FACET JOINT INTERVENTIONS

Diagnostic Algorithm: Acute vs Chronic

Laxmaiah Manchikanti, MD

MARCH 11, 2022

Pain Societies Release Guidelines for Cervical Spine Joint Pain

PAINMEDICINE NEWS

"The inspiration for this was to standardize guidelines for the first time," said senior author Steven P. Cohen, MD, the chief of pain medicine at Johns Hopkins Medicine, and a professor of anesthesiology, neurology, physical medicine and rehabilitation, and psychiatry at the Johns Hopkins University School of Medicine, in Baltimore. "Several individual organizations have guidelines over 20 years old that have not changed. But the practice of pain medicine has changed significantly through the decades. For instance, patients who failed RF ablation or did not qualify previously were frequently prescribed opioids or received spine surgery, often indiscriminately. We now know that these treatments are not very effective. In fact, they may harm as many patients as they help."

—Steven P. Cohen, MD

The two most controversial recommendations for the lumbar and cervical facet guidelines pertain to the number of blocks that should be performed and the cutoff required for pain relief for a diagnostic/prognostic facet block before proceeding to RF ablation.

"Older guidelines recommended two blocks with over 80% pain relief or near-complete pain relief," Cohen said. "We recommended a single block with a 50% pain relief cutoff in the lumbar facet guidelines. However, there is a difference between cervical facet pain [Figures 1 and 2] and lumbar facet pain. For neck pain, the chance of having cervical facet pain is much higher than the chance of low back pain originating mostly from the facet choices."

MARCH 11, 2022

Pain Societies Release Guidelines for Cervical Spine Joint Pain

PAINMEDICINE NEWS

The new recommendation for cervical facet joint pain is 50% or greater pain relief after a single block. “Because the facet joints are more important as pain generators for neck pain compared to back pain, we thought we would detect a trend whereby if you had greater pain relief on the diagnostic facet block, you would have greater pain relief or better outcomes with RF ablation,” Cohen said. “But we identified multiple studies that examined this, and in none of them was there any hint of that.”

Cohen noted that the new guidelines should serve as a road map for practitioners to guide treatment in patients with suspected cervical joint pain. “In some cases, guidelines can represent standards of care, but not always,” he said. “These guidelines leave room for personalized medicine.”

An Algorithmic Approach to Facet Joint Interventions

- Diagnostic blocks
  = 4 components
  - Axial pain > 5
  - 3 months duration
  - Failed with conservative methods
  - No untreated radiculopathy
- First block >= 80% relief

Positive

Negative

Negative (false positive)

Stop Facet Joint Interventions

- Second block >=80% relief

Positive

Radiofrequency or Therapeutic facet joint nerve blocks

- Bilateral at the same time
- No other procedures with facet joint interventions
- 3 months or 6 months relief

Diagnostic blocks must be repeated if there is not treatment performed in 2 years

Light sedation is permitted.

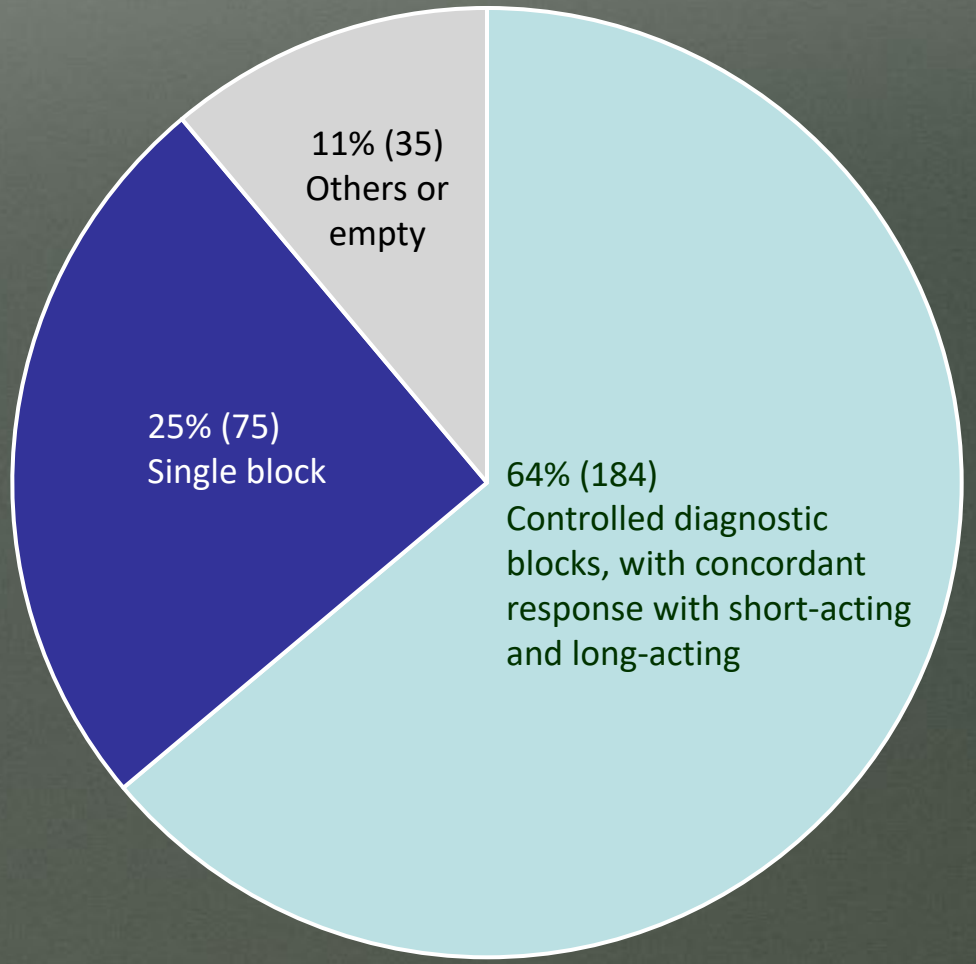
No opioids for Diagnostic Blocks.

Contraindicated in patients with anterior lumbar interbody fusion or ALIF

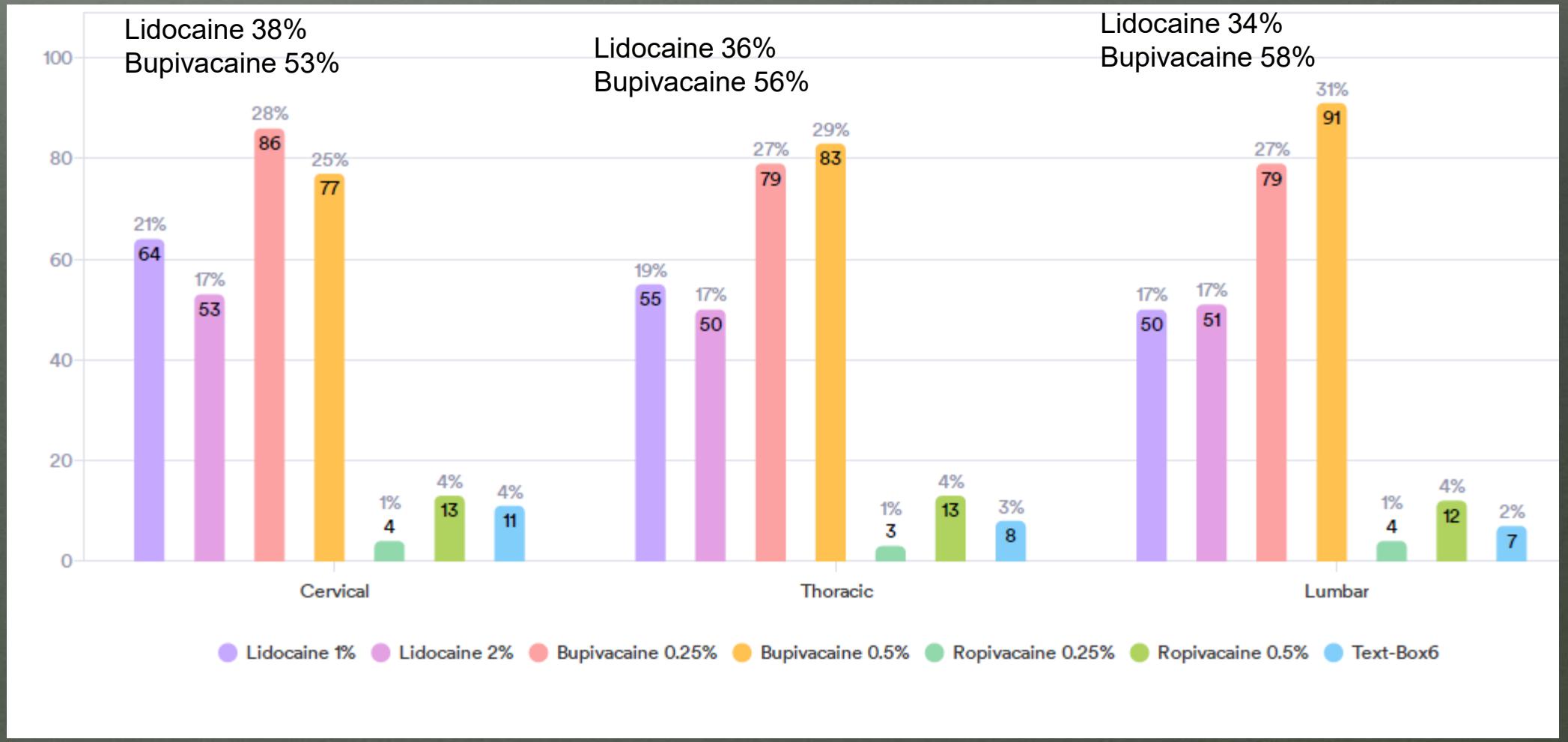
Practice Patterns of Facet Joint Interventions Online Survey Results

Number of Responses 308

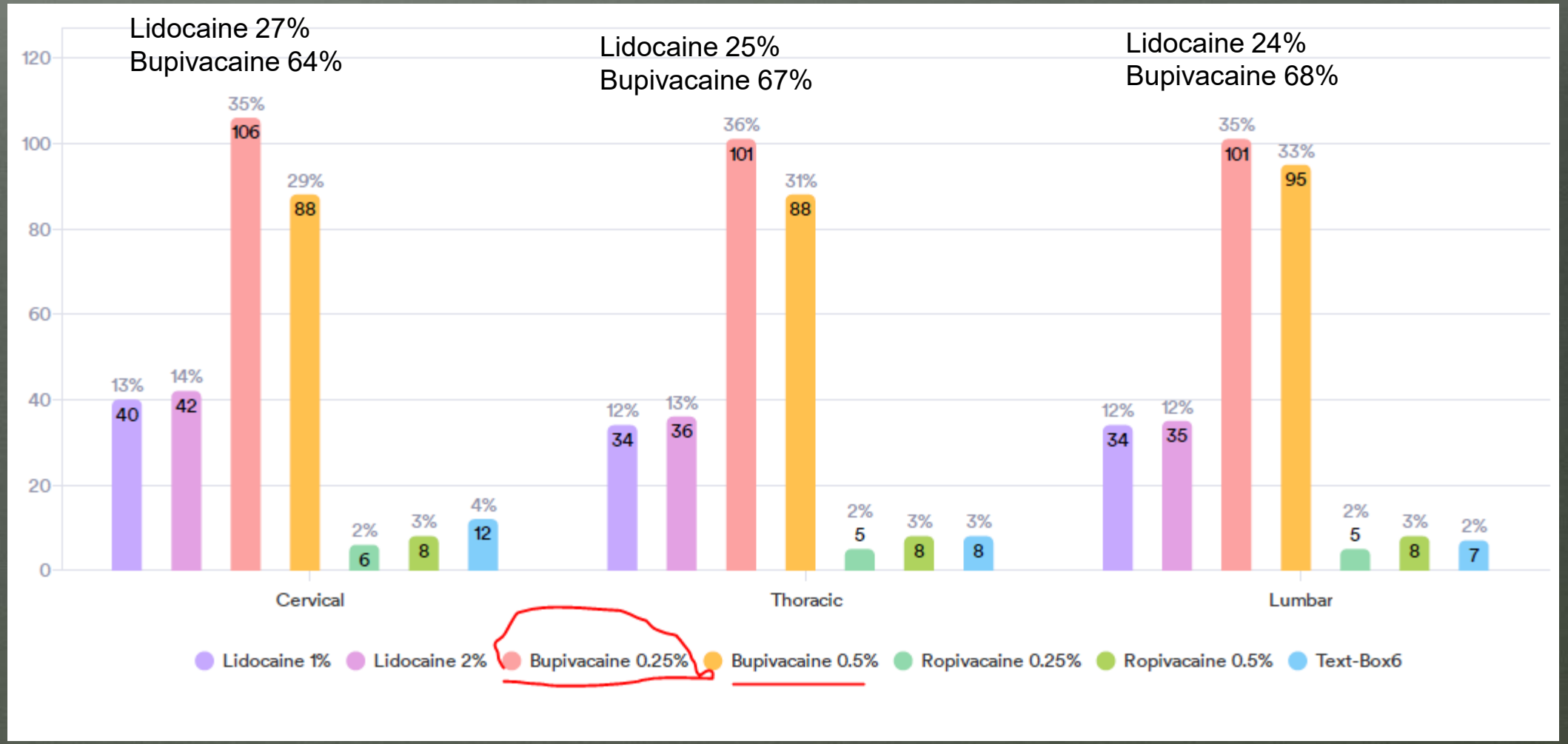
Diagnostic Blocks



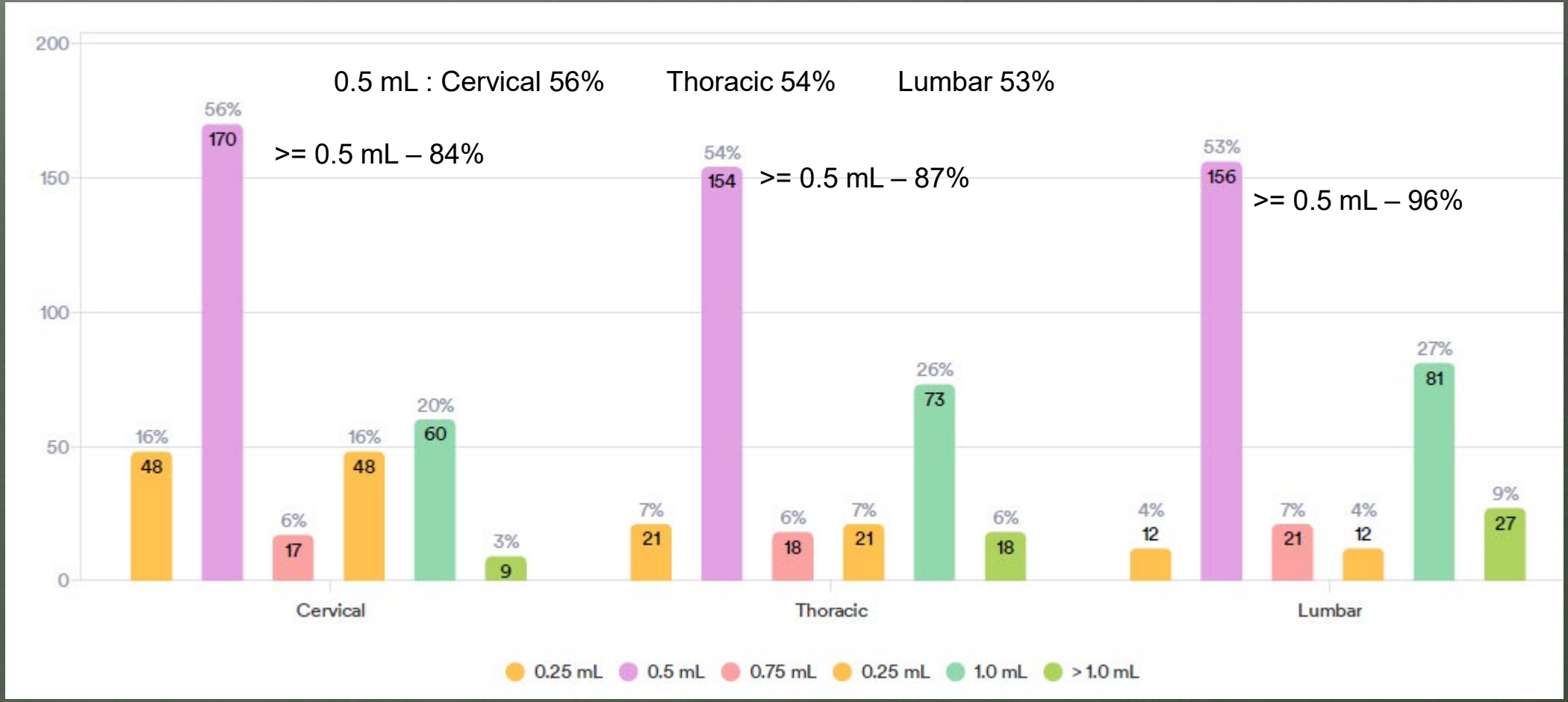
First Diagnostic Block



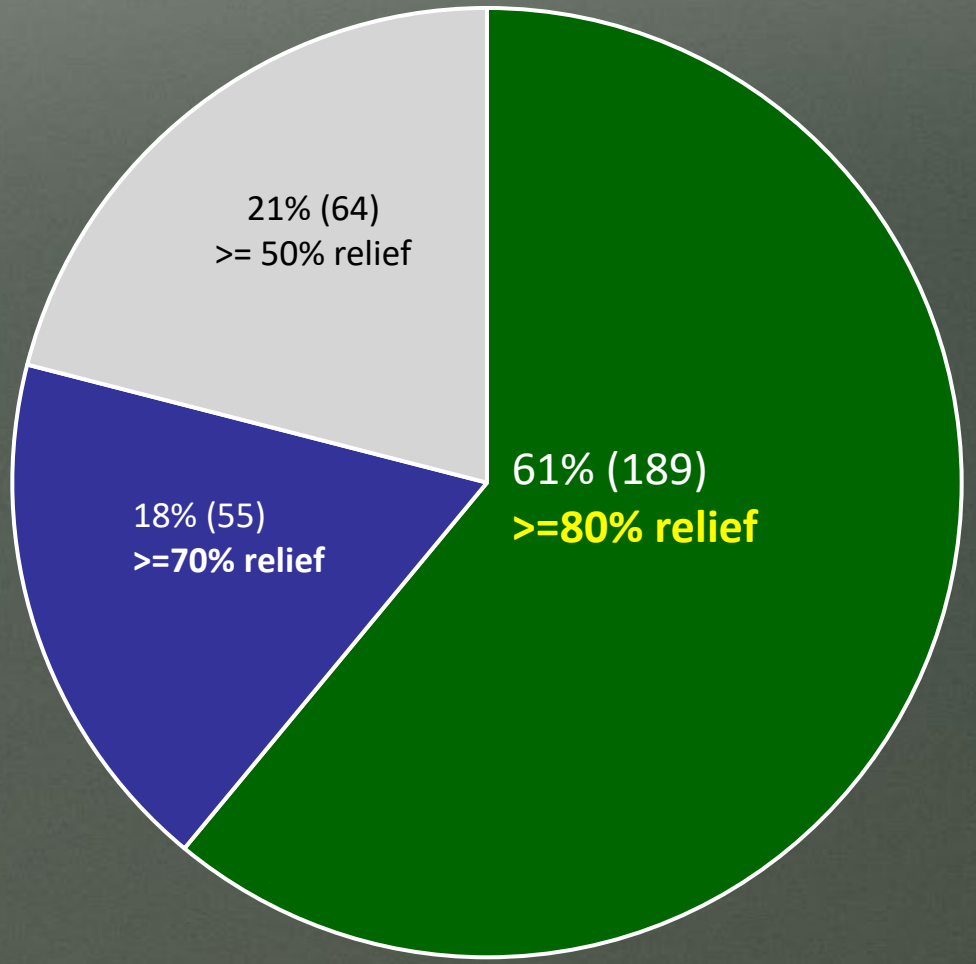
Second Diagnostic Block



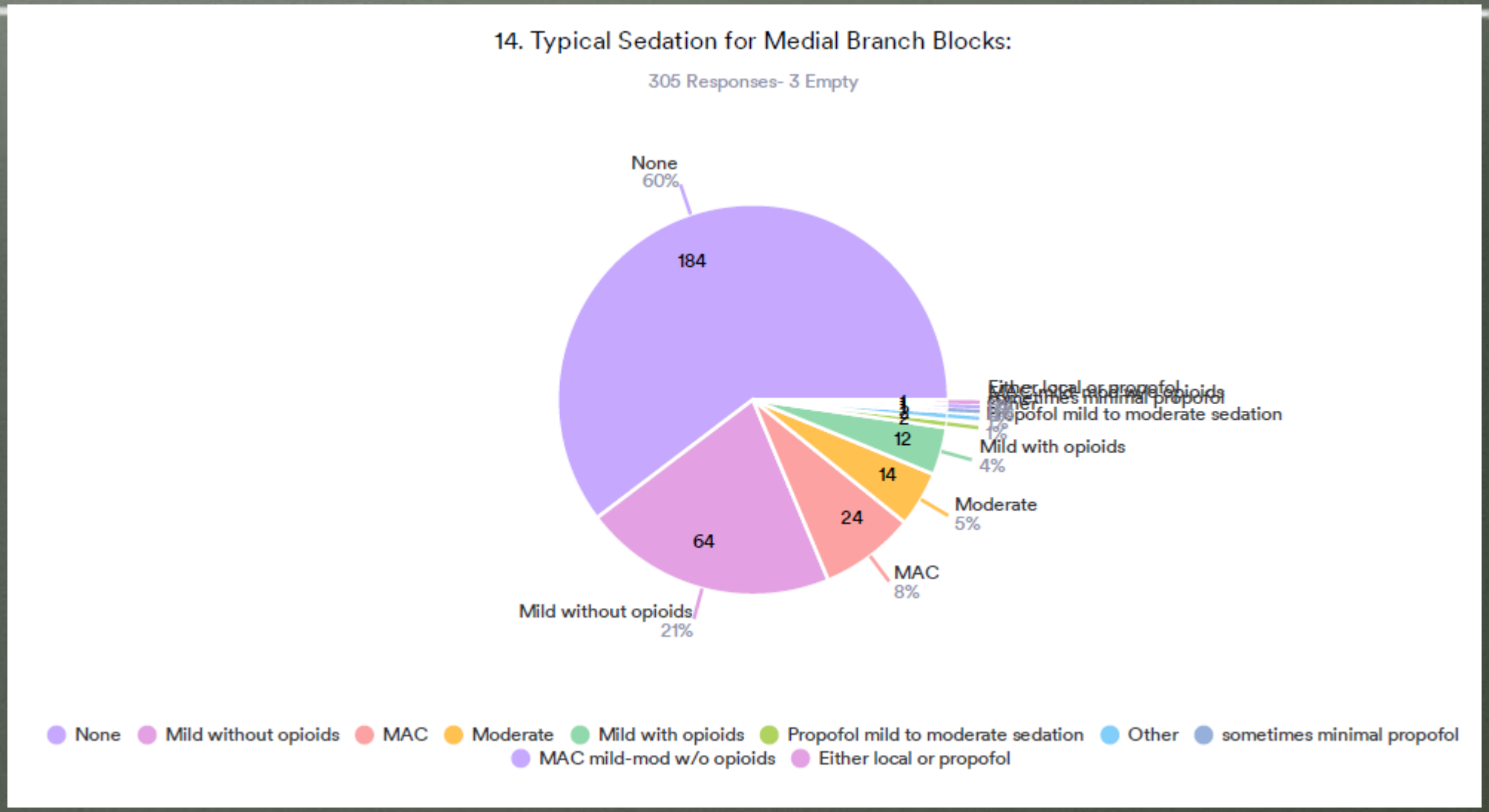
Volume of Local Anesthetic (mL)



Positive Diagnosis: Pain Relief/Function



Typical Sedation for Medial Branch Blocks



Summary of Evidence and Recommendations:

Non-interventional diagnosis:

- The **level of evidence is II** in selecting patients for facet joint nerve blocks at least 3 months after onset and failure of conservative management, with strong strength of recommendation for physical examination and clinical assessment.
- The **level of evidence is IV** for accurate diagnosis of facet joint pain with physical examination based on symptoms and signs, **with weak strength of recommendation.**

Imaging:

- The **level of evidence is I with strong strength of recommendation**, for mandatory fluoroscopic or computed tomography (CT) guidance for all facet joint interventions.
- The **level of evidence is III with weak strength of recommendation** for single photon emission computed tomography (SPECT) .
- The **level of evidence is V with weak strength of recommendation** for scintography, magnetic resonance imaging (MRI), and computed tomography (CT) .

Source: Facet Joint Interventions Guidelines. Pain Physician 2020; 23:S1-S127

Philosophical Approach to Diagnostic Facet Joint Blocks

- Purist approach by Bogduk & ISIS
  - Dual block 100% - may be 80%
  - Controlled Diagnostic or Placebo controlled blocks
  - Short acting < 7 hours
  - Long acting < 23 hours
  - All other responses Negative
- Cohen's Non-block approach
  - No blocks or single blocks
  - 50% relief or even 30% relief
- Practical approach of ASIPP
  - Controlled Diagnostic blocks with >=80% relief
  - Chronic pain model
  - Concordant relief
    - No restrictions on duration

An Algorithmic Approach: Diagnosis of Lumbar Facet Joint Pain

- Acute pain model – 80% relief
  - Short acting < 7 hours
  - Long acting < 23 hours
- Chronic pain model – 80% relief
  - Lidocaine 6 days – total 32 days
  - Bupivacaine – 13 days – total 65 days
- Prevalence / False-Positive
  - Acute model 50% or 75% relief
    - 15%-40% / 37% - 38%
  - Chronic model 80% relief
    - 27%-41% / 27% - 47%

Prevalence and false-positive rate of facet joint pain by Diagnostic blocks in the lumbar spine

Study	Methodological Criteria Score	Number of Patients	Criterion Standard of Percent Relief	Prevalence Estimates with 95% Confidence Intervals	False-Positive Rate with 95% Confidence Intervals
Manchikanti et al (283)	9/12	120	≥ 80%	40% (31%, 49%)	47% (95% CI, 35%, 59%)
Pampati et al (446)	9/12	491	≥ 80%	31% (26%, 35%)	42% (95% CI, 35%, 50%)
Manchikanti et al (470)	9/12	397	≥ 80%	31% (27%, 36%)	27% (95% CI, 22%, 32%)
Manchukonda et al (471)	9/12	303	≥ 80%	27% (22%, 33%)	45% (95% CI, 36%, 53%)
Manchikanti et al (415)	9/12	200	≥ 75%	42% (35%, 42%)	37% (95% CI, 32%, 42%)
DePalma et al (291)	9/12	156	≥ 75%	31% (24%, 38%)	NA
Manchikanti et al (468)	9/12	120	≥ 75%	45% (36%, 54%)	41% (95% CI, 29%, 53%)
Manchikanti et al (469)	9/12	180	≥ 75%	36% (29%, 43%)	25% (95% CI, 21%, 39%)
Schwarzer et al (284,285)	9/12	176	≥ 50%	15% (10%, 20%)	38% (95% CI, 30%, 46%)
Schwarzer et al (289)	9/12	57 of 63	≥ 50%	40% (27%, 53%)	NA

NA = not applicable; CI = confidence interval

Adapted and modified from: Boswell MV, Manchikanti L, Kaye AD, et al. A best-evidence systematic appraisal of the diagnostic accuracy and utility of facet (zygapophysial) joint injections in chronic spinal pain. *Pain Physician* 2015; 18:E497-E533 (18).

Continued …

An Algorithmic Approach: Diagnosis of Cervical Facet Joint Pain

- Acute pain model – 80% relief
  - Short acting < 7 hours
  - Long acting < 23 hours
- Chronic pain model – 80% relief
  - Lidocaine 6 days – total 31 days
  - Bupivacaine – 12 days – total 55 days
- Prevalence / False-Positive
  - Acute model >=80% or 100% relief
    - 29%-60% / 27%
  - Chronic model 0% relief
    - 39%-51% / 26% - 63%

Prevalence and false-positive rate of facet joint pain by Diagnostic blocks in the cervical spine

Study	Methodological Criteria Score	Number of Patients	Criterion Standard of Percent Relief	Prevalence Estimates with 95% Confidence Intervals	False-Positive Rate with 95% Confidence Intervals
Barnsley et al (473)	9/12	47	100%	60%	NA
Yin and Bogduk (294)	9/12	143	100%	55% (95% CI, 38%, 62%)	NA
Speldewinde et al (425)	9/12	97	100%	36% (95% CI, 27%, 45%)	NA
Barnsley et al (476)	9/12	50	100%	54% (95% CI, 40%, 68%)	NA
Lord et al (478)	9/12	68	100%	60% (95% CI, 46%, 73%)	NA
Barnsley et al (477)	9/12	55	100%	NA	27% (95% CI, 15%-38%)
Persson et al (475)	9/12	45	≥ 80%	29%	NA
Manchukonda et al (471)	9/12	251 of 500	≥ 80%	39% (95% CI, 32%, 45%)	45% (95% CI, 37%-52%)
Manchikanti et al (470)	9/12	255 of 500	≥ 80%	55% (95% CI, 49%, 61%)	63% (95% CI, 54%-72%)
Manchikanti et al (472)	9/12	106	≥ 75%	60% (95% CI, 50%, 70%)	40% (95% CI, 34%-46%)

NA = not applicable; CI = confidence interval

Adapted and modified from: Boswell MV, Manchikanti L, Kaye AD, et al. A best-evidence systematic appraisal of the diagnostic accuracy and utility of facet (zygapophysial) joint injections in chronic spinal pain. *Pain Physician* 2015; 18:E497-E533 (18).

Prevalence and false-positive rate of facet joint pain by diagnostic blocks in the thoracic spine

Study	Methodological Criteria Score	Number of Patients	Criterion Standard of Percent Relief	Prevalence Estimates with 95% Confidence Intervals	False-Positive Rate with 95% Confidence Intervals
Controlled Blocks					
Manchikanti et al (480)	9/12	46	≥ 80%	48% (95% CI; 34%-62%)	58% (95% CI, 38%-78%)
Manchikanti et al (470)	9/12	72	≥ 80%	42% (95% CI; 30%-53%)	55% (95% CI, 38%-78%)
Manchukonda et al (471)	9/12	65	≥ 80%	34% (95% CI; 22%-47%)	42% (95% CI, 36%-53%)

NA = Not Available; CI = Confidence Interval

Adapted and modified from: Boswell MV, Manchikanti L, Kaye AD, et al. A best-evidence systematic appraisal of the diagnostic accuracy and utility of facet (zygapophysial) joint injections in chronic spinal pain. *Pain Physician* 2015; 18:E497-E533 (18).

Summary

ASIPP Guidance

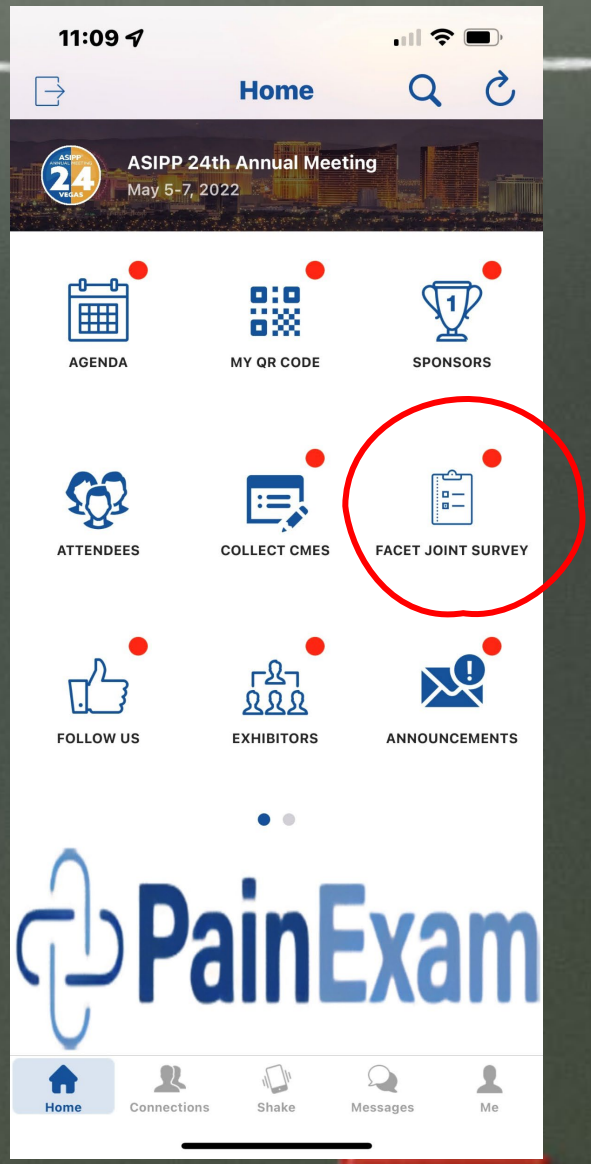
- Controlled Diagnostic Blocks – 80% relief
- Chronic Pain Model

Meets criteria of LCDs, and Medical policies.

Evidence - Based

Please complete the practice Patterns of Facet Joint Interventions survey. The link is on the app.

Thank you very much, if you already completed



Laxmaiah Manchikanti, MD
Phone: (270) 554-8373 ext. 101
Phone (ASIPP): (270) 554-9412
E-mail: drm@asipp.org

ttps://www.linkedin.com/in/laxmaiahmanchikanti

https://www.linkedin.com/company/american-society-of-interventional-pain-pain-physicians