2026
WORK RELATED
Injuries Workshop

We Can Do Better: Opioids & Pain Management Strategies

Chairperson: Carol Dennehy, RN, CRRN, CCM, CLCP

Tuesday, March 24th, 2026

8:30-9:10am

2026
WORK RELATED
Injuries Workshop

“We’ve Come a Long Way”

Michael (Micki) Reinhorn, MD FACS, MBA

Co-Founder Boston Hernia®

Associate Clinical Professor of Surgery - Tufts

Disclosures

NONE!

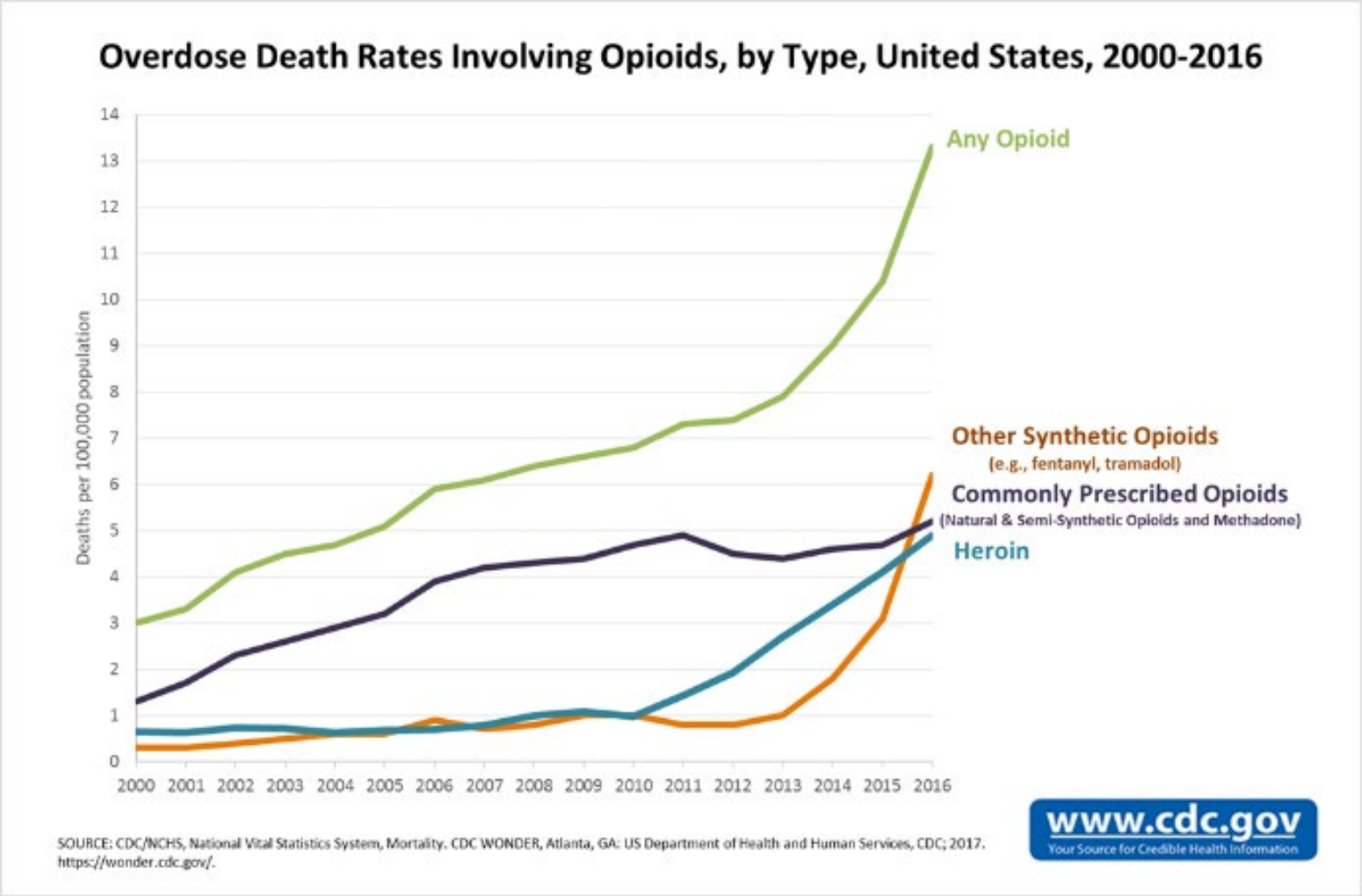
Objectives:

1. Understand the role of prescribers in post-op patient opioid consumption

1. Identify tools to evaluate your own prescribing

1. Identify strategies to reduce opioid prescribing and utilization

The Need: 2016



1 in 16

My Practice's Experience*:

In 2016, we prescribed 12 Vicodin tabs for Inguinal Hernia

60% did not use any Opioids

26% used less than 4 tabs

14% used more than 4 tabs

We were overprescribing by **300%**

*Patient-reported opioid analgesic requirements after elective inguinal hernia repair: A call for procedure-specific opioid-administration strategies.Mylonas KS, Reinhorn M, Ott LR, Westfal ML, Masiakos PT Surgery 2017 Nov

National Hernia Registry QI Project, 2018:

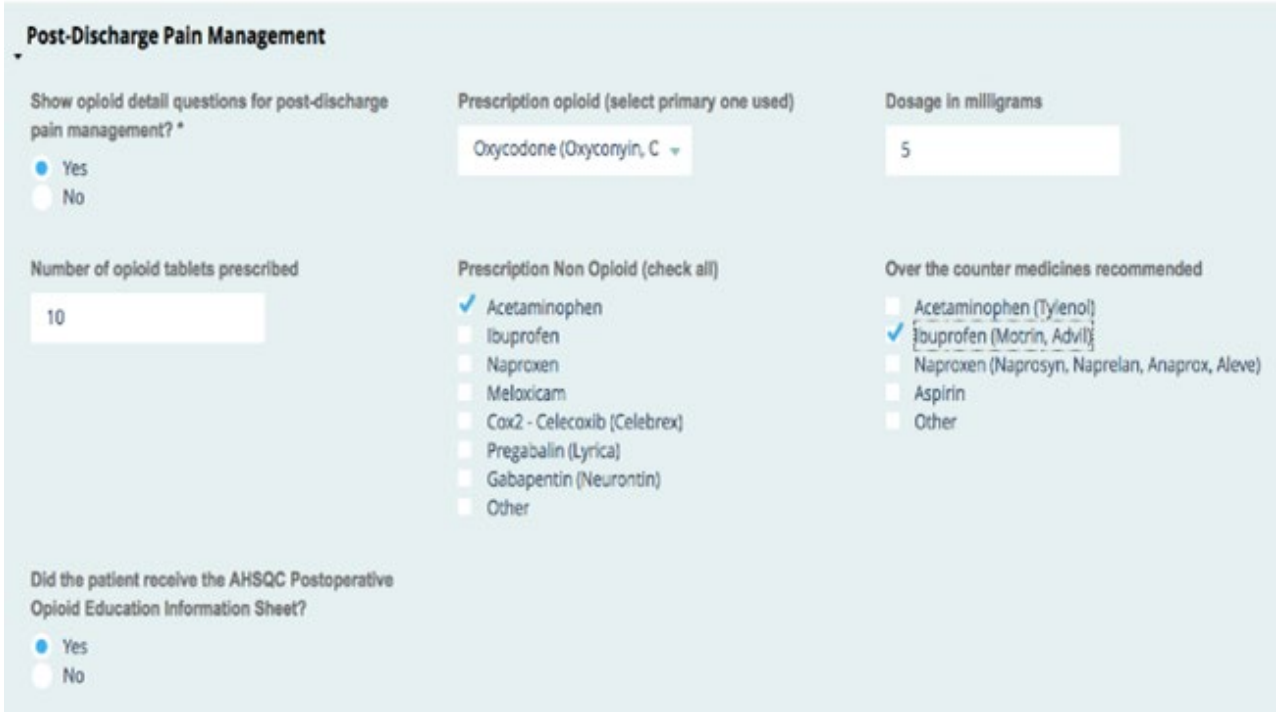
The Opioid Reduction Task Force

The team: 16 members from surgery, anesthesia, primary care, and pain specialities

Goal: Reduce prescribing and consumption of opioids after hernia surgery.

1st Task: March, 2019

Create and Implement an optional Opioid Data Collection Tool in the ACHQC



Patient Reported Outcome Question (for 30 Day Patient Survey)

How many tablets of prescription opioid pain medication did you take after hernia surgery?

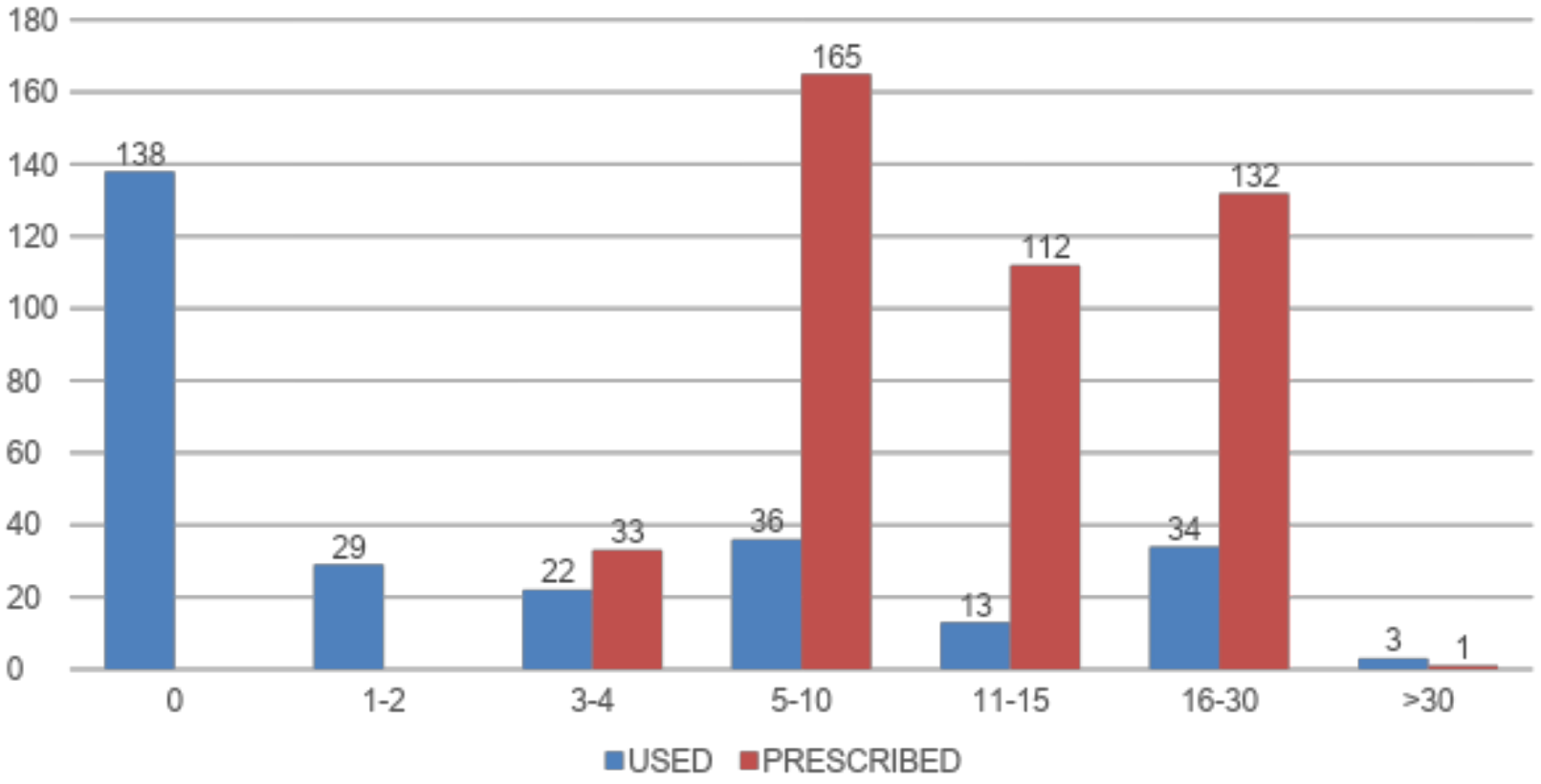
- 0
- 1-2
- 3-4
- 5-10
- 11-15
- 16 - 30
- ≥30

From Initial Data to QI Summit: 2019

- 1st 6mo of Data Reviewed with Surgeons
- Surgeon Prescribed vs Patient Consumed
- Asked for surgeons' commitment to change behavior
- Obtained surgeon feedback on tools needed

Patient Use vs. Prescribing

All Inguinal Hernias (n=443)

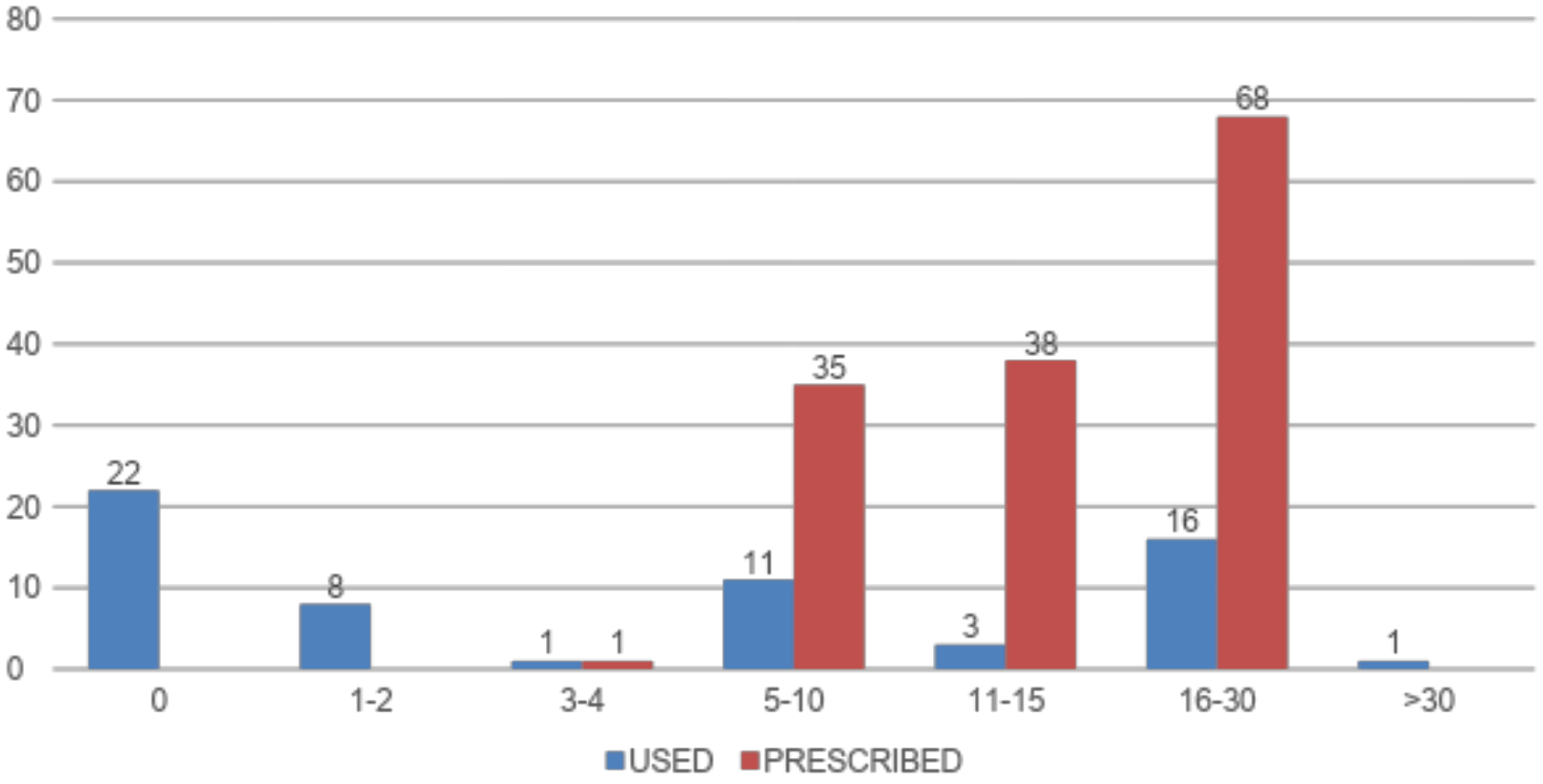


Min/Max Tabs	1-30
Median Prescribed	**10**
Mean Prescribed	**11**

- Highlights
  - ½ took NO opioids
  - 81% patients took <10 tabs
  - 55% prescribe >10 tabs

Patient Use vs. Prescribing

All Umbilical Hernias (n=148)

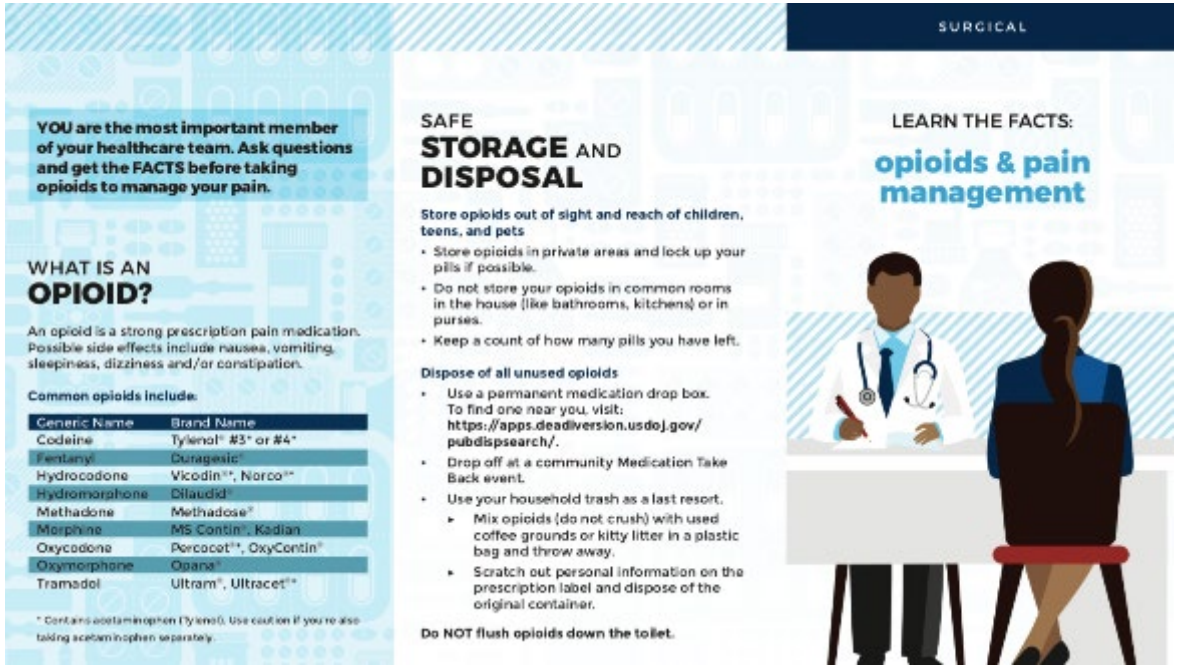


Min/Max Tabs	5-35
Median Prescribed	**12**
Mean Prescribed	**15**

- Highlights
  - >2/3 patients took <10 tabs
  - >2/3 surgeons gave >10 tabs

Summit Challenge:

Prescribe no more than 10 opioid tab for outpatient umbilical and inguinal hernias.



SURGICAL

YOU are the most important member of your healthcare team. Ask questions and get the FACTS before taking opioids to manage your pain.

WHAT IS AN
OPIOID?

An opioid is a strong prescription pain medication. Possible side effects include nausea, vomiting, sleepiness, dizziness and/or constipation.

Common opioids include:

Generic Name	Brand Name
Codeine	Tylenol® #3* or #4*
Fentanyl	Duragesic®
Hydrocodone	Vicodin®*, Norco®*
Hydromorphone	Dilaudid®
Methadone	Methadose®
Morphine	MS Contin®, Kadian
Oxycodone	Percocet®*, OxyContin®
Oxymorphone	Opana®
Tramadol	Ultram®, Ultracet®*

* Contains acetaminophen (Tylenol). Use caution if you're also taking acetaminophen separately.

SAFE
STORAGE AND
DISPOSAL

Store opioids out of sight and reach of children, teens, and pets

- Store opioids in private areas and lock up your pills if possible.
- Do not store your opioids in common rooms in the house (like bathrooms, kitchens) or in purses.
- Keep a count of how many pills you have left.

Dispose of all unused opioids

- Use a permanent medication drop box. To find one near you, visit: **https://apps.deadiversion.usdoj.gov/pubdispsearch/**.
- Drop off at a community Medication Take Back event.
- Use your household trash as a last resort.
  - Mix opioids (do not crush) with used coffee grounds or kitty litter in a plastic bag and throw away.
  - Scratch out personal information on the prescription label and dispose of the original container.

Do NOT flush opioids down the toilet.

LEARN THE FACTS:
opioids & pain management

Educational content given to surgeons along with email and videos

Optimal Postoperative Pain Management Strategies after Hernia Repair

1. During the first 24 hours after your surgery, you can place an ice pack over your surgical region. This can help reduce swelling and discomfort.
2. Take 2-3 tablets of **Tylenol 325 mg** (or generic acetaminophen) every 6 hours for 3 days, then only as needed to control discomfort. [DO NOT exceed 4000 mg in a 24-hour period, as this can be damaging to your liver]
3. Take 2-3 tablets of **Advil or Motrin 200mg** (or generic ibuprofen) every 6 hours with food or milk for 3 days, then only as needed to control discomfort. [DO NOT use Advil/Motrin if you have a history of stomach or intestinal ulcers or have had problems taking aspirin in the past]
4. You may stagger Tylenol and Advil so that you are taking something every three hours, or you may take them together every 6 hours - it's your choice
5. Only if you are still having pain that restricts you from sleeping or getting out of bed, take 1-2 tablets of **oxycodone 5mg** (or other prescribed opioid) every 4-6 hours as needed for discomfort that remains after taking Tylenol and Advil.

***Many people do not need opioids to manage their post-surgical pain**, so you might choose not to fill the prescription or fill only part of your prescription. If you use an opioid (narcotic), you must beware of becoming drowsy or inattentive, and you will not be able to drive or operate heavy machinery. Additional side effects include dizziness, lightheadedness, constipation, nausea, and vomiting*

Study Question:

What happens when you show surgeons how much they are over-prescribing?

ORIGINAL ARTICLE

The opioid reduction task force: using the ACHQC Data Registry to combat an epidemic in hernia patients

R. M. Higgins[1] · C. C. Petro[2] · J. Warren[3] · A. J. Perez[4] · T. Dews[5] · S. Phillips[6] · M. Reinhorn[7]

Methods

Initial Data Collection	ACHQC QI Summit	Post Summit Data Collection
03/2019 - 12/2019	**12/2019**	**03/2019 - 01/2021**
Inguinal and Umbilical hernia patients	Data presented on prescribing patterns Surgeons (n=39) asked to implement Summit Challenge	Inguinal and Umbilical hernia patients

Results / Surgeon Participation

	Pre-Summit	Post-Summit
# of Surgeons	52	91
Inguinal Hernia Patients	353	830
Umbilical Hernia Patients	976	2,447

Results: Inguinal Hernia Repair

Surgeon opioid prescribing

- ↓ mean opioid tablets prescribed (10.6 pre vs. 8.8 post, $p<0.001$)
- Opioid prescribing decreased (zero tablets)
  - Overall
  - With mesh
  - Without mesh

	Pre-Summit	Post-Summit	p-value
Overall	**n = 976**	**n = 2447**	**<0.001***
0 tablets	68 (7%)	456 (19%)	
1-10 tablets	585 (60%)	1324 (54%)	
>10 tablets	323 (33%)	667 (27%)	
With mesh	**n = 917**	**n = 2317**	**<0.001***
0 tablets	64 (7%)	418 (18%)	
1-10 tablets	539 (59%)	1282 (55%)	
>10 tablets	314 (34%)	617 (27%)	
Without mesh	**n = 59**	**n = 130**	**<0.001***
0 tablets	4 (7%)	38 (30%)	
1-10 tablets	46 (78%)	42 (32%)	
>10 tablets	9 (15%)	50 (38%)	

Results: Inguinal Hernia Repair

Open and robotic approach

- Shift in opioid prescribing toward 1-10 and 0 tablets

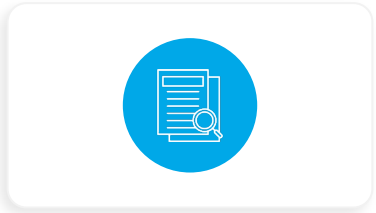
	Pre-Summit	Post-Summit	p-value
Open approach	**n = 386**	**n = 843**	**<0.001***
0 tablets	30 (8%)	300 (36%)	
1-10 tablets	271 (70%)	342 (40%)	
>10 tablets	85 (22%)	201 (24%)	
Laparoscopic approach	n = 245	n = 744	0.70
0 tablets	10 (4%)	40 (5%)	
1-10 tablets	152 (62%)	449 (60%)	
>10 tablets	83 (34%)	255 (35%)	
Robotic approach	**n = 345**	**n = 860**	**<0.001***
0 tablets	28 (8%)	116 (14%)	
1-10 tablets	162 (47%)	532 (62%)	
>10 tablets	155 (45%)	211 (24%)	

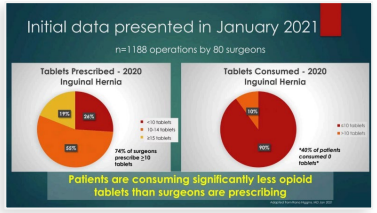
2022

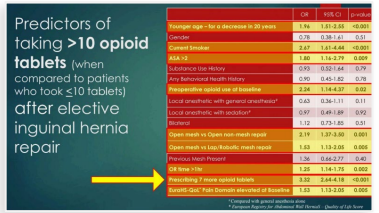
Predictors of Taking >10 Opioid Tablets After Elective Inguinal Hernia Surgery

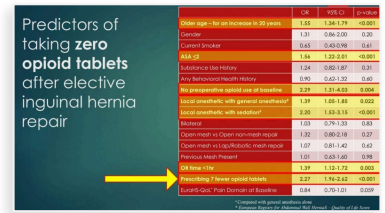
(When compared to patients who took ≤10)

	OR	95% CI	p-value
Younger age – for a decrease in 20 years	1.96	1.51-2.55	<0.001
Gender	0.78	0.38-1.61	0.51
Current Smoker	2.67	1.61-4.44	<0.001
ASA >2	1.80	1.16-2.79	0.009
Substance Use History	0.93	0.52-1.64	0.79
Any Behavioral Health History	0.90	0.45-1.82	0.78
Preoperative opioid use at baseline	2.24	1.14-4.37	0.02
Local anesthetic with general anesthesia#	0.63	0.36-1.11	0.11
Local anesthetic with sedation#	0.97	0.49-1.89	0.92
Bilateral	1.12	0.73-1.85	0.51
Open mesh vs Open non-mesh repair	2.19	1.37-3.50	0.001
Open mesh vs Lap/Robotic mesh repair	1.53	1.13-2.05	0.005
Previous Mesh Present	1.36	0.66-2.77	0.40
OR time >1hr	1.25	1.14-1.75	0.002
Prescribing 7 more opioid tablets	3.32	2.64-4.18	<0.001
EuraHS-QoL* Pain Domain elevated at Baseline	1.53	1.13-2.05	0.005









2018
Formed in 2018

December 2019
Presented initial data – Challenged the Audience

January 2021
Moved the dial

2022
Discovered that surgeon prescribing is still driving the problem

2023
Start randomized registry-embedded prospective trial to look at Zero or 5 tablets prescribing

2023
Methocarbamol paper

The Timeline

Conclusions / Future Work

- Surgeon education **impacts** opioid prescribing and utilization
- Ongoing evaluation of practice / methods **is important**

In the Future:

- Efficacy of interventions for surgeons and patients

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Alternatives to Opioids for Managing Pain

Eduard Vaynberg MD

Director of Chronic Pain Management, Boston Medical Center

Clinical Associate Professor Boston University School of Medicine

Eduard.Vaynberg@bmc.org

Disclosures

Consultant: Medtronic, Inc

Why This Topic Matters

100 million Americans affected by chronic pain

- Significant economic burden
- Opioid epidemic and overdose crisis
- Nonopioids not inferior for chronic pain (SPACE Trial)

Outcome	Opioid Group, Mean (SD) (n = 119)	Nonopioid Group, Mean (SD) (n = 119)	Between-Group Difference (95% CI)[a]	Overall *P* Value[b]
Pain-Related Function (Primary Outcome)				
BPI interference scale (range, 0-10; higher score = worse)[c]				
Baseline	5.4 (1.8)	5.5 (2.0)	−0.1 (−0.6 to 0.4)	
3 mo	3.7 (2.1)	3.7 (2.2)	0.0 (−0.6 to 0.6)	.58
6 mo	3.4 (2.1)	3.6 (2.4)	−0.2 (−0.8 to 0.4)	
9 mo	3.6 (2.2)	3.3 (2.4)	0.4 (−0.2 to 1.0)	
12 mo	3.4 (2.5)	3.3 (2.6)	0.1 (−0.5 to 0.7)	
Pain Intensity (Secondary Outcome)				
BPI severity scale (range, 0-10; higher score = worse)[d]				
Baseline	5.4 (1.5)	5.4 (1.2)	0.0 (−0.4 to 0.3)	
3 mo	4.3 (1.8)	4.0 (1.7)	0.3 (−0.2 to 0.7)	.03
6 mo	4.1 (1.8)	4.1 (1.9)	0.0 (−0.5 to 0.5)	
9 mo	4.2 (1.7)	3.6 (1.7)	0.7 (0.2 to 1.2)	
12 mo	4.0 (2.0)	3.5 (1.9)	0.5 (0.0 to 1.0)	

Understanding Pain Timeline

IASP: Sensory & emotional experience

- Acute (<1 month)
- Subacute (1–3 months)
- Chronic (>3 months)

Goals of Pain Management

Reduce pain intensity

Improve function & quality of life

Minimize adverse effects

Shared decision-making

Biopsychosocial Model

Biological factors (pathology, comorbidities)

- Psychological factors (depression, anxiety)
- Social determinants (housing, support)
- Individualized multimodal care

Nonopioid Medications

NSAIDs

Acetaminophen

Antidepressants (SNRIs, TCAs)

Anticonvulsants (Gabapentin, Pregabalin)

Topicals (Lidocaine, Capsaicin)

Exercise & Physical Therapy

Improves pain & function

- Safe and recommended first-line
- Effective in chronic low back pain
- Improves mental health outcomes

TENS Therapy

Modulates dorsal horn sensitization

- Reduces postoperative opioid needs
- Moderate certainty evidence

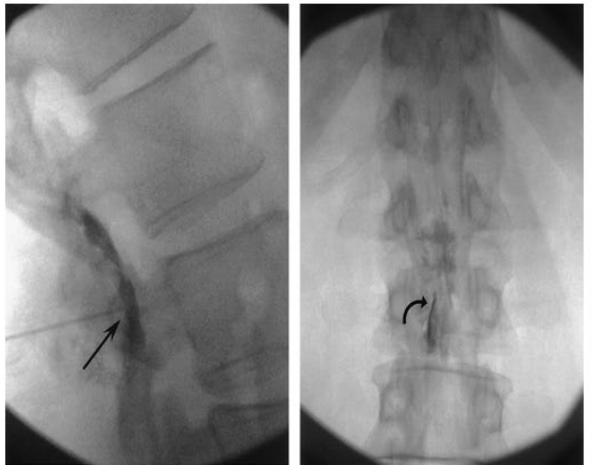
Interventional Therapies

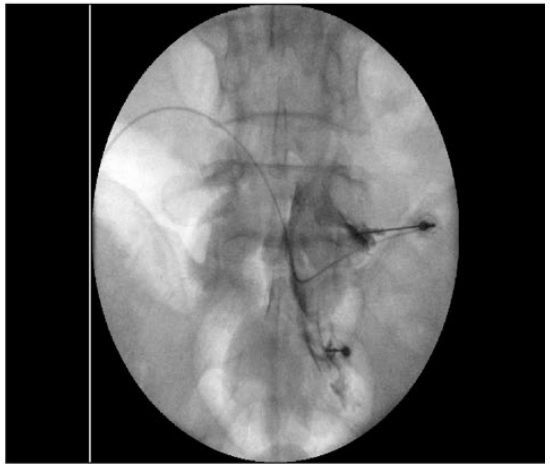
Joint injections (knee OA)

Epidural steroid injections (radicular pain)

Peripheral nerve blocks

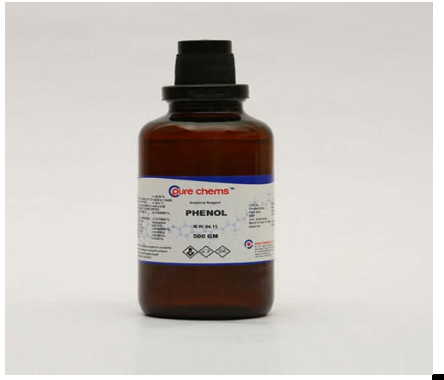
Trigger point injections

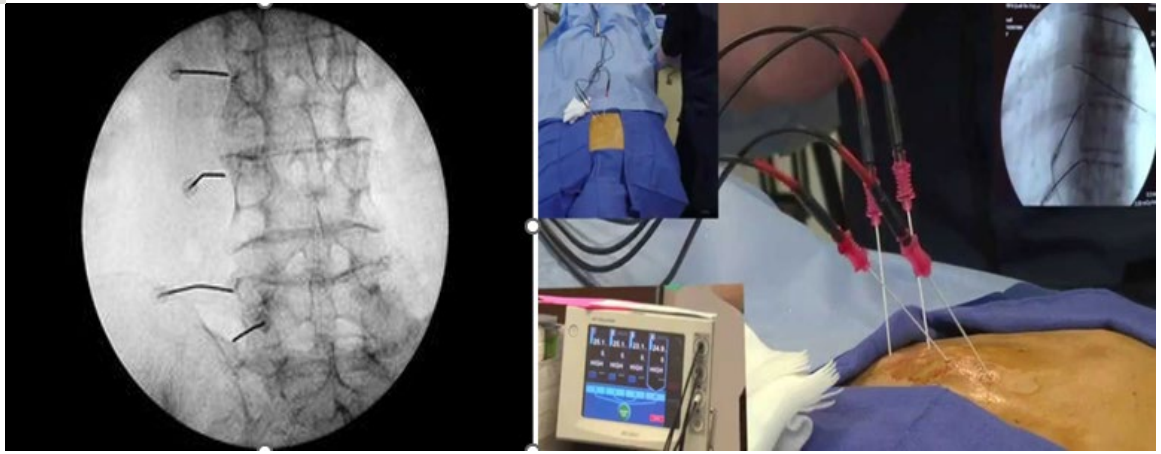




Neurodestructive Procedures

Radiofrequency, chemo, and cryo ablations

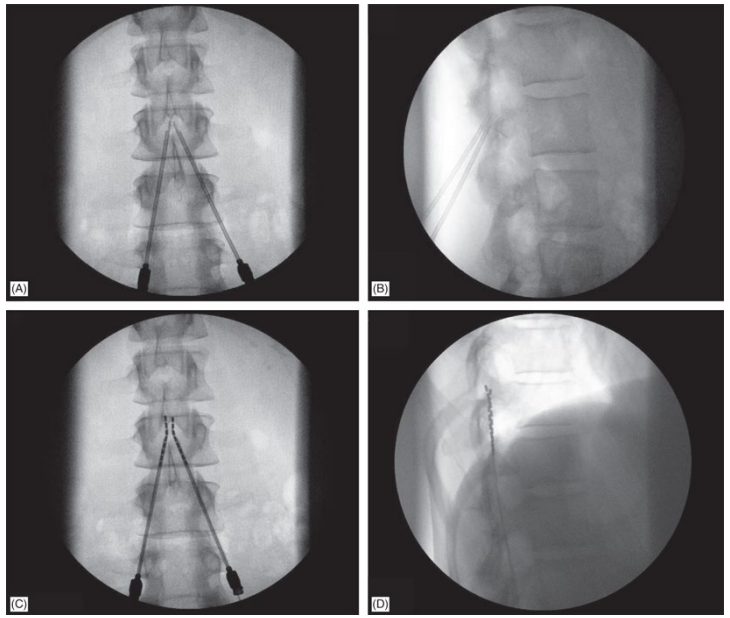


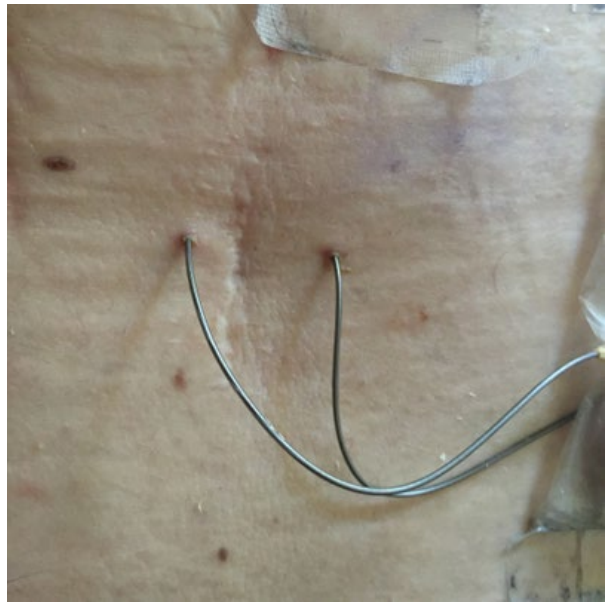


Advanced Neuromodulation

Spinal cord stimulation (>50% relief in many patients)

Dorsal root ganglion stimulation

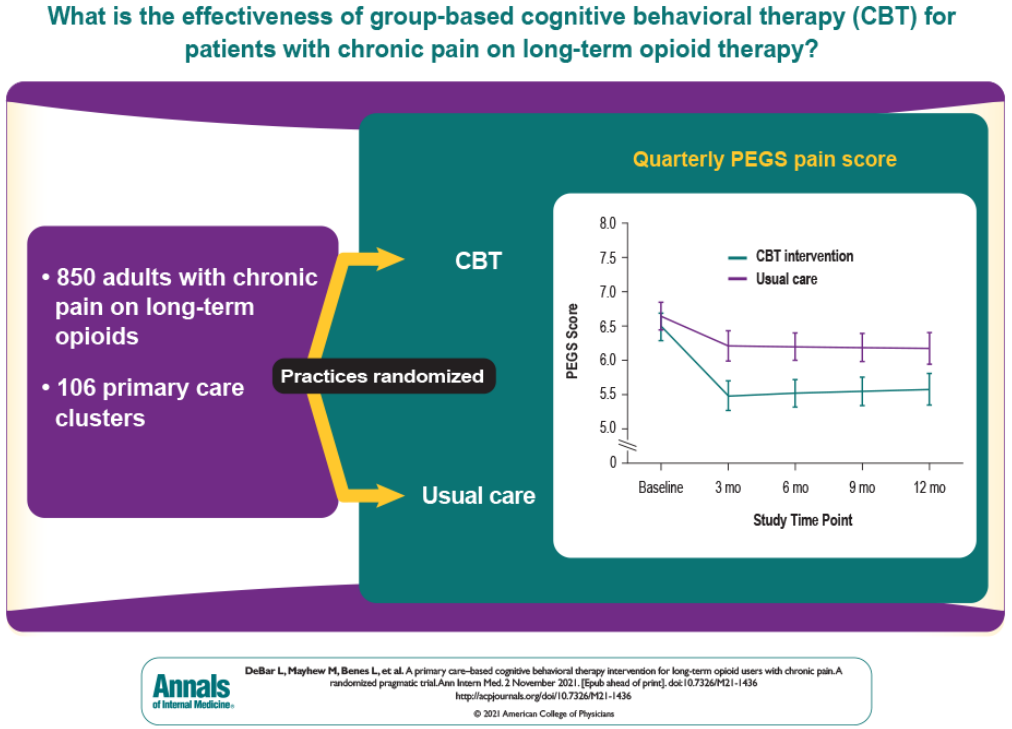




Behavioral Therapy

Cognitive Behavioral Therapy (CBT)

- Improves coping strategies
- Reduces pain intensity
- Enhances function



Annals of Internal Medicine
DeBar L, Mayhew M, Benes L, et al. A primary care–based cognitive behavioral therapy intervention for long-term opioid users with chronic pain.A randomized pragmatic trial.Ann Intern Med. 2 November 2021. [Epub ahead of print]. doi:10.7326/M21-1436
http://acpjournals.org/doi/10.7326/M21-1436

Interprofessional Team Approach

Physicians, nurses, pharmacists

Physical & occupational therapists

Psychologists & social workers

Coordinated, patient-centered care

Key Takeaways

Opioids not superior for chronic pain

- Multimodal, individualized approach
- Biopsychosocial framework essential
- Function and quality of life are priorities

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Innovations in Pre-Op & Procedural Design to Reduce Post-Op Opioid Use

Extending multimodal pain care upstream
Designing pathways that require fewer opioids

Sameer O. Kapasi, MD, FAAPMR

Physiatrist, Agility Orthopedics

Clinical Assistant Professor Tufts University School of Medicine, Dept of PMR

Sameer.Kapasi@agilitydoctor.com

Disclosures

Consulting fees from Boston Scientific and Stryker

Learning Objective

Understand pre-op drivers of opioid use

- Recognize procedure selection as stewardship
- Connect opioid use to RTW and cost

Why Timing Matters

Pre-op nociceptive burden predicts opioid use

- Central sensitization precedes surgery
- Early opioids predict chronic use

Opioid Exposure & Chronic Use Risk

New persistent opioid use ~6% after surgery

- Risk increases with early exposure
- Dose–response relationship

Return-to-Work Evidence

Early opioids predict longer disability

- Higher doses → delayed RTW
- Consistent across occupations

Cost Impact Evidence

Chronic opioid use adds $15–25k per claim

- Spine & knee injuries highest variance
- Conservative national estimates

Peripheral Sodium Channel Blockade: Suzetrigine

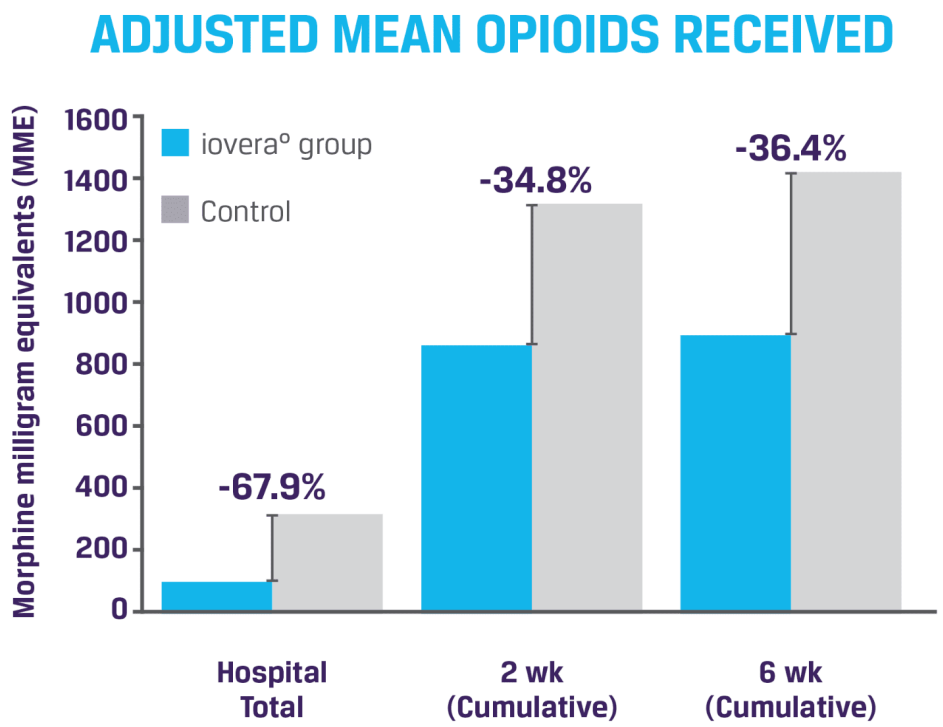
First-in-class NaV1.8 selective inhibitor (non-opioid)

- Blocks peripheral nociceptive signaling without μ-opioid receptor activation
- Effective for acute post-operative pain with opioid-sparing benefit (Level I evidence)

Pre-Op Knee Modulation

Cryoneurolysis before TKA

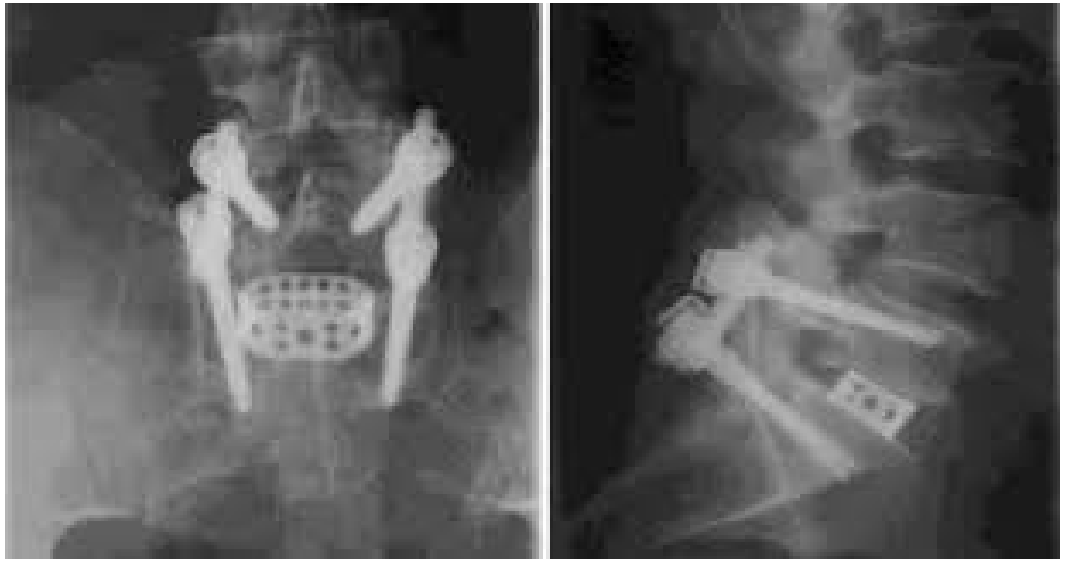
- Genicular RFA as desensitization
- Goal: flatten opioid curve



Procedure Selection as Opioid Stewardship

Some procedures amplify nociception

- Others interrupt pain signaling
- Selection affects opioid trajectory



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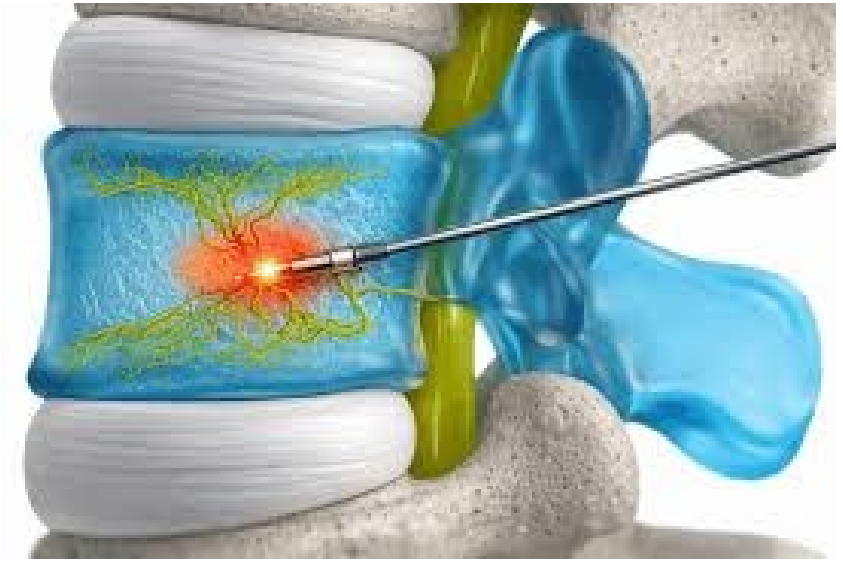
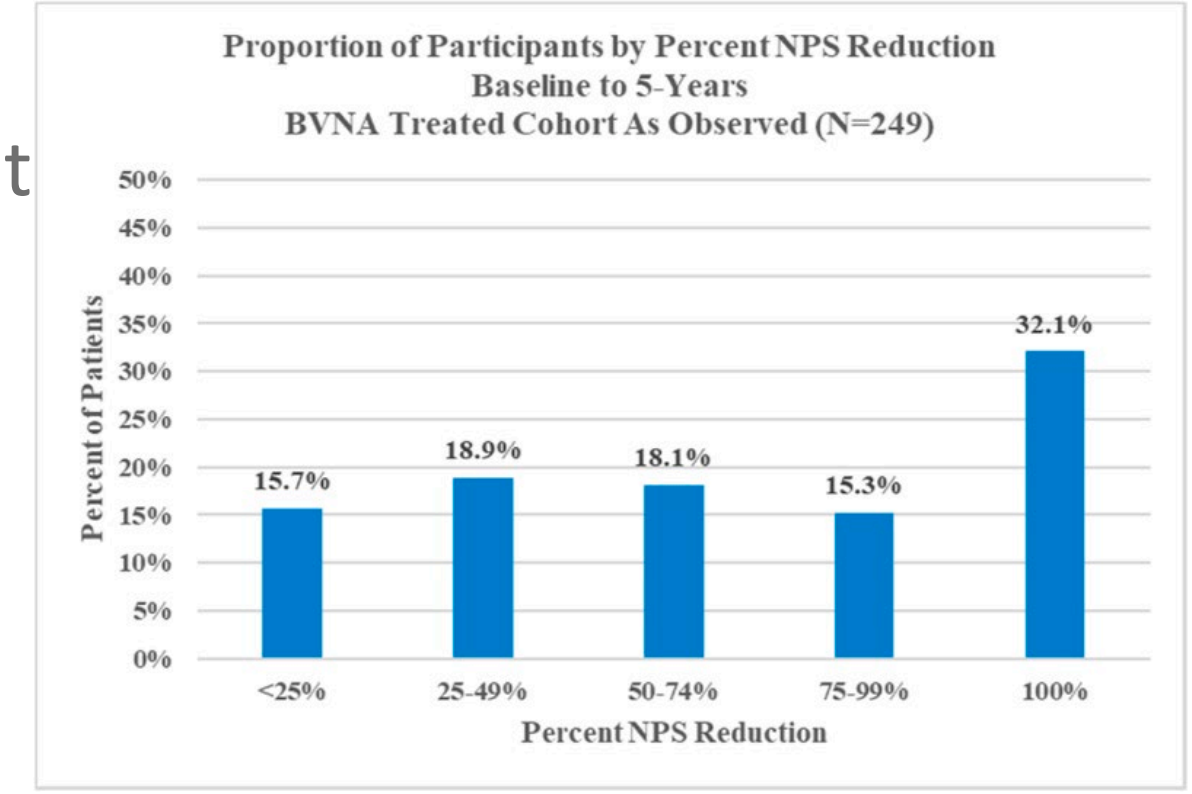


Basivertebral Nerve Ablation

Vertebrogenic pain (Modic 1/2)

- Level I evidence
- Durable functional improvement



MILD & Endoscopic Decompression

Less tissue trauma

- Lower inflammation
- Faster recovery

Return to Work Impact

Early opioids delay RTW

- Chronic use prolongs disability
- Mitigation improves recovery

INSERT FIGURE: Brummett CM et al., JAMA Surg 2017 – Fig
Persistent opioid use after surgery (Level I)

Estimated Cost Impact

Spine & knee injuries drive costs

- Chronic opioids add $15–25k per claim
- Small changes yield savings

Key Takeaways

Upstream design reduces opioid need

- Function, RTW, and cost are linked
- High-value care is engineered

Thank You!

The_world_according_to_tito