



29th Annual Gabor Racz
Advanced Interventional
Pain Conference and Workshop
Budapest, Hungary August 24-26, 2026

Minimal Invasive Pain Procedures vs. Surgery for Lumbar Spine Degenerative Disease: a Surgeon's Perspective

László Entz MD PhD FIPP
MIND Clinic Budapest
Endomin Centre Zurich



29th Annual Gabor Racz Advanced
Interventional Pain Conference and Workshop
Budapest, Hungary August 24-26, 2026

Conflict of Interest

I declare no conflict of interest

Except that operating is
good...



29th Annual Gabor Racz Advanced Interventional Pain Conference and Workshop

The Clinical Burden

619M

people affected by low back pain
worldwide (2020)

IHME / GBD 2021

#1

cause of years lived with disability,
globally

GBD 2021, Lancet Rheumatology

843M

projected prevalent cases by 2050

IHME / GBD 2021

Chronic low back pain...

- Prevalence of low back pain (LBP) is 54%-80%
- 60% of LBP patients suffer from pain 5 years or more
- Serious burden for society and economy
- Minimal invasive pain interventions can have a tremendous role in treating these patients



Degenerative Lumbar Disease

- Discopathy
- Disc herniation
- Spinal canal stenosis
- Synovial cyst
- Spondylolisthesis +/- instability
- Facet joint arthrosis
- Osteochondrosis
- SIJ Arthrosis
- Etc...





29th Annual Gabor Racz Advanced Interventional Pain Conference and Workshop

The Treatment Continuum



Rising invasiveness → Rising durability potential → Rising procedural risk

Recommendation grades in PSPS

Table 11. *Recommendation grade of each treatment for FBSS.*

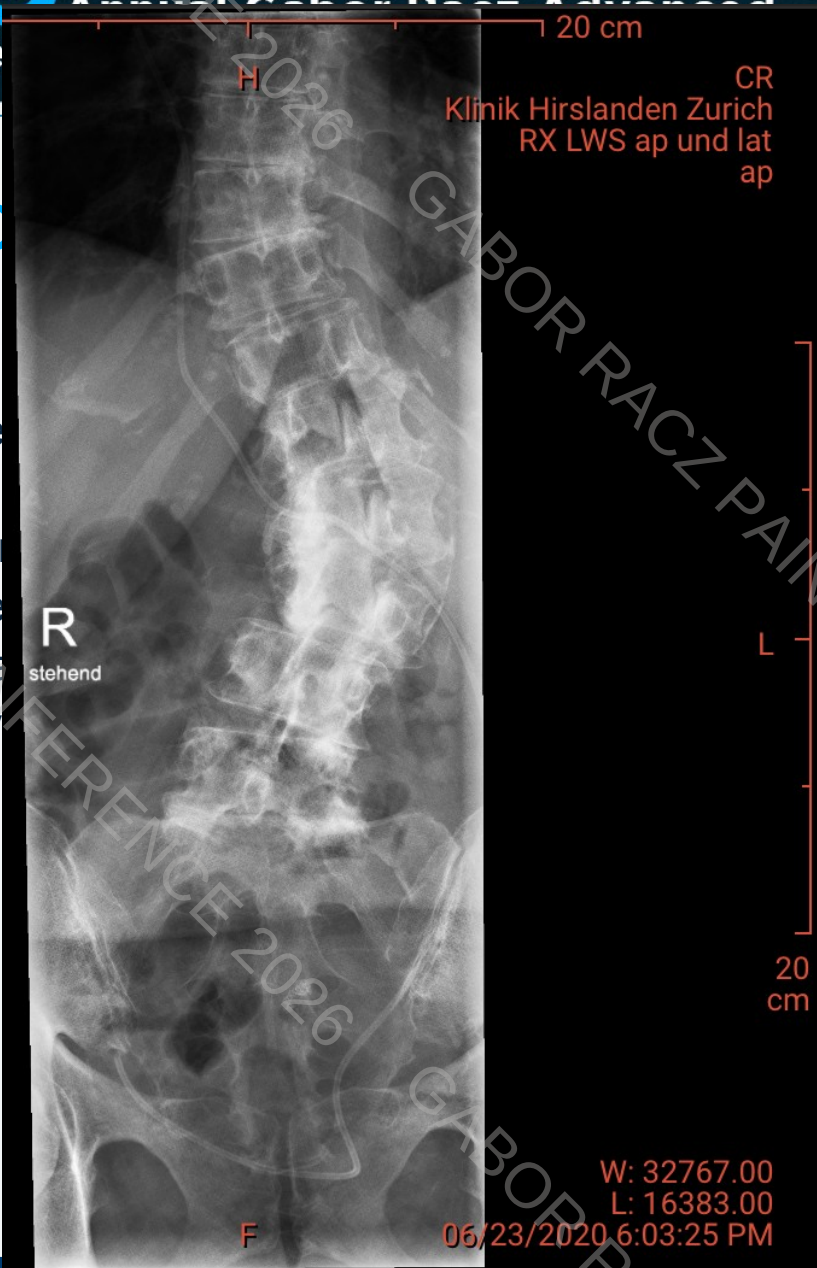
Treatment	Outcome			Recommendation
	Therapy	Expected: '+' Outcome	Expected: '-' Outcome	
Epidural adhesiolysis				A
Spinal cord stimulation				B
Epidural injection	Epidural adhesiolysis	50-73%	50-27%	C
Revision surgery	SCS	47-48%	52-53%	D
	Epidural infiltration	58%	42%	
	Surgical revision	34-35%	65-66%	
	CMM	9-12%	88-91%	

- Diagn
- Pro
- or



Types of

- Diagnostic b
 - Prove the
 - Link
 - finding
 - Differ
 - Find the a
 - Poly





29th Annual Gabor Racz Advanced Interventional Pain Conference and Workshop

Diagnostic Value Before Surgery - questionable

Confirming the pain generator, not just treating it

57% / 86%

sensitivity / specificity of selective nerve root blocks for the symptomatic level

**Rule Out
> Rule In**

diagnostic blocks carry strong negative predictive value — best at excluding a level

63%

of surgically-treated patients satisfied with outcome at 5 yrs — better selection helps

Selective nerve root block

Localizes the symptomatic level when imaging and exam are discordant or multilevel disease is present, ahead of decompression or discectomy

High sensitivity, lower specificity — a negative block is more trustworthy than a positive one

Facet medial branch block

Confirms a facet pain generator before committing to RFA — or before fusion is considered for axial pain

Dual, comparative blocks reduce the false-positive rate seen with a single block

Provocative discography

Historically used to confirm discogenic pain before fusion

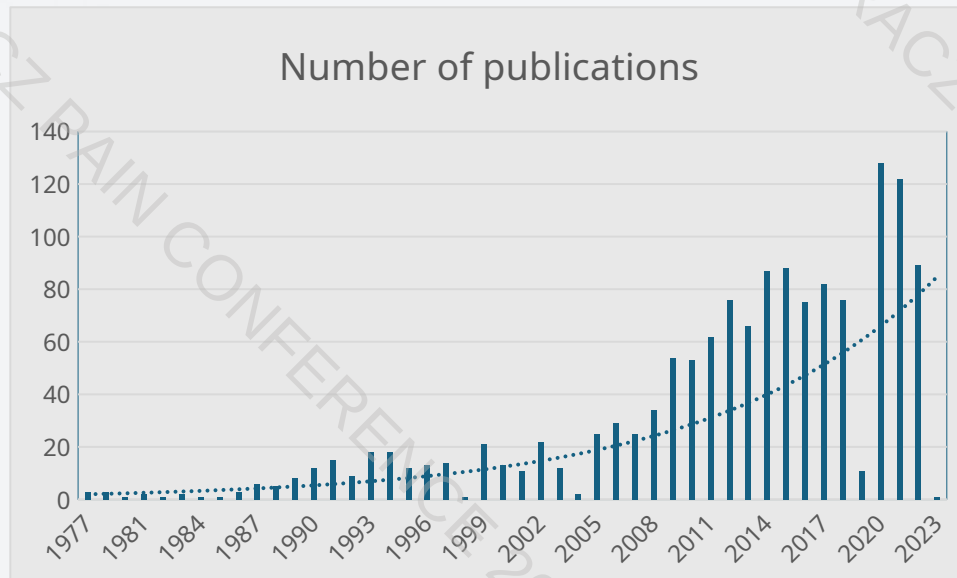
Largely fallen out of favor — high false-positive rate; evidence does not support routine use



29th Annual Gabor Racz Advanced Interventional Pain Conference and Workshop



Risk of Persistent Spinal Pain Syndrome (PSPS)



- 25-49/100.000 population: Spine surgery in the UK¹
- 135/100.000 population: Spine surgery in the USA²
- 5-36%- residual low back or lower limb pain after 2 years³

¹Sivasubramaniam V et al. Trends in hospital admissions and surgical procedures for degenerative lumbar spine disease in England: a 15-year timeseries study. BMJ Open 5(12):e009011

²Bernstein et al. Impact of the economic downturn on elective lumbar spine surgery in the United States: a national trend analysis, 2003–2013. Global Spine J 7:213–219

³Strömquist PF, et al. SWESPINE, The Swedish Spine Register. 2014 Report. Swedish Society of Spinal Surgeons.

Therapeutic options to treat the residual pain:

Conservative Medical Management, CMM



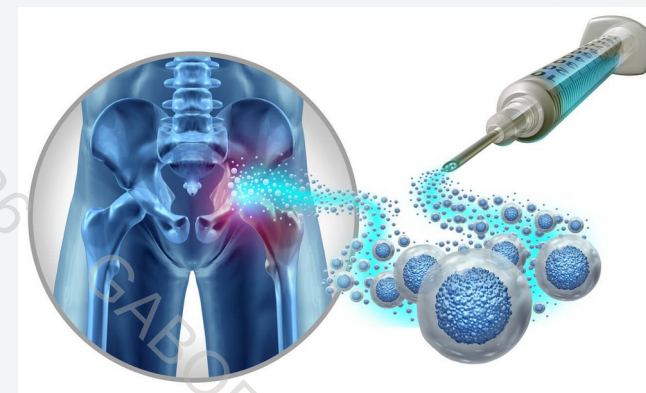
Epidural Adhesiolysis and/or epidural
injection



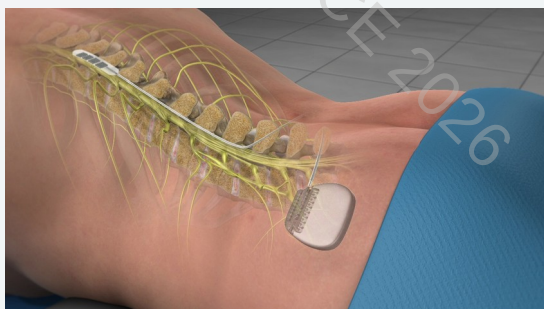
Revision



Regenerative Medicine....



Neuromodulation, SCS, DRG,
etc.





Indications of revision surgery

- Progressive deformity (sagittal and/or coronal dysbalance)
- Spinal Instability
- Pseudoarthrosis – Non fusion
- Persistent radicular compression or significant spinal stenosis w/wo neurological symptoms



29th Annual Gabor Racz Advanced Interventional Pain Conference and Workshop

52 y/o Female patient – ACDF C5-C6



1st Postoperative X-ray



2y Postoperative CT



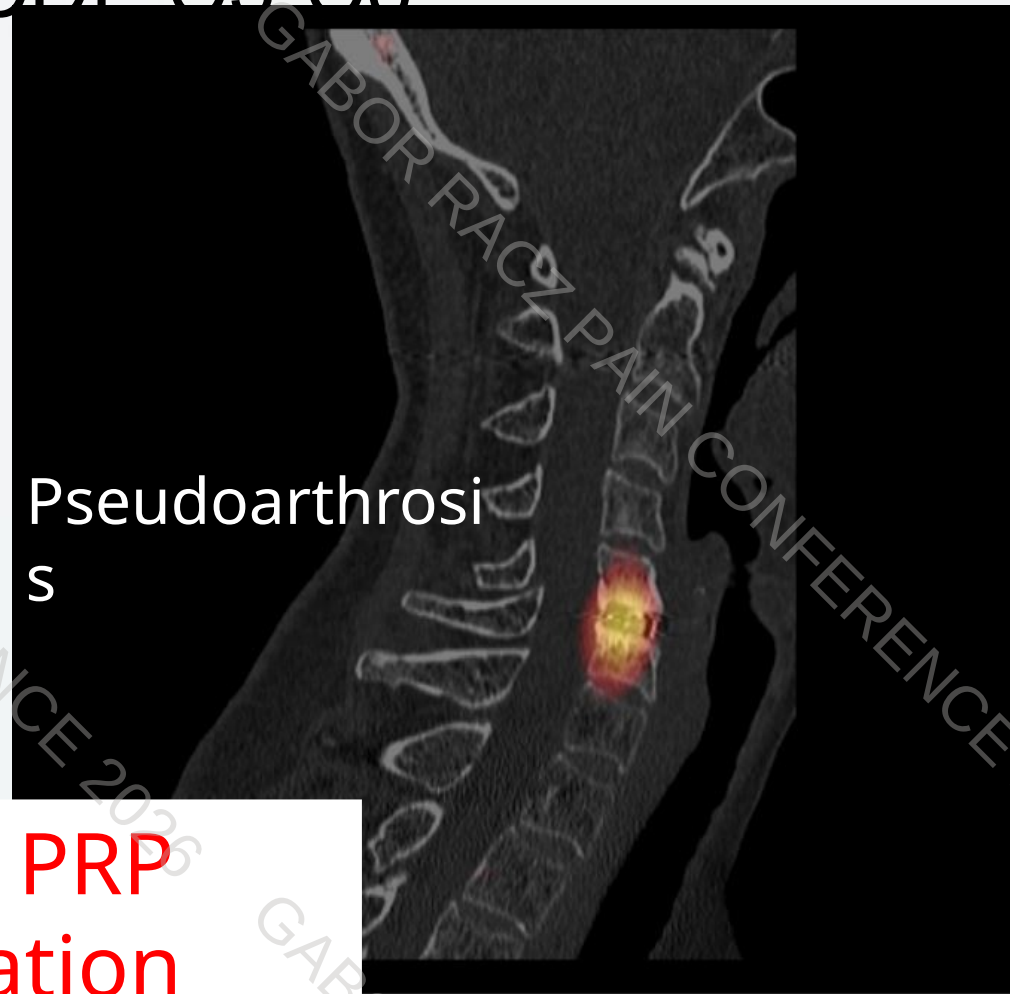
2 year Postoperative SPECT - CT

52 y/o Female patient – ACDF C5-C6



- Revision surgery was performed with new cage implantation and implantation of a plate
- Pain diminished

Note: Today I would do PRP first and if fails, reoperation



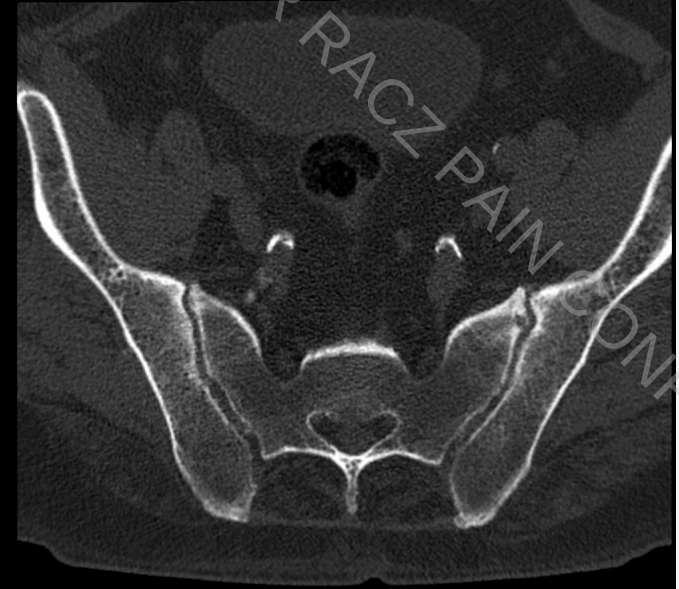
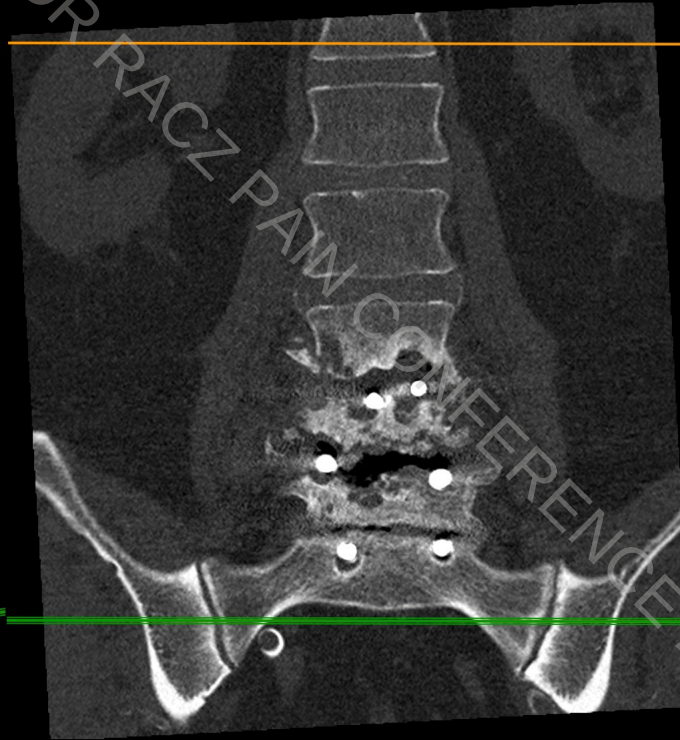
2 year Postoperative SPECT - CT



29th

Real Life Annual Gabor Racz Advanced Interventional Pain Conference and Workshop

- 63
- H
- A
- D
- P
- P
- I
- C
- T
- N
- P
- P





29th Annual Gabor Racz Advanced Interventional Pain Conference and Workshop

Regenerative Medicine: Where Does It Fit?

Biologics for discogenic pain — mechanistically promising, evidence still maturing

Level III

evidence grade for intradiscal and epidural PRP & MSC injections

54.8%

aggregate PRP “success” rate across small, heterogeneous studies (95% CI 40–70%)

Sham ≈ Active

two rigorous sham-controlled RCTs (BM-MSK, bone marrow concentrate) found no benefit over placebo

Intradiscal PRP

Mixed: beat corticosteroid and methylene blue in small active-comparator RCTs; one sham-controlled RCT showed no benefit at 1 year

Diagnosis-dependent; positive trials lack sham control

Intradiscal MSC / bone marrow concentrate

DREAM trial (BM-MSK) and a sham-controlled BMC RCT: safe, some MRI regenerative signal, but no significant clinical benefit over sham

The most rigorous trials to date are the least favorable

Epidural / facet / SI joint PRP

Fewer, smaller studies; Level III (epidural) to Level IV (facet, SI joint) evidence per current guidelines

Consensus-based, low-to-moderate strength recommendations only



29th Annual Gabor Racz Advanced Interventional Pain Conference and Workshop

A Practical Decision Framework

Pathology and trajectory drive the pathway — not preference alone



Red Flags Present

Progressive motor deficit, cauda equina,
unstable spondylolisthesis

→ Surgery, expedited



Confirmed Pain Generator, **No** (Macro) Instability

Facet-mediated pain, contained
disc herniation, mild stenosis

→ Trial pain procedure first



Structural Pathology, Failed Conservative Care

Instability, recurrent herniation,
moderate-severe stenosis, severe deformity

→ Surgical evaluation



29th Annual Gabor Racz Advanced Interventional Pain Conference and Workshop

The Surgeon's Lens

What changes the calculus for the operating surgeon



Structural problems need structural solutions

A procedure that modulates pain cannot correct instability, high-grade stenosis, or a large sequestered fragment.



Time-to-relief matters clinically

A patient with progressive weakness does not benefit from serial injections while function is lost.



Pain procedures are diagnostic, not just therapeutic

A positive response to a diagnostic block or RFA sharpens surgical planning even when surgery is the eventual answer.



Overuse in either direction has a cost

Surgery for poorly-localized pain underperforms; repeated procedures for unstable pathology delay definitive care.



29th Annual Gabor Racz Advanced Interventional Pain Conference and Workshop

Key Takeaways

Right tool, right patient, right time

1

Minimally invasive pain procedures and surgery are complementary, not competing, tools along one continuum

2

Pathology, not preference, should drive the pathway — instability and progressive deficit warrant surgery regardless of what has been tried

3

MIS surgical techniques narrow, but do not eliminate, the morbidity gap with open surgery — indication still comes first

4

Shared decision-making, grounded in an accurate diagnosis, outperforms defaulting to either extreme of the spectrum: Multidisciplinary board in complex cases!



29th Annual Gabor Racz
Advanced Interventional
Pain Conference and Workshop
Budapest, Hungary August 24-26, 2026

Thank you for your
attention!

