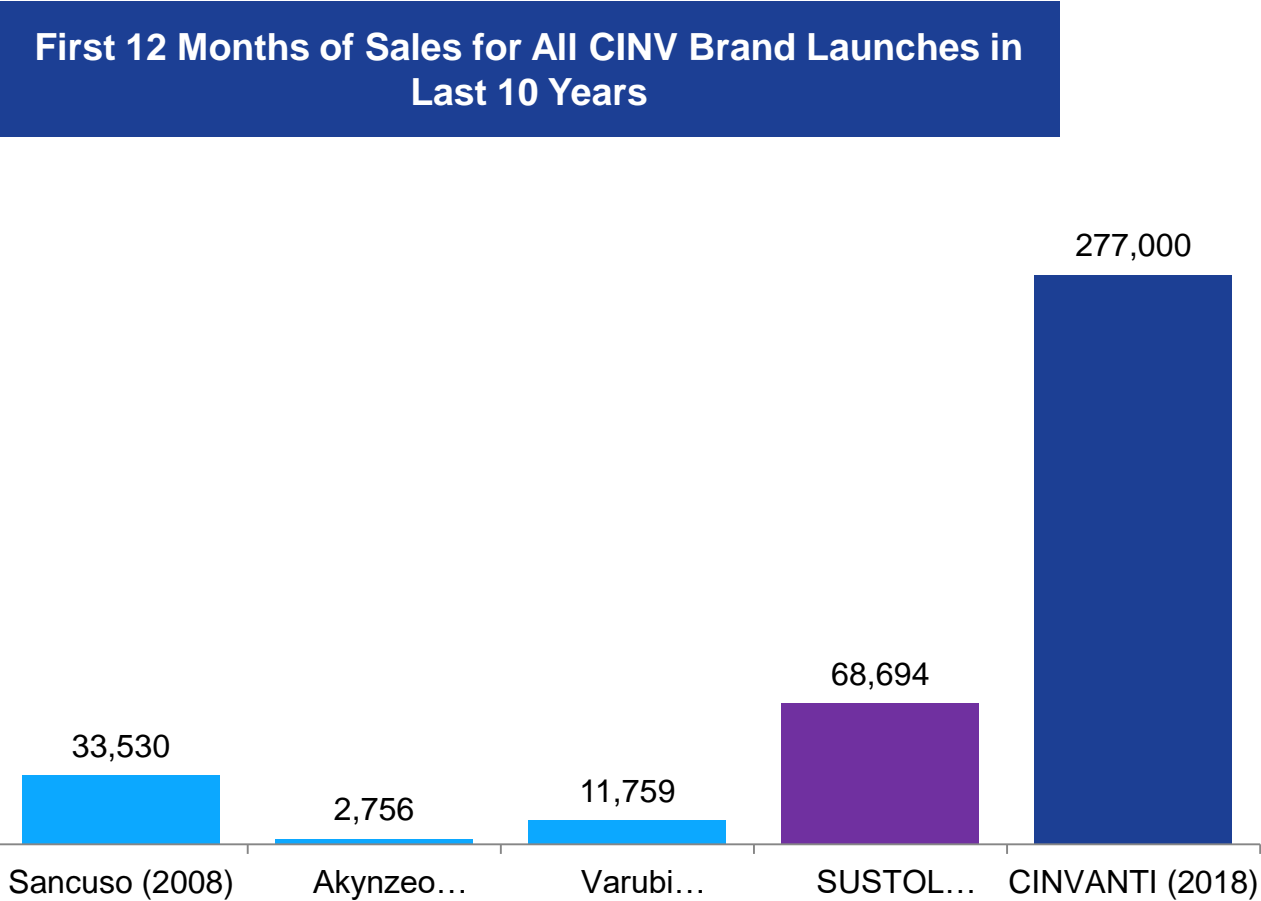
## NK<sub>1</sub> receptor antagonists

- 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

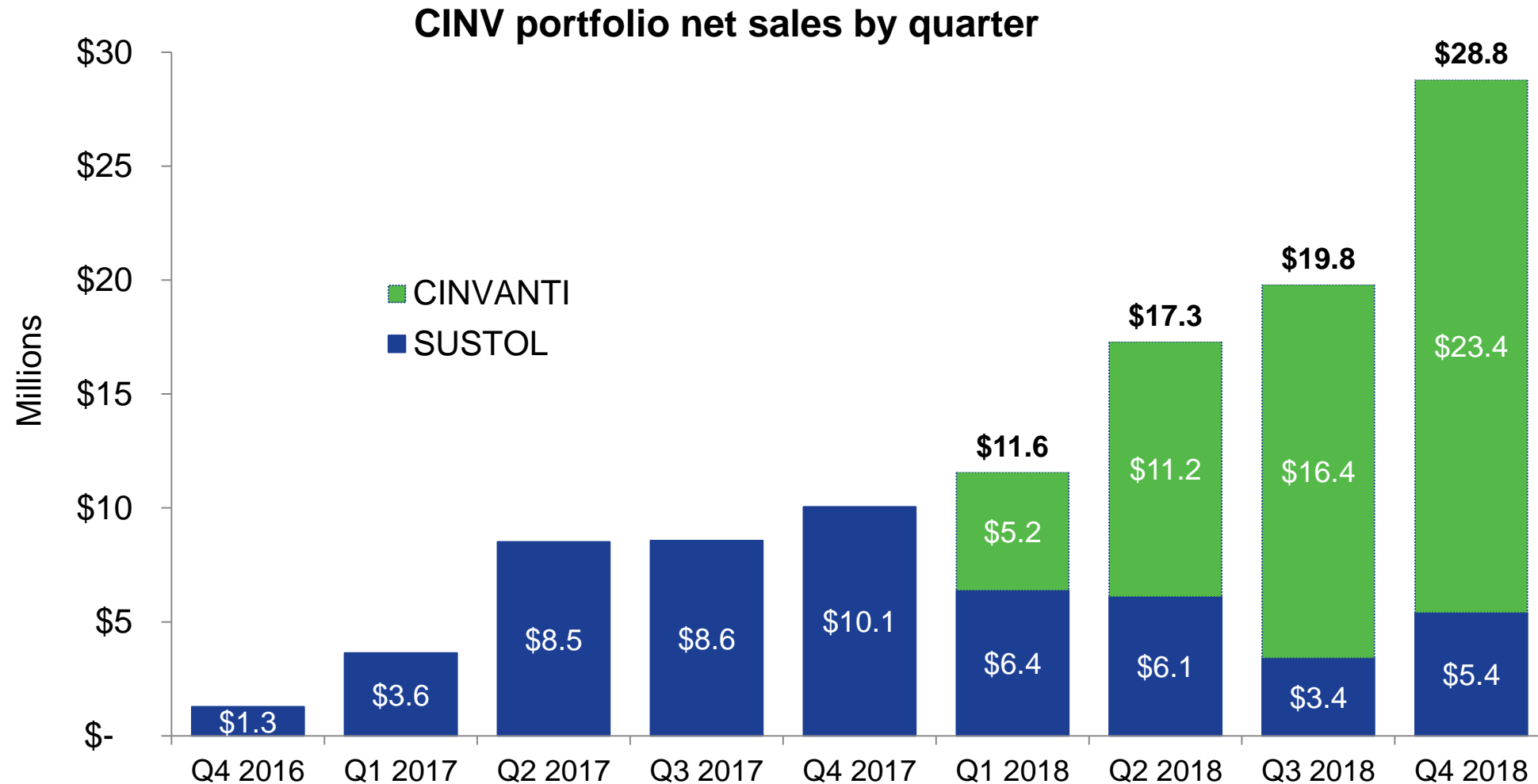
- These are the backbone of CINV prophylaxis
- Excessive serotonin release is the primary driver for CINV in the acute phase and secondary driver in the delayed phase

# Heron's CINV Portfolio Continues to Outperform All CINV Branded Launches in Past 10 Years



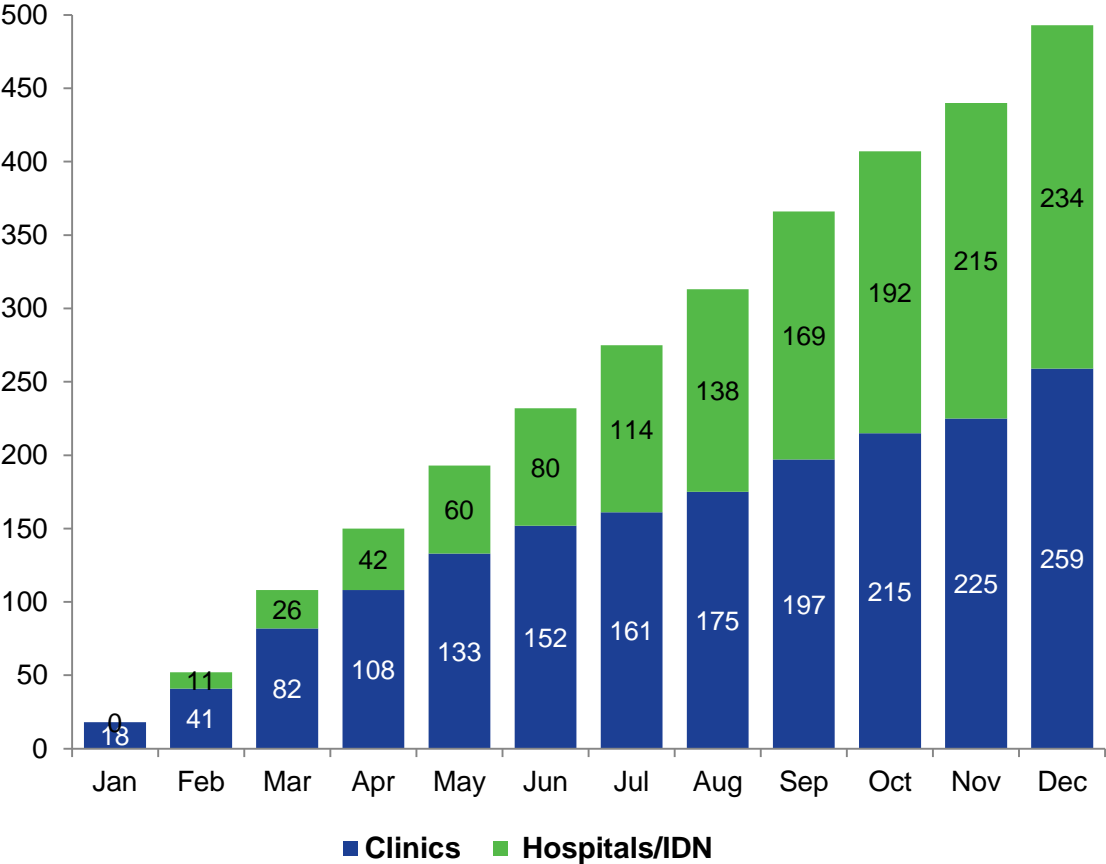
Sources: IMS DDD; Heron actuals (distributor 867 reports); due to data availability, Sancuso data includes actuals for launch months 3-12 and estimates for months 1-2; Varubi includes actuals for months 1-12

# CINV Portfolio Achieved \$77.5M in Net Product Sales in 2018 and Over \$100M Since Inception

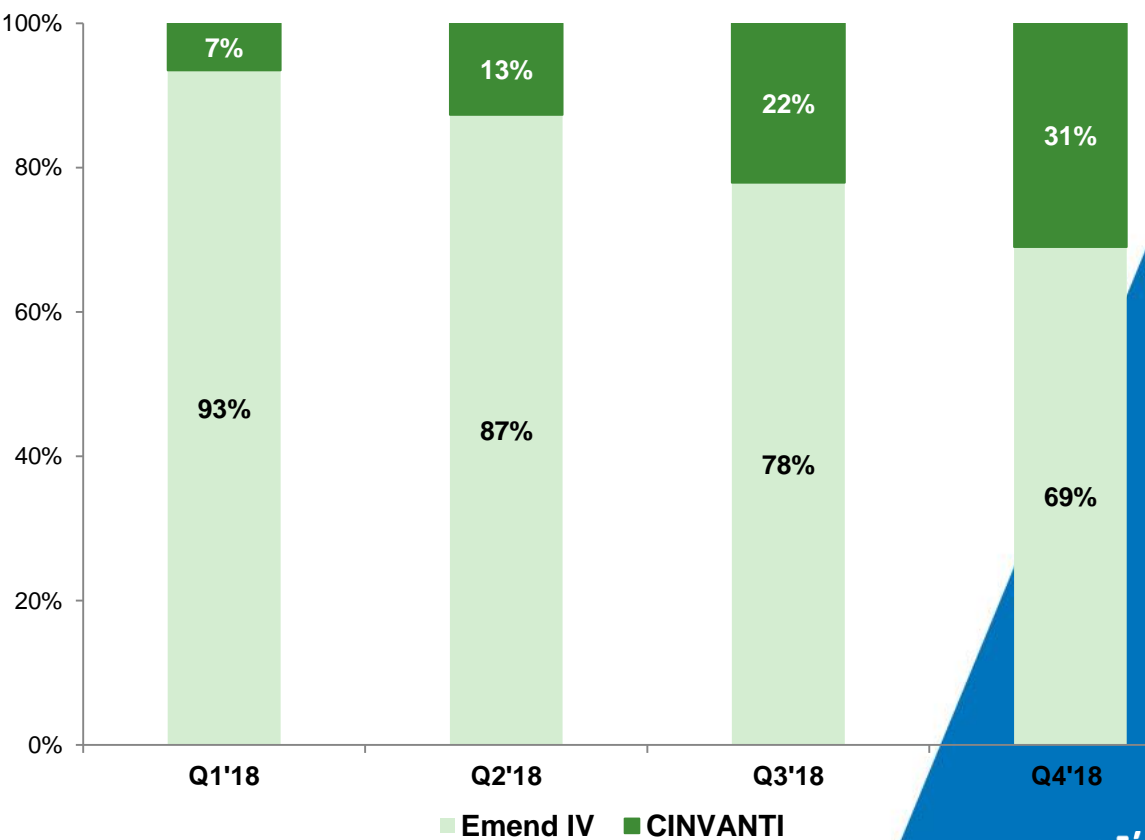


# CINVANTI Accounts and Market Share Continue to Grow

CINVANTI Ordering Accounts Since Launch

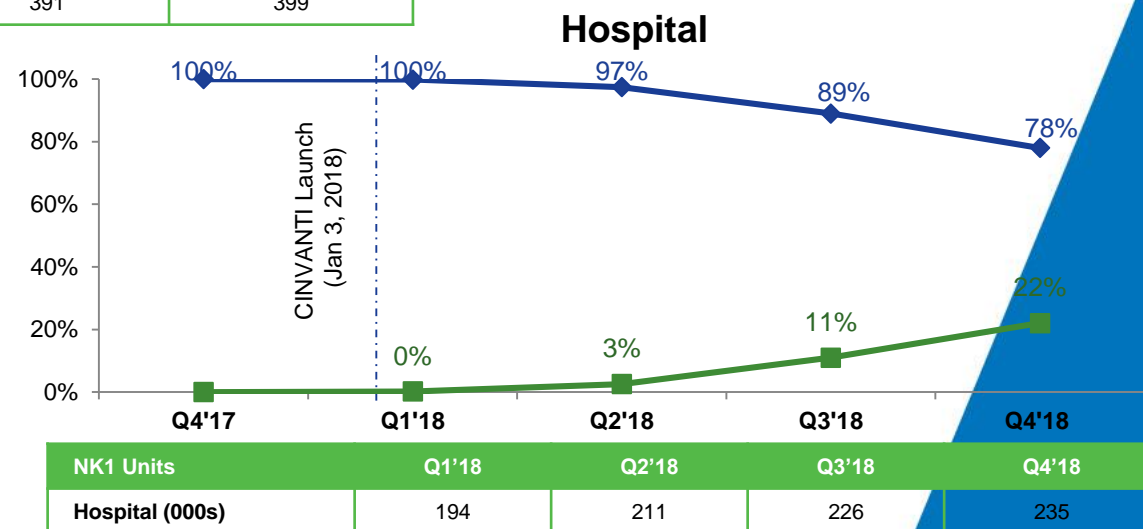
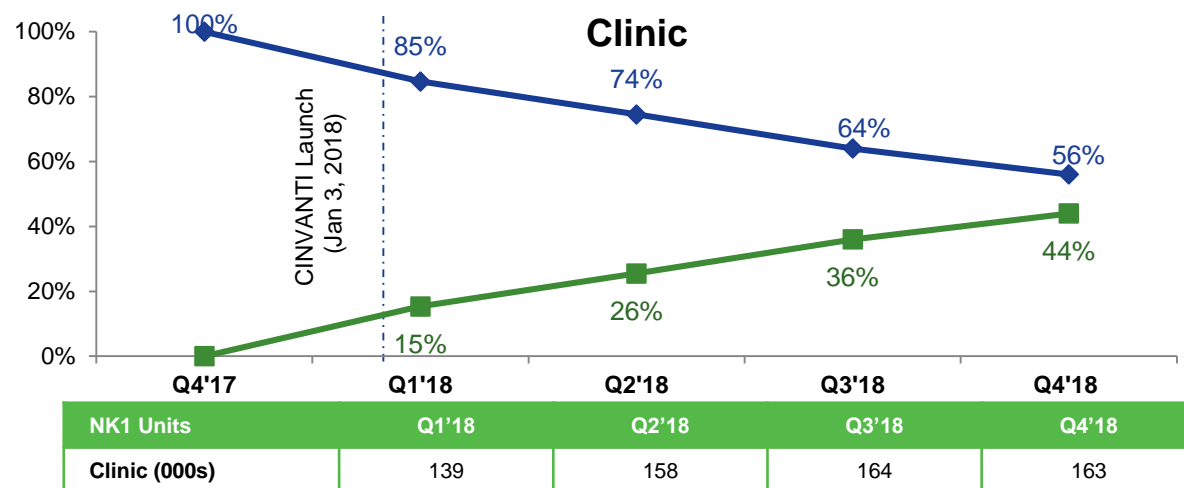
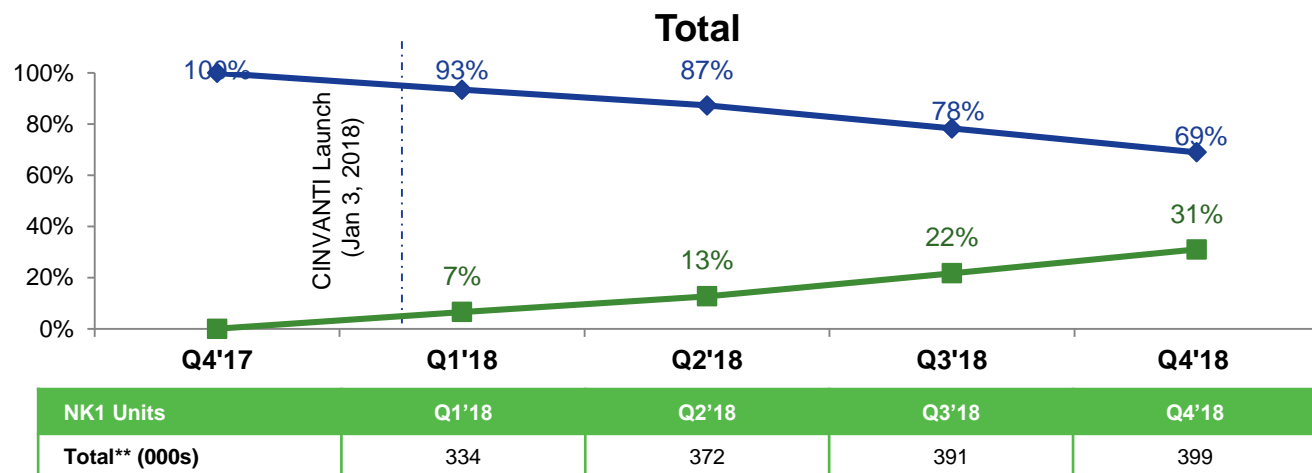


Total Market Share



# CINVANTI Market Share is Climbing Steadily Across All Segments

EMEND IV  
CINVANTI



Source(s): Heron 867 data. Heron DDD 5HT3, NK1 Data

71 Share calculation Q1'18 – Q4'18 = Cinvanti Q Units/Cinvanti + Emend IV Q Units.

\*\* Total includes units classified as "Other" Class of Trade in data

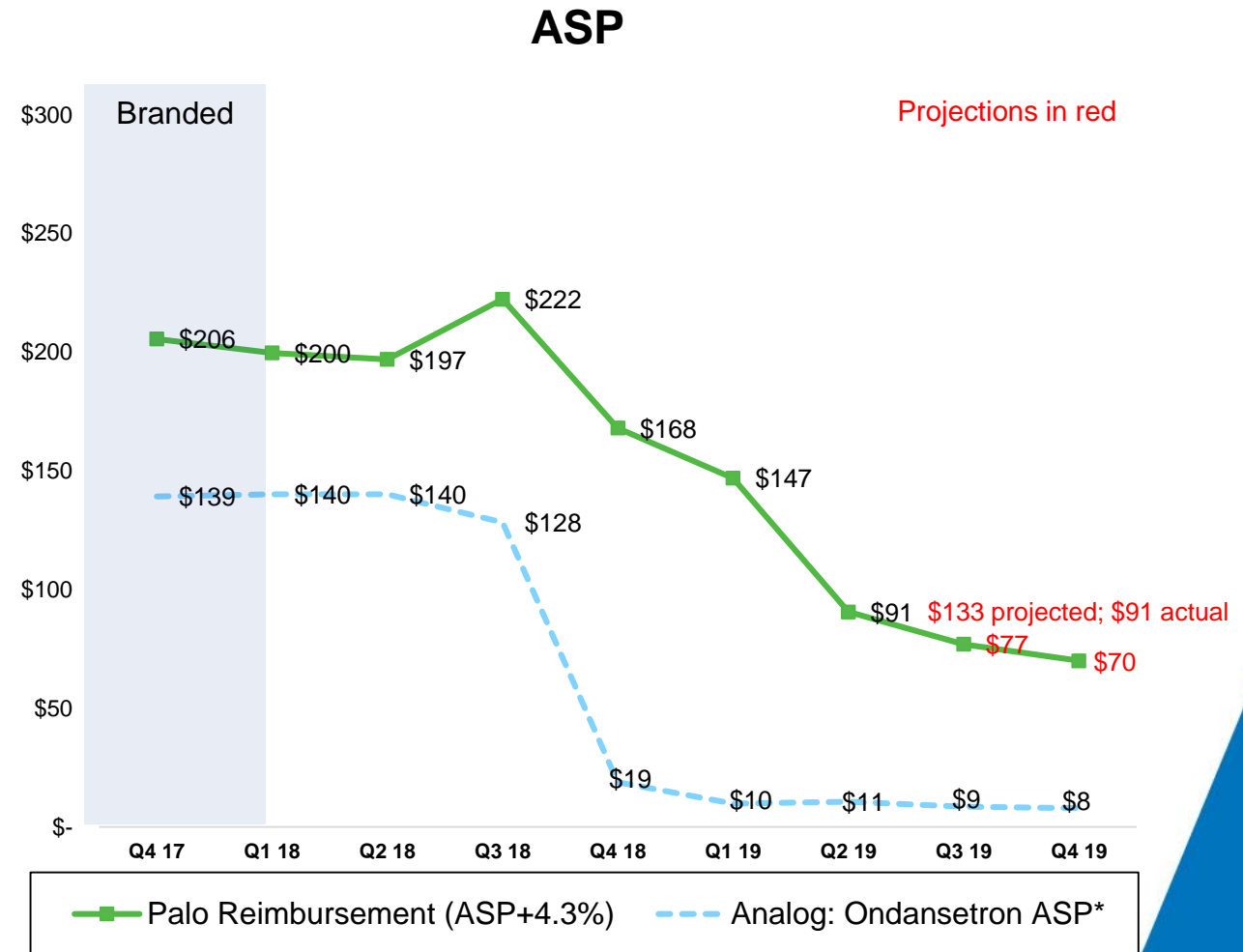


# Strategy to preserve CINVANTI through generic arbitrage

- Leverage favorable 340B pass through status, ASP+ 6% through 2020
- IV push sNDA approved further differentiating CINVANTI from Emend and generics
- Long term contracts extending beyond September of 2019
- CINVANTI has become an established brand across both clinics and hospital capturing 31% of the market in Q4 2018


# ALOXI/Palonosetron Arbitrage is Lasting Much Longer Than the Zofran/Ondansetron Arbitrage

- **Generic manufacturers have evolved and become more disciplined on pricing to maximize revenue**
- Even with multiple generics on the market, the **price of palonosetron has not dropped** as quickly as in the past
- **Slower decline in prices leads to a slower drop in ASP and a longer arbitrage**
- Although the DoJ is investigating the lack of competition between generic manufacturers, **we do not expect substantive changes in the slope of the palonosetron ASP decline**
- **Therefore, the arbitrage will continue to impact SUSTOL sales though most of 2019**



\* Ondansetron launch aligned

# 2019 CINV Franchise Outlook



**SUSTOL®:** While we expect to see sales of SUSTOL slowly improve, the core business will continue to be weak during the protracted palonosetron arbitrage



## CINVANTI®

- We expect to see steady growth in the marketplace through mid-year due to what we believe is the best overall profile compared to the other available NK<sub>1</sub> antagonists
- With recently approved 2-min IV Push sNDA, CINVANTI is now further differentiated from EMEND IV (fosaprepitant)
- CINVANTI (aprepitant) injectable emulsion received unique J-Code J0185 effective January 1, 2019
- Generic fosaprepitant IV is expected in September 2019
  - Due to significant sales in 340b hospitals, IV push label and other factors, we do not expect this arbitrage to have the same magnitude as the Aloxi arbitrage



## CINV Franchise

- **2019 guidance: \$115M - \$120M**

# Financial Summary

Summary Statement of Operations and Net Cash Used in Operations (In thousands, except per share data)	Three Months Ended December 31, 2018	Twelve Months Ended December 31, 2018
Net product sales	\$ 28,844	\$ 77,474
Operating expenses <sup>1</sup>	80,158	261,411
Other income, net	1,755	5,097
Net loss <sup>1</sup>	\$ (49,559)	\$ (178,840)
Net loss per share <sup>2</sup>	\$ (0.63)	\$ (2.44)
Net cash used in operations	\$ (33,487)	\$ (191,805)

Condensed Balance Sheet Data (In thousands)	December 31, 2018
Cash, cash equivalents and short-term investments	\$ 332,371
Accounts receivable, net	\$ 64,652
Total assets	\$ 462,179
Total stockholders' equity	\$ 370,160

Common shares outstanding at December 31, 2018 totaled 78.2 million.

<sup>1</sup> Includes \$9.8 million and \$33.4 million of non-cash, stock-based compensation expense for the three and twelve months ended December 31, 2018, respectively.

<sup>2</sup> Based on 78.1 million and 73.2 million weighted-average common shares outstanding for the three and twelve months ended December 31, 2018, respectively.

# Key Catalysts in Pain Management & CINV Franchises

HTX-011 & HTX-034 for Postoperative Pain	CINVANTI <sup>®</sup> and SUSTOL <sup>®</sup> for CINV
<ul style="list-style-type: none"> <li>✓ FDA accepted NDA <ul style="list-style-type: none"> <li>➤ Priority Review Designation</li> <li>➤ PDUFA date April 30, 2019</li> <li>➤ No Advisory Committee planned</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>✓ sNDA approved adding 2-minute IV Push administration to the CINVANTI label</li> </ul>
<ul style="list-style-type: none"> <li>✓ 90% opioid-free in Phase 2 herniorrhaphy study with HTX-011 plus OTC analgesics</li> <li>✓ 77% opioid-free in Phase 2 bunionectomy study with HTX-011 plus OTC analgesics</li> </ul>	<ul style="list-style-type: none"> <li>• 2019 net sales guidance for CINV franchise: \$115M - \$120M</li> </ul>
<ul style="list-style-type: none"> <li>• Publication of Phase 3 and Phase 2b studies <ul style="list-style-type: none"> <li>➤ 10 publications in process</li> </ul> </li> </ul>	
<ul style="list-style-type: none"> <li>• Anticipated launch in 3Q2019 (if approved)</li> </ul>	
<ul style="list-style-type: none"> <li>• Phase 2 with HTX-034 in 2H2019</li> </ul>	

