29th Annual Gabor Racz Advanced Interventional Pain Conference and Workshop

Budapest, Hungary August 24-26, 2026

Less is More

Jan Van Zundert, MD, PhD, FIPP

Ziekenhuis Oost-Limburg, Genk/Lanaken, Belgium
Maastricht University Medical Center, The Netherlands

Conflict of Interest

I have no potential conflict of interest to disclose

Maastricht: 35 years of academic chairs Pain Medicine

Review

2024 John J Bonica Award Lecture: Less is More

Jan Van Zundert [1,2]

Van Zundert J. *Reg Anesth Pain Med* 2025;**0**:1–7. doi:10.1136/rapm-2024-106283

29th Annual Gabor Racz Advanced Interventional Pain Conference and Workshop

Review

2024 John J Bonica Award Lecture: Less is More

Jan Van Zundert [1,2]

The 2009 John J. Bonica Award Lecture

The Impact of Managing Pain in the Practice of Medicine Through the Ages

P. Prithvi Raj, MD, DABPM, DABIPP, FIPP

1988	Michael J. Cousins, MD, FANZCA
1989	Tony Yakish, PhD
1990	Daniel C. Moore, MD
1991	Kenneth L. Casey, MD
1992	Stephen E. Abram, MD
1993	Henrik Kehlet, MD
1994	Laurence E. Mather, PhD
1995	John D. Loeser, MD
1996	Robert A. Boas, MB
1997	David H. Chestnut, MD
1998	Allan I. Basbaum, PhD
1999	Robert Elde, PhD
2000	Geral Gebhardt, PhD
2001	Donna L. Hammond, PhD
2002	Maria Fitgerald, PhD
2003	Christopher M. Bernards, MD
2004	Daniel B. Carr, MD
2005	James C. Eisenach, MD
2006	Howard L. Fields, MD, PhD
2007	John C. Rowlingson, MD
2008	Fernando Cervero, MD, PhD, DSc
2009	P. Prithvi Raj, MD
2010	Srinivasa N. Raja, MD
2011	James P. Rathmell, MD
2012	Jianren Mao, MD, PhD
2013	Richard L. Rauck, MD
2014	Steven P. Cohen, MD
2015	Richard Rosenquist, MD
2016	Honorio Benzon, MD
2017	Michael Stanton-Hicks, MD
2018	Charles Berde, MD
2019	Nagy Mekhail, MD, PhD
2020	Philip Peng, MBBS, FRCPC, Founder (Pain Medicine)
2021	Oscar de Leon-Casasola, MD
2022	Jose De Andres, MD, PhD, FIPP, EDRA, EDPM
2023	David Julius, PhD
2024	Jan Van Zundert, MD, PhD

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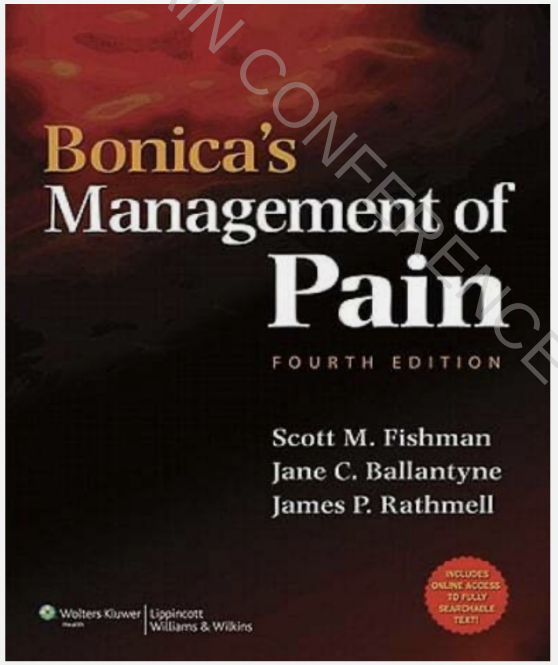
John J Bonica

Anesthesiologist and founding father of Pain Medicine

First multidisciplinary pain center in Seattle, USA (1975)

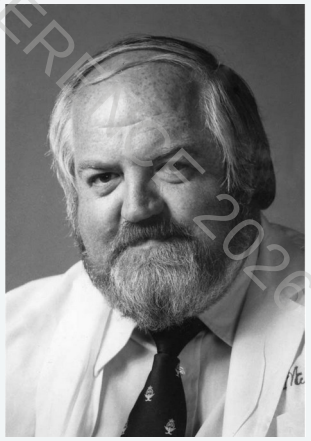
IASP, PAIN, Textbook of Pain, …



ASRA

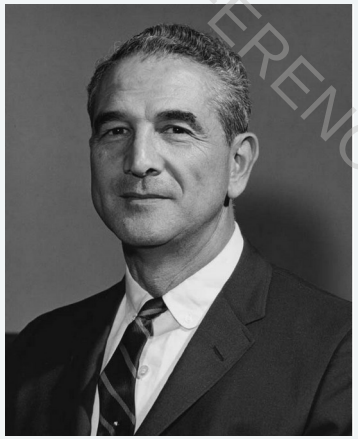
- Founded by Gaston Labat: “father” of regional anesthesia in the United States
- Dissolved in 1940
- Alon Winnie, Harold Carron, Jordan Katz, Donald Bridenbaugh, and P. Prithvi Raj reestablished ASRA in 1975
- In 1990 “Pain Medicine” was added

Gaston Labat

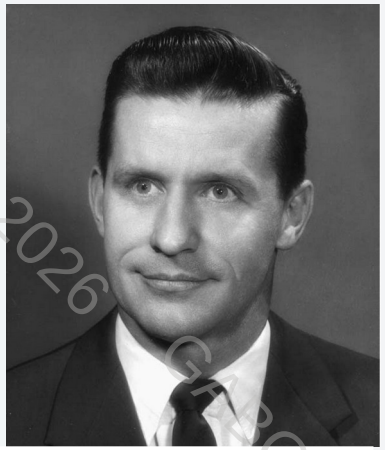


Winnie Alon

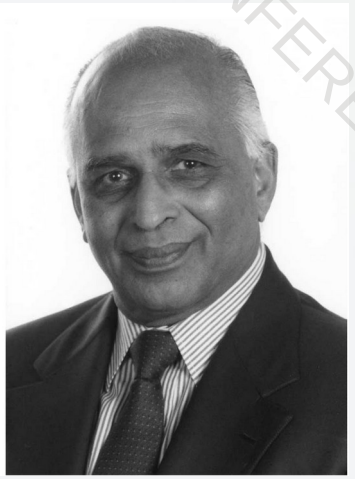
Jordan Katz



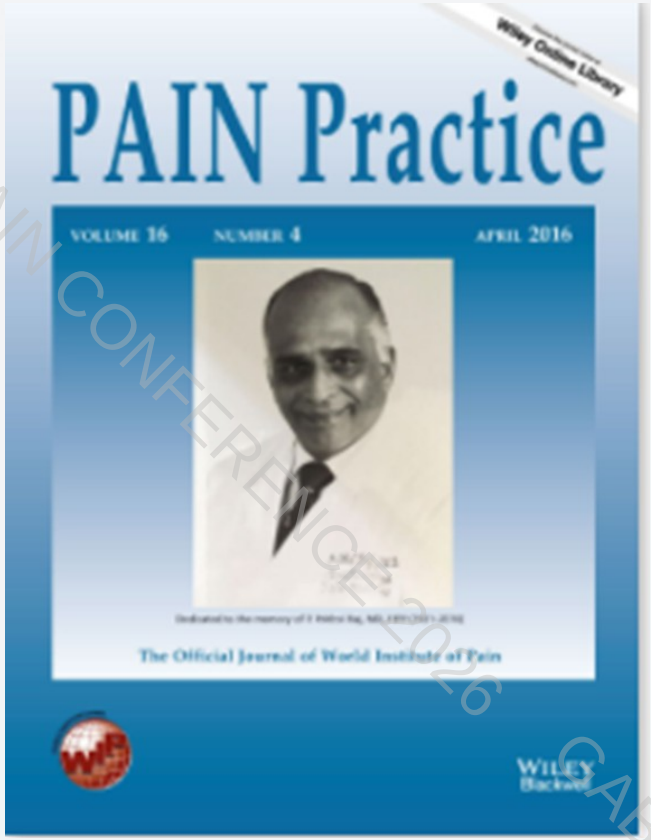
Harold Carron



Donald Bridenbaugh



Prithvi Raj



Prithvi Raj and the World Institute of Pain

- Prithvi Raj, Gabor Racz, Serdar Erdine, Ricardo Ruiz Lopez, and David Niv, founding fathers of WIP

- **Focus on training and education in the use of interventional pain techniques**
- Established **international FIPP and CIPS examinations** to assess the theoretical and practice skills of residents, fellows and other young pain physicians

Learning Objectives

Less is More

“Less is more”: Ludwig Mies van der Rohe

IBM Building Chicago

Ludwig Mies van der Rohe

“Less is more”: Ludwig Mies van der Rohe

IBM Building Chicago

Stripping a design down to its bare essentials

Keep it simple

Ludwig Mies van der Rohe

Less is More in Pain Medicine

Why?

Global incidence, prevalence, years lived with disability (YLDs), disability-adjusted life-years (DALYs), and healthy life expectancy (HALE) for 371 diseases and injuries in 204 countries and territories and 811 subnational locations, 1990–2021: a systematic analysis for the Global Burden of Disease Study 2021

*GBD 2021 Diseases and Injuries Collaborators**

Lancet 2024; 403: 2133–61

	Cause	YLDs 2021			Percentage change, 2010–21	
		Percentage of all-cause YLDs	Count (millions)	Age-standardised rate (per 100 000)	YLD count	Age-standardised rate
1	Low back pain	7·7% (6·5 to 9·1)	70·2 (50·2 to 94·1)	832·2 (595·9 to 1115·3)	19·4% (17·9 to 20·8)	–2·4% (–2·9 to –1·8)
2	Depressive disorders	6·2% (5·0 to 7·8)	56·3 (39·3 to 76·5)	681·2 (475·3 to 924·0)	36·5% (31·7 to 41·7)	16·4% (11·9 to 21·3)
3	Headache disorders	5·2% (1·2 to 10·4)	48·0 (9·80 to 101)	588·4 (117·6 to 1245·7)	14·4% (12·7 to 17·8)	0·3% (–1·1 to 1·4)
4	Age-related and other hearing loss	4·9% (3·9 to 5·9)	44·4 (30·7 to 62·0)	525·9 (364·2 to 731·9)	31·6% (30·0 to 33·1)	2·5% (1·7 to 3·3)
5	Other musculoskeletal disorders	4·8% (3·6 to 6·2)	43·0 (29·6 to 59·2)	507·2 (349·5 to 698·0)	28·7% (26·7 to 30·8)	6·3% (5·6 to 7·0)
6	Anxiety disorders	4·7% (3·6 to 6·0)	42·5 (29·4 to 57·7)	524·3 (363·3 to 716·2)	33·7% (30·7 to 37·0)	16·7% (14·0 to 19·8)
7	Diabetes mellitus	4·5% (3·9 to 5·2)	41·2 (29·0 to 56·5)	477·0 (336·1 to 653·3)	62·9% (60·3 to 65·8)	25·9% (24·0 to 28·1)
8	Dietary iron deficiency	3·6% (2·8 to 4·2)	32·3 (21·8 to 46·5)	423·7 (285·3 to 611·0)	3·2% (0·9 to 5·2)	–7·3% (–9·4 to –5·5)
9	Blindness and vision loss	3·2% (2·4 to 4·4)	29·2 (19·0 to 42·9)	342·8 (224·2 to 503·6)	32·9% (27·4 to 38·6)	2·6% (–2·5 to 7·7)
10	Gynaecological diseases	3·0% (2·5 to 3·7)	27·4 (19·1 to 38·2)	334·0 (232·7 to 467·5)	15·3% (14·0 to 16·8)	1·4% (0·6 to 2·3)

Females

Leading causes 1990	Leading causes 2007	Mean percentage change in number of YLDs, 1990–2007	Mean percentage change in all-age YLD rate, 1990–2007	Mean percentage change in age-standardised YLD rate, 1990–2007	Leading causes 2017	Mean percentage change in number of YLDs, 2007–17	Mean percentage change in all-age YLD rate, 2007–17	Mean percentage change in age-standardised YLD rate, 2007–17
1 Low back pain	1 Low back pain	29·8	3·3	−7·6	1 Low back pain	17·3	3·7	−2·7
2 Headache disorders	2 Headache disorders	34·0	6·7	−0·1	2 Headache disorders	15·3	1·9	0·7
3 Dietary iron deficiency	3 Depressive disorders	32·2	5·2	−3·0	3 Depressive disorders	14·1	0·8	−3·1
4 Depressive disorders	4 Dietary iron deficiency	0·3	−20·2	−18·8	4 Dietary iron deficiency	−5·0	−16·0	−14·6
5 Anxiety disorders	5 Anxiety disorders	33·0	5·9	0·6	5 Diabetes	30·0	14·9	3·5
6 COPD	6 Diabetes	72·5	37·3	18·6	6 COPD	28·9	13·9	1·7

Males

1 Low back pain	1 Low back pain	30·2	3·9	−6·8	1 Low back pain	17·8	4·6	−1·3
2 Headache disorders	2 Headache disorders	34·1	7·0	1·1	2 Headache disorders	15·5	2·6	1·5
3 Dietary iron deficiency	3 Diabetes	79·0	42·9	21·9	3 Diabetes	30·1	15·5	4·2
4 Depressive disorders	4 Depressive disorders	35·5	8·1	−0·1	4 Age-related hearing loss	24·2	10·2	−0·7
5 Age-related hearing loss	5 Age-related hearing loss	44·0	14·9	−0·1	5 Depressive disorders	14·8	1·9	−1·9
6 Diabetes	6 Neonatal disorders	51·5	20·9	27·3	6 Neonatal disorders	22·1	8·4	11·4
7 COPD	7 Dietary iron deficiency	−1·1	−21·1	−15·1	7 Drug use disorders	21·5	7·9	7·9

Lancet 2018; 392: 1789–858

Less is More in Pain Medicine

Opioids

Opioid crisis

- Predominantly in the US and Canada
- In the US 500,000 deaths from 1996 to 2019 [1]
- Europe has more restrictions and “lessons learned”

Gardner et al. Forensic Sci Rev 2022

Opioid crisis

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Cave: Cannabis, Ketamine, Pregabaline, … “Primum non nocere”

Gardner et al. Forensic Sci Rev 2022

Opioid crisis

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Cave: Cannabis, Ketamine, Pregabaline, … “Primum non nocere”

Long term pharmacological treatment of chronic non cancer pain is rather disappointing in daily practice: balance efficacy vs side effects and complications

Gardner et al. Forensic Sci Rev 2022

Learning Objectives

Less is More in Pain Medicine

Neuromodulation

- Aplication of electric current to the spinal cord
- Boston: first use in 1967 (Gate Control Theory 1965)
- Interfere with pain signals to the brain

- Main indication: PSPS –type 2 (FBSS)
- Others: CRPS, Diabetic Polyneuropathie, Refractory AP, Peripheral Vascular Disease, Perferal Neuropathies, …

- The last 15 years new technical developments:
  - Alternative wave forms (HF, Burst, DTM, …)
  - Alternative targets (DRG, DB, MCS, Peripheral, …)

Trends in spinal cord stimulation utilization: change, growth and implications for the future

Courtney Chow, Richard Rosenquist

Chow C, Rosenquist R. *Reg Anesth Pain Med* 2023;**48**:296–301. doi:10.1136/rapm-2023-104346

Table 1 SCS utilization in Medicare patients from 2009 to 2018

Procedure type	Number of procedures performed in 2009	Number of procedures performed in 2018	Annual increase (%)	Total increase from 2009 to 2018 (%)
Percutaneous SCS trial	12 680	36 280	12.4	186
Percutaneous SCS implant	4080	14 316	15	252
Paddle lead SCS implant	3560	8600	10.3	142

SCS, spinal cord stimulation.

Chow and Courney RAPM 2023

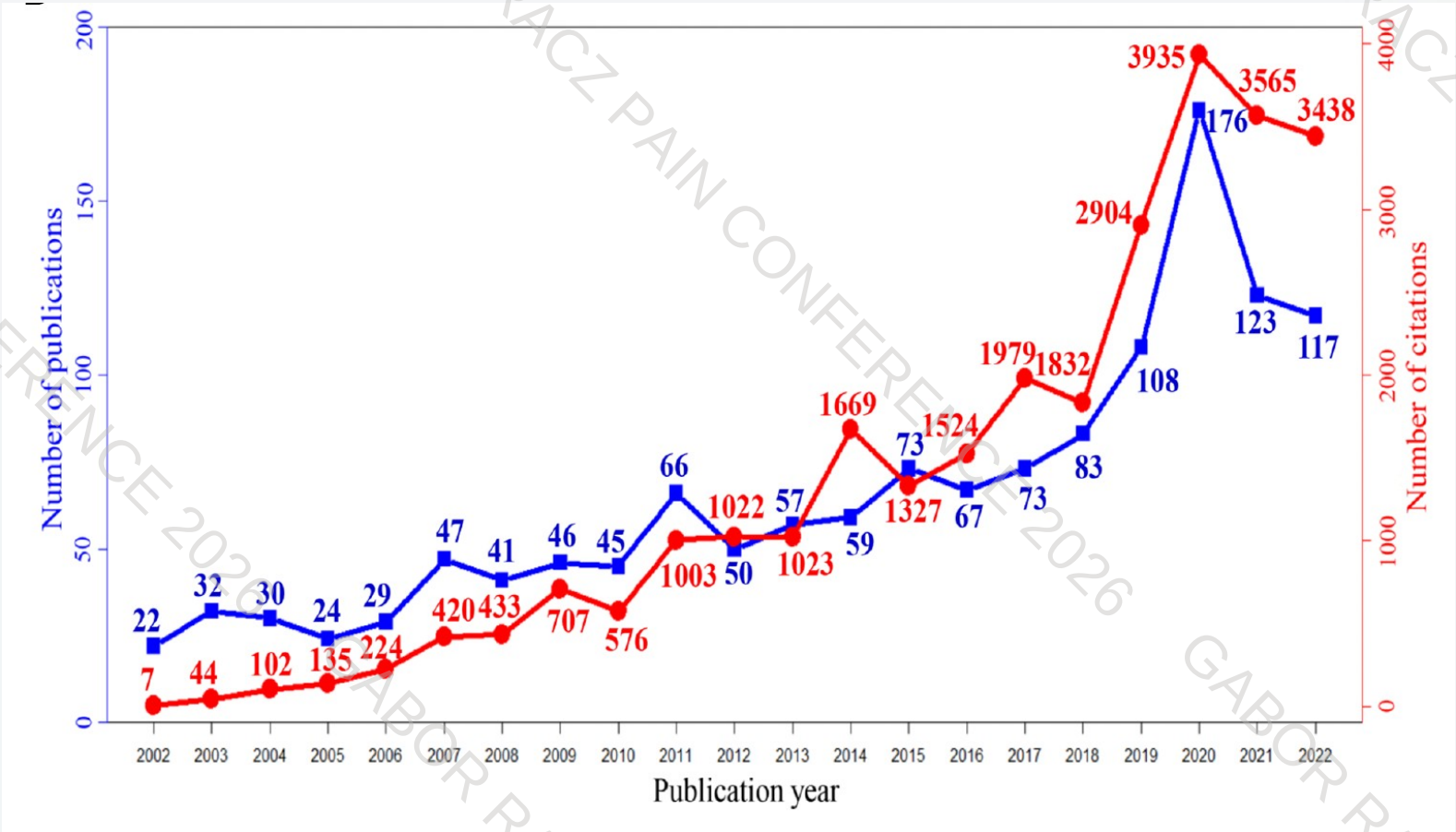
Global SCS market

- The size of the global SCS market continues to grow.
- 2019: 2.9 billion US$

- **2027: predicted to grow to 4.1 billion US$**

Fortune business insights 2023

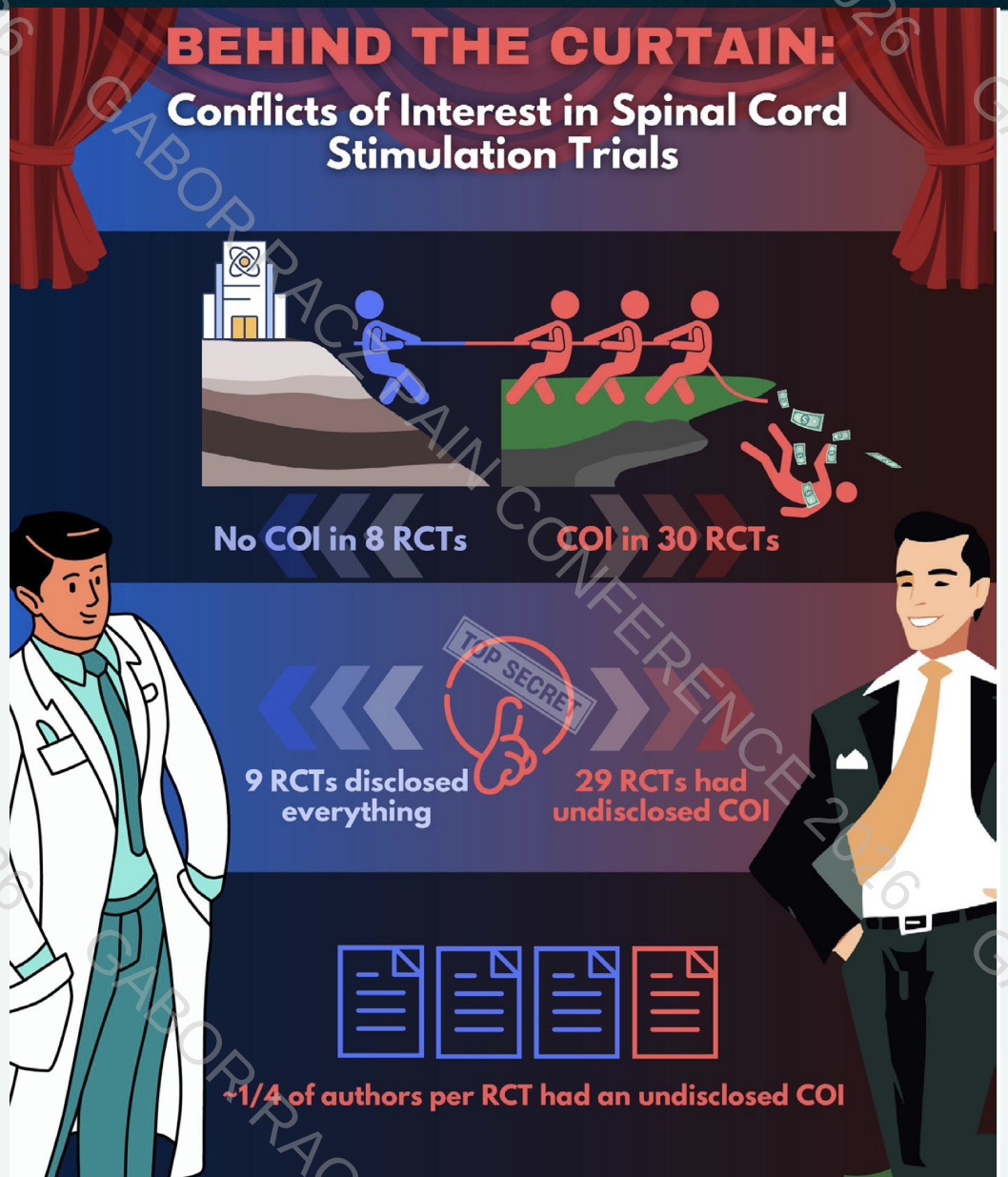
Annual trends in publications and citations



Behind the curtain: conflicts of interest in spinal cord stimulation trials—an infographic

Ryan S D'Souza [1], Johana Klasova,[1] Nasir Hussain [2]

D'Souza RS, *et al*. *Reg Anesth Pain Med* Month 2024 Vol 0 No 0



Less is More in Pain Medicine

Guidelines

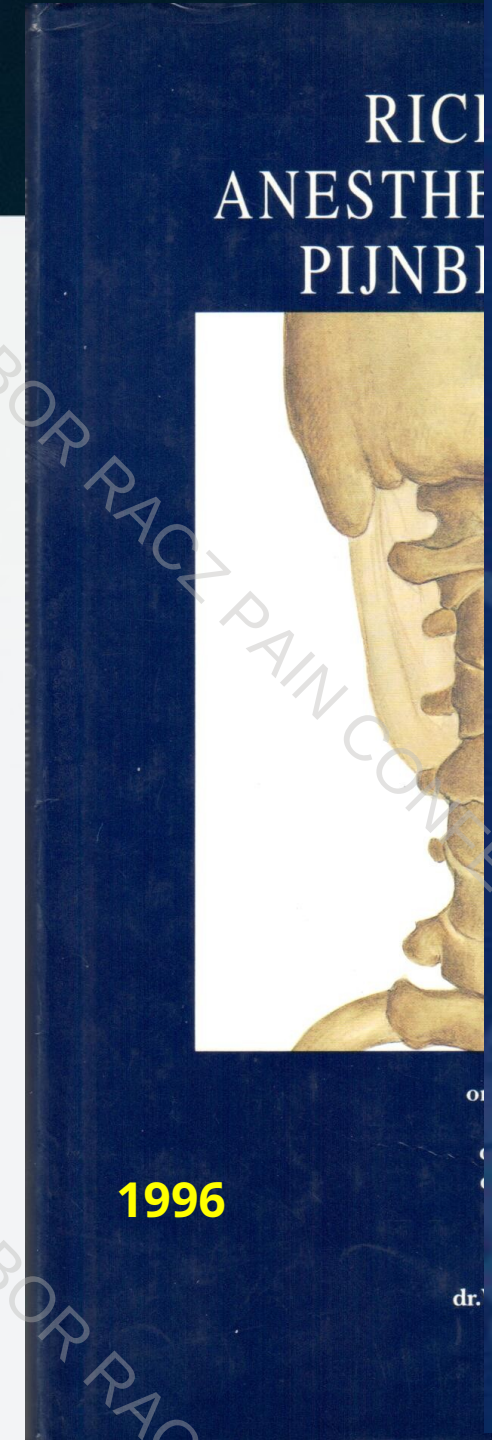
Need for a practice guidelines interventional pain

Technique should be judged for a specific indication: importance of pain “subdiagnosis”

EBM, upport for clinicians in daily practice, fellows: step wise approach

Balance efficacy vs complications

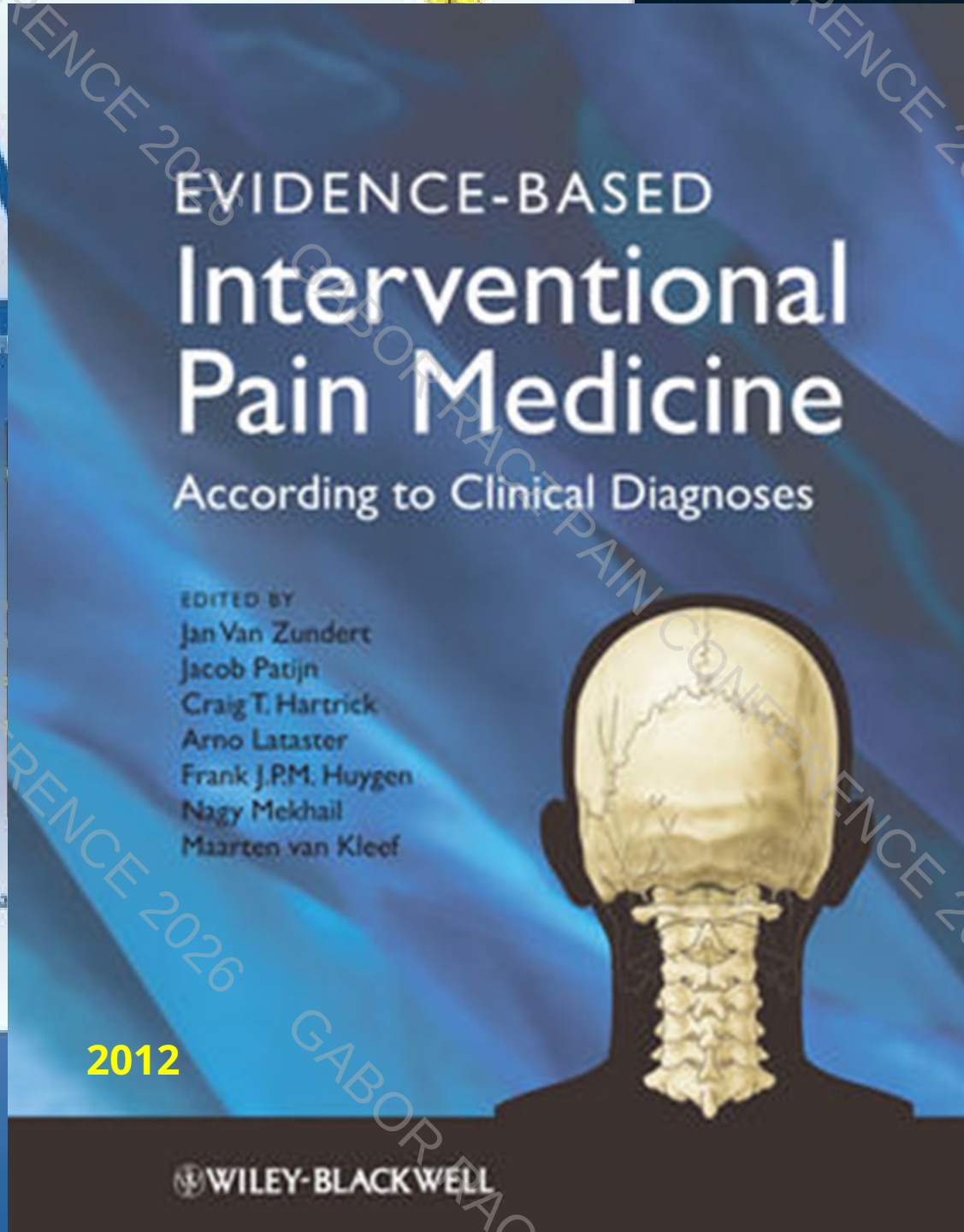
Started in the Netherlands in 1996 and since 2009 International collaboration WIP



1996

2009

2009 - 2011



2012

EVIDENCE BASED MEDICINE

Section Editor: Jan van Zundert, MD, PhD
Guest Editors: Maarten van Kleef, MD, PhD, FIPP;
Nagy Mekhail, MD, PhD, FIPP

1. Trigeminal Neuralgia

Maarten van Kleef, MD, PhD, FIPP*; Wilco E. van Genderen, MD†;
Sem Narouze, MD, MS‡; Turo J. Nurmikko, MD, PhD§;
Jan van Zundert, MD, PhD, FIPP¶; José W. Geurts, MSc*;
Nagy Mekhail, MD, PhD, FIPP‡

*Department of Anesthesiology and Pain Management, Maastricht University Medical Centre, Maastricht; †Department of Anesthesiology and Pain Management, Medical Centre Jan van Goyen, Amsterdam, The Netherlands; ‡Pain Management Department, Anesthesiology Institute, Cleveland Clinic, Cleveland, Ohio, U.S.A.; §Pain Research Institute and Department of Neurological Science, University of Liverpool, Liverpool, U.K.; ¶Department of Anesthesiology and Pain Management, Ziekenhuis Oost Limburg, Genk, Belgium

■ **Abstract:** Trigeminal neuralgia is a common cause of facial pain. It has a significant impact on the quality of life and the socioeconomic functioning of the patient. The aim of this review is to provide recommendations for medical management of trigeminal neuralgia based on current evidence. Based upon the analyses of the literature combined with experience in pain management, symptoms, assessment, differential diagnosis, and treatment possibilities of trigeminal neuralgia are described and discussed. Recommendations for pain management are given and are displayed in a clinical practice algorithm. Treatment should be multidisciplinary. Various treatment options and their risks should be discussed with the patient. The first treatment of choice is carbamazepine or oxcarbazepine. In younger patients, the first choice of invasive treatment is probably microvascular decompression. For elderly patients, radiofrequency treatment of Gasserian ganglion is recommended and the technique is described in detail. ■

Key Words: trigeminal neuralgia, evidence-based guidelines, radiofrequency treatment, pain management, interventional treatment

Address correspondence and reprint requests to: M. van Kleef, MD, PhD, FIPP, Maastricht University Medical Centre, Department of Anesthesiology and Pain Management, PO Box 5800, 6202 AZ Maastricht, The Netherlands. E-mail: maarten.van.kleef@mumc.nl.

Submitted: April 23, 2009; Accepted: April 28, 2009
DOI. 10.1111/j.1533-2500.2009.00298.x

Pain Practice, Volume 9, Issue 4, 2009 252–259

INTRODUCTION

This paper is the first in a series of practical guidelines for pain management to be published in the Evidence Based Practice section of *Pain Practice*. It includes peer-reviewed literature through November 2008.

"Trigeminal Neuralgia is the worst pain in the world," declared Peter J. Jannetta, MD in "*Striking Back!*", a layman's guide for facial pain patients.[1] Trigeminal neuralgia, or "Tic Douloureux", is a painful condition of the face. This pain has been known since ancient times; there are descriptions of facial pain by Ibn Sina (980–1073) in an Arabic text. An example of early interventional treatment is that by Locke in 1677, who applied sulphuric acid to the face of the Duchess of Northumberland in an attempt to treat her trigeminal neuralgia.

- Perfection/adaptations by international experts.
- US/International Coordination: Nagy Mekhail
- 30 Publications in Pain Practice: 2009-2011

Latest update 2022 - 2026

Goal of 20 publications, update and/or new indications

Each topic is attributed to a group of specialists in the topic

Evidence based narrative reviews

International coördinator and reviewer: **Steven Cohen**

Thank you to all the co-authors from US and Canada

Special article

OPEN ACCESS

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]

Cohen SP, *et al*. *Reg Anesth Pain Med* 2020;**45**:424–467. doi:10.1136/rapm-2019-101243

Special article

OPEN ACCESS

Consensus practice guidelines on interventions for cervical spine (facet) joint pain from a multispecialty international working group

Robert W Hurley,[1] Meredith C B Adams ,[2] Meredith Barad,[3] Arun Bhaskar,[4] Anuj Bhatia ,[5] Andrea Chadwick ,[6] Timothy R Deer ,[7] Jennifer Hah,[8] W Michael Hooten ,[9] Narayan R Kissoon,[10] David Wonhee Lee,[11] Zachary Mccormick,[12] Jee Youn Moon ,[13,14] Samer Narouze ,[15] David A Provenzano,[16,17] Byron J Schneider,[18] Maarten van Eerd,[19] Jan Van Zundert,[19] Mark S Wallace,[20] Sara M Wilson,[21] Zirong Zhao,[22] Steven P Cohen [23]

Less is More in Pain Medicine

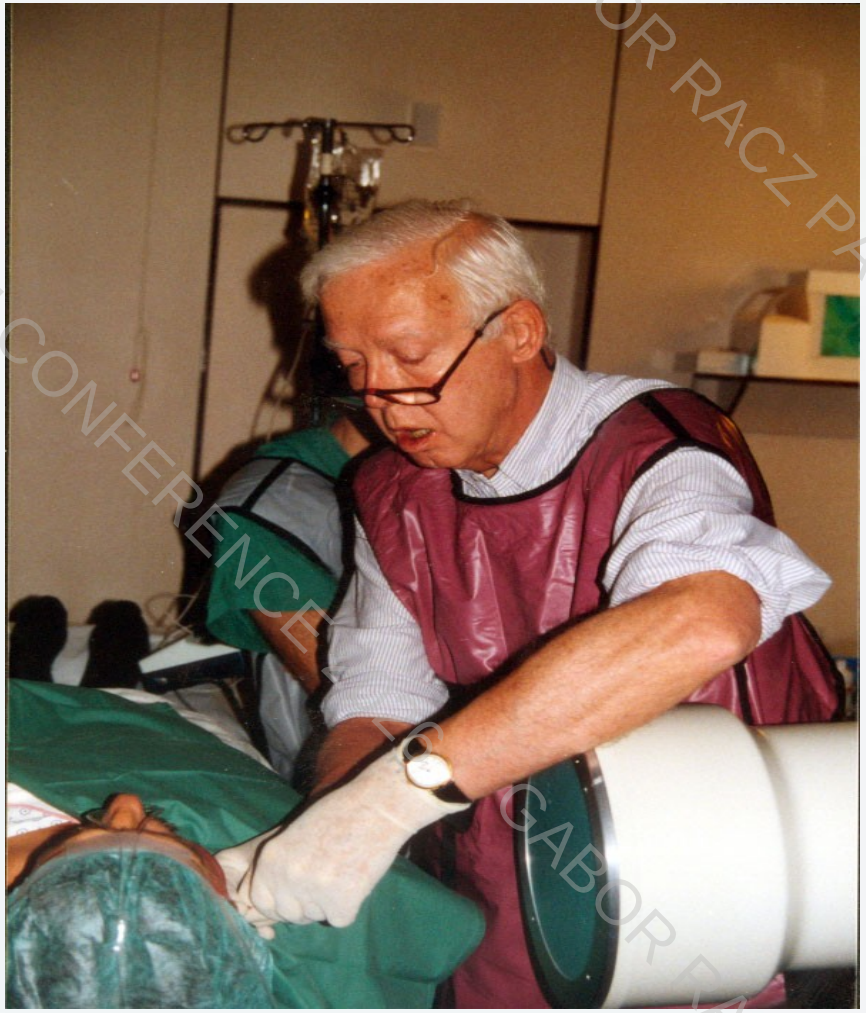
Less medications for chronic non-cancer pain
Rational use of neurostimulation for chronic non-cancer pain
(Interventional) Pain Medicine according Evidence-Based guidelines

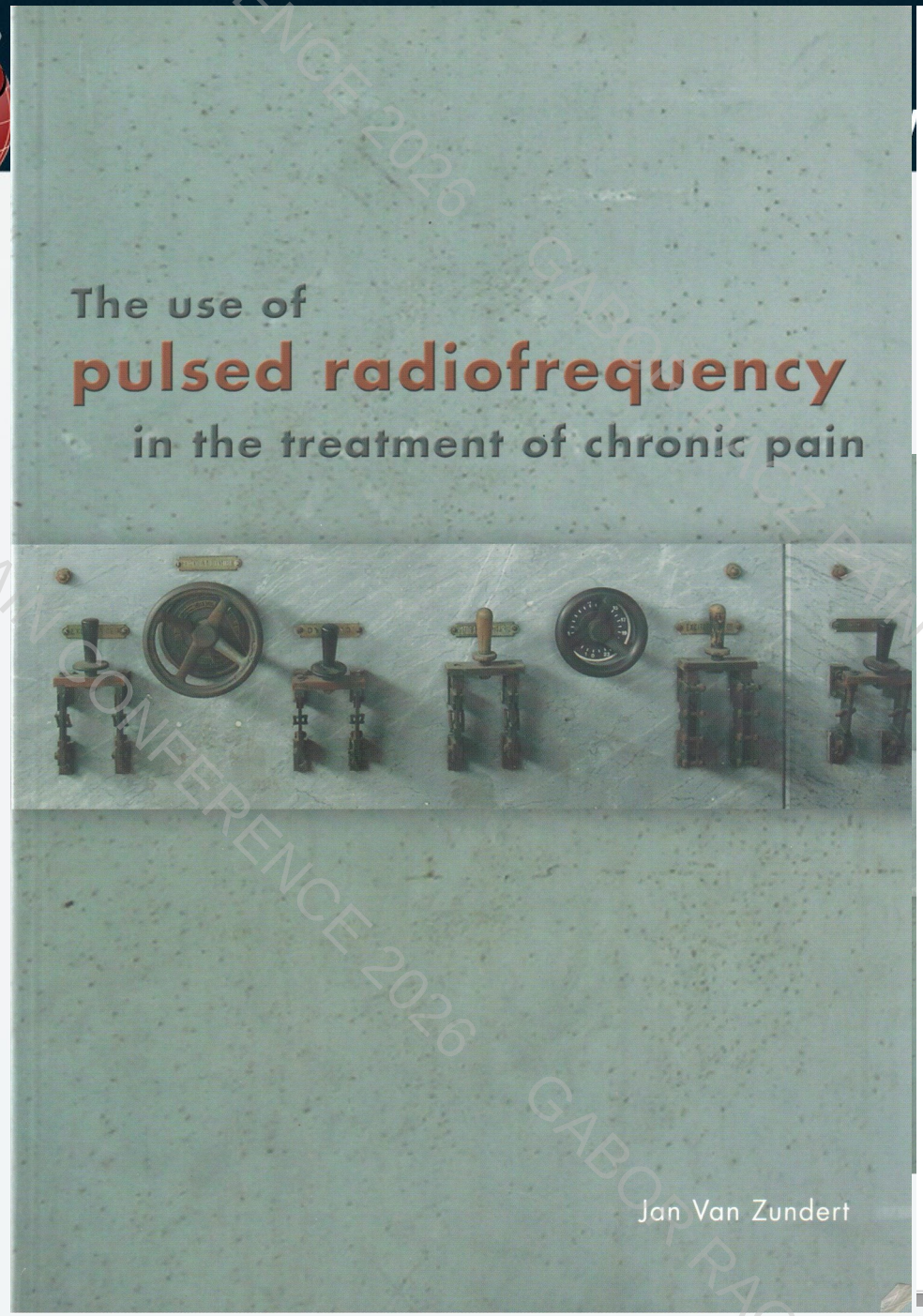
Learning Objectives

Less is More

Less is More in Pain Medicine

Pulsed Radiofrequency





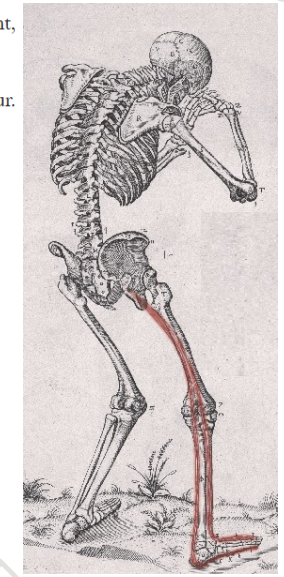
The use of pulsed radiofrequency in the management of chronic lumbosacral radicular pain

Proefschrift

Ter verkrijging van de graad van doctor aan de Universiteit Maastricht,
op gezag van de Rector Magnificus, Prof. dr. L. Soete.
Volgens het besluit van het College van Decanen
In het openbaar te verdedigen op donderdag 5 juni 2014 om 16.00 uur.

door

Koen D. M. Van Boxem
Geboren te Antwerpen op 6 april 1970



- **Less is More … also in Research!**

Learning Objectives

Less is More in Pain Medicine

N=1 trial

Group to individual generalizability

Randomized Controlled Trial (RCT)

↓

Systematic reviews, meta-analysis and meta-synthesis

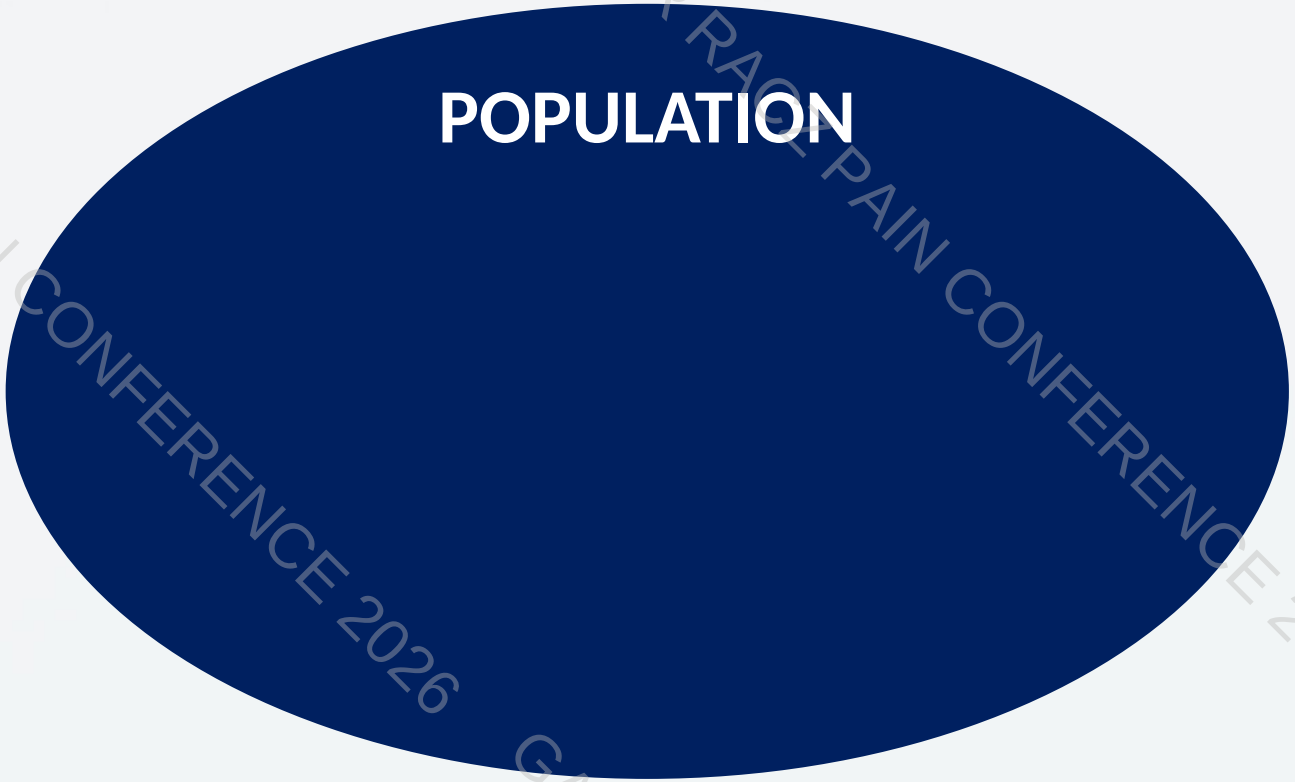
↓

Clinical Practice Guidelines

Woolf et al. BMJ

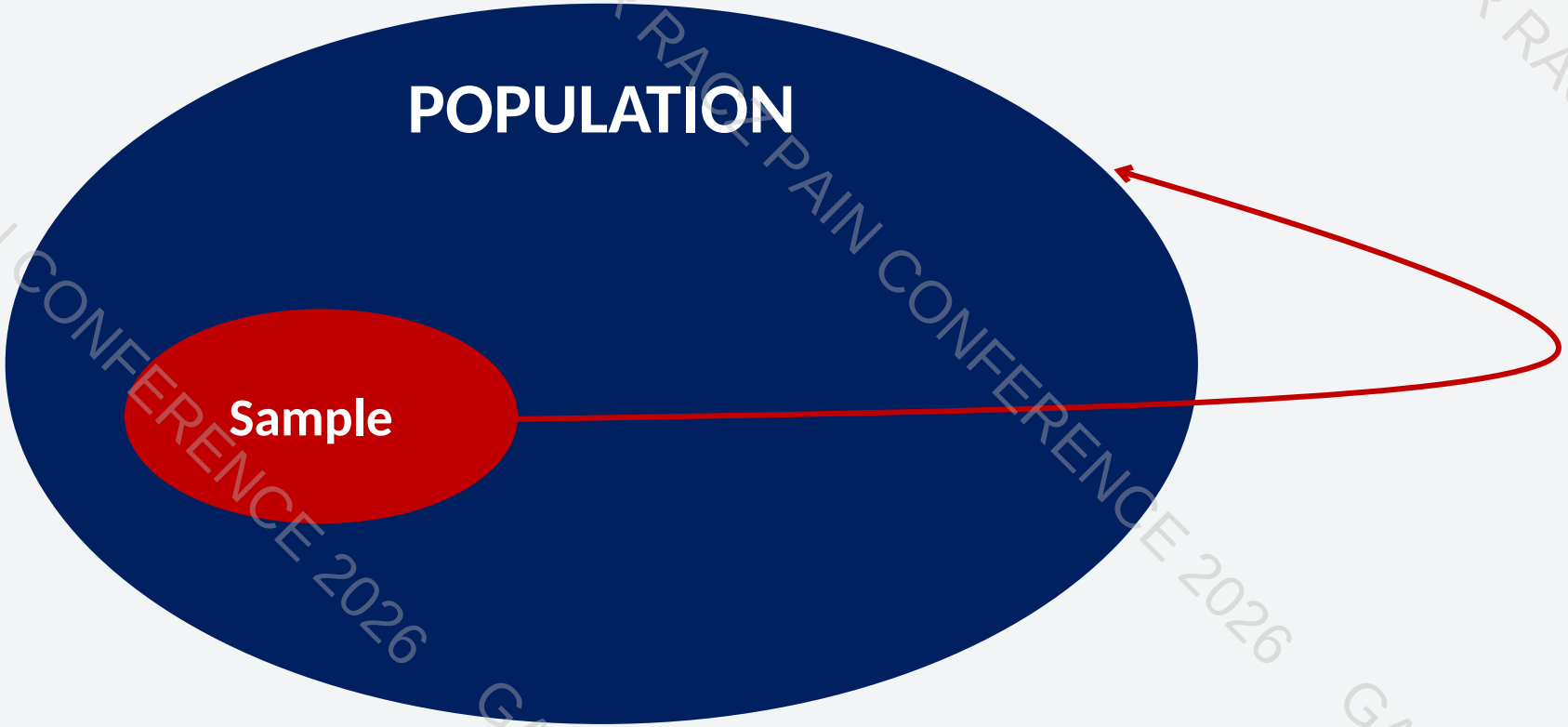
Group RCT :

Sample-wise generalization of knowledge



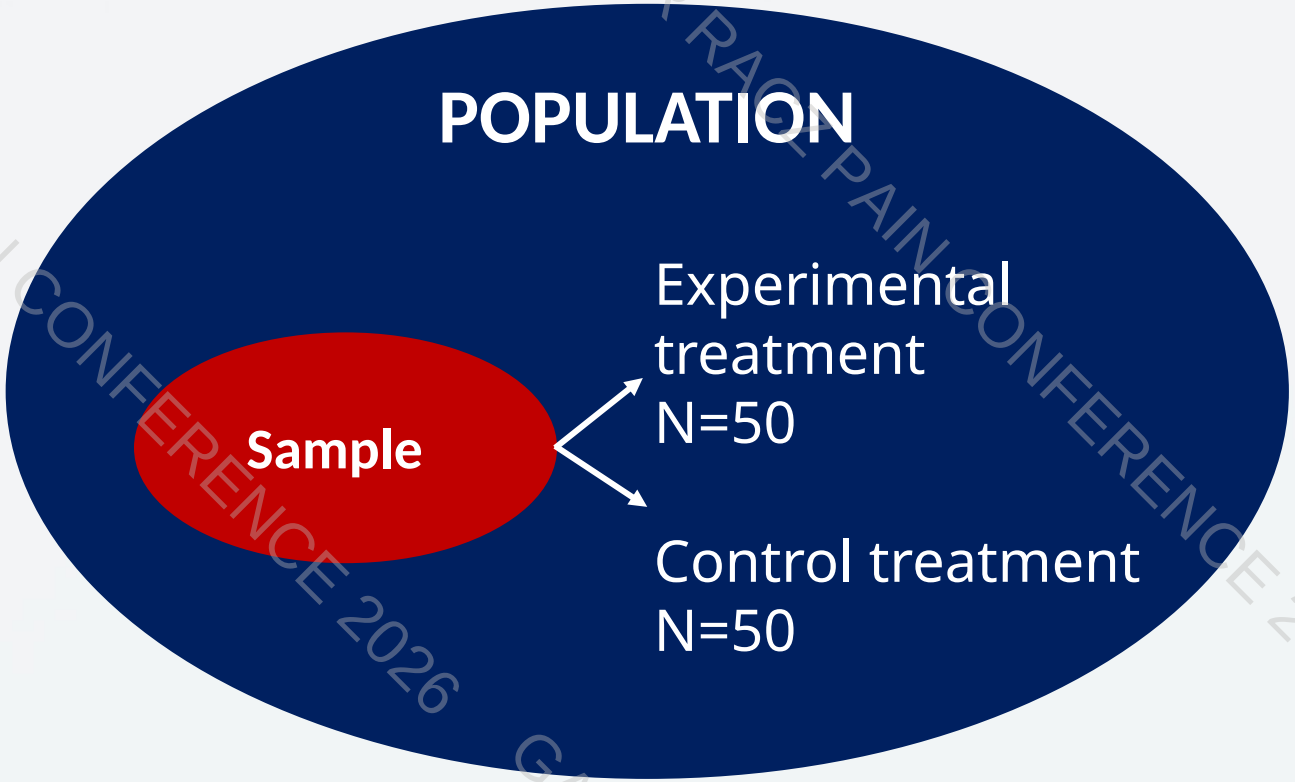
Group RCT :

Sample-wise generalization of knowledge



Group RCT :

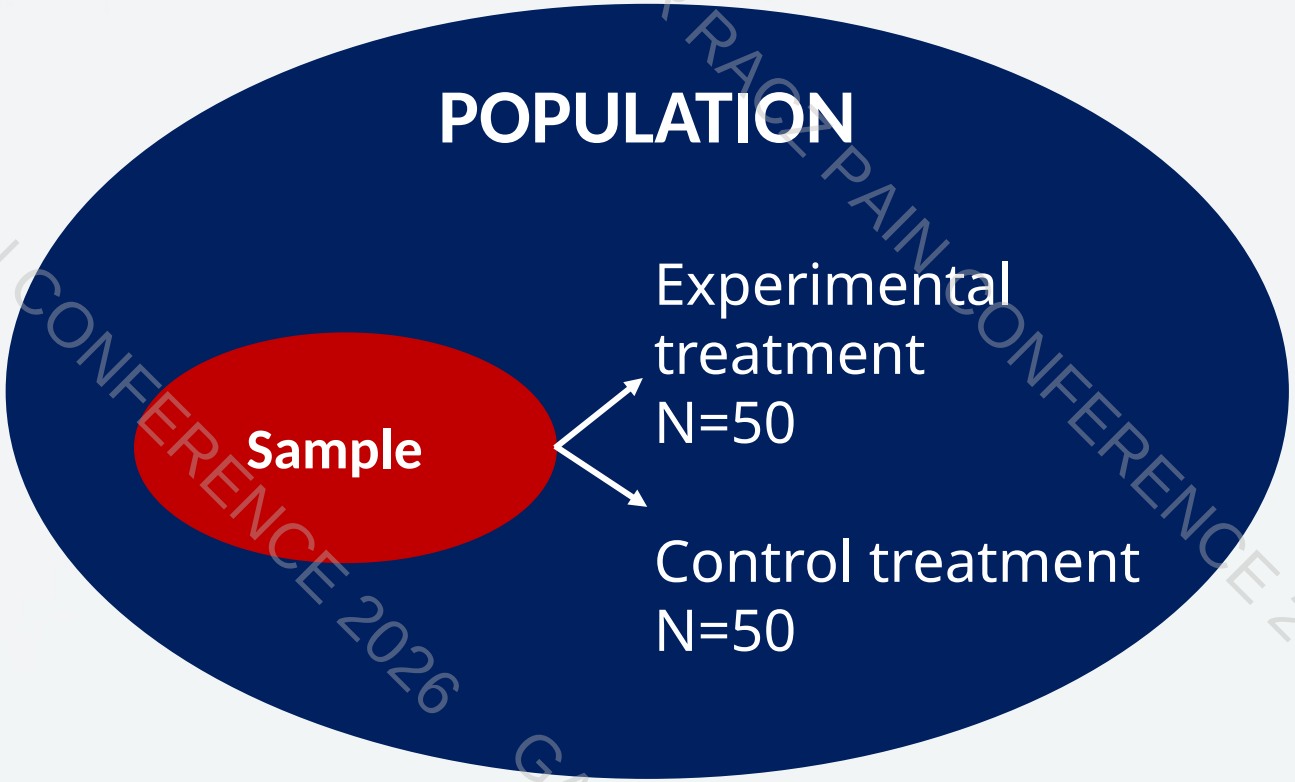
Sample-wise generalization of knowledge

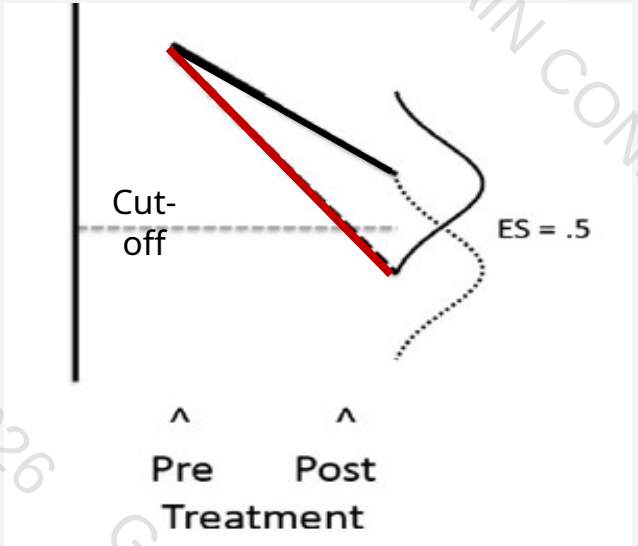


RCT

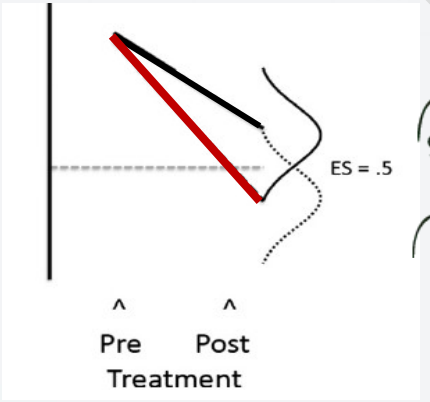
Group RCT :

Sample-wise generalization of knowledge





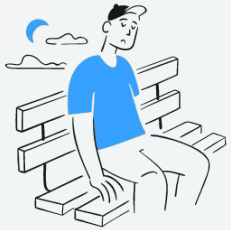
Deviation to personalized care

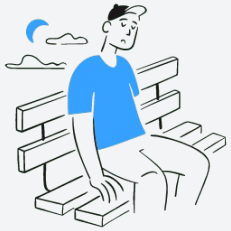


Group-based

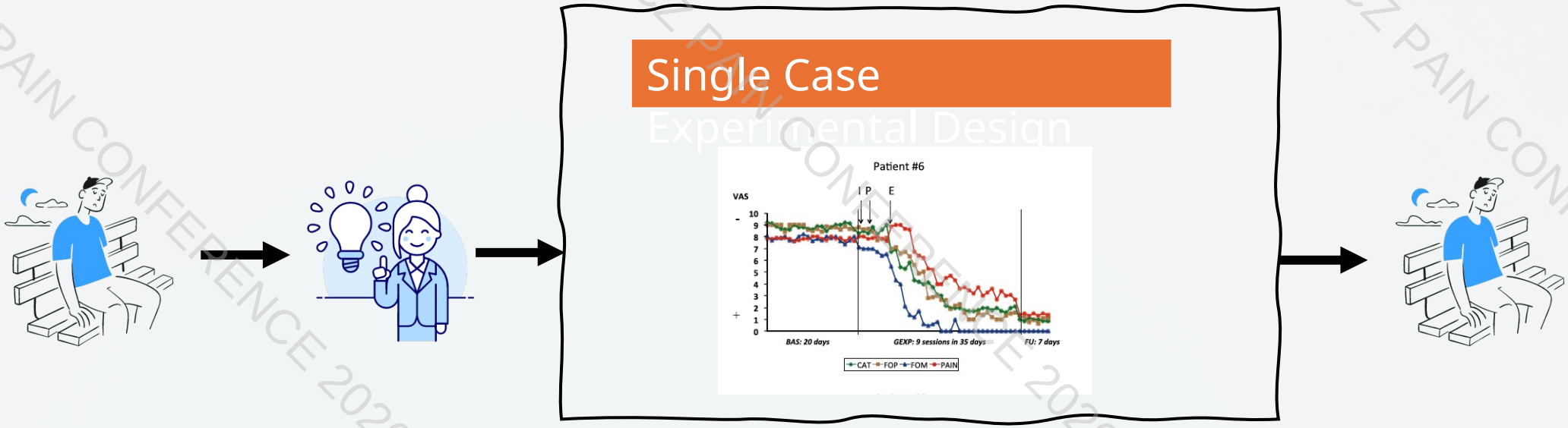
RCT

?





Direct route to Personalized care



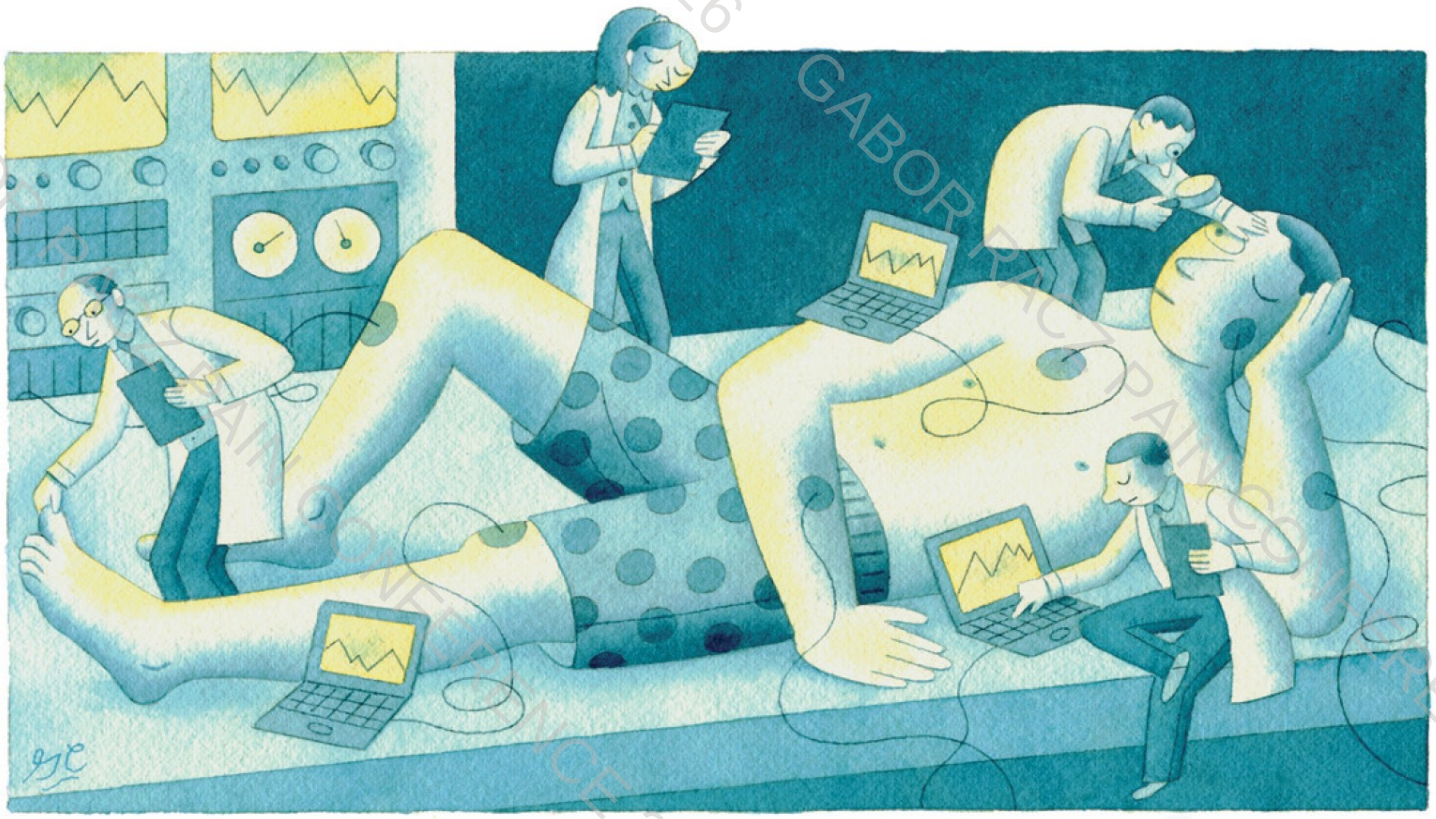
Idiographic method:

Event-wise individualization of knowledge

Personalized medicine

Personalized medicine is a therapeutic approach involving the use of an individual's *(genetic and epigenetic)* information to tailor *(drug)* therapy or preventive care.

Nature.co



Time for one-person trials

Precision medicine requires a different type of clinical trial that focuses on individual, not average, responses to therapy, says **Nicholas J. Schork**.

Courtesy of Johan Vlaeyen

Less is More

Small is beautiful

Less is More in Pain Medicine

Less medications for chronic non-cancer pain
Rational use of neurostimulation for chronic non-cancer pain
(Interventional) Pain Medicine according Evidence-Based guidelines

More Pulsed Radiofrequency
More Personalised (Interventional) Pain Medicine
More N=1trials in (Interventional) Pain Medicine: SCED

29th Annual Gabor Racz Advanced Interventional Pain Conference and Workshop

14th WIP World Congress 2028

March 24 – 26, 2028

Welcome to Maastricht,
Let's connect!