
16th World Congress
of Pain Clinicians 2023
Dubai, UAE
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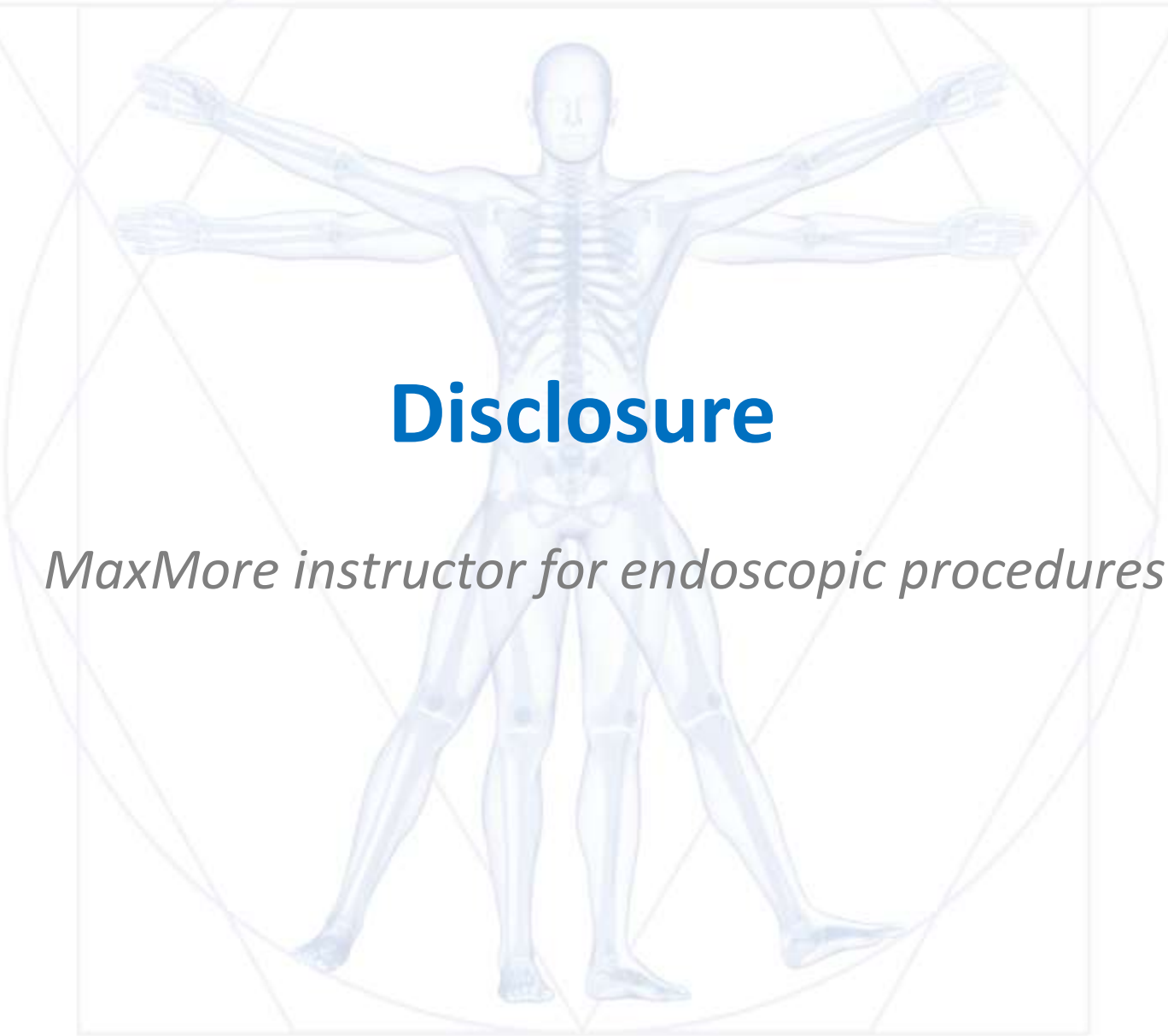
Endoscopic facet joint ablation

Róbert **Rapčan,** Michal **Matias**



Disclosure

MaxMore instructor for endoscopic procedures

Facet (zygapophyseal) joint pain

Prevalence

- 4,8% National Low Back Pain Survey in orthopaedic and neurosurgical setting
- 50% interventional pain physicians survey[1]
- Absence of noninterventional gold standard for diagnosis
- Poor radiological correlation
- Facet pain x medial branch mediated pain

1) F. J. E. Falco et al., Pain Physician, vol. 15, no. 6, pp. E869-907, Dec. 2012.

Facet joint pain of Lumbar spine

- **prevalence 40-70% in different studies**
- **Increasing with age (facet arthrosis)**

Morning stiffnes, moving around to get better,

pain in retroflexion

MRI can show facet arthrosis

“patchy” distribution to extremities

Unrealiable

*L. Manchikanti, M. V. Boswell, V. Singh, V. Pampati, K. S. Damron, and C. D. Beyer, “Prevalence of facet joint pain in chronic spinal pain of cervical, thoracic, and lumbar regions,” *BMC Musculoskelet. Disord.*, vol. 5, no. 1, p. 15, May 2004.

Evidence

- No strong consistent positive clinical predictors of facet pain
- Negative predictors of successful block
  - Radicular and/or discogenic symptoms
  - Psychosocial issues

Consensus practice guidelines on interventions for lumbar facet joint pain from a multispecialty, international working group

Steven P Cohen [1], Arun Bhaskar [2], Anuj Bhatia [3], Asokumar Buvanendran [4], Tim Deer [5], Shuchita Garg [6], W Michael Hooten [7], Robert W Hurley [8], David J Kennedy [9], Brian C McLean [10], Jee Youn Moon [11], Samer Narouze [12], Sanjog Pangarkar [13], David Anthony Provenzano [14], Richard Rauck [15], B Todd Sitzman [16], Matthew Smuck [17], Jan van Zundert [18,19], Kevin Vorenkamp [20], Mark S Wallace [21], Zirong Zhao [22]

S. P. Cohen et al., Reg Anesth Pain Med, vol. 45, no. 6, pp. 424–467, Jun. 2020.

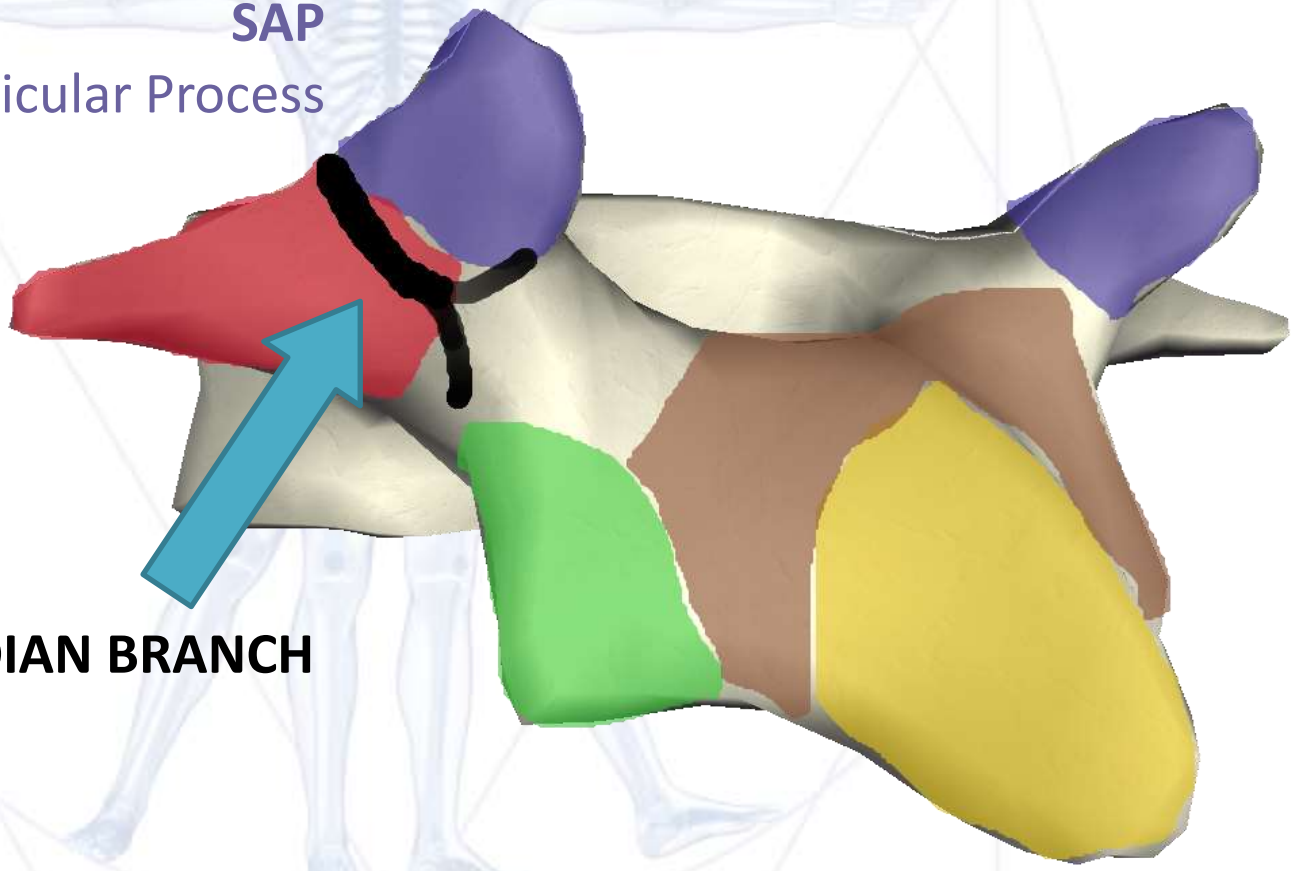
no pain in anteflexion	pain in retroflexion	“patchy” distribution

Courtesy of Dr. Sherdil Nath

Facet joint is inervated by median branch of dorsal ramus, its selective block is a good diagnostic test

SAP
Superior Articular Process

TP
Transverse Process

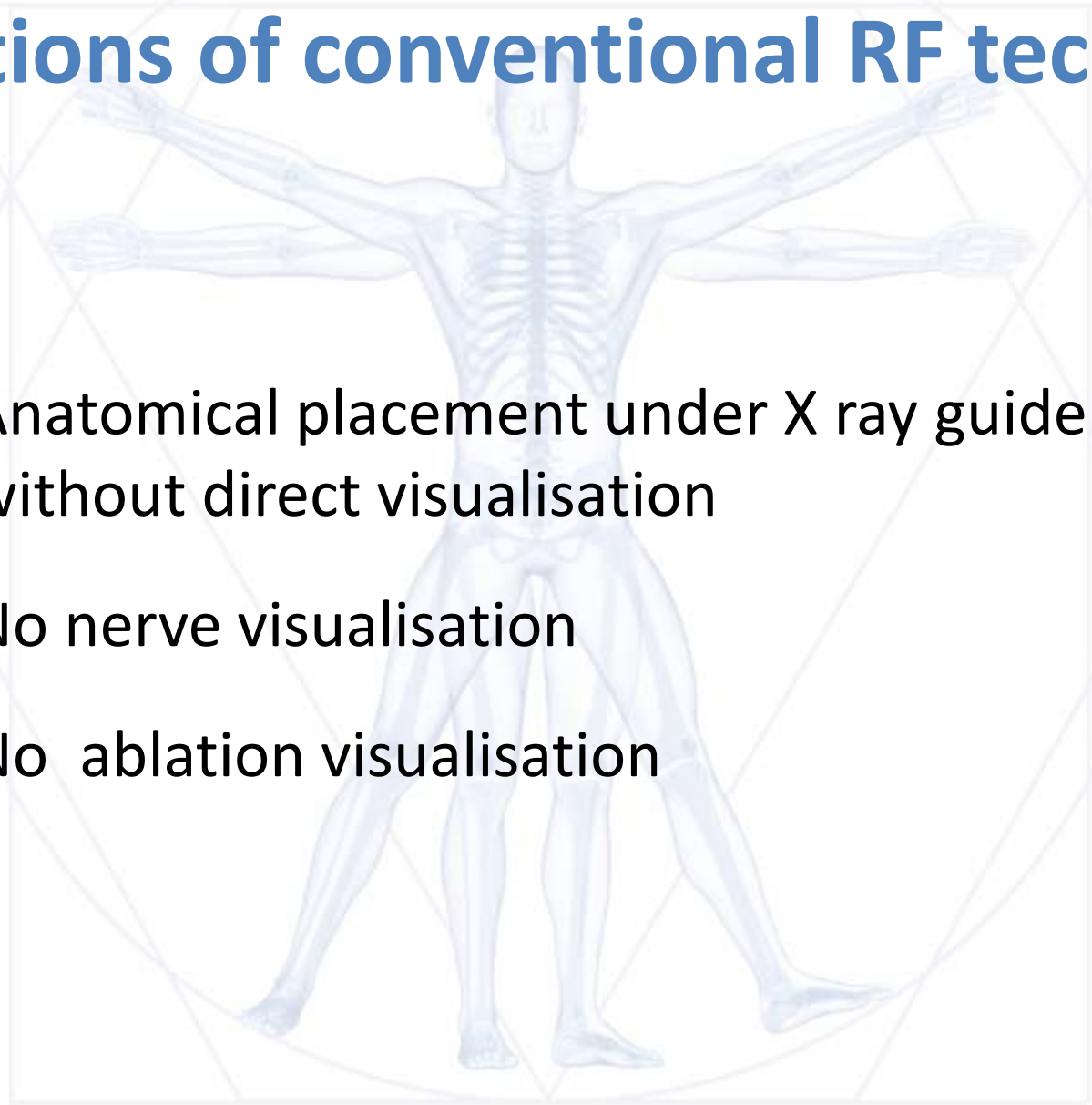


MEDIAN BRANCH

S. Nath, C. A. Nath, and K. Pettersson, "Percutaneous lumbar zygapophysial (Facet) joint neurotomy using radiofrequency current, in the management of chronic low back pain: a randomized double-blind trial," Spine, vol. 33, no. 12, pp. 1291–1297, 2008

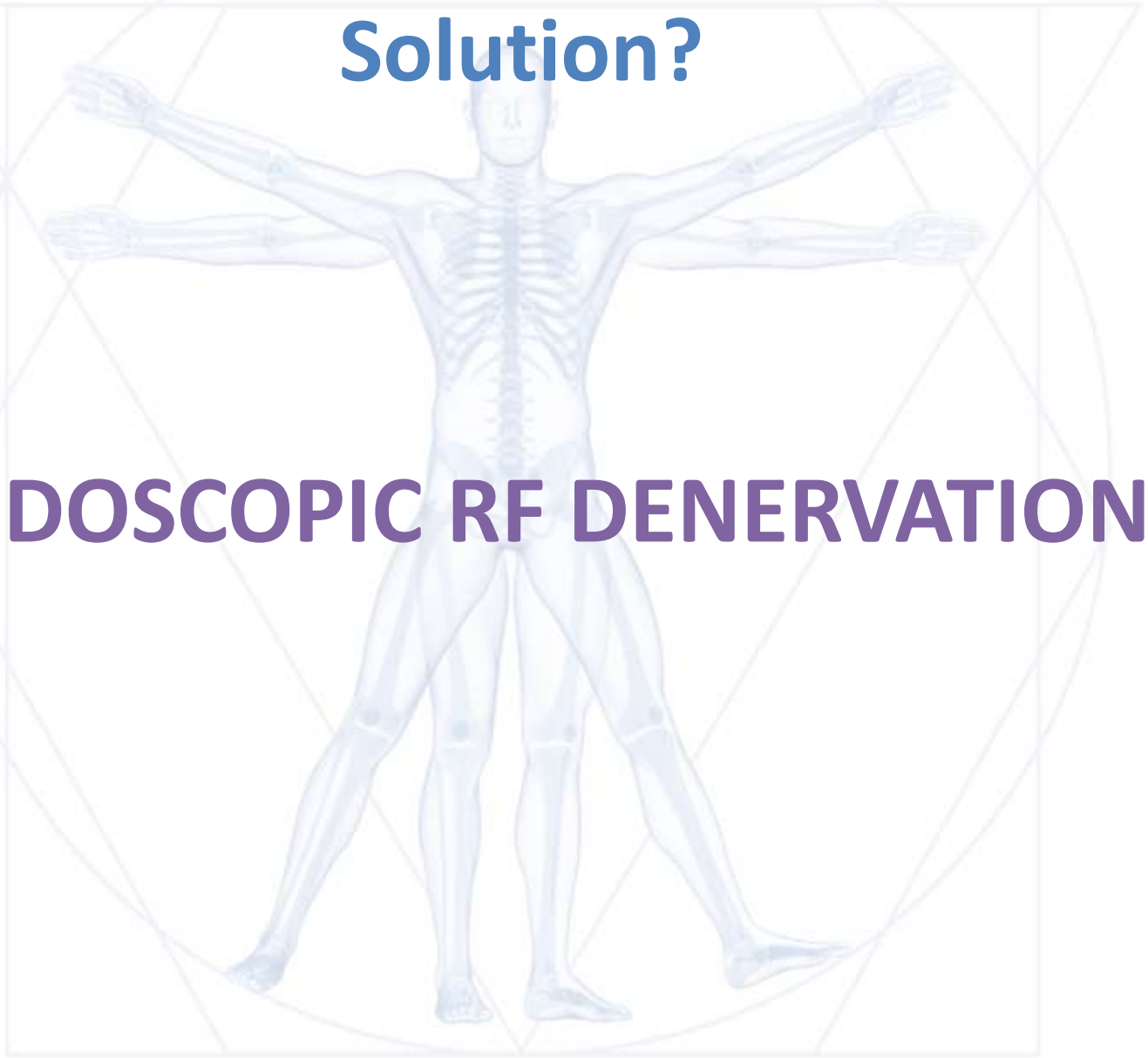
Precision in needle placement

Limitations of conventional RF technique



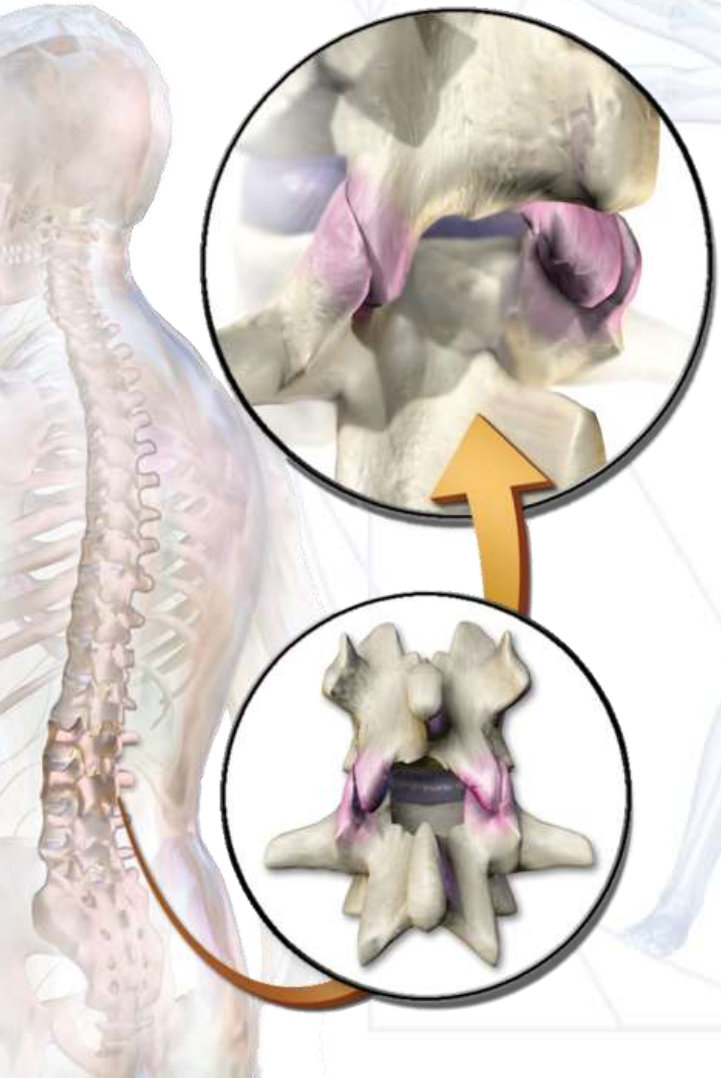
- Anatomical placement under X ray guidence without direct visualisation
- No nerve visualisation
- No ablation visualisation

Solution?



ENDOSCOPIC RF DENERVATION

Indications for use

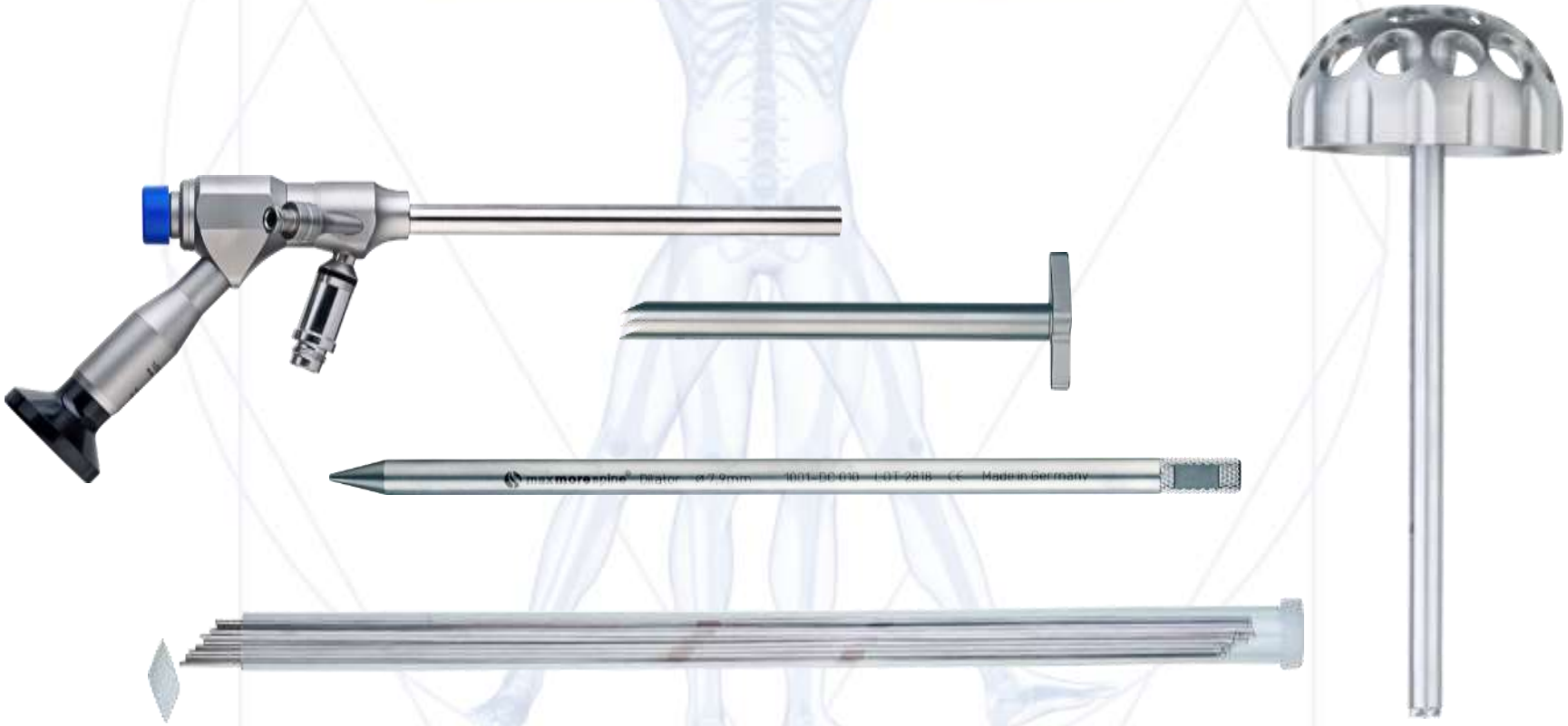


The MAX J@ABLATION treatment modality uses high heat and rotational capsular tissue shaving, in a minimally invasive posterior capsulectomy procedure.

Intended for coagulation of soft tissues in spinal applications for selective denervation and tissue destruction procedures, which may be performed in the lumbar, ISG thoracic and cervical regions (C2 – C7) of the peripheral nerves and nerve roots for the relief of pain associated with the facet joint.

MAX J@BLATION System

All Inclusive, Ready-to-Use, Single-Use Kit



MAX J@BLATION Technique

MAX J@BLATION Technique

MAX J@BLATION Technique

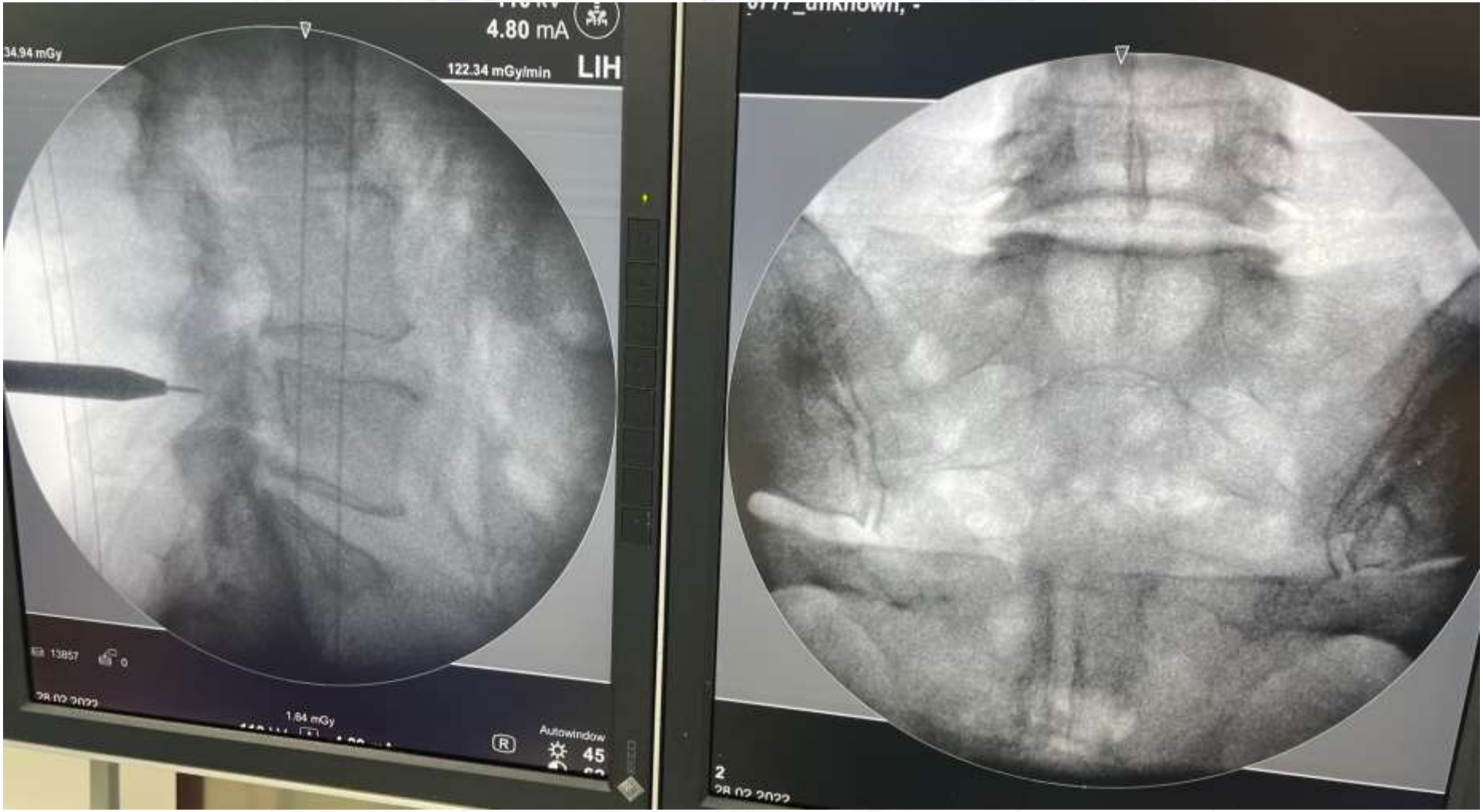
Technical notes

Endoscopic procedure

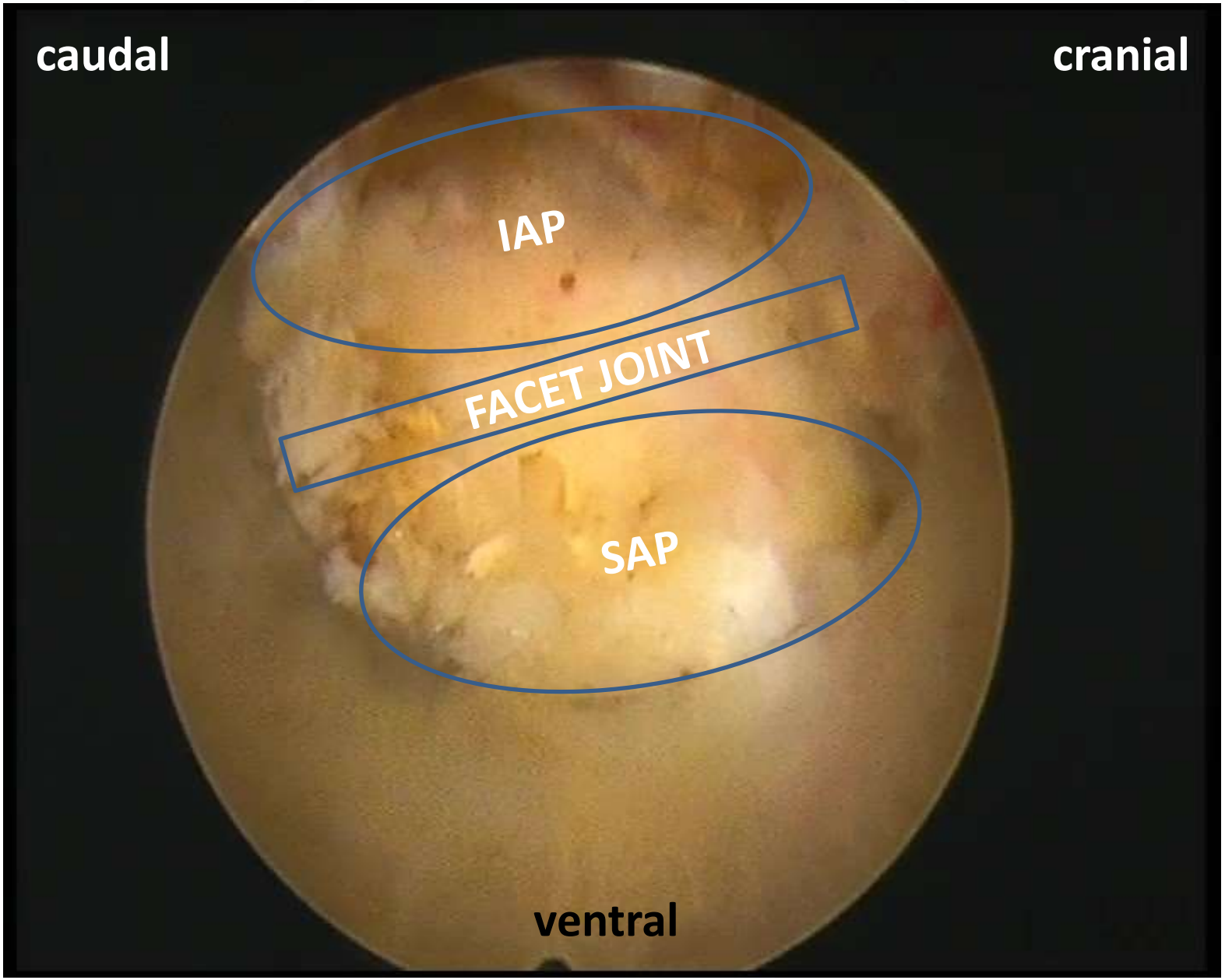
- Visualization of capsule and surrounding tissues
- Resection, coagulation to see joint gap and surrounding bone
- Finalizing of decapsulation with reamer if necessary
- Denervation of lateral aspect of SAP
- Slipping down to TP and MB if necessary

K – wire ipsilateral oblique

Dilator - lateral



Working sleeve - lateral


caudal
cranial
IAP
FACET JOINT
SAP
ventral

Clinical data

MAX J@ABLATION® device was designed around the combination of denervation and capsulectomy

Endoscopic Facet Debridement for the treatment of facet arthritic pain – a novel new technique

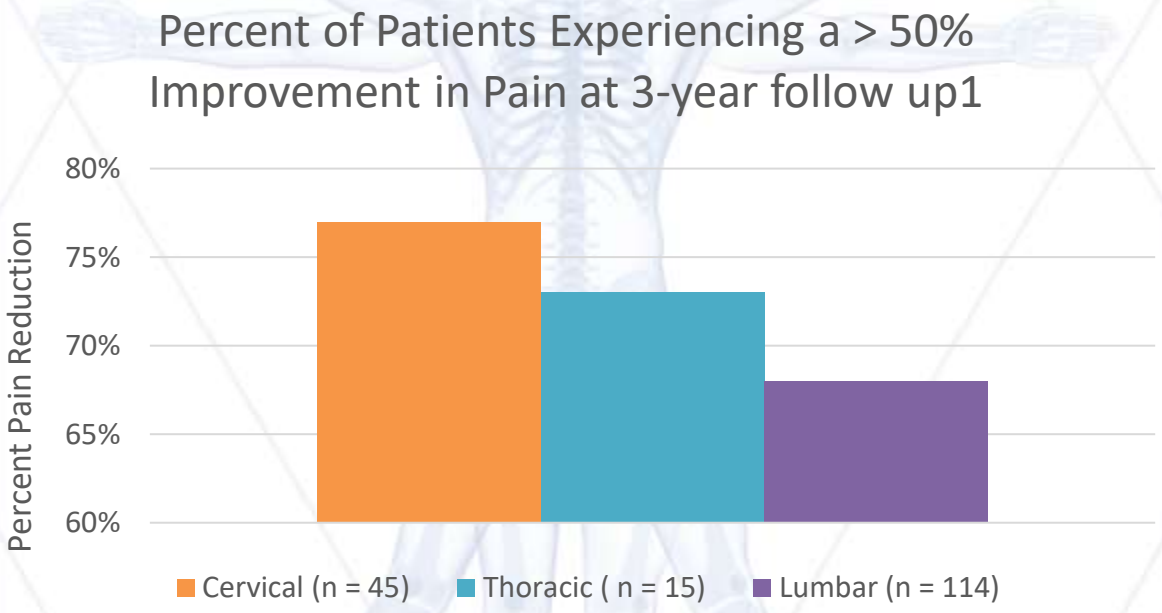
Scott M. W. Haufe, Anthony R. Mork[1]

First published data on this approach involves the manual use of these combined techniques[1]

- Retrospective study of 174 patients
- 3 year follow up

1. Haufe, S M, Mork A R. Endoscopic Facet Debridement for the treatment of facet arthritic pain – a novel new technique. Int J Med Sci 2010; 7(3): 120 – 123.

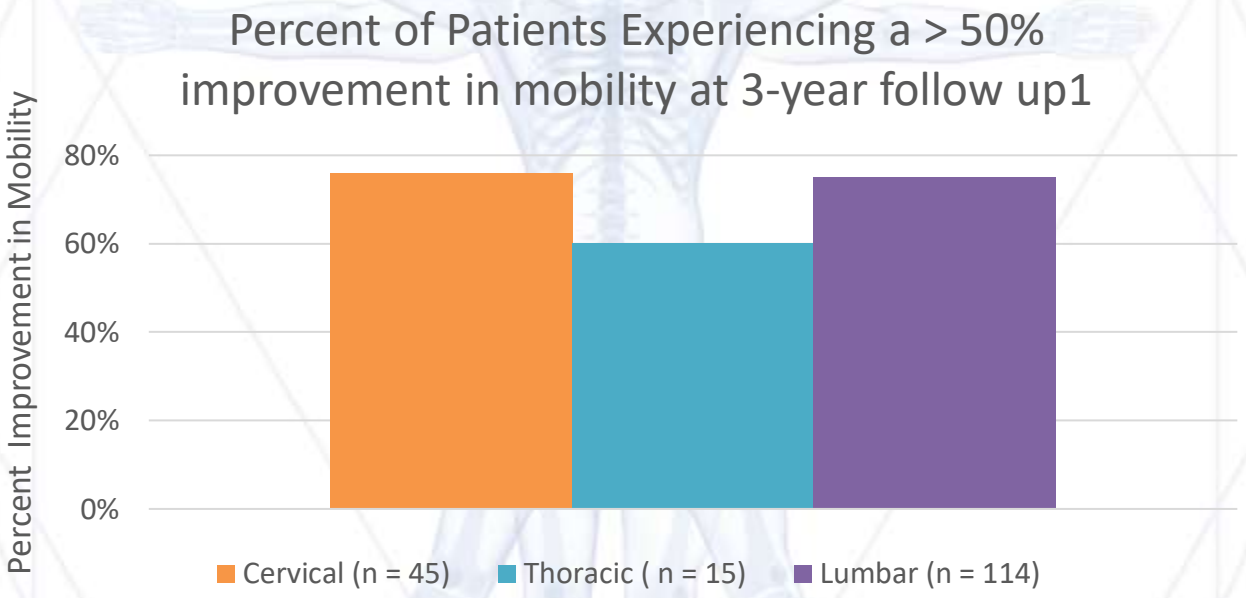
Long-term pain relief



The majority of patients achieved a 75% to 100% improvement (VAS pain score) at a minimum 3-year follow up

1. Haufe, S M, Mork A R. Endoscopic Facet Debridement for the treatment of facet arthritic pain – a novel new technique. Int J Med Sci 2010; 7(3): 120 – 123.

Improved mobility



Most patients experienced a 75% to 100% improvement (ODI) at a minimum 3-year follow up

1. Haufe, S M, Mork A R. Endoscopic Facet Debridement for the treatment of facet arthritic pain – a novel new technique. Int J Med Sci 2010; 7(3): 120 – 123.

Own initial data

Comparing the effect of interventional pain management techniques in the treatment of facet joint pain (RF denervation, cryodenervation, ED ablation)

Results

At 3 and 6 months postoperatively, all patients monitored in the individual dimensions of the EQ-5D (mobility, self-care, routine activities, pain / discomfort, anxiety / depression) had an improvement of the clinical status that was not statistically significant. In the overall evaluation, we recorded a significant improvement in the quality of life in all three groups with $p < 0.0001$. After all three interventional pain management procedures, we recorded a statistically significant improvement in the VAS parameter, with $p = 0.0445$ in group A and $p < 0.001$ in groups B and C.

Conclusion

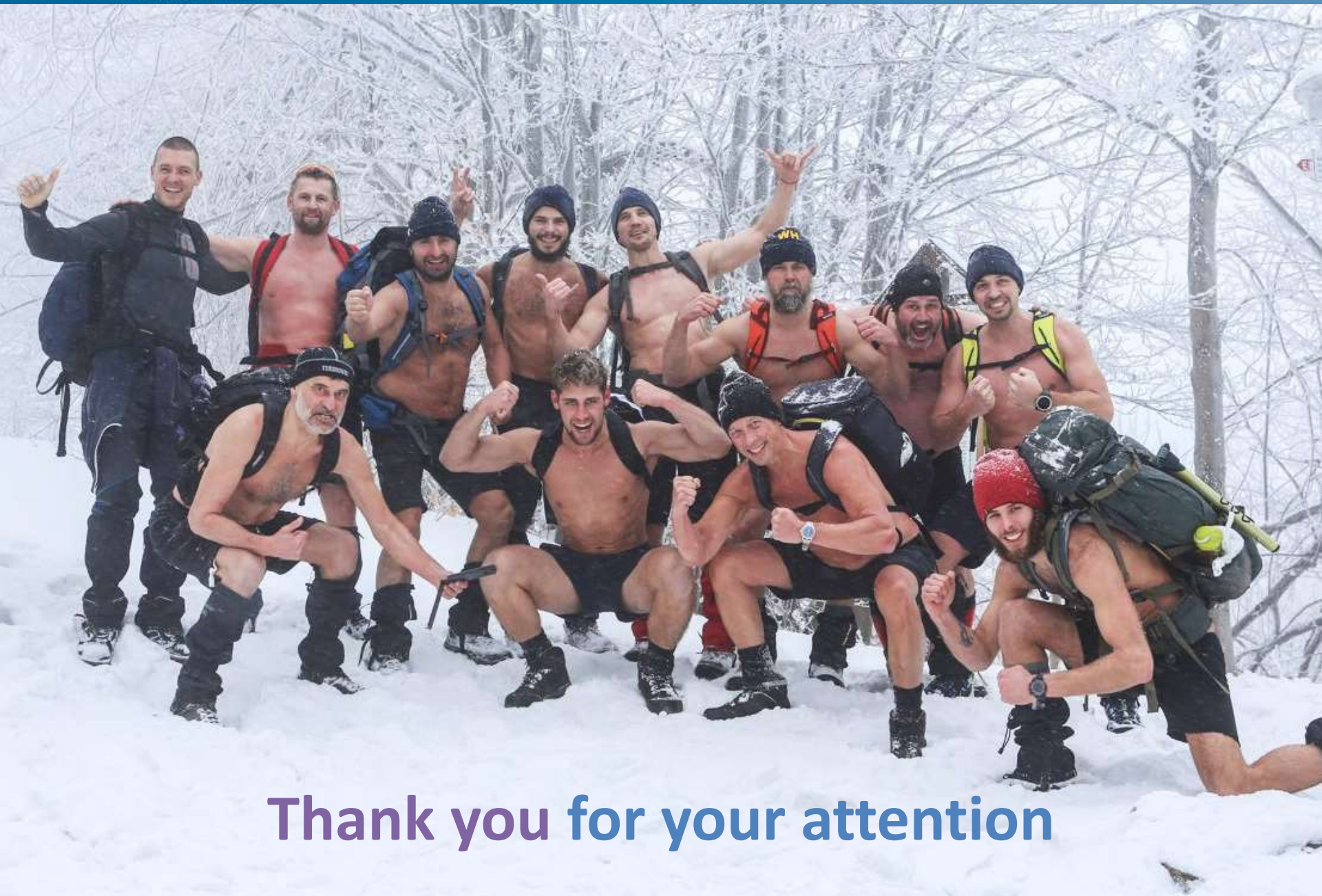
A statistically significant reduction in pain was seen in the EQ-5Da VAS scale and was recorded in all three groups at 6 months. Further follow-up is planned after 12, 24 and 36 months.

Endoscopic facet denervation - advantages

- Tissue visualisation
- Nerve visualisation
- RF Probe visualisation
- Ablation visualisation
- Longer effect?
- No multifidus muscle function reduction

Endoscopic facet denervation - disadvantages

- Increased costs
- Need of surgical theatre
- Increased demand on equipement
- Increased demand on personal resources
- Increased demand on competence



Thank you for your attention