Stockholm November 9-10, 2023

Annual meeting Swedish society of spinal surgeons (4s)

Swespine 25 years

- How did it all start – development over time	Peter Fritzell
- Some important findings	Olle Hägg
- Where are we today and what about the future	Olle Hägg/Peter Fritzell

Peter Fritzell/Register manager of the Swedish national spine register, Swespine since 25 years. Associate professor in orthopedics Uppsala University, Sweden. Associated to Futurum Academy for Health and Care, Jönköping, Sweden. Stockholm Center for Spine Surgery (RKC), Stockholm Sweden.

Olle Hägg/ MD, PhD in orthopedics. Member of the Swespine steering group for 25 years.

Welcome everyone – and we hope all technical Goods will be with us!

Peter Försth/president of the Swedish Society of Spinal Surgeons (4s)

Peter Fritzell/register manager Swespine – for the Steering group

Sweden and Europe

Sweden;

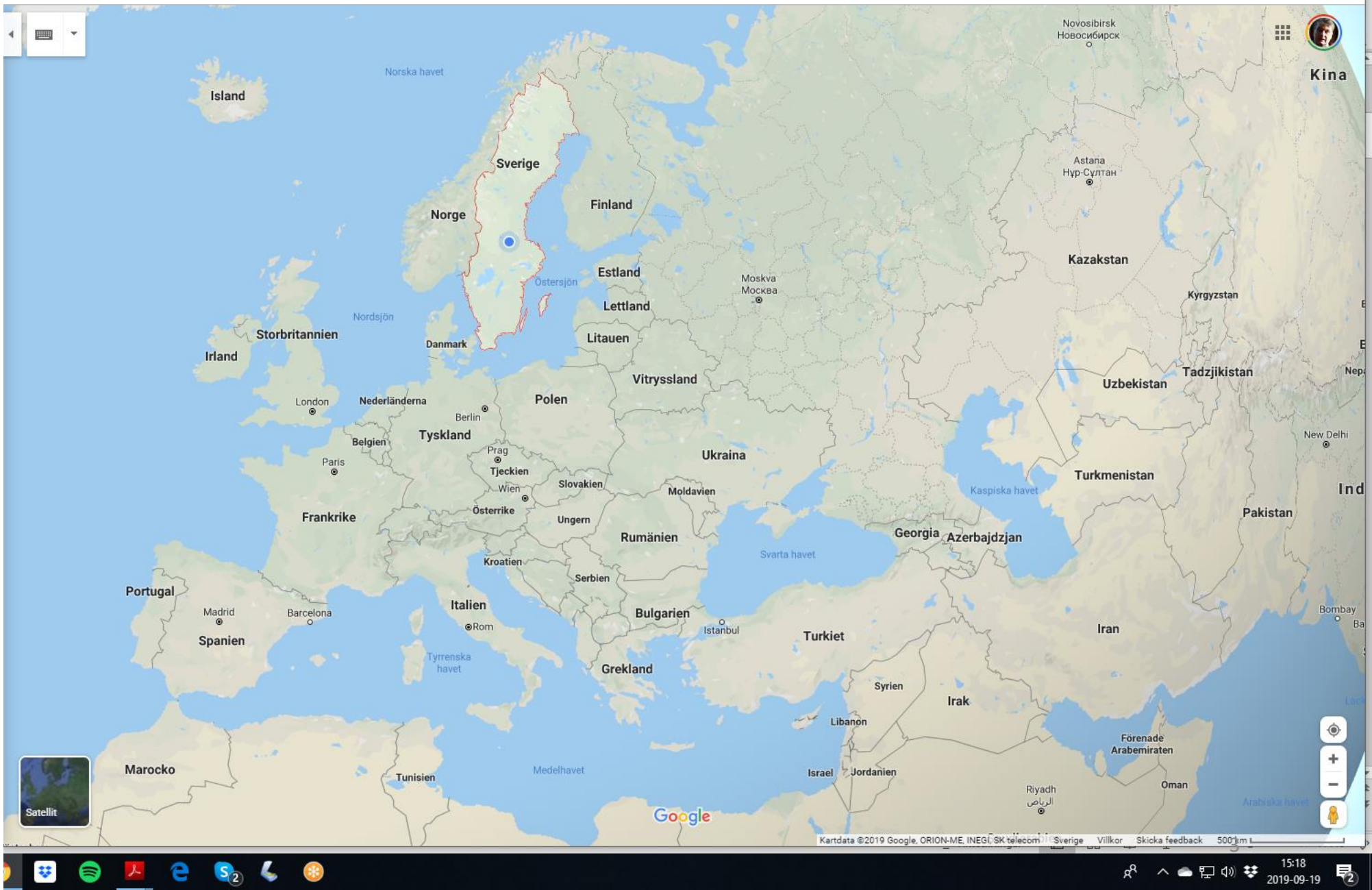
appr. 10 milj. citizens

45-50 ”spine clinics”

Swespine;

a national spine register since 1998 – it started as a regional register in Lund 1993

- **Coverage >95%**
- **Completeness >85%**
- **Follow up 1 year >70%**



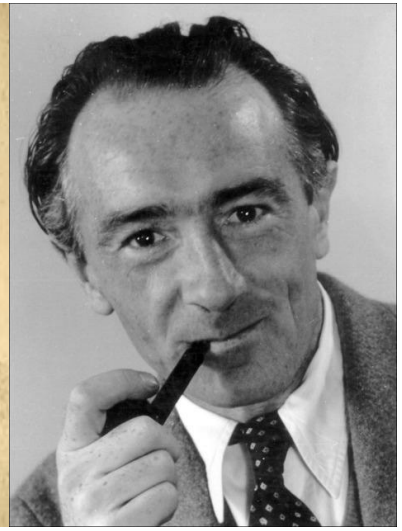
Collection of data in health care – some perspectives

- Historically - how did it all start
- Development in Sweden - reflections
- Important lessons learned
- Future…. Validation and use in clinical practice/meeting with the patient

How did it all start?

Florence Nightingale, Amory Codman*, Archie Cochrane

Where/when did they get their ”inspiration”?



1820-1910
Crimean war
1853-56

1869-1940
First world war
1914-1919

1906-1988
Second world war
1939-1945

Ethical approval…..

The end result idea, 1914

***Ernest Amory Codman**
1869-1940
Clinical outcome
”The Shoulder” 1934
Sarcoma register 1920

1917
”They consider me eccentric, but hospitals need to compare their results with others. *Such choices will not be eccentric in a few years.* "

<u>Florence Nightingale</u>
1820 – 1910
Crimean war 1853-1856
Mortality

We stand on her shoulders……

6

***1917**

"I'm considered eccentric, because I say publicly that if hospitals want to be sure to improve, they need to find out what their results are. They need to analyze their results to find strong and weak points."

"They need to compare their results with others. Such views will not be eccentric in a few years."

Today – 100 years later…Challanges

the fact that Codman's "few years" turned out to be a hundred years suggests that there are profound difficulties in realizing the ideas.

Many hospitals and healthcare organizations still lack systems that enable the follow-up of treatment results.

Together with Florence Nightingale, Codman laid the foundation for what we today call knowledge-based or *“Evidence-based care”*

Many have placed their hope in the fact that more and more journal systems that become IT-based will be able to be used for performance measurement. However, the journals have been established for other purposes and are weighed down by traditions and regulations that are not readily compatible with evidence-based care work.

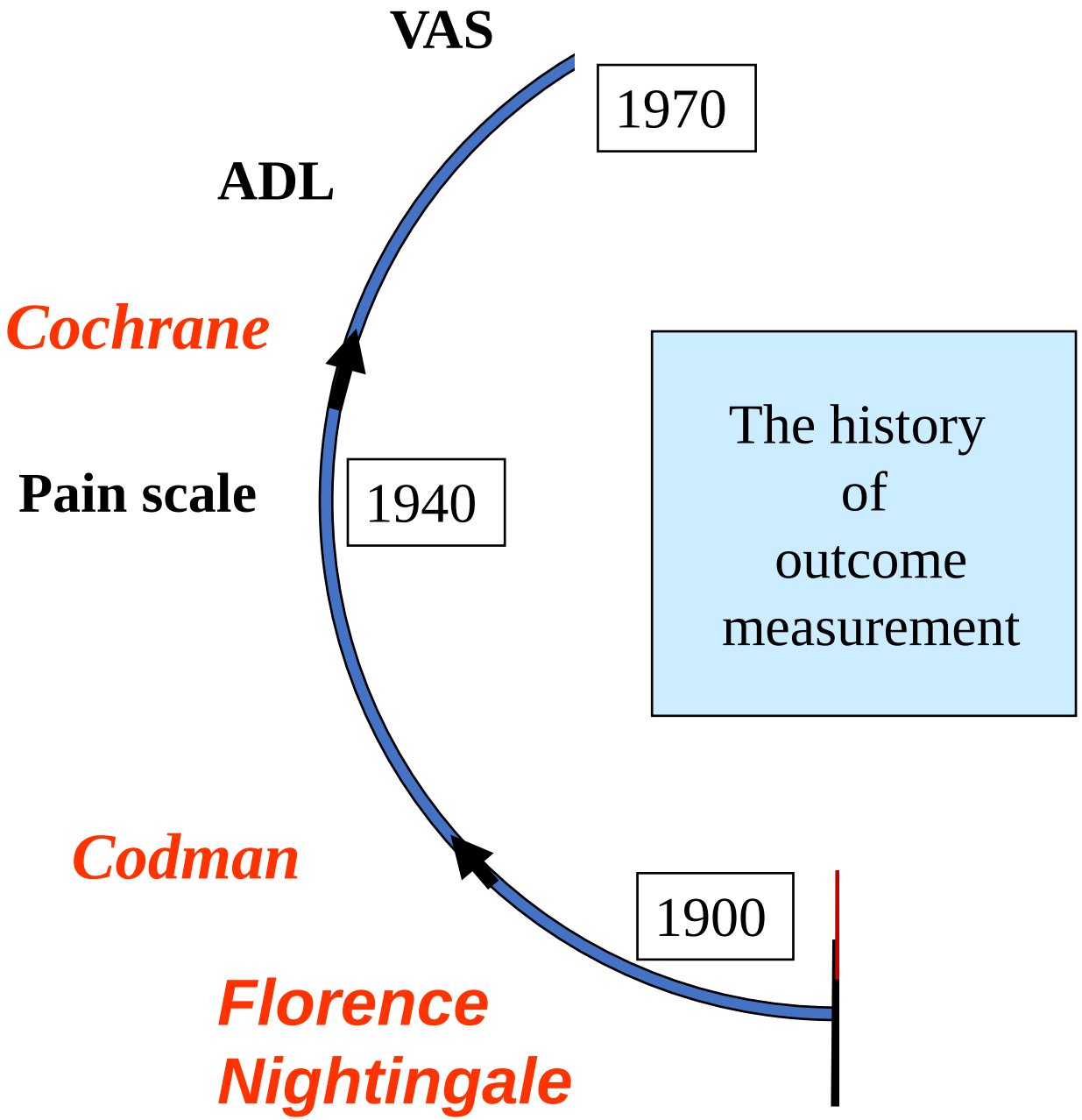
Don Berwick, one of the US's and the world's leading authorities on evidence-based and quality work in health care, calls medical record systems "dinosaurs."

However, Codman's "End Result Idea" from 1917, has finally taken hold in Swedish healthcare, but there are many challenges ahead – not the least todays “battle”…….

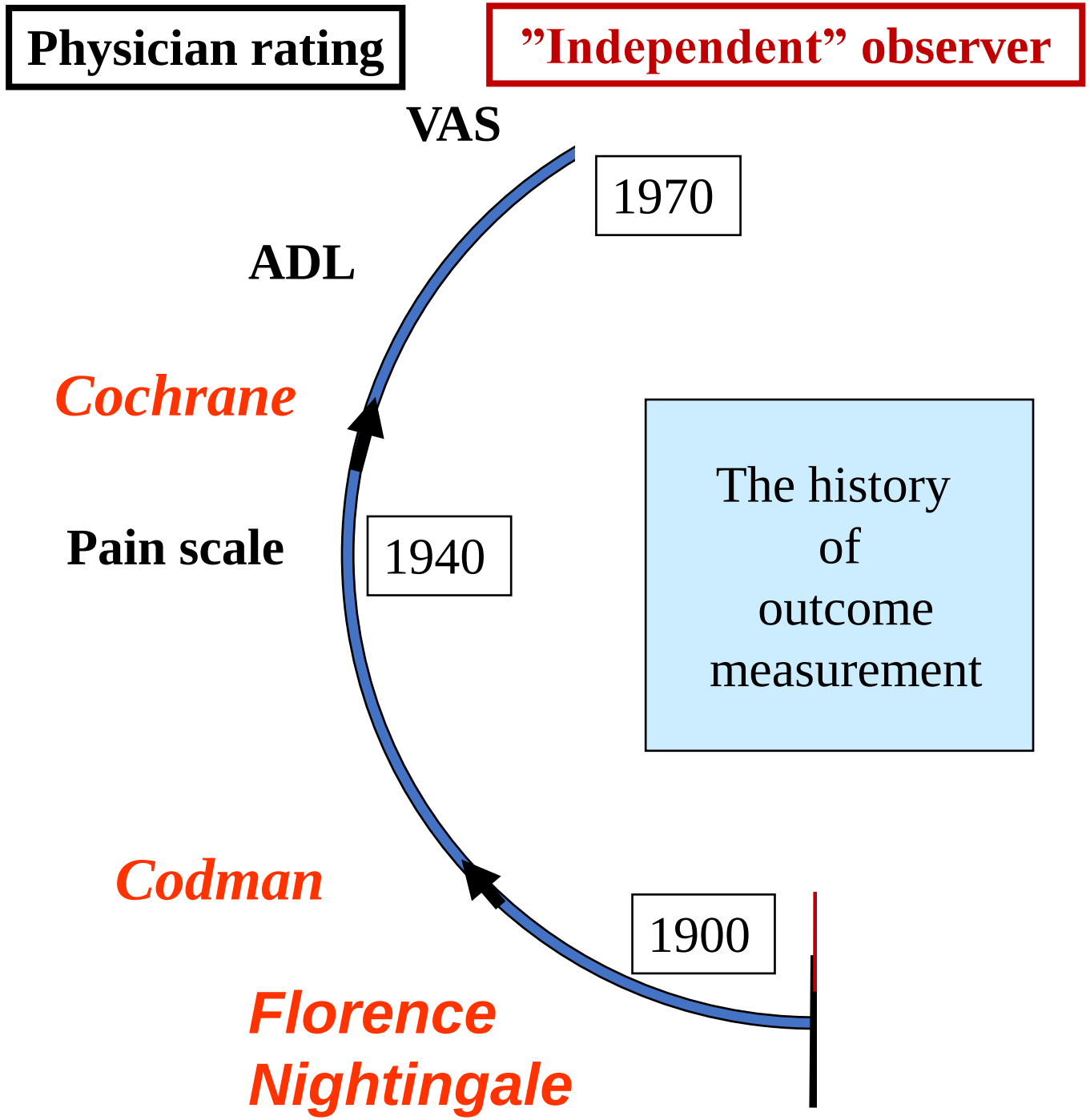
“registries vs. medical journals”

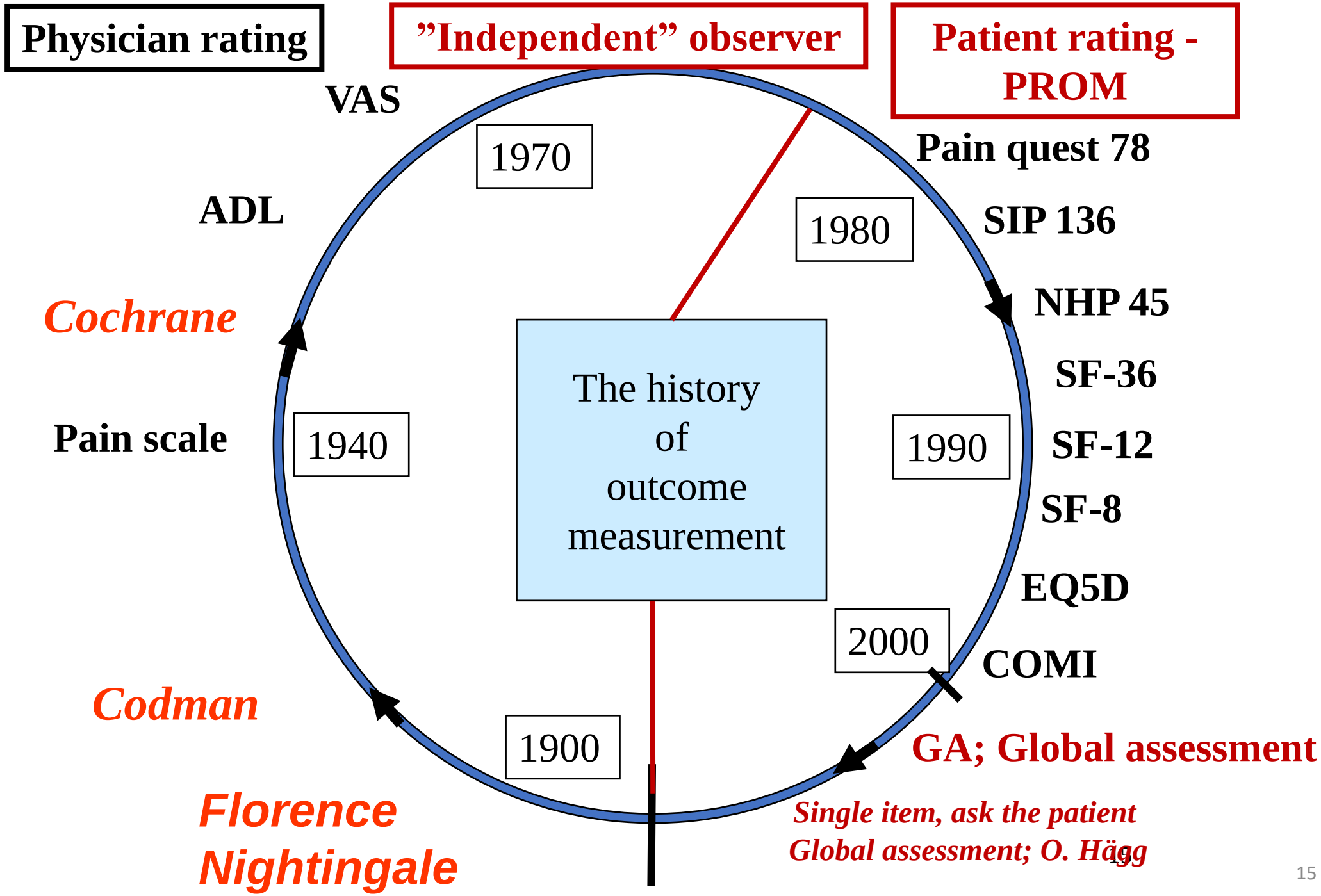
Registering and FU during the last 100 years –
outcome measuring in clinical practise……

Physician rating



The history of outcome measurement


Physician rating
”Independent” observer
VAS
1970
ADL
Cochrane
Pain scale
1940
The history
of
outcome
measurement
Codman
1900
Florence
Nightingale


Physician rating
”Independent” observer
Patient rating - PROM
VAS
ADL
Cochrane
Pain scale
Codman
Florence Nightingale
1970
1980
1990
2000
1900
1940
The history of outcome measurement
Pain quest 78
SIP 136
NHP 45
SF-36
SF-12
SF-8
EQ5D
COMI
GA; Global assessment
Single item, ask the patient
Global assessment; O. Hägg

So, what is a register?

Prospective collection of data – and can therefore be used in an "observational study"

The first (sic) "modern" register in Health care was Norwegian (sic), 200 years ago - Lepra

Register have been used in other disciplines for thousands of years f ex in Astronomy

Register study = Observational study vs. RCTs

Can register data be trusted?

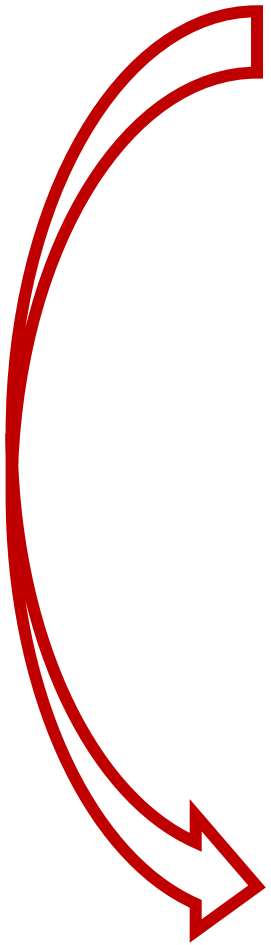
Yes - if validity is assured, and
adequate statistical analyses are used;
STROBE https://www.strobe-statement.org/

The New England Journal of Medicine 2000

Special Articles

A COMPARISON OF OBSERVATIONAL STUDIES AND RANDOMIZED, CONTROLLED TRIALS

KJELL BENSON, B.A., AND ARTHUR J. HARTZ, M.D., PH.D.



A COMPARISON OF OBSERVATIONAL STUDIES AND RANDOMIZED, CONTROLLED TRIALS

KJELL BENSON, B.A., AND ARTHUR J. HARTZ, M.D., PH.D. *N Engl J Med 2000;342: 1878-86*

ABSTRACT

Background

For many years it has been claimed that observational studies find stronger treatment effects than randomized, controlled trials. We compared the results of observational studies with those of randomized, controlled trials.

Methods

We searched the Abridged Index Medicus and Cochrane data bases to identify observational studies reported between 1985 and 1998 that compared two or more treatments or interventions for the same condition. We then searched the Medline and Cochrane data bases to identify all the randomized, controlled trials and observational studies comparing the same treatments for these conditions. For each treatment, the magnitudes of the effects in the various observational studies were combined by the Mantel–Haenszel or weighted analysis-of-variance procedure and then compared with the combined magnitude of the effects in the randomized, controlled trials that evaluated the same treatment.

Results

There were 136 reports about 19 diverse treatments, such as calcium-channel–blocker therapy for coronary artery disease, appendectomy, and interventions for subfertility. In most cases, the estimates of the treatment effects from observational studies and randomized, controlled trials were similar. In only 2 of the 19 analyses of treatment effects did the combined magnitude of the effect in observational studies lie outside the 95 percent confidence interval for the combined magnitude in the randomized, controlled trials.

Conclusion

We found little evidence that estimates of treatment effects in observational studies reported after 1984 are either consistently larger than or qualitatively different from those obtained in randomized, controlled trials.

RCT ≈ Observational studies ≈ Register studies

1. Benson K[1], Hartz AJ. **A comparison of observational studies and randomized, controlled trials.** N Engl J. Med. 2000 Jun 22;342(25):1878-86.

2. Concato J, Lawler EV, Lew RA, Gaziano JM, Aslan M, Huang GD. **Observational methods in comparative effectiveness research.** Am J Med. 2010 Dec;123(12 Suppl 1)

3. Concato J1, Shah N, Horwitz RI. **Randomized, controlled trials, observational studies, and the hierarchy of research designs.** N Engl J Med. 2000 Jun 22;342(25):1887-92.

4. Colditz GA. **Overview of the epidemiology methods and applications: strengths and limitations of observational study designs.** Crit Rev Food Sci Nutr. 2010;50 Suppl 1:10-2.

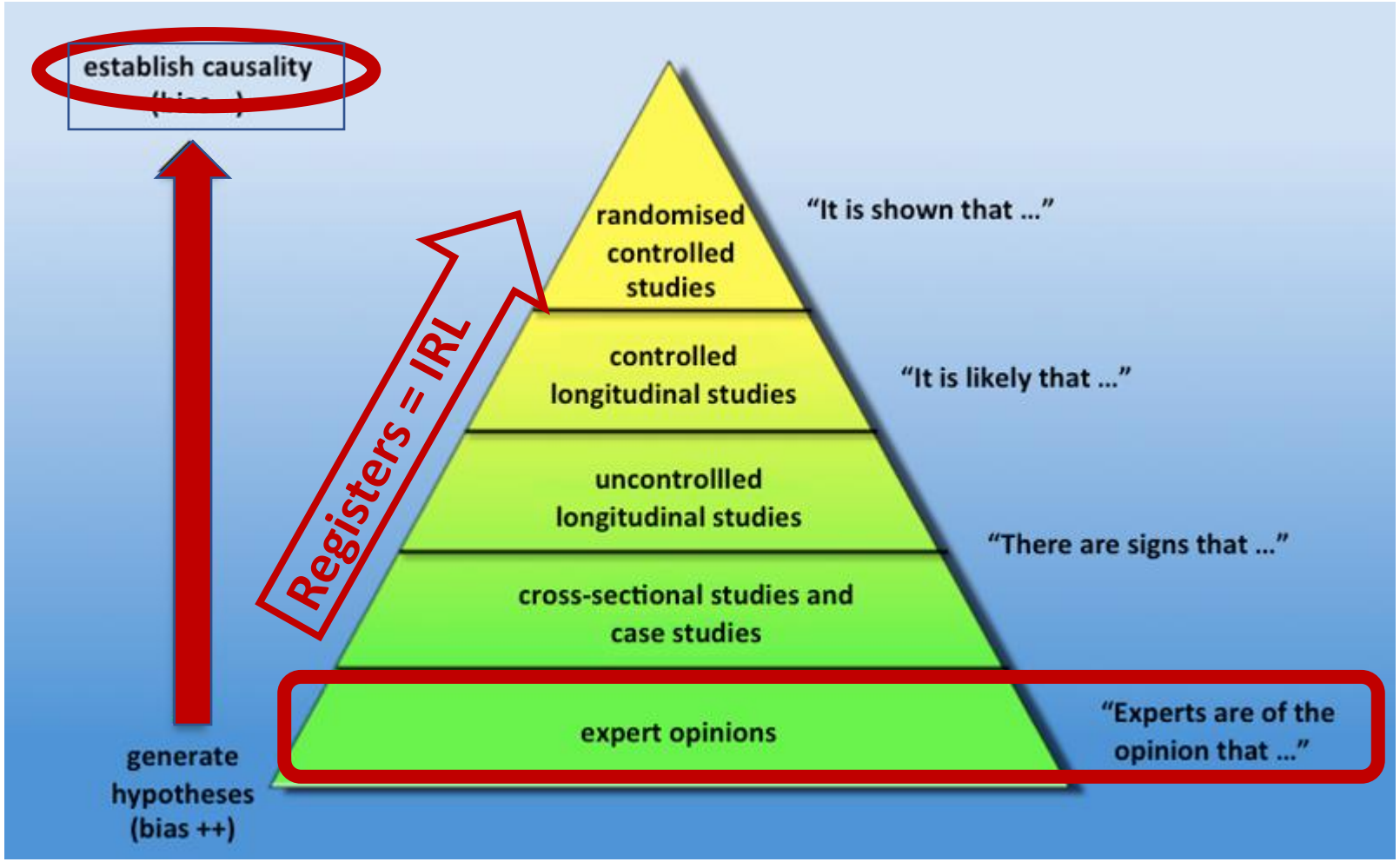
5. Jacobs WC et al. **Spine surgery research: on and beyond current strategies.** Spine J 2012.

6. Phillips et al. **Lumbar spine fusion for chronic low back pain due to degenerative disc disease: a systematic review**. Spine 2013.

- **Swespine - continous annual reports : 1 year FU of patients operated on 2012;**

http://www.4s.nu/4s-f%C3%B6rening/%C3%A5rsrapporter-swespine-42017503

Level of evidence – today and in the Future



Registers – in order to be useful;

Psychology……

”what’s in it for me/us!”

Who are “me”/us?

- Therapists/Clinical situation
- The staff
- Administrators/Bureaucrats
- Secretaries
- Politicians
- Patients
- The public
- Scientists
- Risk capitalists……
- ……

What makes a register useful?

ADEQUATE;

1. aims
2. agreed upon variables
3. valid collection of valid data
4. coverage, completeness and FU
5. analyses
6. reporting
7. daily practice - willingness to change

Ultimate keys

- **Simplicity**
- **Daily practice**
- **What's in it for me/us**
- **Consequence analyses**
- **Willingness to change practice**

SIMPLICITY = COMPLIANCE

a register is not a clinical study, although it can be used in such studies, which may increase complience!

Registers in Sweden

In 2022 > 100 registries funded by the government. That number is currently on the decline, and no new registers are being allowed to start

Boston Consulting Group 2011

- **“Sweden has the most cost-effective health care in the world, because of their use of national registers”**
- Health care authorities; appr. 30 million EUROS/year for 4 years to national quality registers, 2013-2016
- Currently; yearly reimbursement after application… less and less….

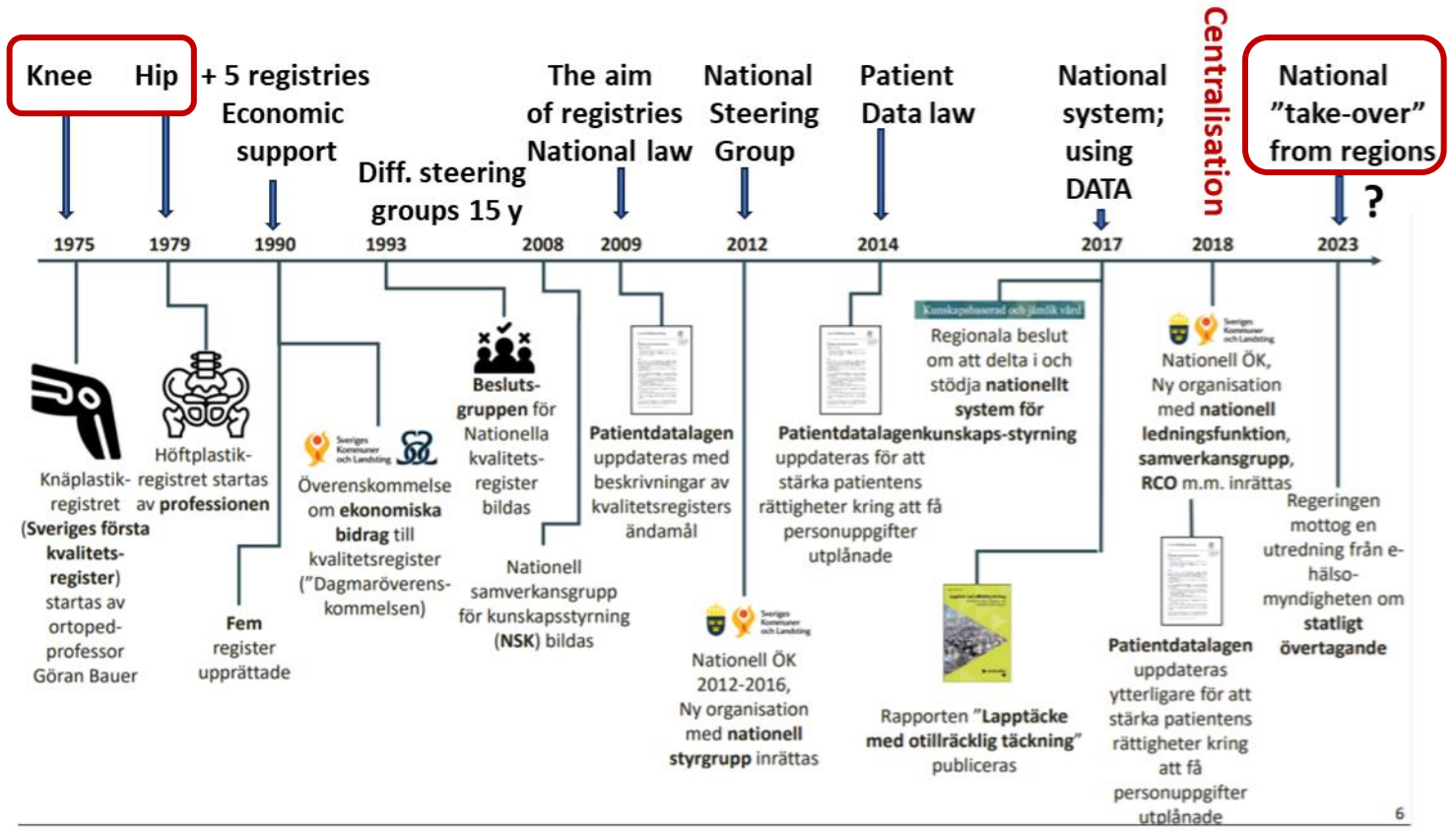
History in Sweden since 1975

National Quality registries in Sweden
Organisation over time

The current tendency in Sweden is that the gouvernement is more active in how to monitoring and stooring/using register data.

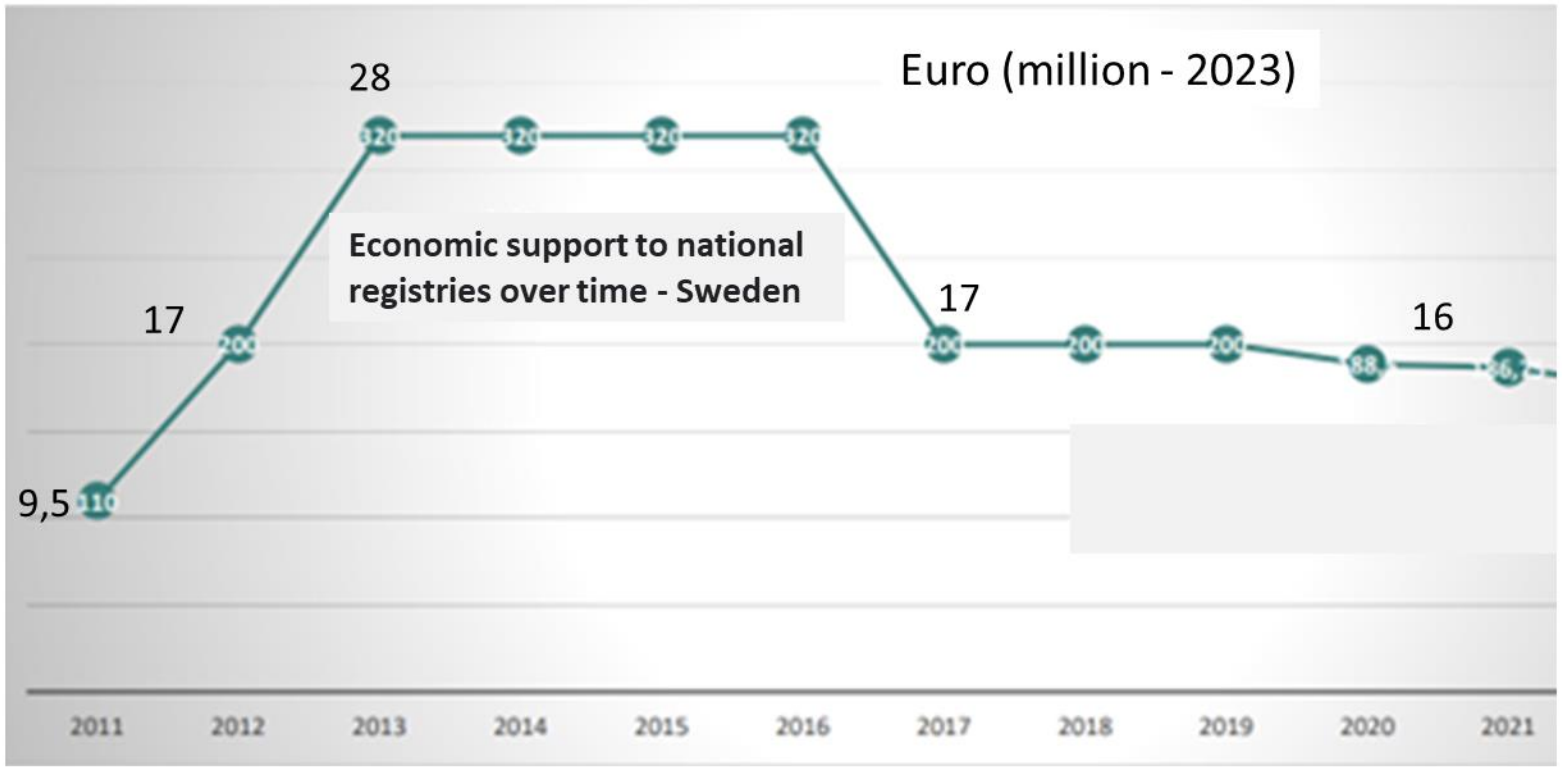
A lot of work is done by different work groups, aiming to simplify the registering of data, and to avoid ”double registering” - in both registers and medical records

It could possibly be a threat to a well-functioning business, but the economy is crucial today



History in Sweden since 2011

National funding of quality registers in Sweden



Swespine in more detail
- and in a national context

Sweden;

appr. 10 milj. citizens

45-50 ”spine clinics”

Swespine;

a national spine register since 1998.

- **Coverage; 98%**
- **Completeness; >85%**
- **Follow up: 70%**

5 diagnoses are included in Swespine;

Fractures are registered in a separate national Fracture registry

****Deg lumbar, Deg Cervical, Deformity, Infection, Metastases***

Variables included in **Degenerative lumbar spinal disorders*
(LDH, LSS, DDD)

Diagnose
Type of clinic (University, County hospital, Private clinic)
Age
Gender
Work status
Sick pension
Retention pension
Smoking
Quality of life (EQ5D)
Walking distance
Pain duration LEG
Pain duration BACK
Preop pain LEG (NRS)
Preop pain BACK (NRS)
Function (ODI)How was your spine procedure financed?
Comorbidity
Are you active in sports?
What do you think of your possibilities to return to work?
How physical is your current workload?
Are you out of work?
Since how long have you been unable to work?
Type of previous spine procedure
Acute or Elective surgery
Type of procedure/Index operation
How many previous spine procedures?
Do you take pain killers for your back/leg pain?
Type of instrumentation
Type of implant
Type of bone transplant
Operated from the left/right
Antibiotic prophylaxis
Postop complications
Reoperation during Index stay
Type of reop procedure
Number of reop

Swespine is a national quality register that since 25 years is presenting outcome after surgical spinal procedurers on both a departemental and a national level.

The number of patients in Swespine is today over 190 000, with appr. 10 000 added yearly.

Opt-out is used as patient approval. Detailed information is given in accordance with GDPR

Swespine is managed by a partly reimbursed Steering group with representatives from:

- **Spine surgeons: orthopaedic and neurosurgeons**
- **Indoor Care: nurse**
- **Primary care: physician**
- **Rehabilitaion: Physiotherapist/Naprapat**
- **Patients**

- **The Swedish Society of Spinal Surgeons (4s)**

Register data are owned by a regional gouvernement (Rjl)

Swespine is using both digital means and paper in order to register Baseline/Therapies/FU

- Swespine is mainly relying on PROM for outcome
- 70% of all patients are registrered through digital means, 30% using paper
- Preop. patient data are filled in by the patient in connection with surgery – independently
- The only data included by the physician is the procedures/complications
- FU is currently performed after 1-2-5-10 years. By the patient alone at home – independently

Very few patients do not want to be part of the register (opt out is used).

Surgical data are registrered, as

- **Diagnosis/Procedure**
- **Complications and reoperations**
- **Implants**

Swespine data are stored on a centrally approved register Platform/specific inlog

- Data are freely available for each registering clinic - clinics own data

- Data are on the whole only available for selected members in the steering group

- Selected data are available for researchers after approval of an Ethics Board

- Patients can disapprove of their data usage (Opt Out)

Swespine data are used in most clinical studies in Sweden today – appr. 10-20/year

- 173 studies based on Swespine data have been published in international journals since 2000

- 19 dissertations since 2000 are based on Swespine data

- Swespine data have been validated against medical records throughout the years - sufficient

Missing values – does it affect treatment outcome (PROM)?

National registers; DaneSpine – NORspine – Swespine; ”NO”

Up to 20% missing values in the Nordic national registries did not overrate treatment success.

Single Center register; Spine Tango; ”YES”

Does loss to follow-up lead to an overestimation of treatment success? Findings from a spine surgery registry of over 15,000 patients.
Mannion AF, Fekete TF, O'Riordan D, Loibl M, Kleinstück FS, Porchet F, Reitmeir R, Jeszenszky D, Haschtmann D. Eur Spine J. 2023 Mar;32(3):813-823.

Why? Cultural differences? National data vs. data from selected clinics?

The Industry

The government encourage Swedish national quality registers to cooperate with the industry.

However, there must be no profit – only reimbursement for hours spent – legal agreements must be signed

Swespine is currently cooperating with business companies – producing yearly reports; Implants/PROM

Implant registration in Swespine is mandatory since 2006

Aggregated implant related outcome data are available for manufacturers according to contract.

During the last two years, we have for example supplied DePuy/J&J with such reports.

Swespine Homepage, www.swespine.se

we present annual reports and case-mix adjusted outcome data, comparing f ex volume and outcome for all clinics to the public,
For example LSS – also making clinical difference;

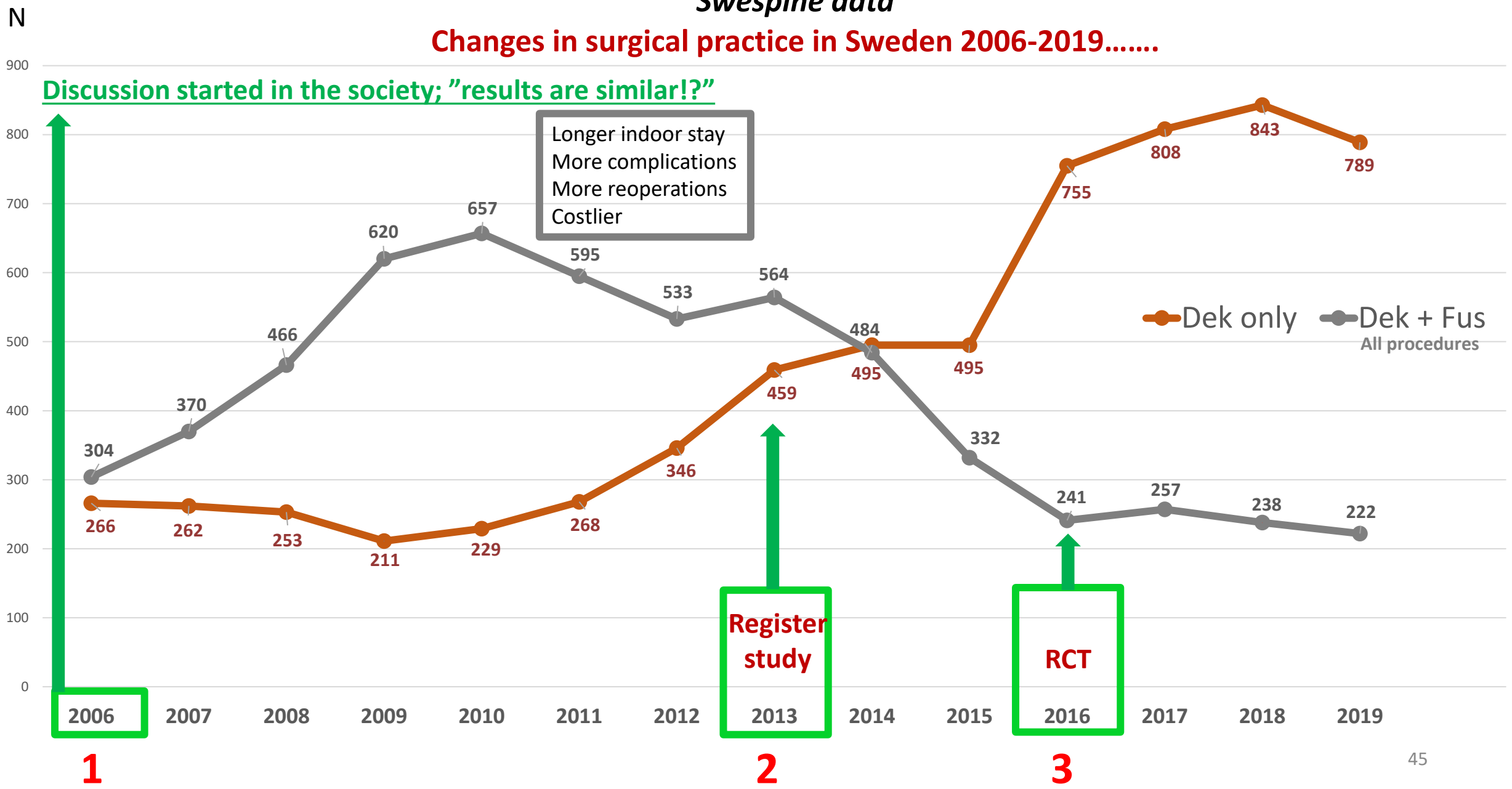
Cost/Effectiveness!!

Swespine
- an example of clinical impact

N. of Lumbal Spinal Stenosis + olisthesis >3mm – surgical procedure

Swespine data

Changes in surgical practice in Sweden 2006-2019…….



Dig deep – and fly high!

Governmental initiatives; The Swedish Research Council; Vetenskapsrådet

The Swedish Research Council, established on 1 January 2001, is a Swedish government authority tasked by the Parliament to support and promote Swedish basic research of the highest scientific quality in all scientific fields

The Swedish Research Council – RUT = ”Register Utilizer Tool”

Better overview of register contents, The metadata tool RUT provides a structured overview of what information is available in Swedish registers and biobank sample collections.

RUT describes the content of these data sources at a detailed level with metadata, i.e. data about data.

By searching and analyzing RUT's content, researchers can better understand the structure of a register and the significance of its content. With the help of RUT, researchers can therefore better assess which data could be used to answer a specific research question before they contact the authority or organization holding the records for further dialogue.

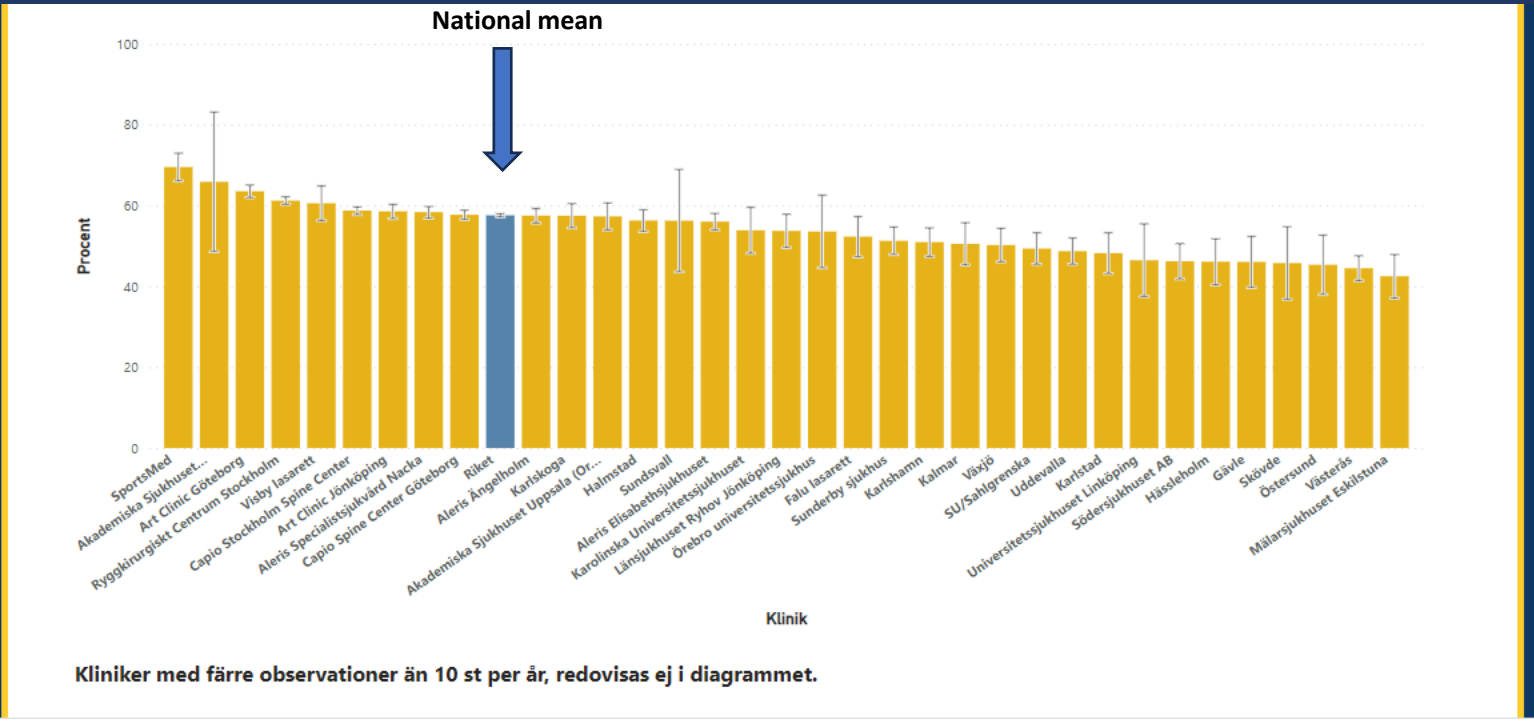
Governmental initiatives; **”Vården i siffror” – ”Care in numbers”** https://vardenisiffror.se/

Presenting comparative PROM-results per clinic and region in Sweden one year after surgery, with and without adjusting for case-mix (different populations are operated in different clinics)

For example;

Results leg pain LSS after 1 year – Pain free/much better **adjusted for casemix = comparability**

Results/clinic + CI



n of patients behind comparative/clinics analyses usually between 5000-25000, depending on diagnosis

Index procedures
Nov 8, 2023
190 538

Registering clinics
46/47

Follow Up 1 year
Appr. 70%

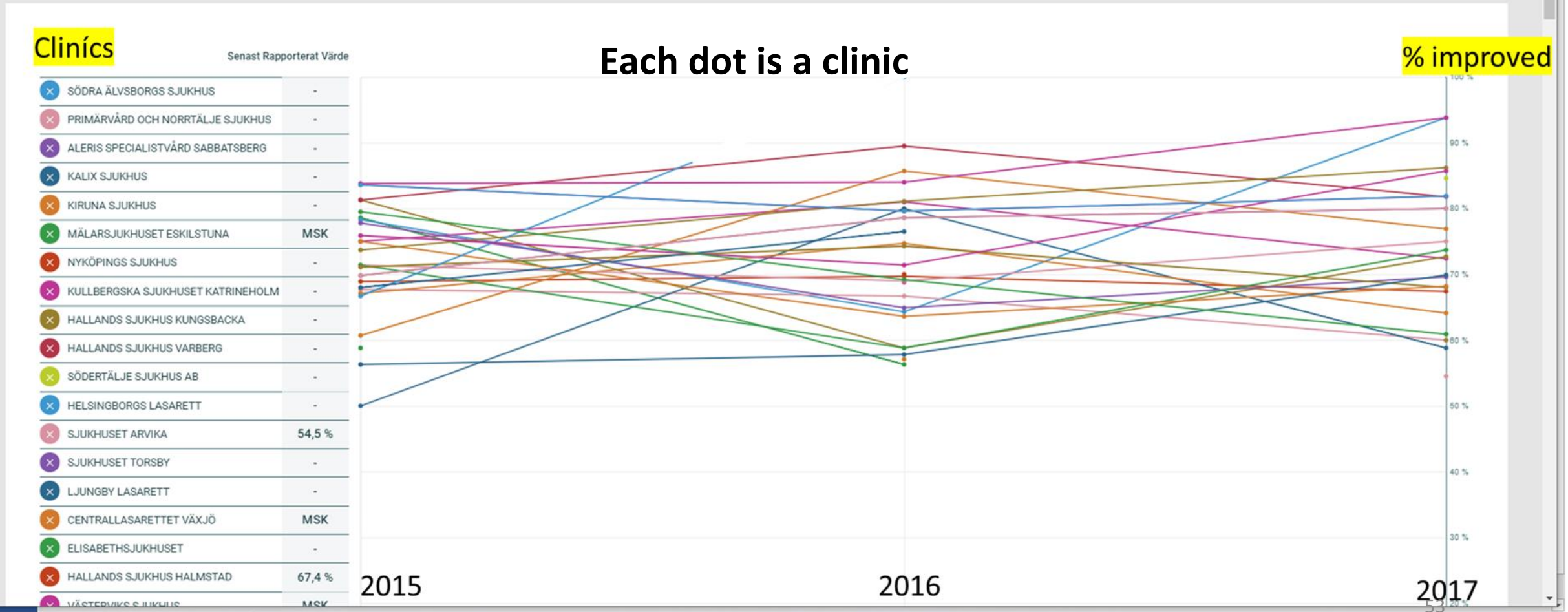
Swespine administreras av Svensk Ryggkirurgisk Förening.

The importance of adjusting for ”case-mix”

- when comparing results from different clinics

Lumbar Disc Herniation. Improved leg pain – yearly results Swedish clinics

Not adjusted for ”case-mix” – comparing results among clinics



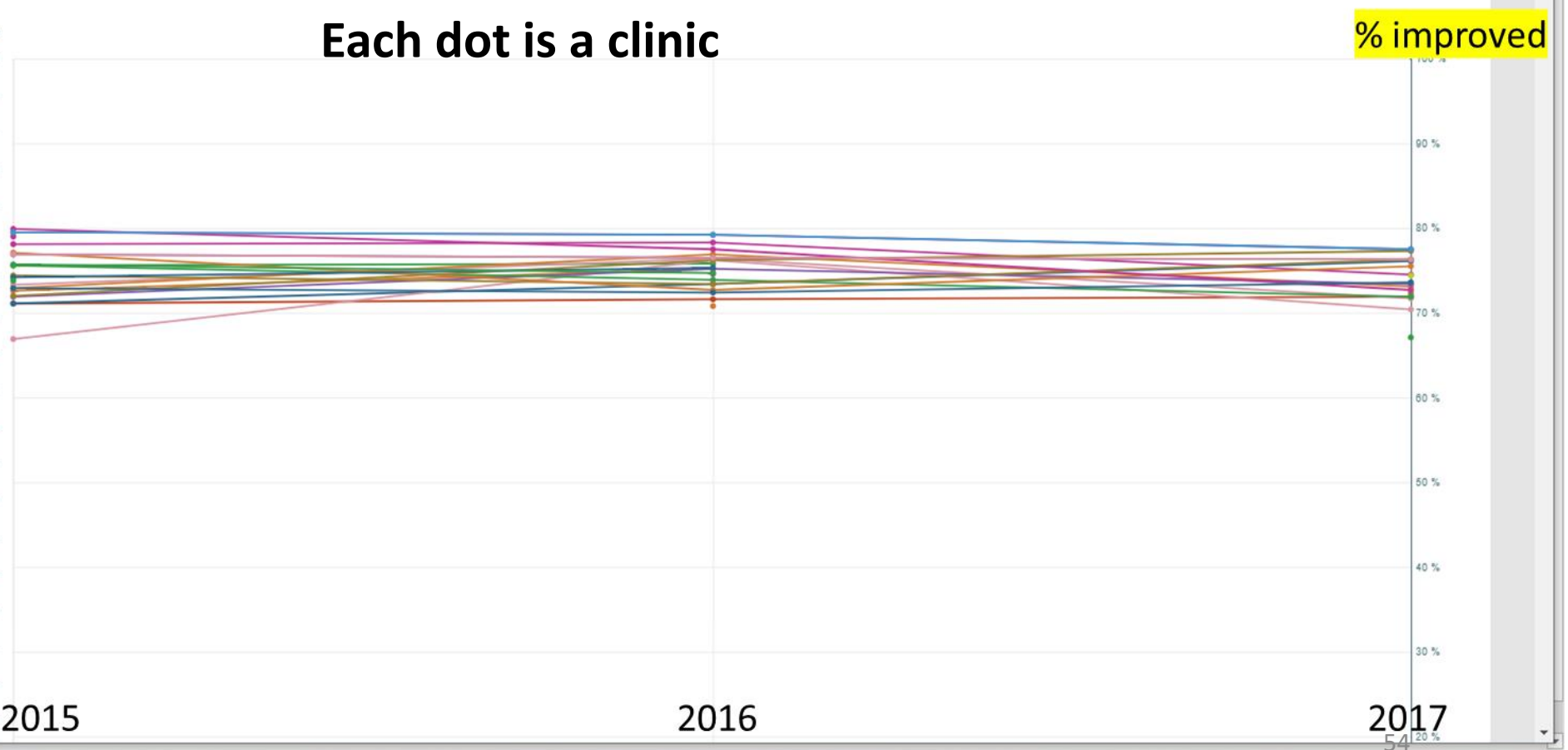
Lumbar Disc Herniation. Improved leg pain – yearly results Swedish clinics

Adjusted for ”case-mix” – comparing results among clinics

Vården i siffror — Indikatorer | Rapporter | Min översikt | Mina enhetslistor

Inställningar

Clinics	Senast Rapporterat Värde
SÖDRA ÄLVSBORGS SJUKHUS	-
PRIMÄRVÅRD OCH NORRTÄLJE SJUKHUS	-
ALERIS SPECIALISTVÅRD SABBATSBERG	-
KALIX SJUKHUS	-
KIRUNA SJUKHUS	-
MÄLARSJUKHUSET ESKILSTUNA	MSK
NYKÖPINGS SJUKHUS	-
KULLBERGSKA SJUKHUSET KATRINEHOLM	-
HALLANDS SJUKHUS KUNGSBACKA	-
HALLANDS SJUKHUS VARBERG	-
SÖDERTÄLJE SJUKHUS AB	-
HELSINGBORGS LASARETT	-
SJUKHUSET ARVIKA	MSK
SJUKHUSET TORSBY	-
LJUNGBY LASARETT	-
CENTRALLASARETTET VÄXJÖ	MSK
ELISABETHSJUKHUSET	-
HALLANDS SJUKHUS HALMSTAD	71,9 %
VÄSTERVIKS SJUKHUS	MSK



The future – we lean on the past

We rely on

Clinical experience
Comparisons
Trial and error
Clinical expertise
In my hands
Observational studies
Retrospective studies
Prospective studies
RCT
Reviews
Meta-analyses
Registers
Industry
Validity of data
Digitalization……..
……

!!!!!!!!!!

Problems/Posssibilities

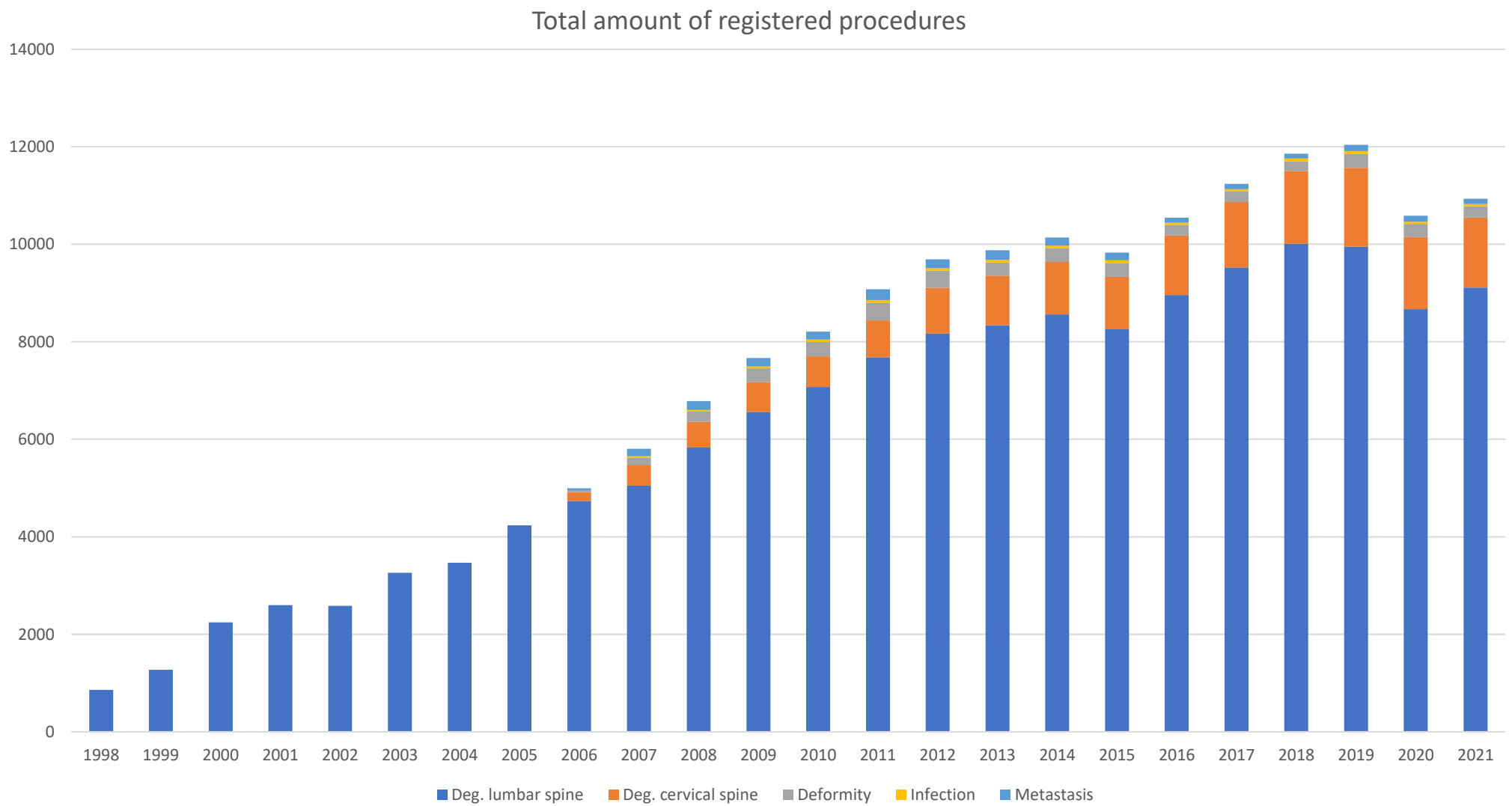
Subjective - bias - confounders
Different baseline variables
Different outcome variables
Different populations
Small population samples
Different Diagnoses
Different treatments
Confounders
Biases
Industry
Profit
Medical records – registries: transfer
Double registration
Complexity of diagnoses/treatments
Validity
Coverage-Completeness-FU AND Complience
- **Digitalization – is a must**
- **Economy – Cost/Effectiveness is a must**
……

Important findings using Swespine data

Olle Hägg

ANNUAL REPORT 2023
SWESPINE 25 YEAR

What have we achieved in 25 years?


Total amount of registered procedures
14000
12000
10000
8000
6000
4000
2000
0
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
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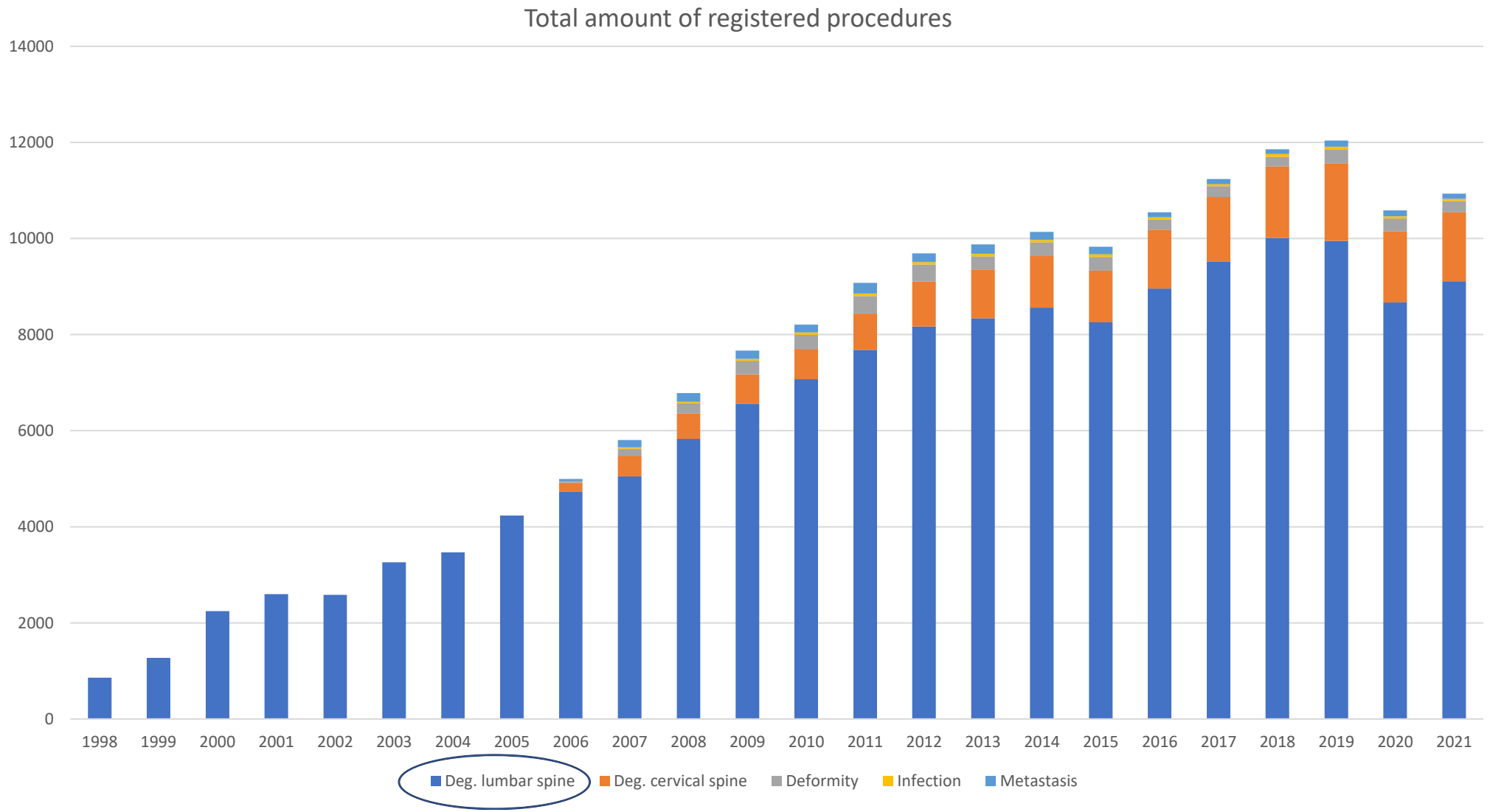
2017
2018
2019
2020
2021
Deg. lumbar spine
Deg. cervical spine
Deformity
Infection
Metastasis


Total amount of registered procedures
14000
12000
10000
8000
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4000
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2016
2017
2018
2019
2020
2021
Deg. lumbar spine
Deg. cervical spine
Deformity
Infection
Metastasis


Total amount of registered procedures
14000
12000
10000
8000
6000
4000
2000
0
1998
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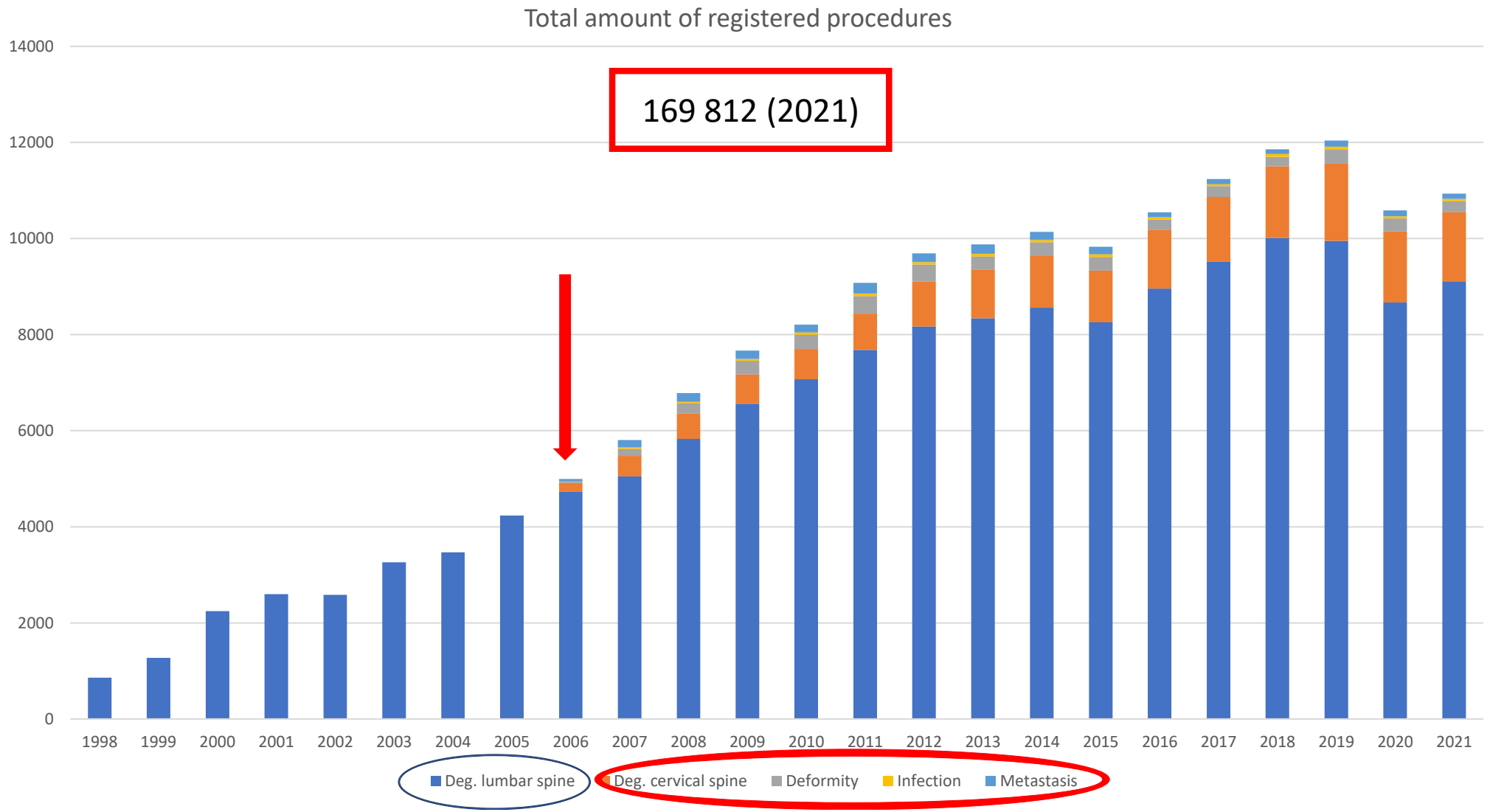
2021
Deg. lumbar spine
Deg. cervical spine
Deformity
Infection
Metastasis


Total amount of registered procedures
169 812 (2021)
14000
12000
10000
8000
6000
4000
2000
0
1998
1999
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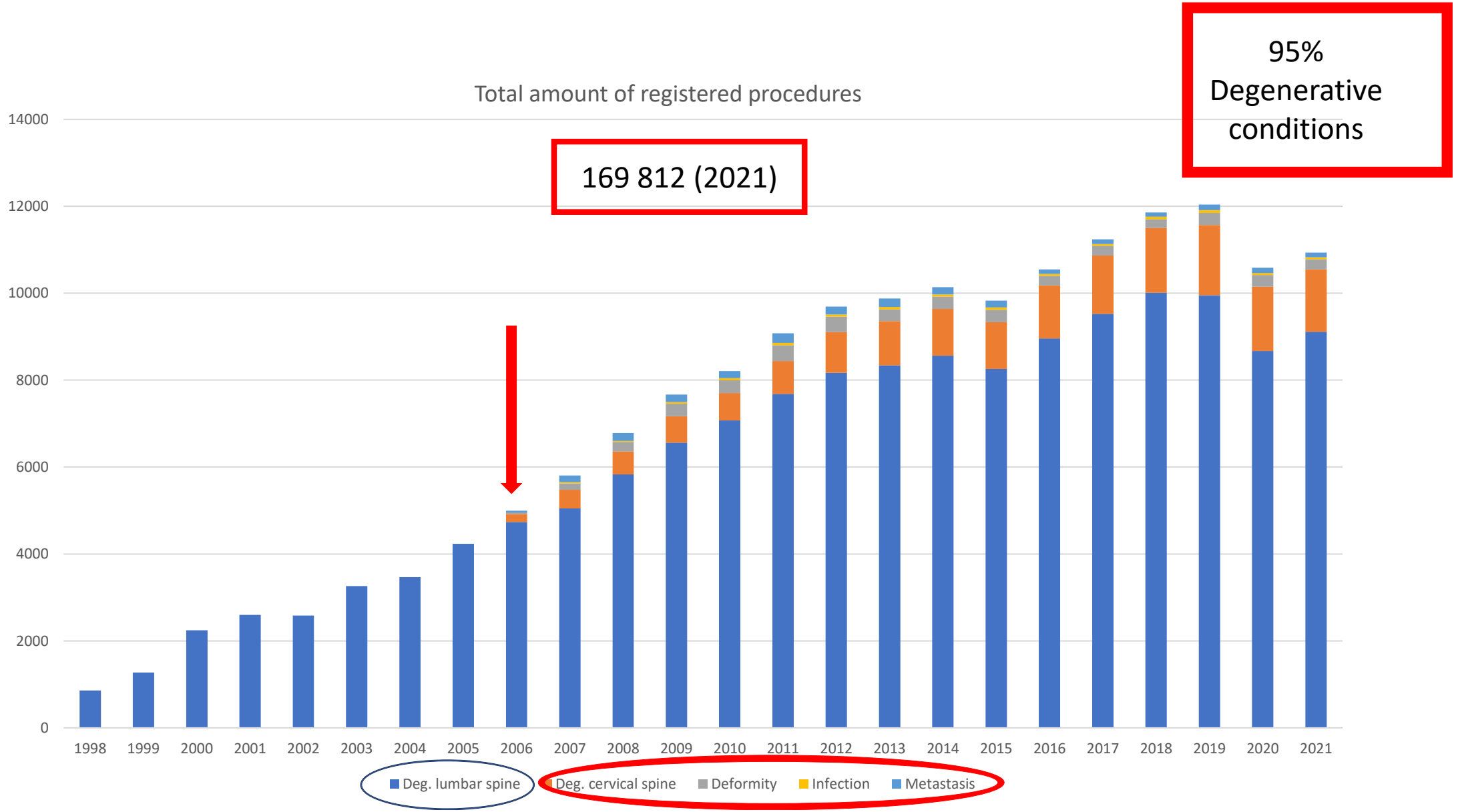
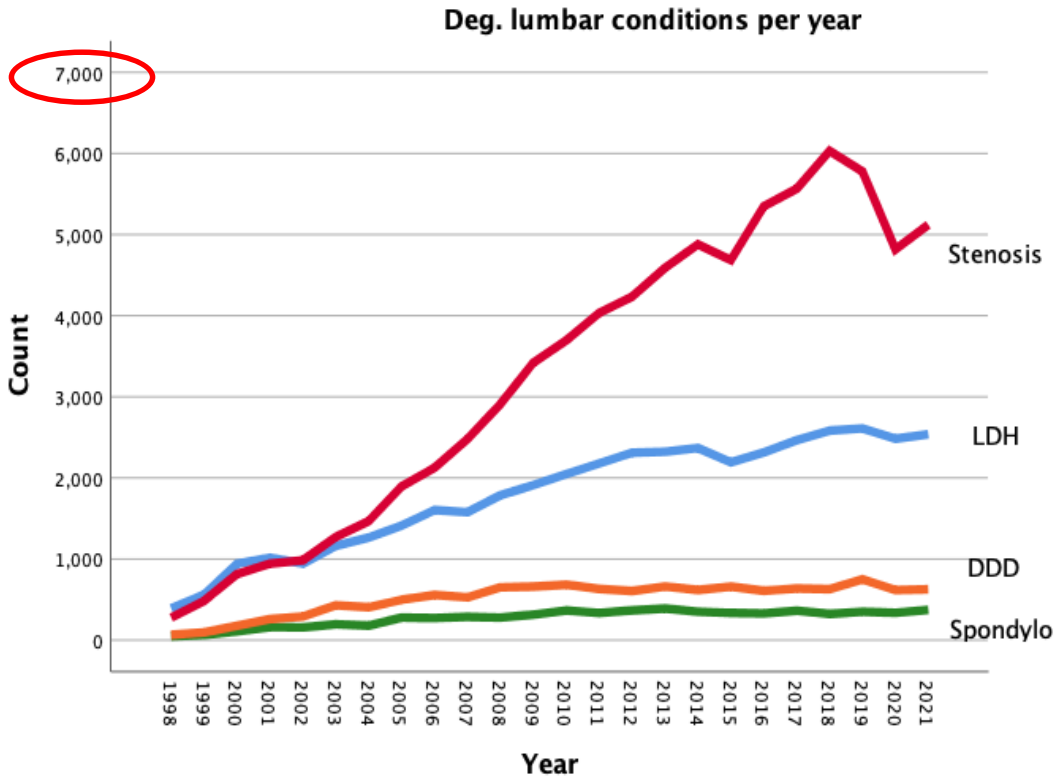
2021
Deg. lumbar spine
Deg. cervical spine
Deformity
Infection
Metastasis



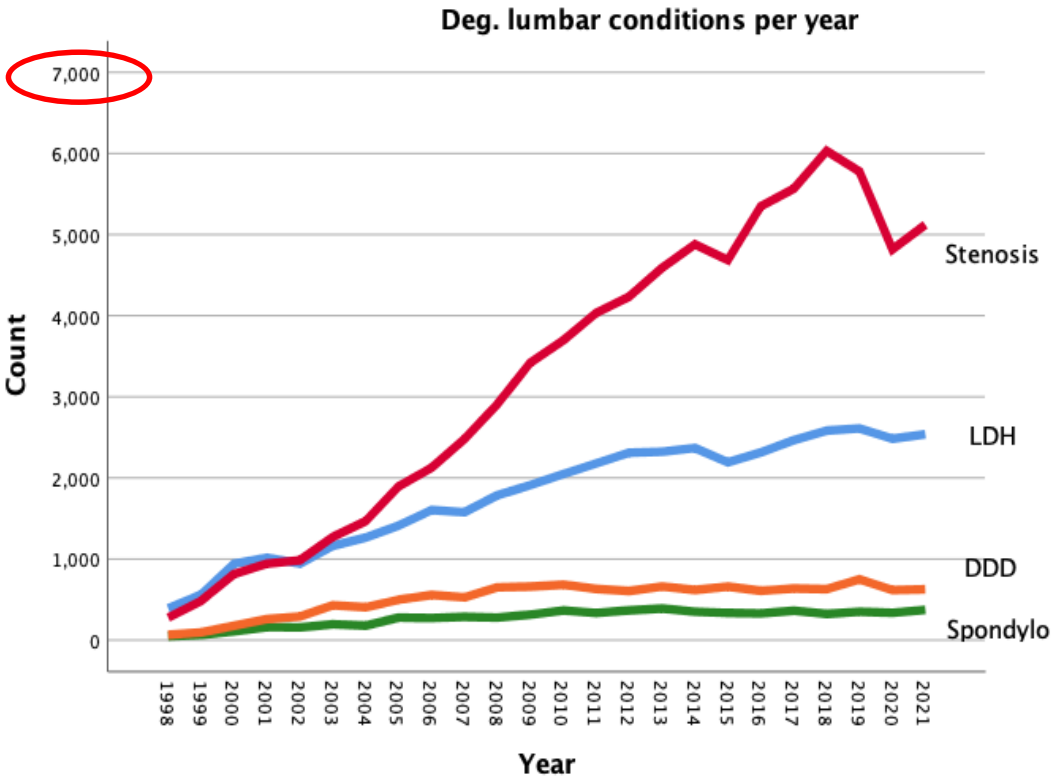
169 812 (2021)

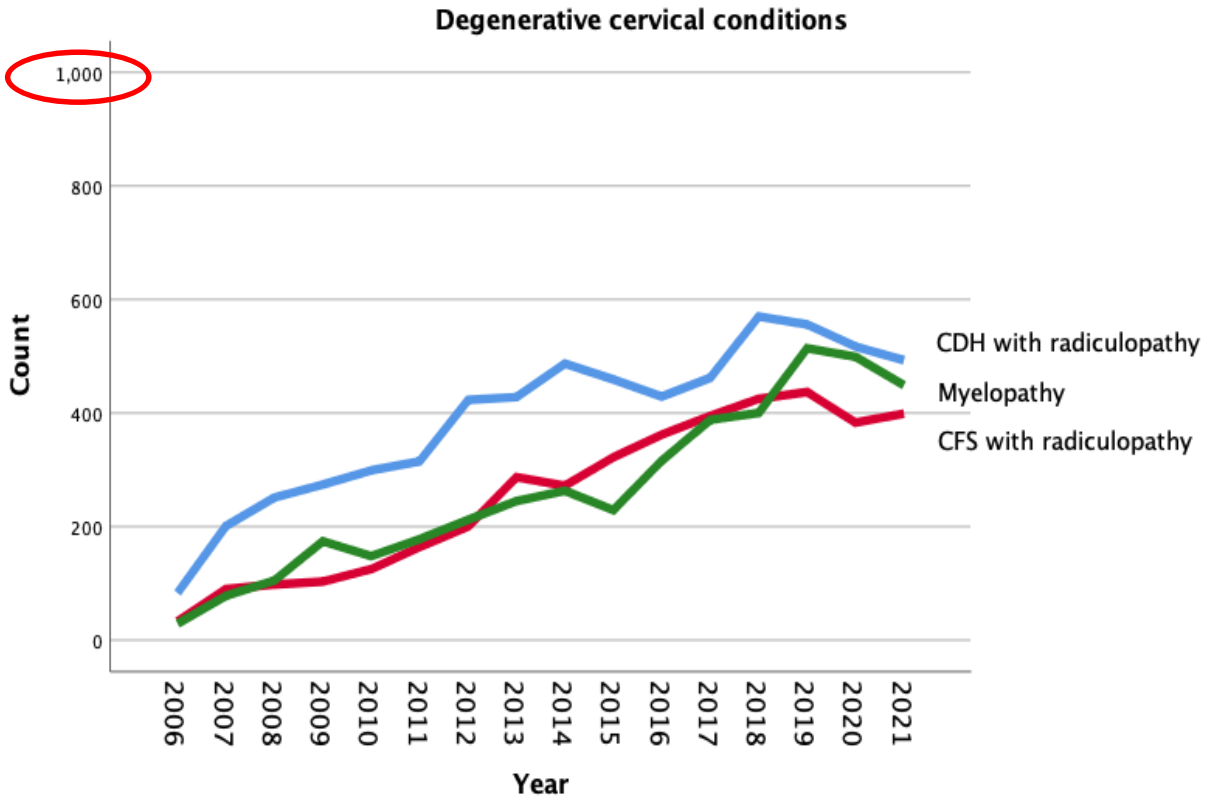
95% Degenerative conditions

The increase is mainly lumbar spinal stenosis



The increase is mainly lumbar spinal stenosis





The registry contains unique data not present in any available medical record system (at least not in Sweden)

These data are critical for assessing the patient value of spine surgery

AND

It is a gold mine for clinical research

Important aspects of a registry

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The strength:

Real everyday life data

No distorting study bias

Promotes external validity

Limitations *(as in planned studies)**:***

- Surgical data delivered by surgeon
- Baseline and Outcome data reported by patient

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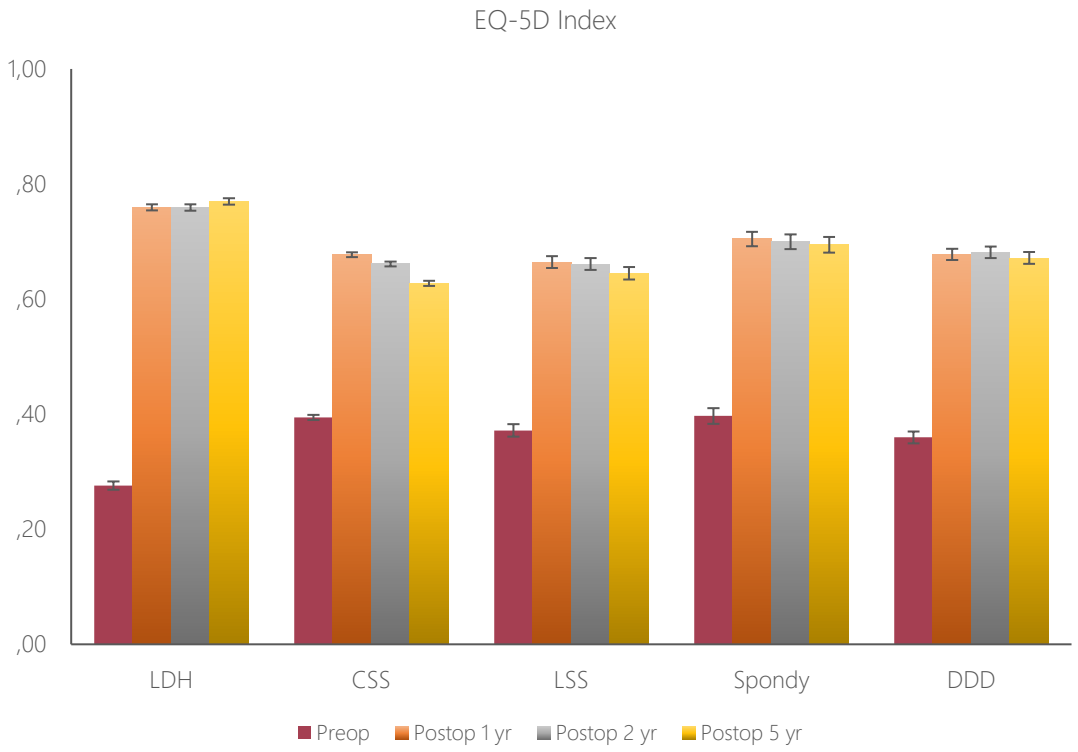
Interpretation of data with precaution

Outcome overview (EQ-5D)

Outcome overview (EQ-5D)

Deg. lumbar spine



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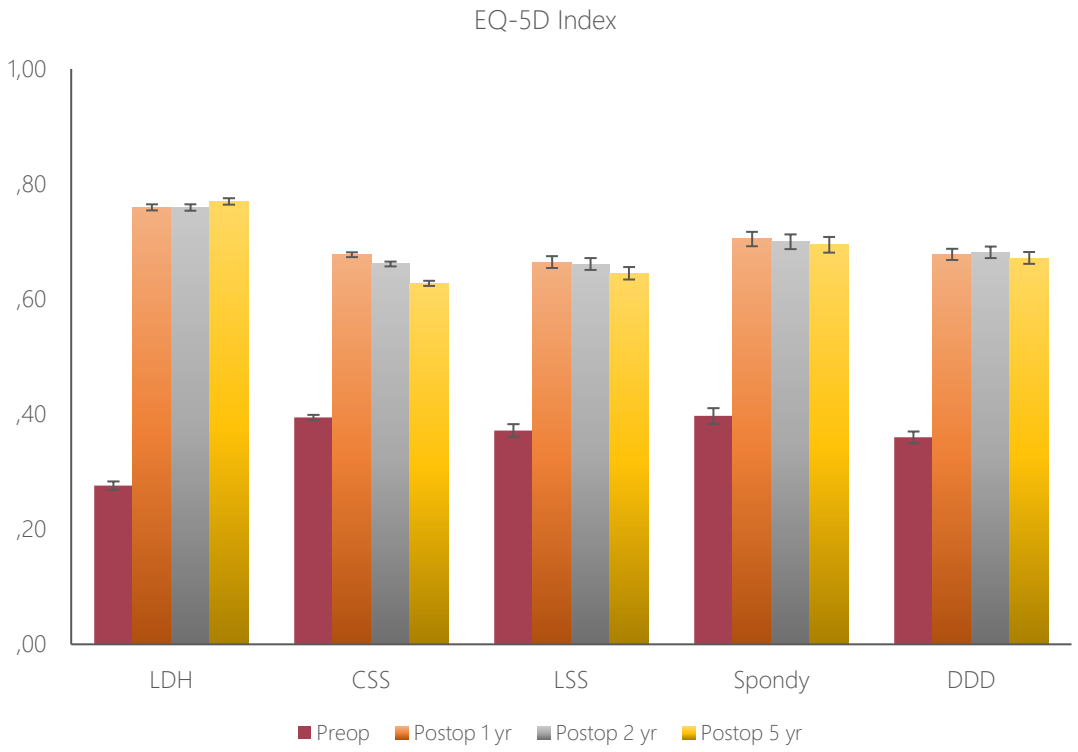

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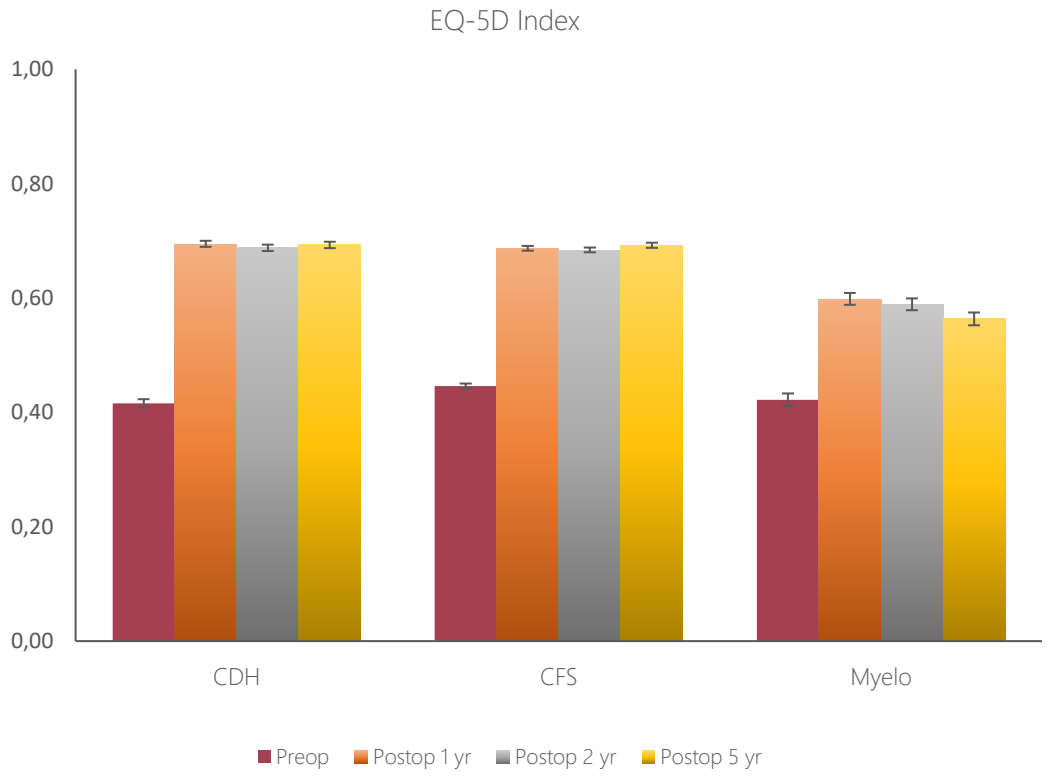

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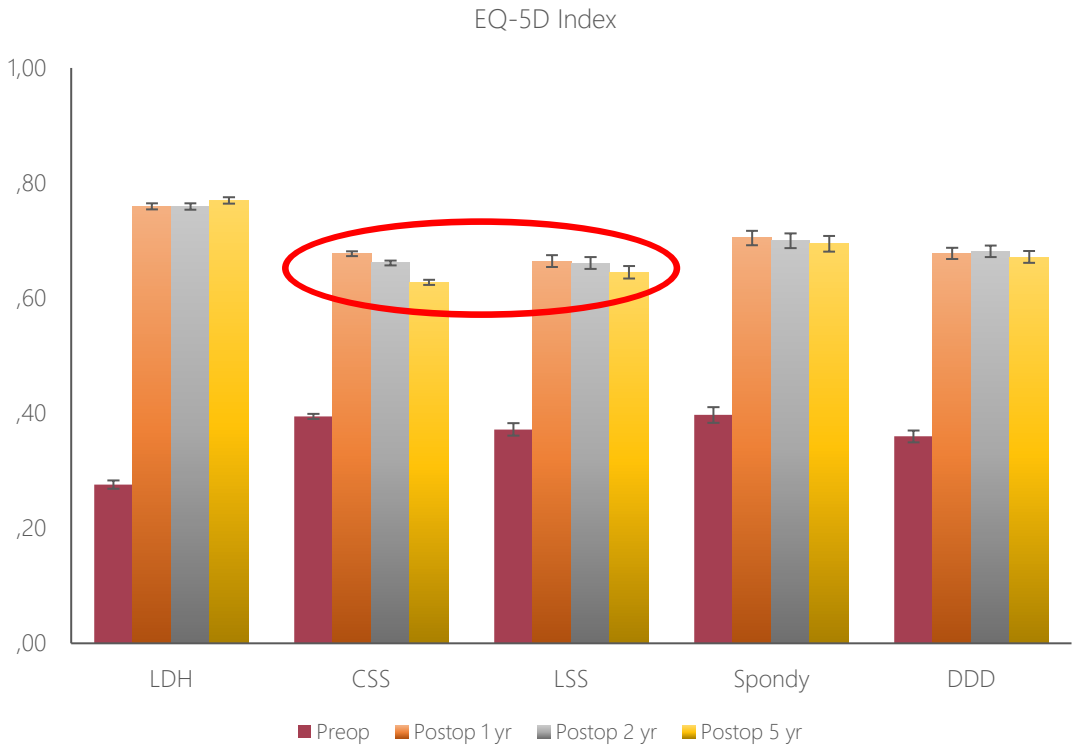

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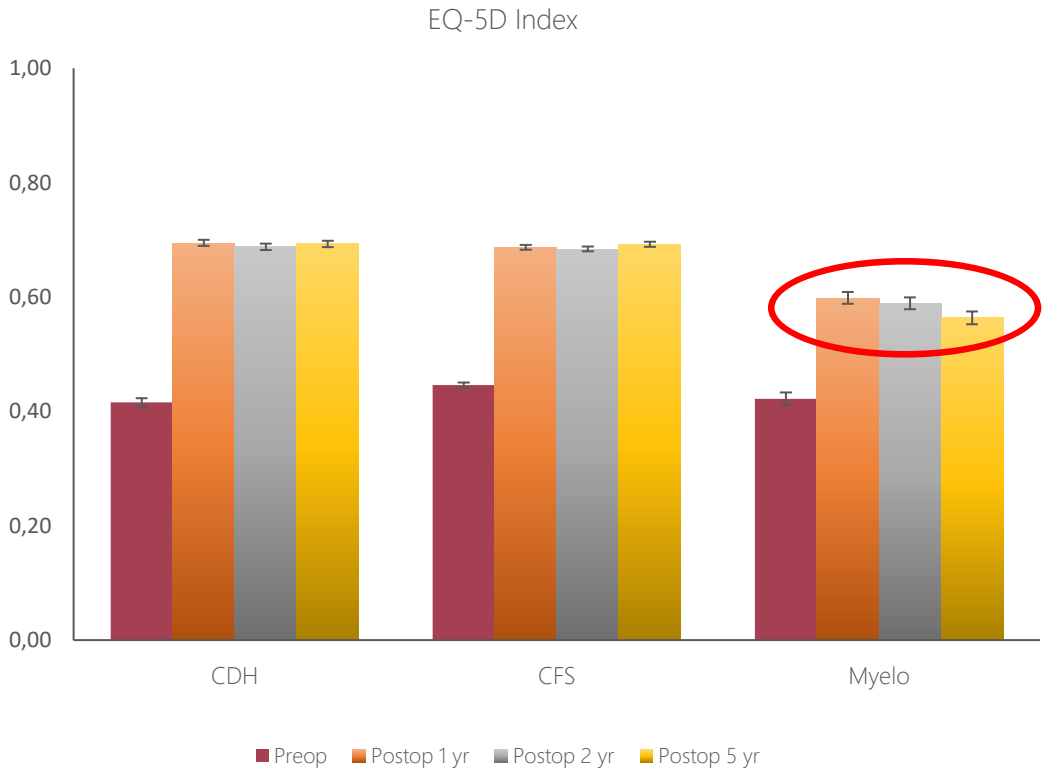

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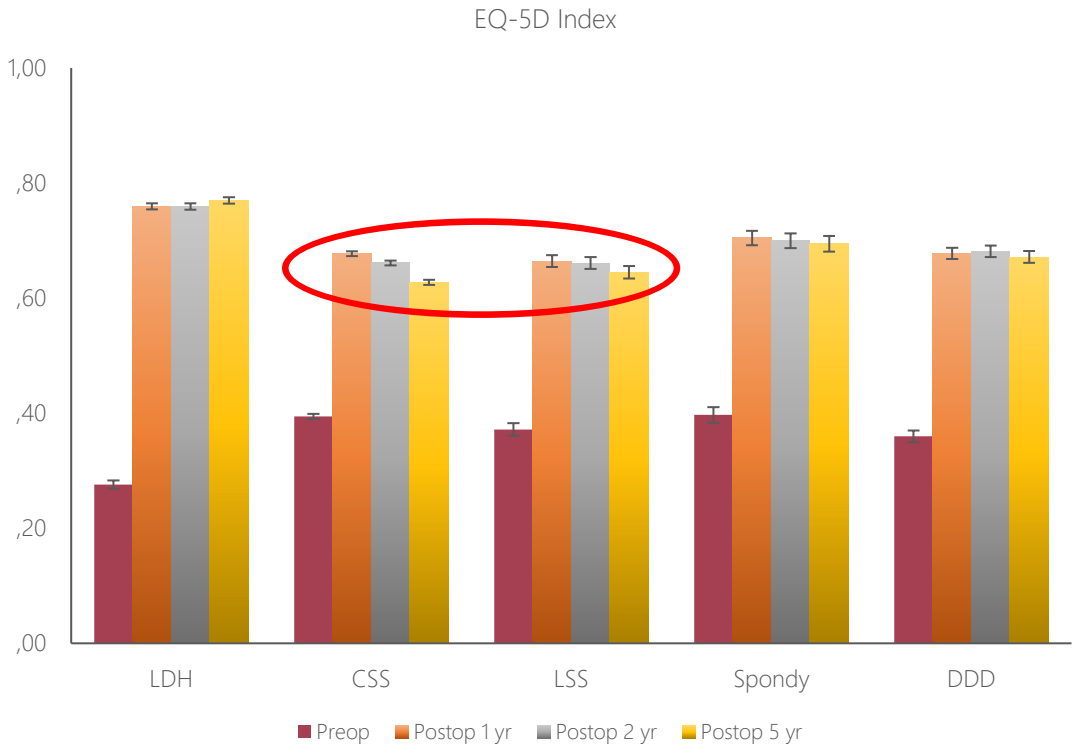

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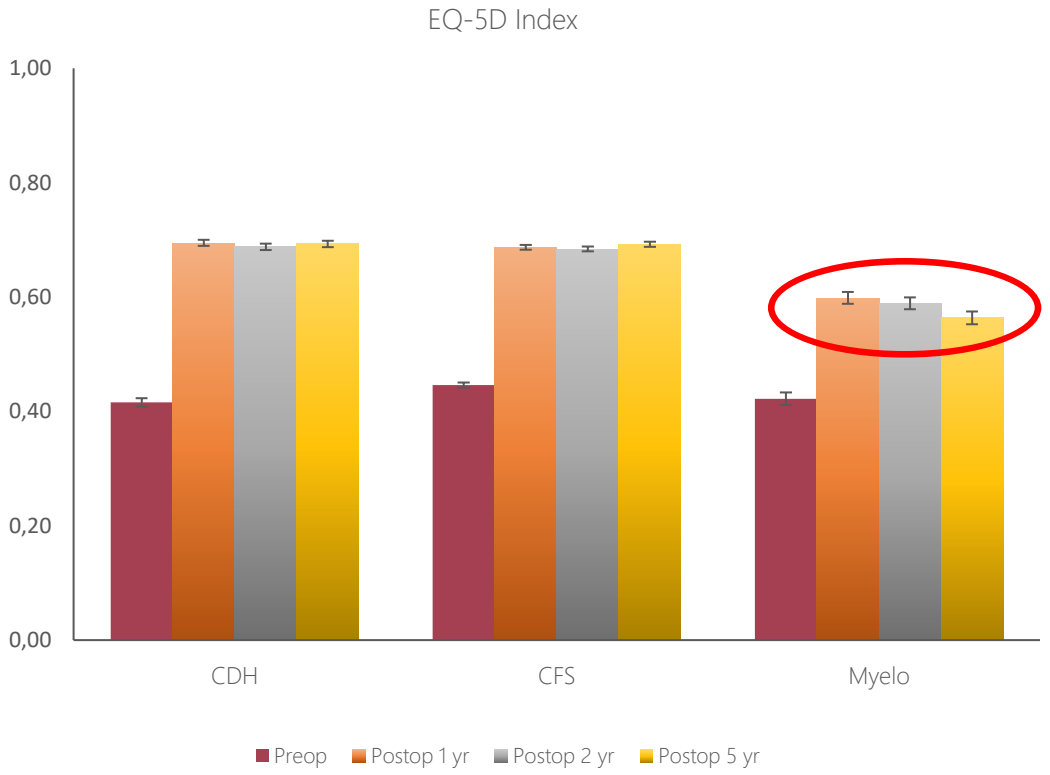


Outcome is less favorable in spinal stenosis

What have we learned in 25 years?

- A few examples from the current annual report

- More is to be found through the link:

https://www.swespine.se/page.aspx?id=12&lang=1

Primary outcome measure for clinical routine

Global assessment (single item, retrospective)

”How is your leg/back/arm/neck pain today compared to before the operation?”

- **I had no leg/back/arm/neck pain before the operation**
- **Dissapeared**
- **Much better**
- **Somewhat better**
- **Unchanged**
- **Worse**

Primary outcome measure for clinical routine

Interpretation

- **Dissappeared**
- **Much better**

Success

- **Somewhat better**
- **No change**

Indefinite

- **Worse**

Failure

Primary outcome measure for clinical routine

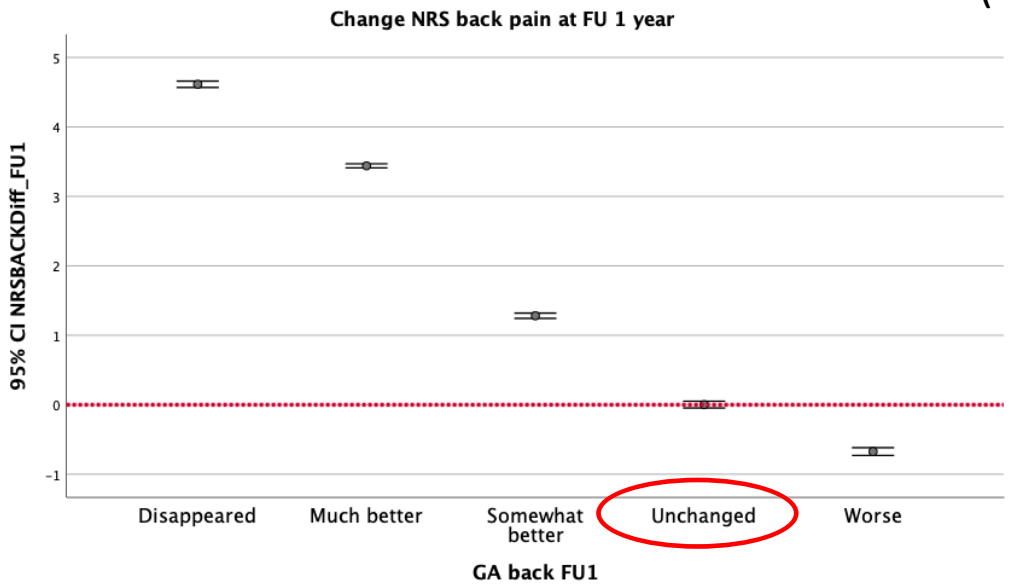
Application

- Lumbar spinal stenosis - leg pain
- Lumbar disc herniation - leg pain
- Lumbar DDD - back pain
- Cervical disc herniation - arm pain

How valid is Global Assessment?

How valid is Global Assessment?

(N = Swespine)



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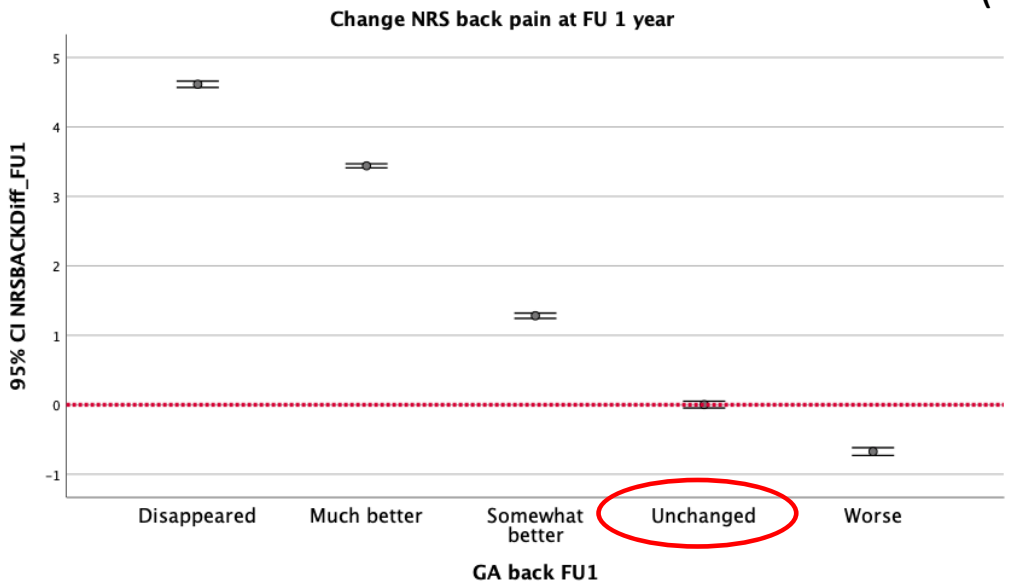

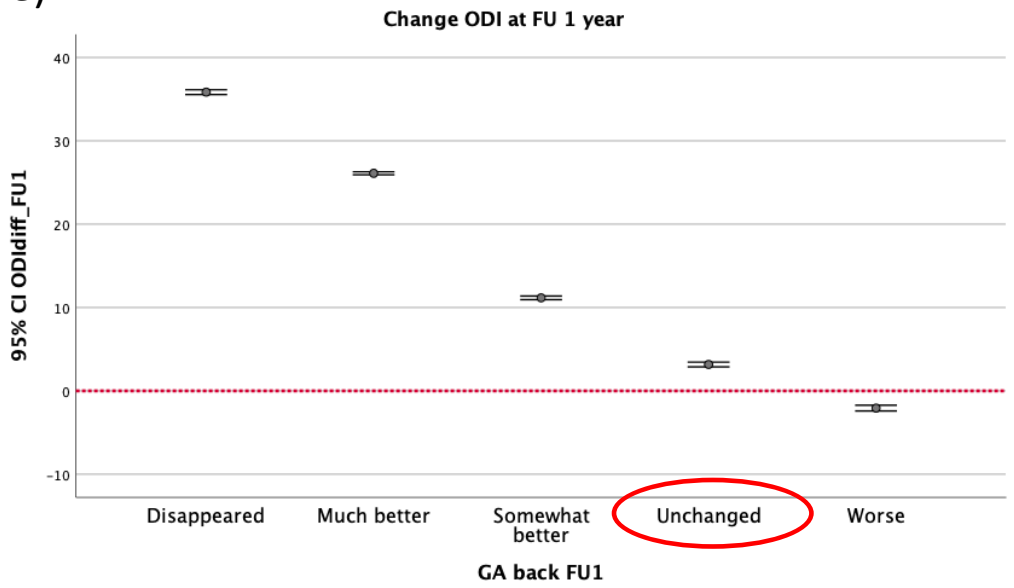

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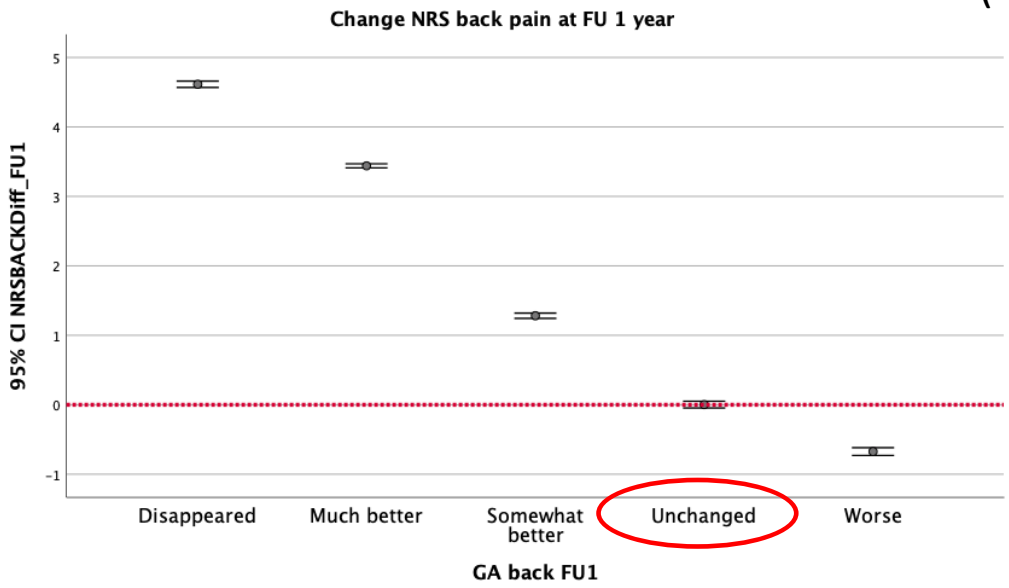

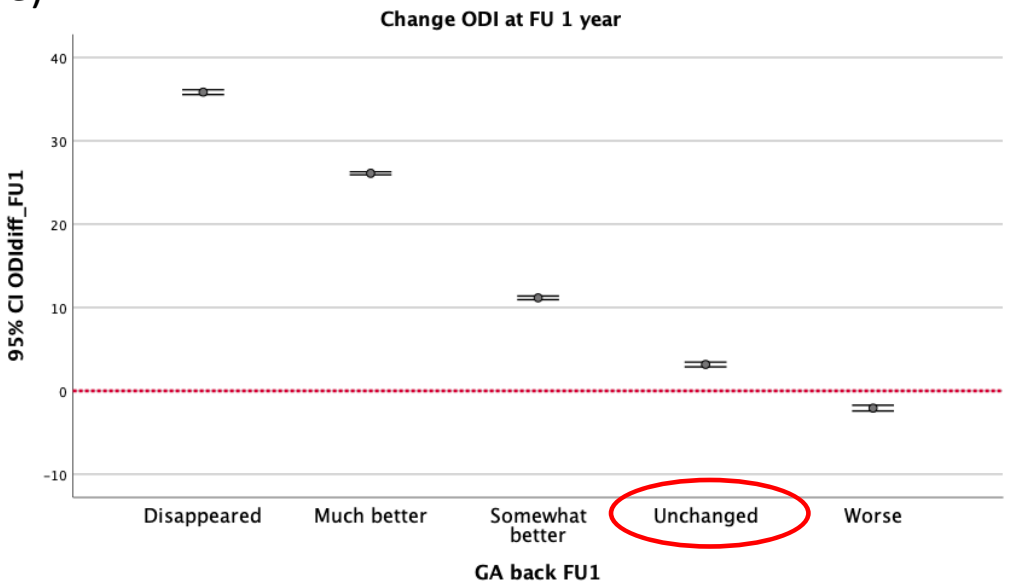

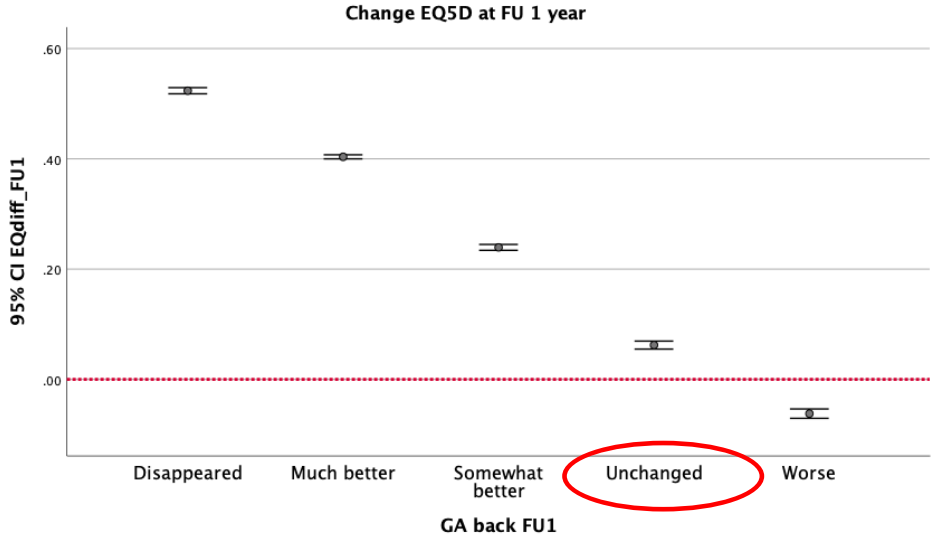

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***Exam*ple 1:**

Is the outcome with disc prosthesis better than fusion in CDH with radiculopathy?

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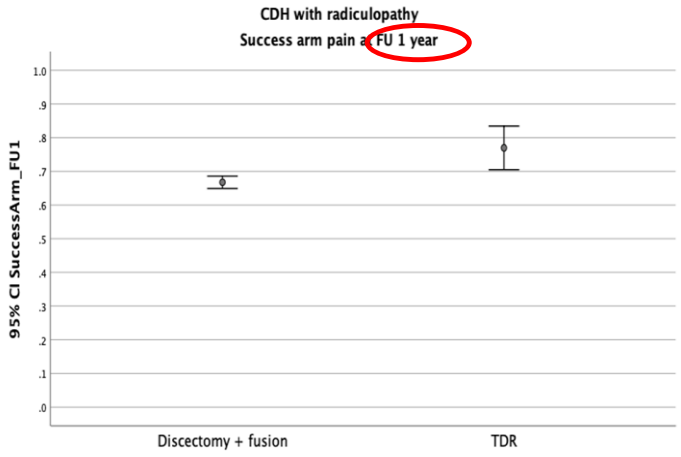
Is the outcome with disc prosthesis better than fusion in CDH with radiculopathy?

N = TDR 372, ACIF 5 811

Success rate arm pain (GA)



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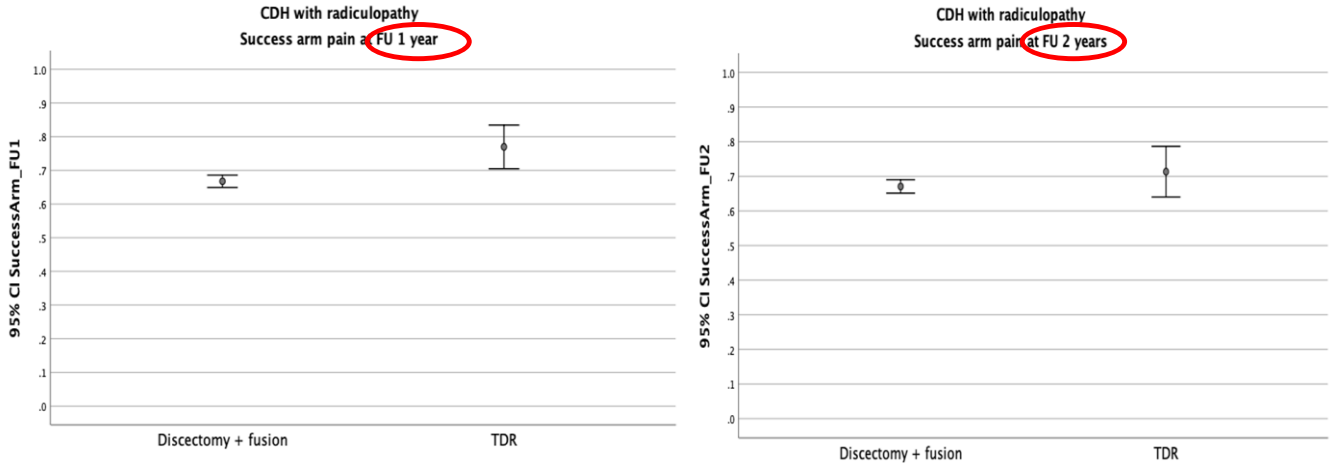

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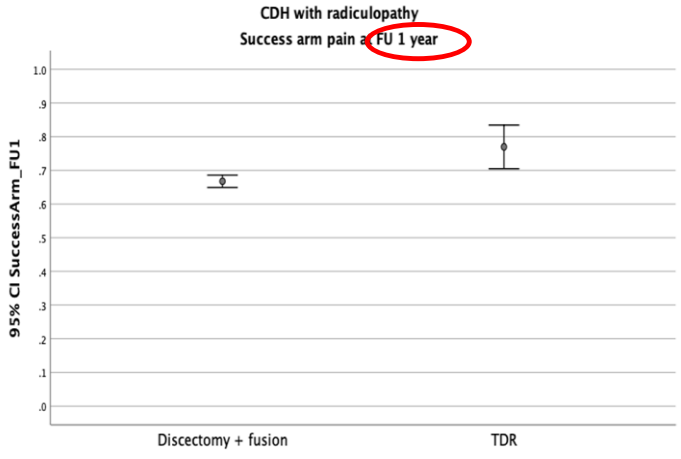

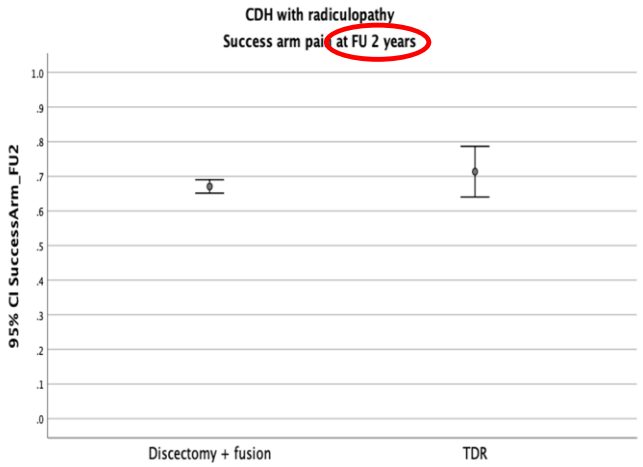

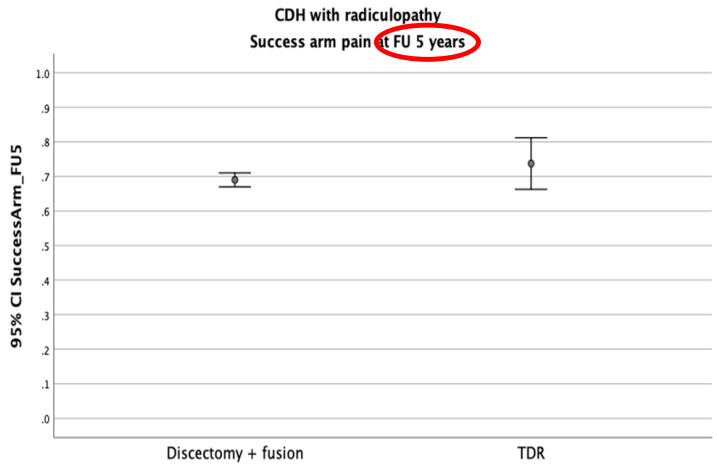

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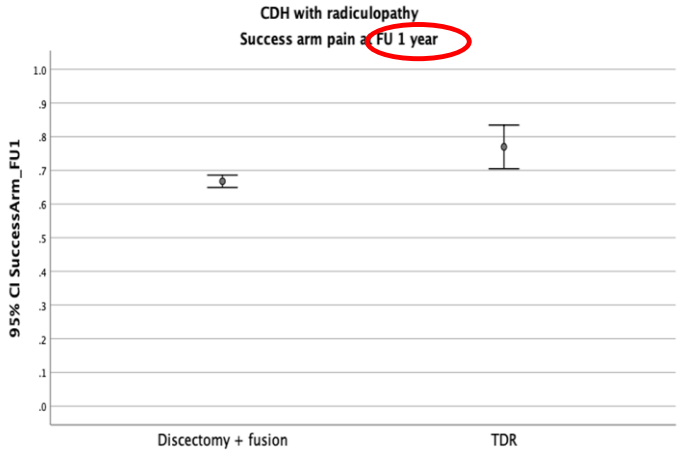

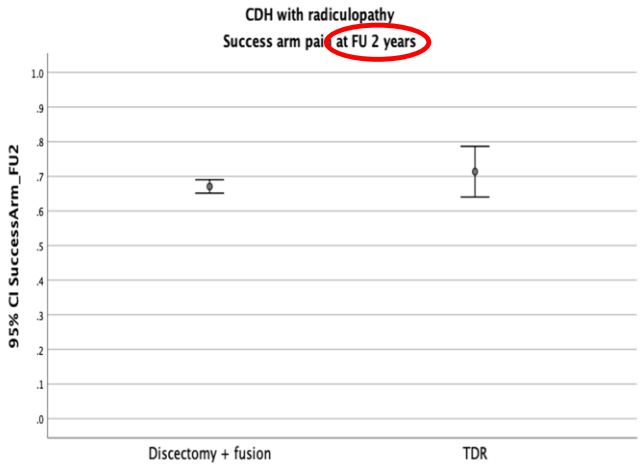

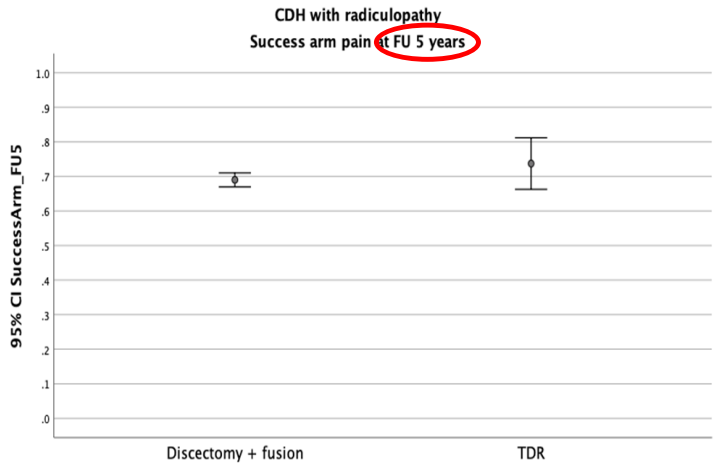

Reinterventions within 1 year: TDR 4,8% - ACIF 1,2%

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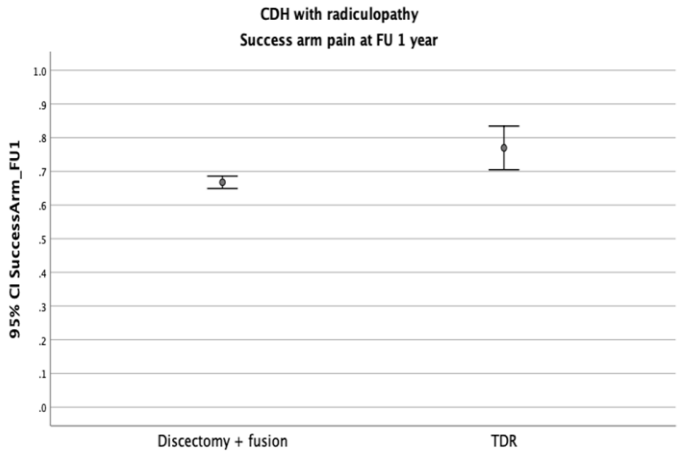

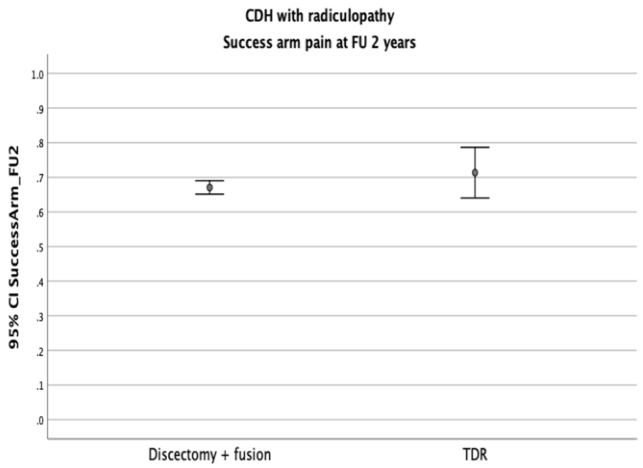

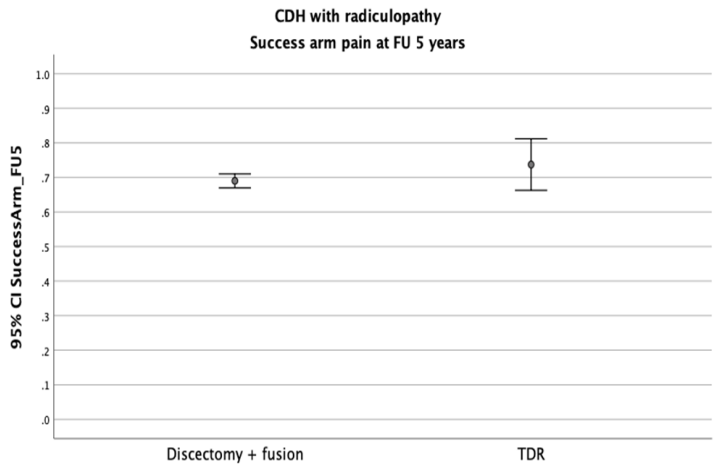

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Answer: Outcome is not better with TDR

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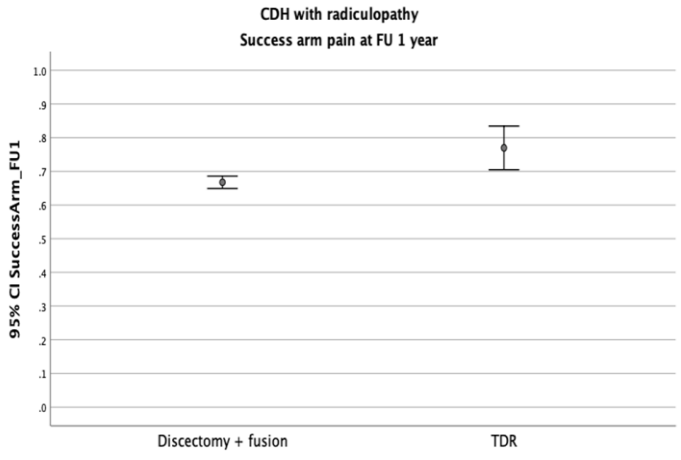

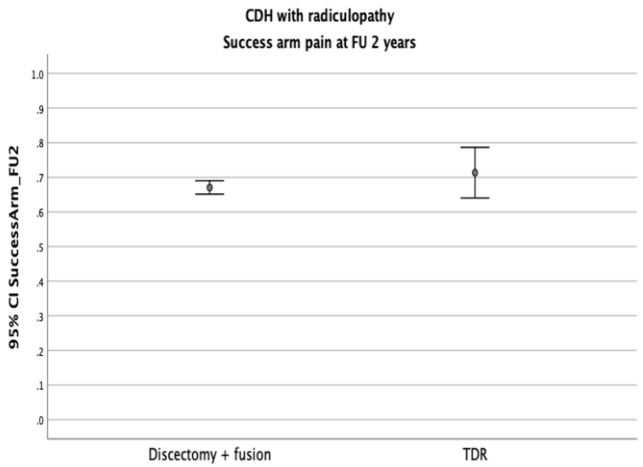

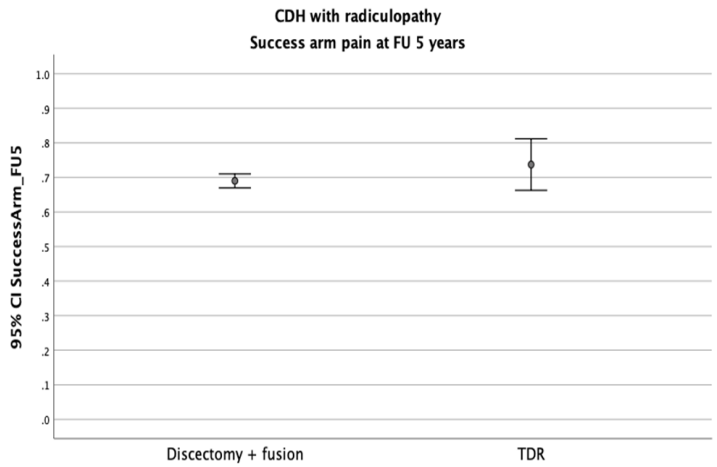

Swespine data equivalent to Swedish RCT with FU 2 and 5 years:

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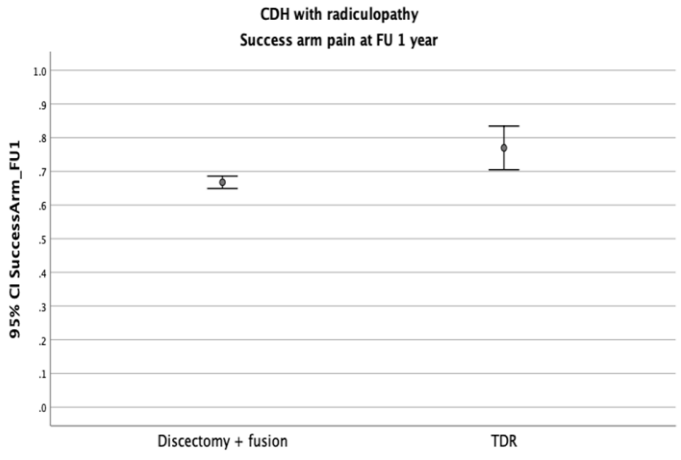

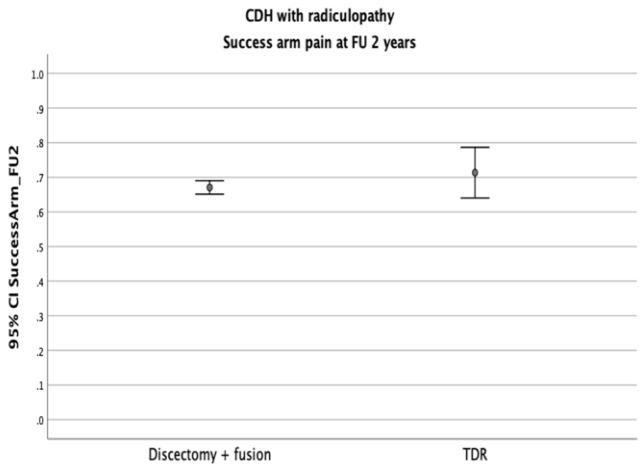

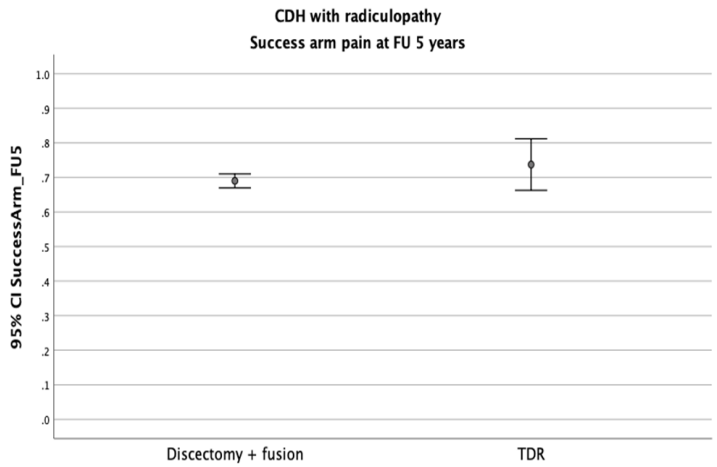

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Recommendation: Do not replace – Fuse!

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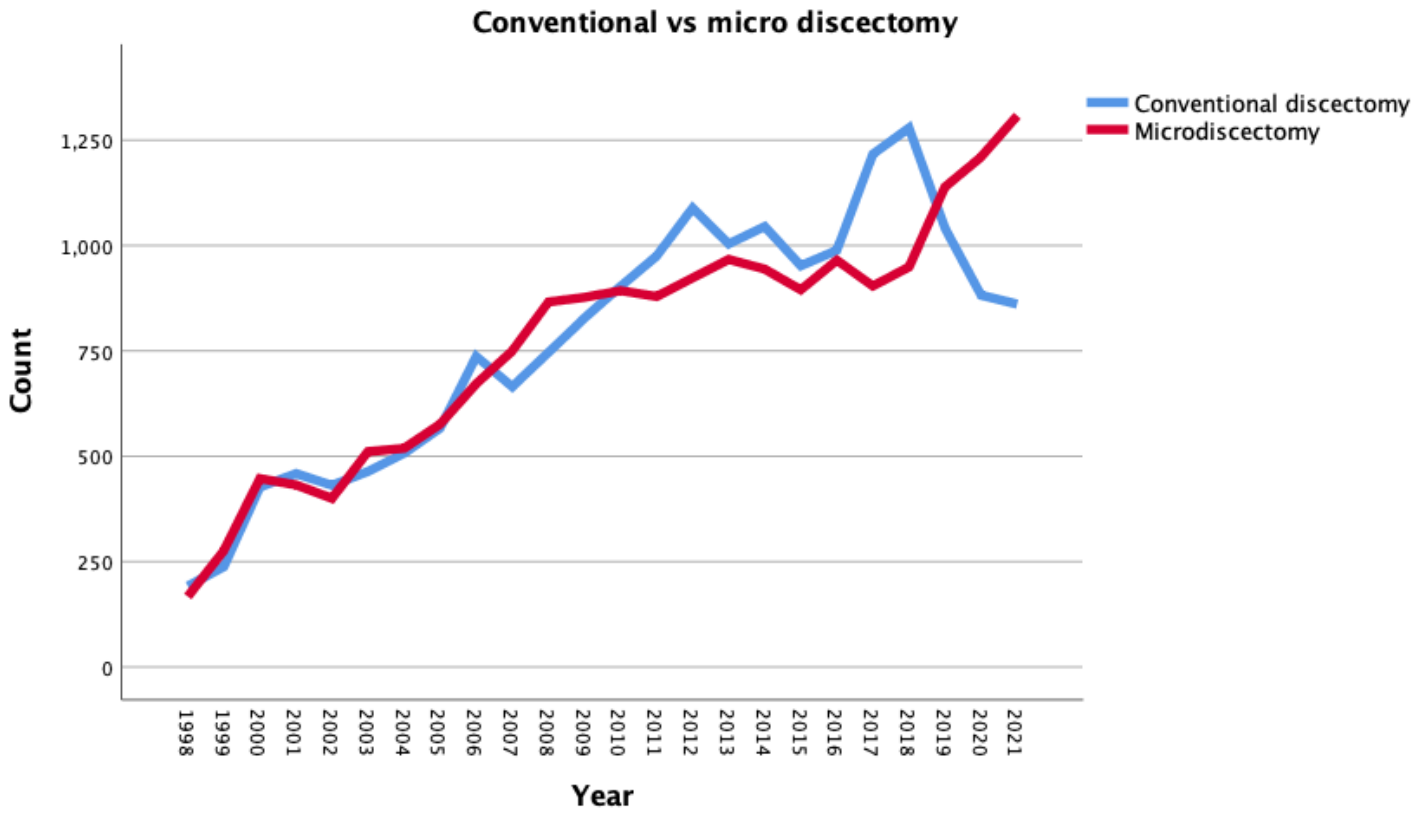

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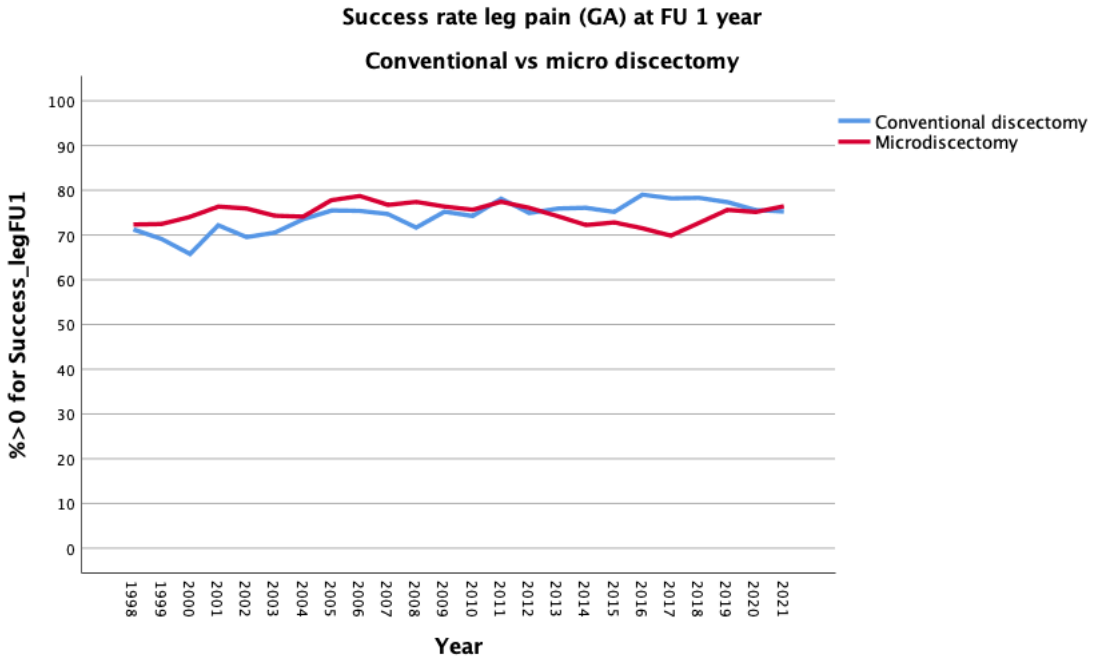

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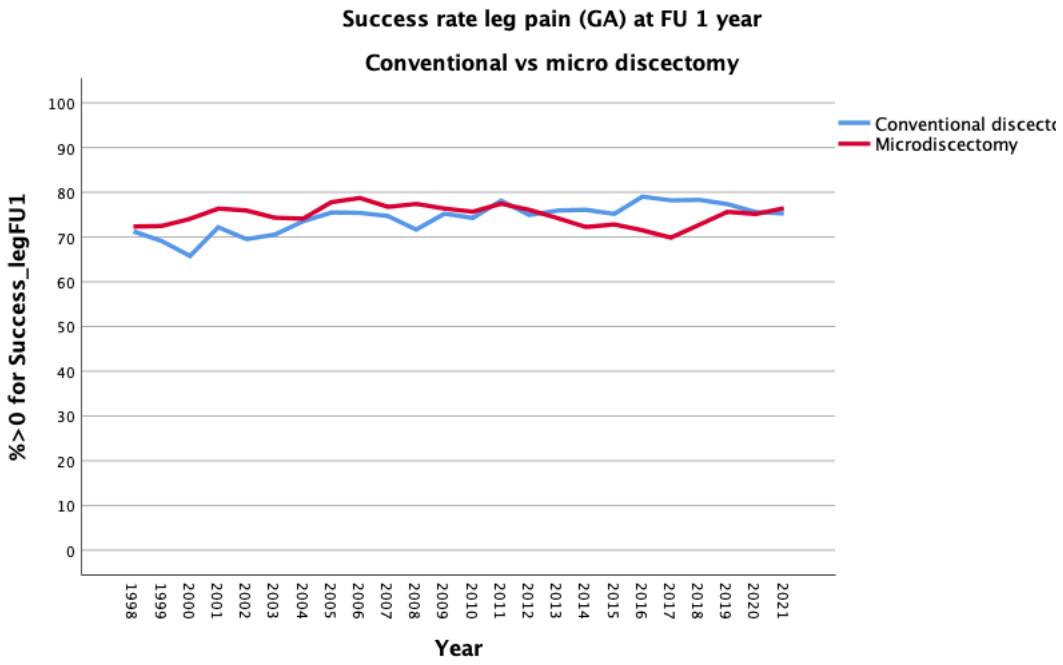

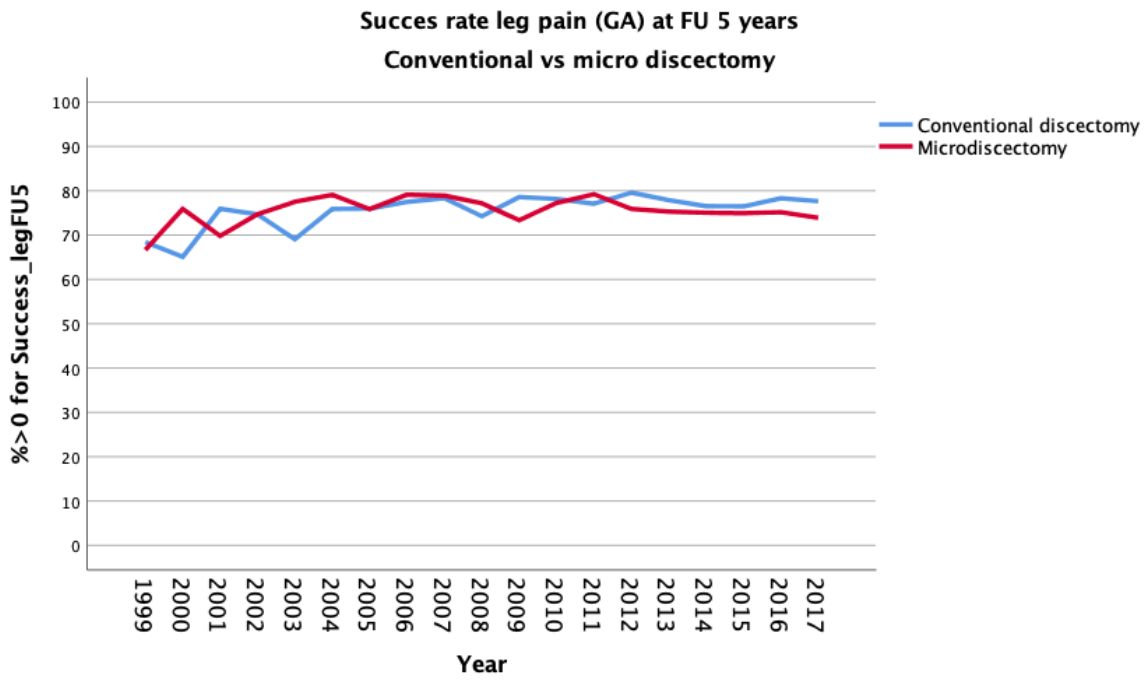

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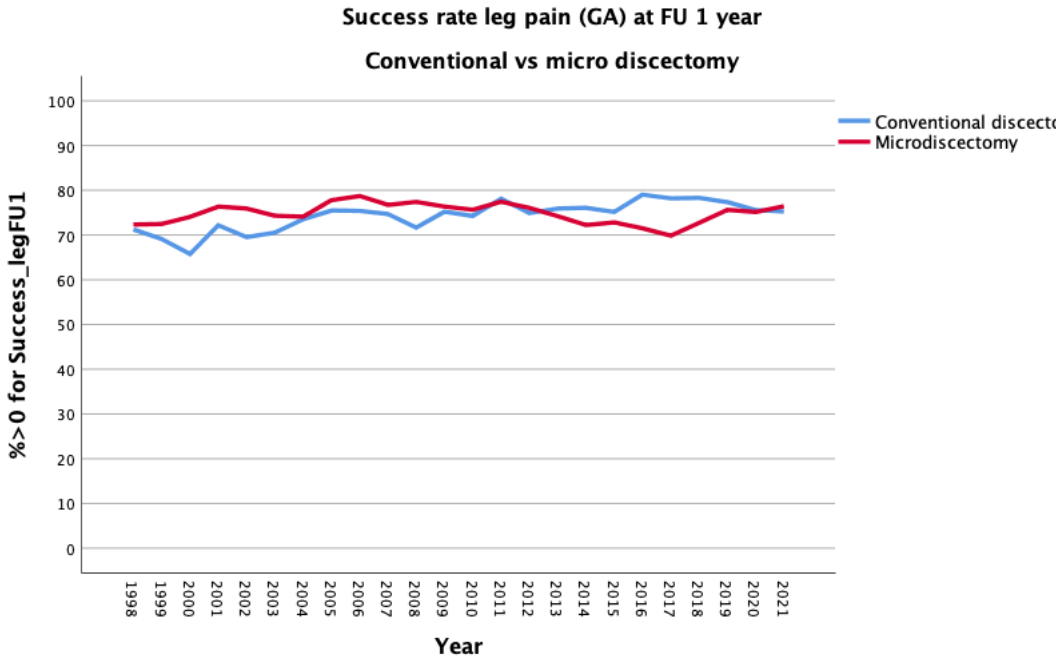

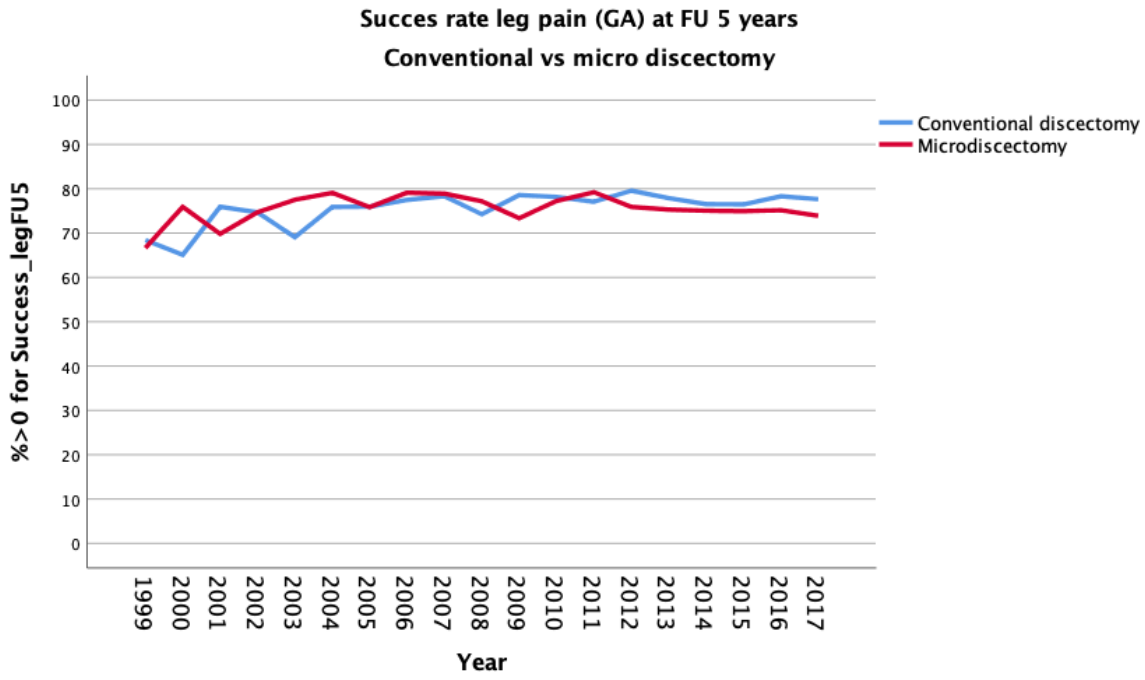

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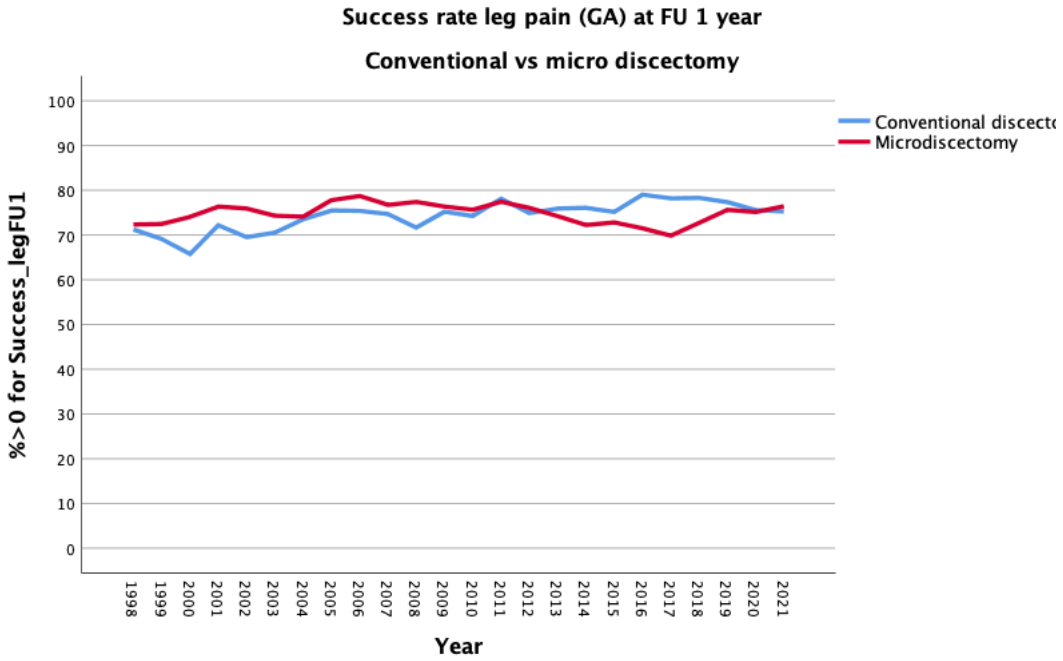

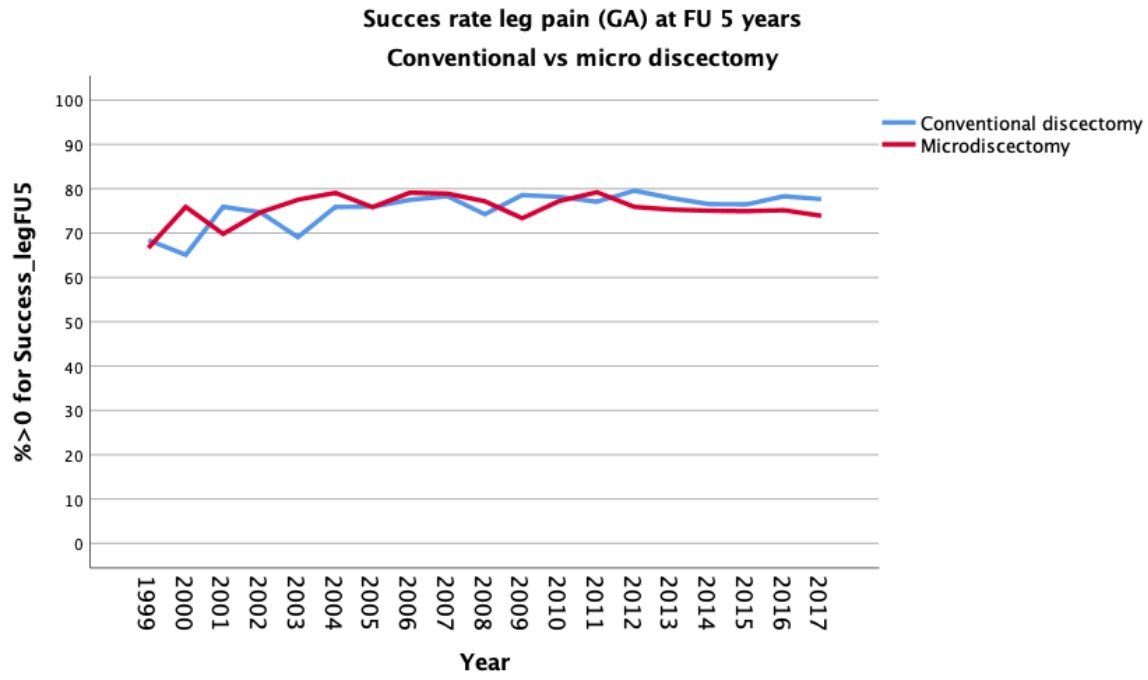

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Outcome is not better after microdiscectomy

Example 3:

What has happened with the outcome of surgery for Degenerative Disc Disease (DDD) in the lumbar spine ?

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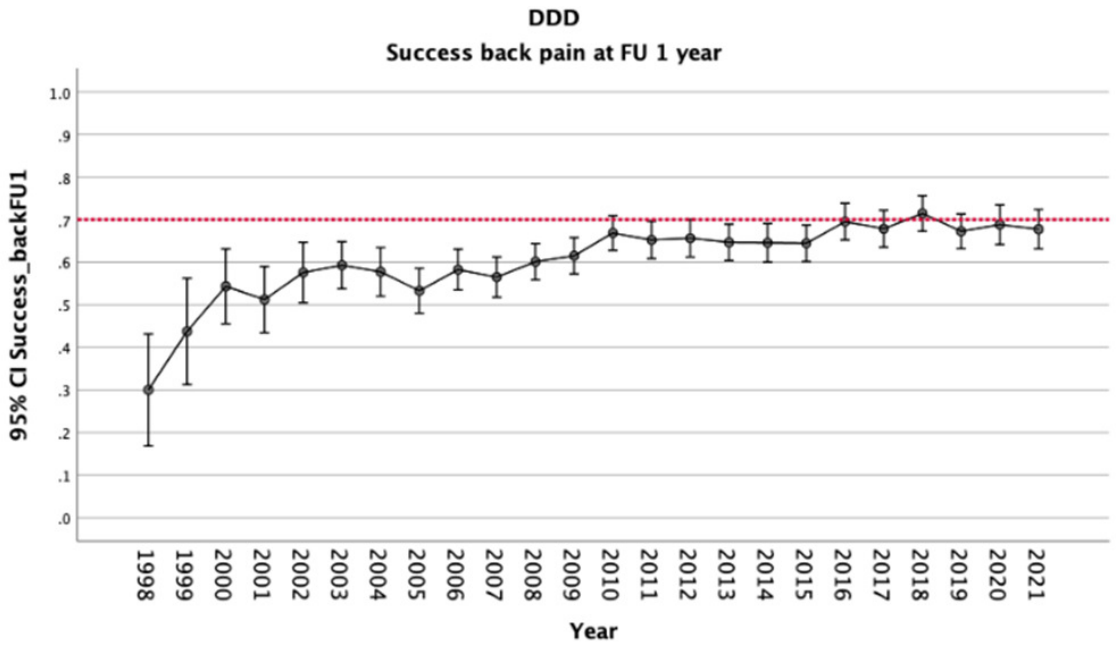

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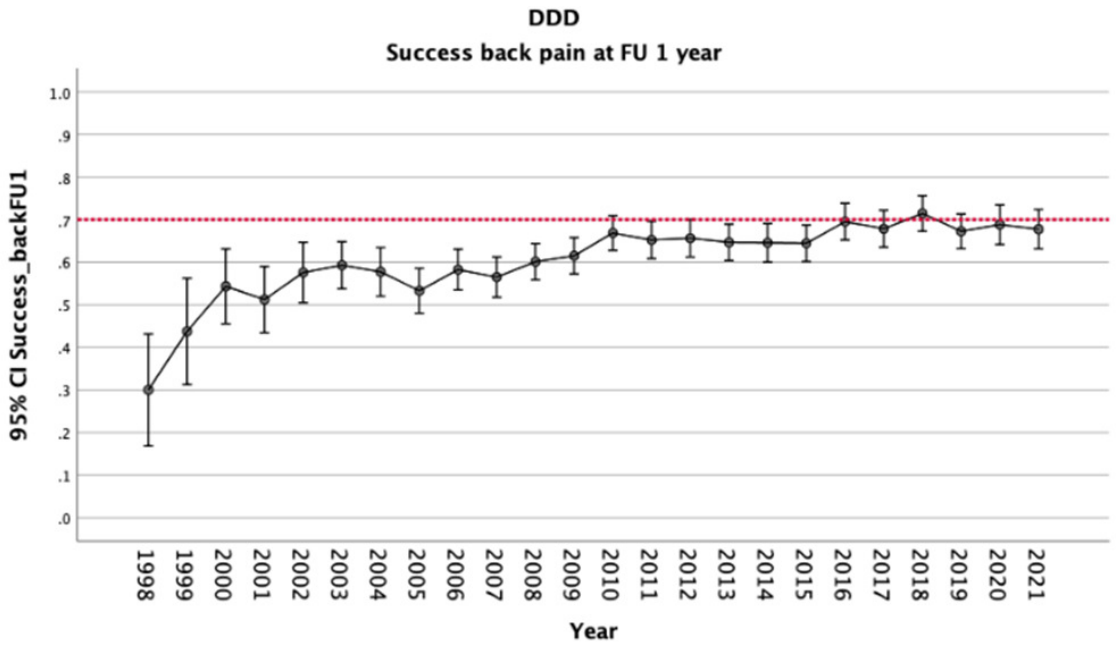

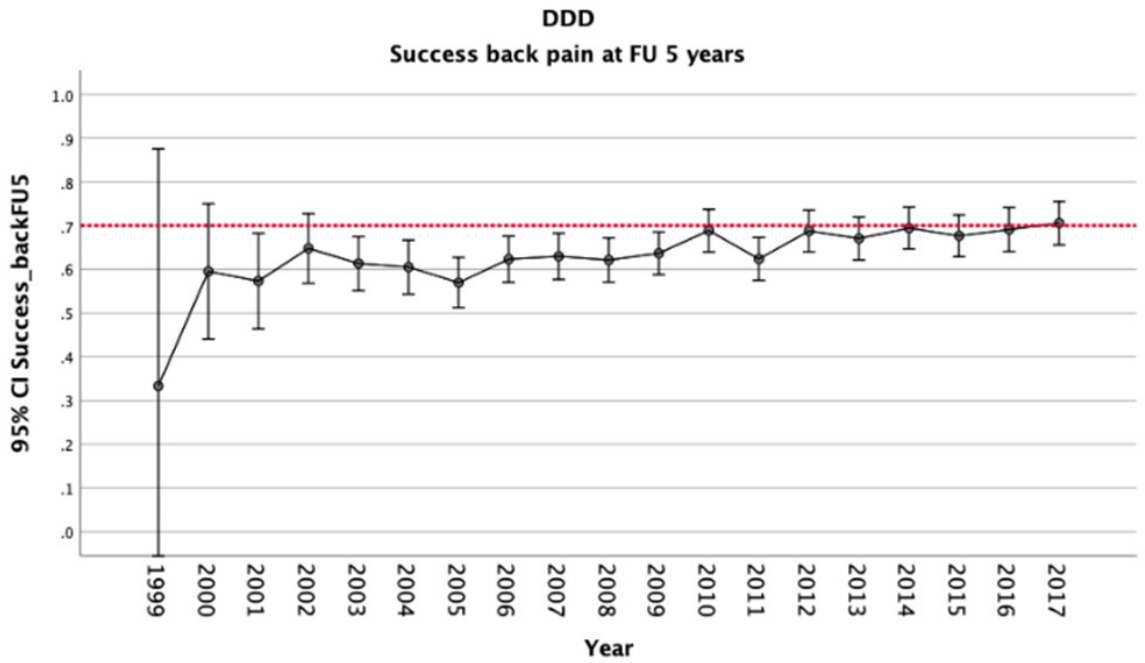

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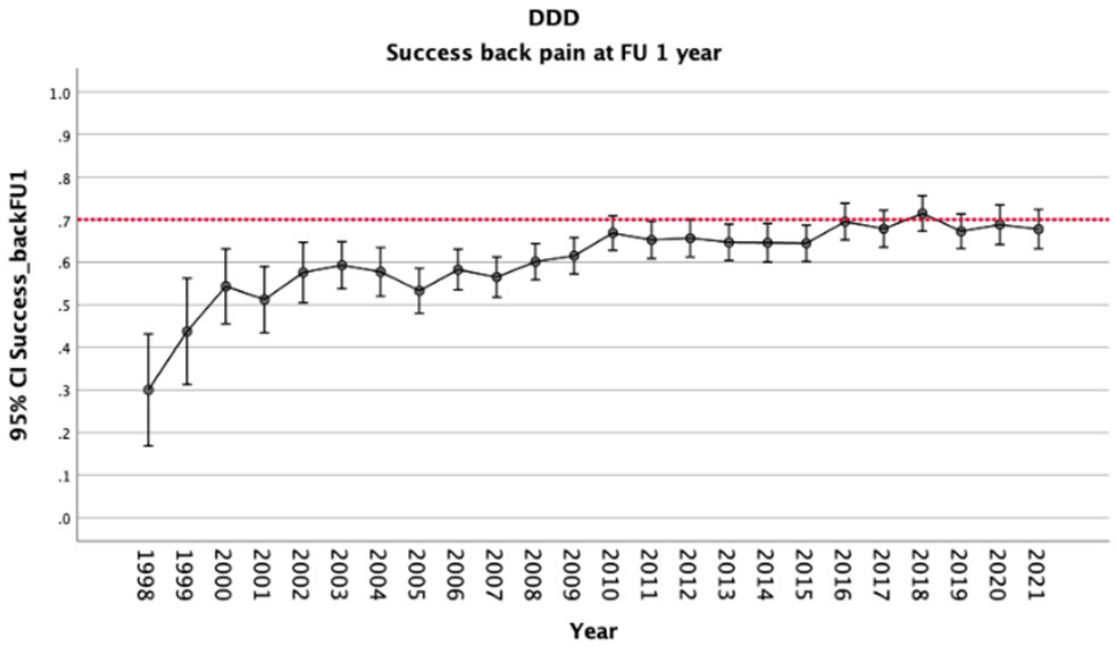

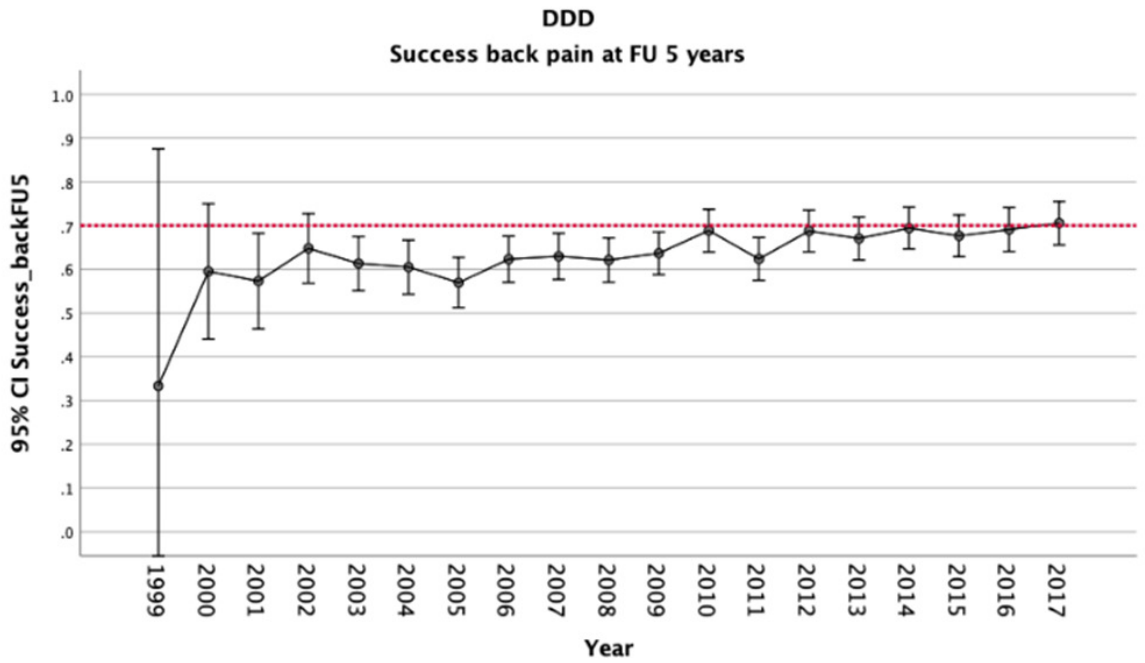

! Outcome has improved
Approaching the outcome of surgery for LDH

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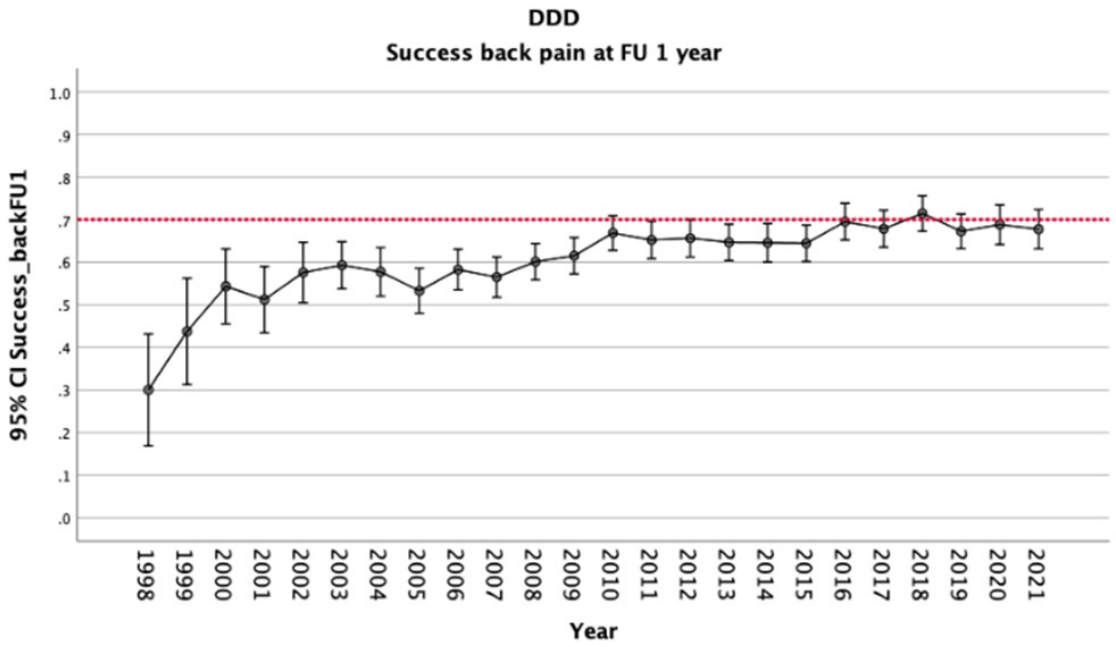
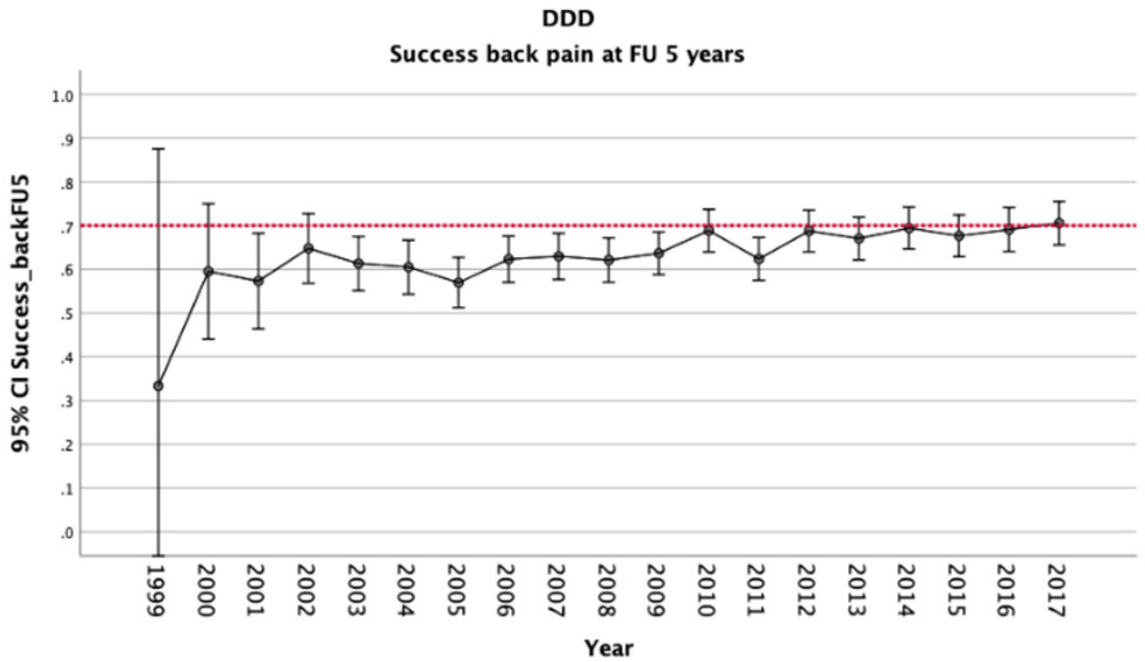




! Outcome has improved. Approaching the outcome of surgery for LDH

WHY?

- Benchmarking?
- Improved diagnostics?
- Improved surgical technique?
- More restrictive attitude to surgery?

Example 4:

Is TDR better than fusion for lumbar DDD?

Example 4:

Is TDR better than fusion for lumbar DDD?

Public debate 3 years ago

TDR stopped

What does registry data show?

Example 4:

Is TDR better than fusion for lumbar DDD?

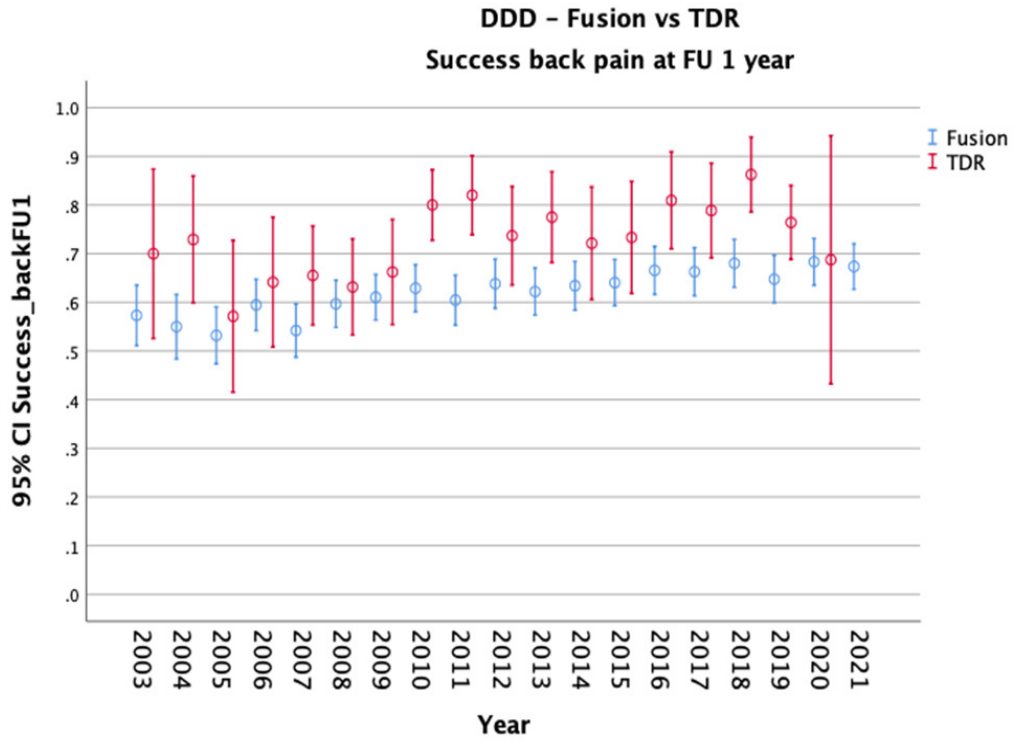
TDR = 1 591 Fusion = 10 748

Success rate back pain

Example 4:
Is TDR better than fusion for lumbar DDD?

TDR = 1 591 Fusion = 10 748

Success rate back pain



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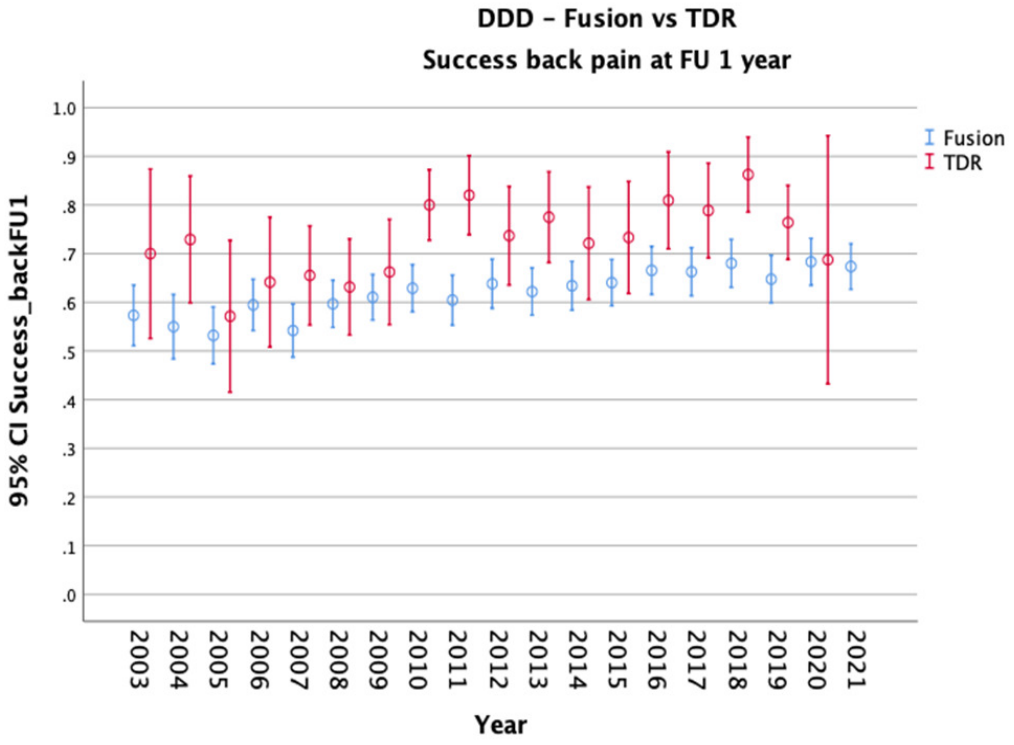

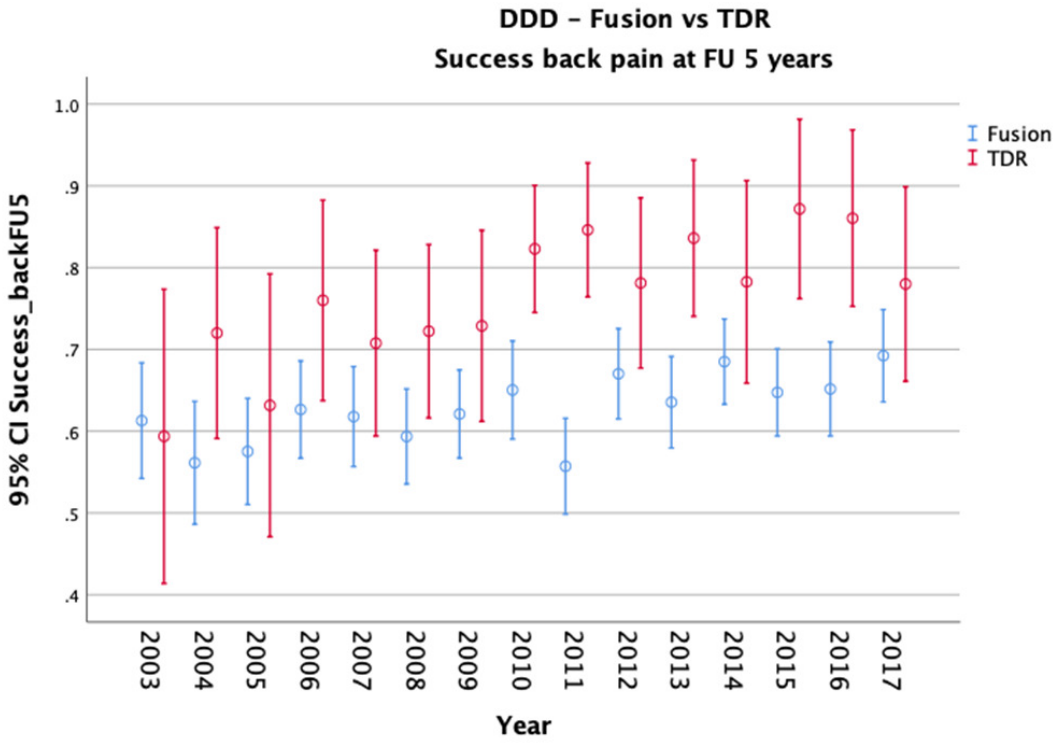

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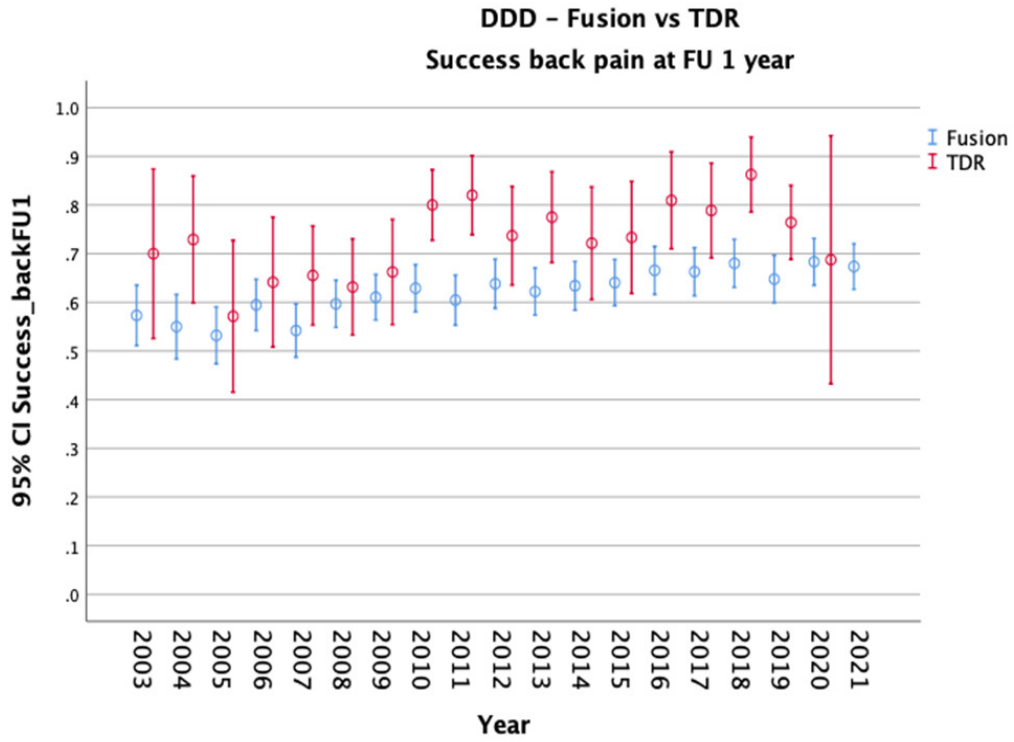
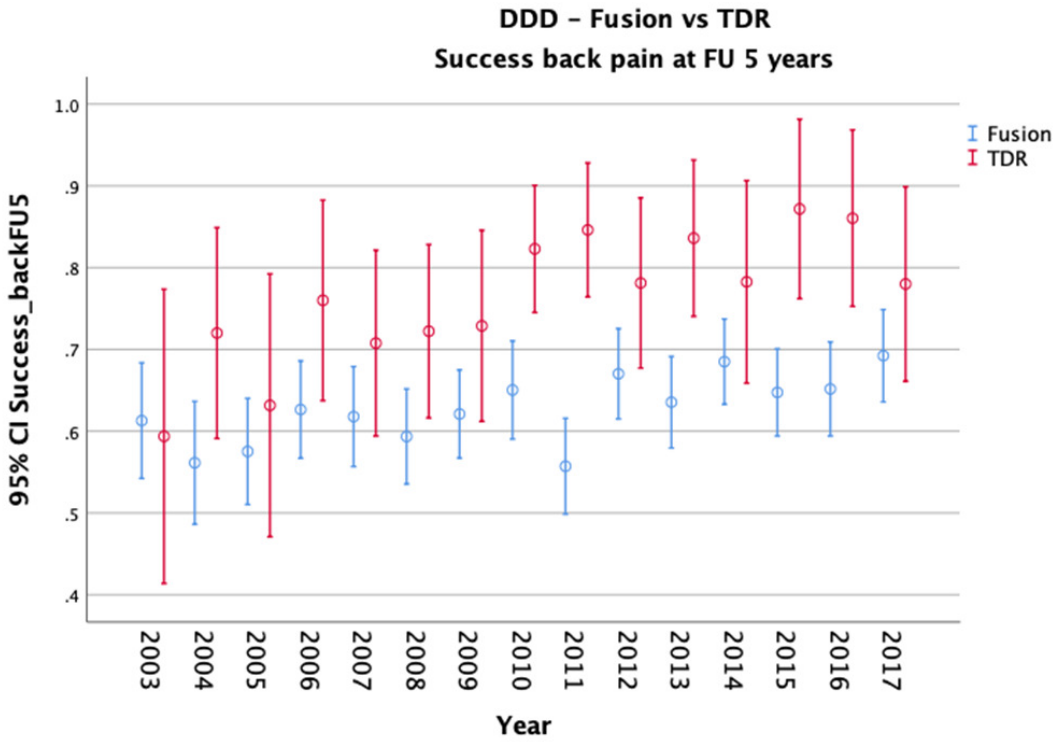




TDR: at least as good as fusion

RCT with FU 1, 2 and 5 years = equivalent outcome

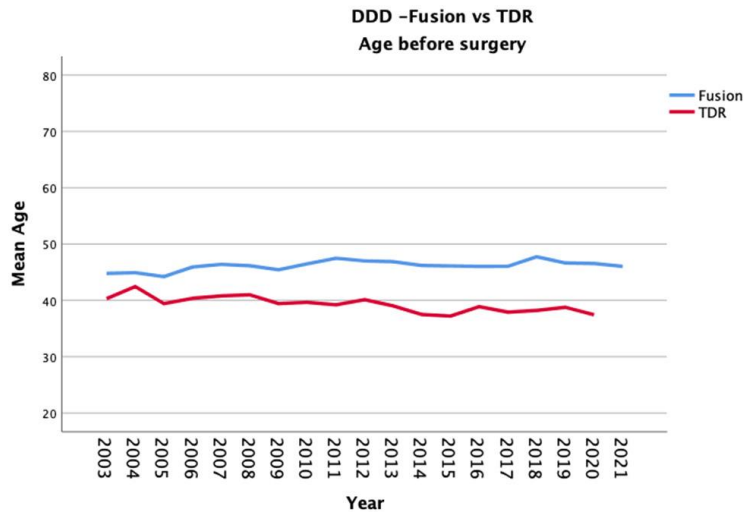
Berg S, et al. Total disc replacement compared to lumbar fusion: a randomised controlled trial with 2-year follow-up. Eur Spine J. 2009 Oct;18(10):1512-9. doi: 10.1007/s00586-009-1047-0. Epub 2009 Jun 9. PMID: 19506919; PMCID: PMC2899375.

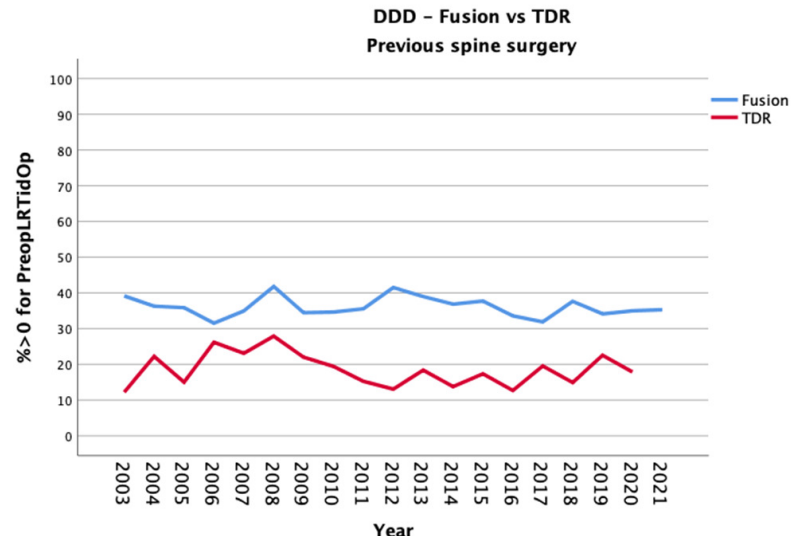
Sköld C, et al. Five-year follow-up of total disc replacement compared to fusion: a randomized controlled trial. Eur Spine J. 2013 Oct;22(10):2288-95. doi: 10.1007/s00586-013-2926-y. Epub 2013 Jul 29. PMID: 23893083; PMCID: PMC3804684.

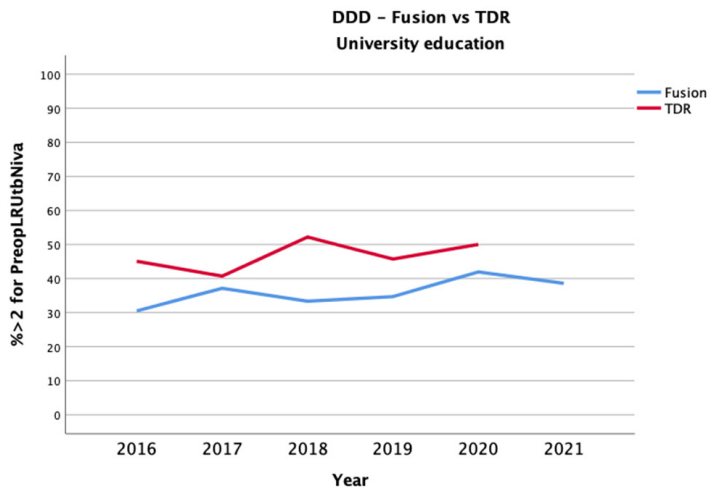
But

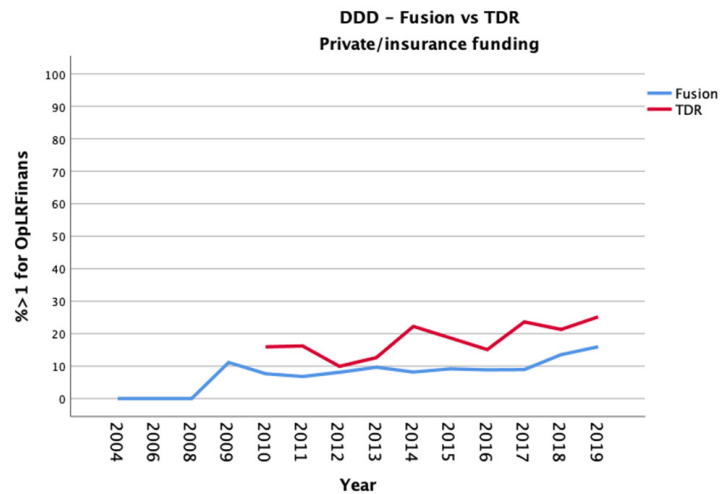
- Difference of outcome is small
- TDR and Fusion are different populations

Preoperative demographics TDR

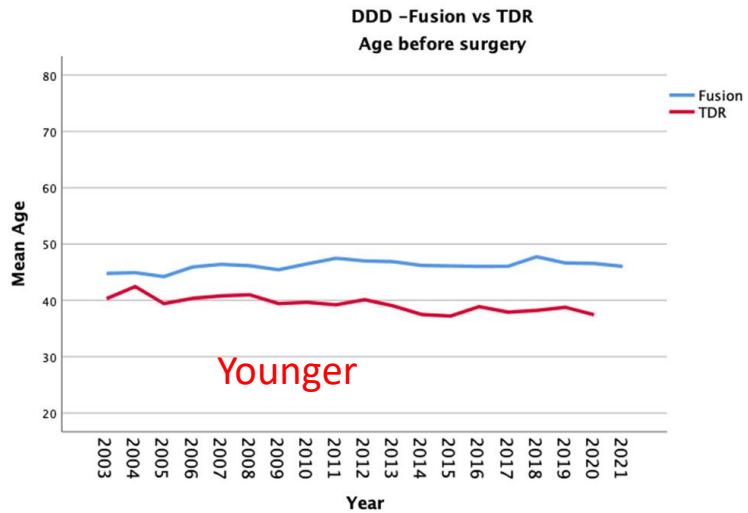


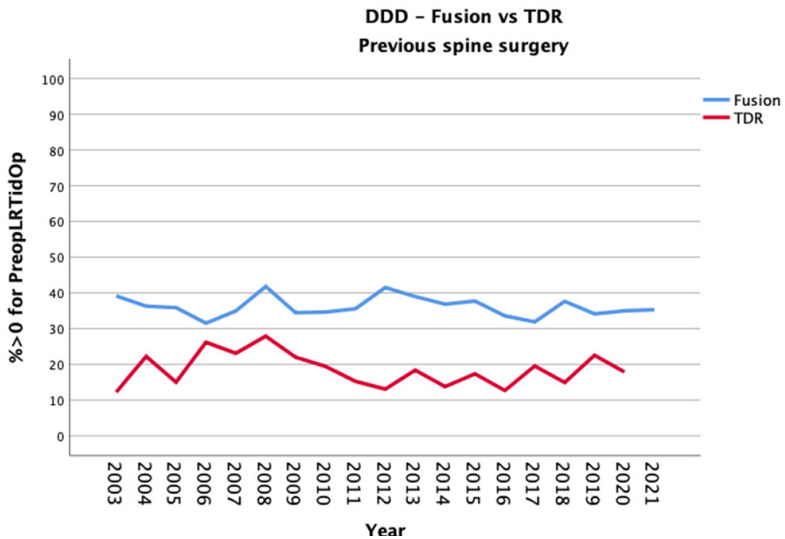


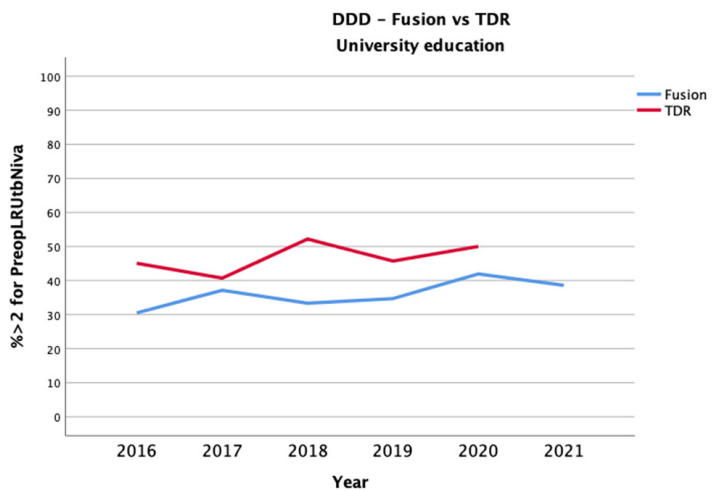


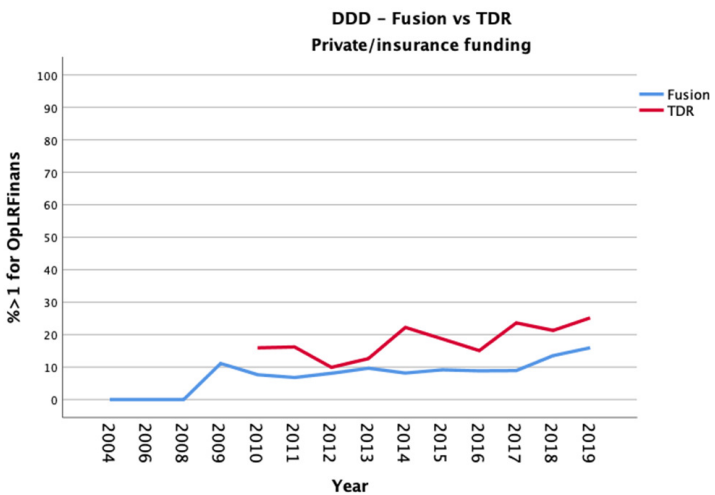


Preoperative demographics TDR

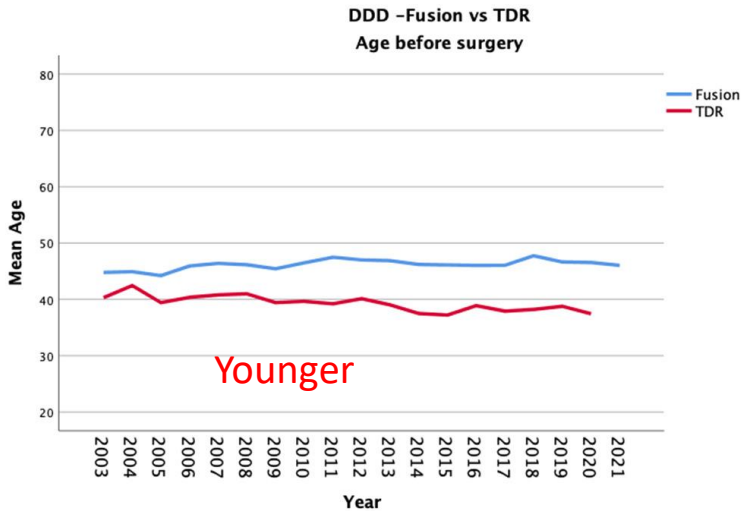


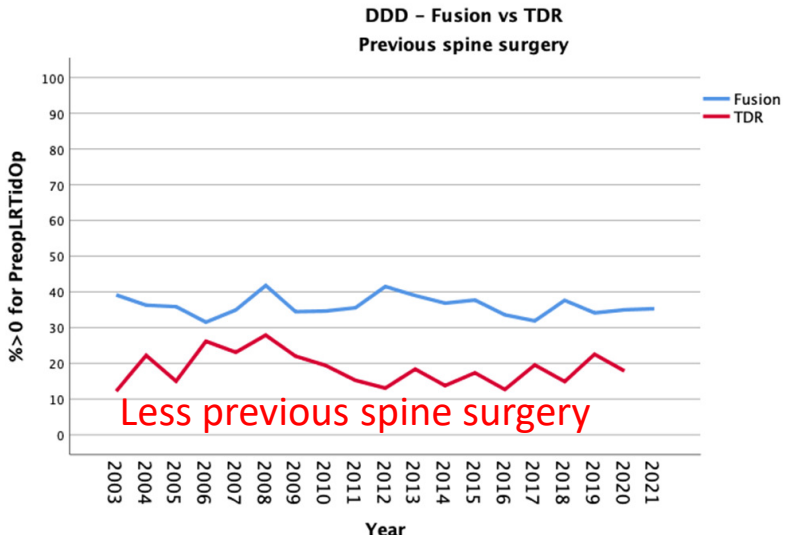


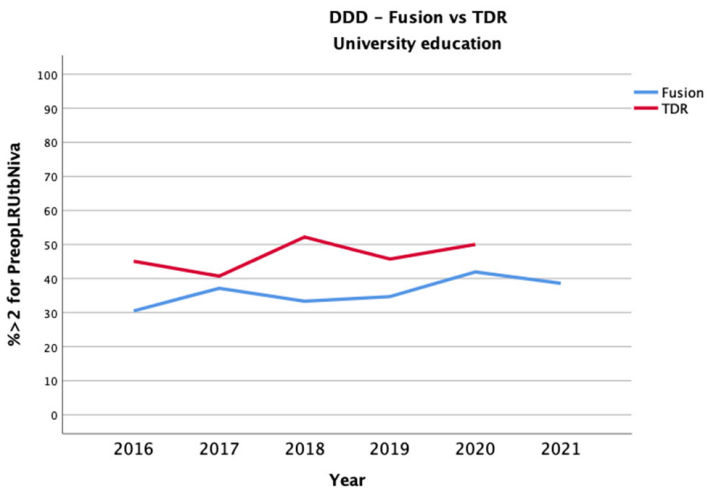


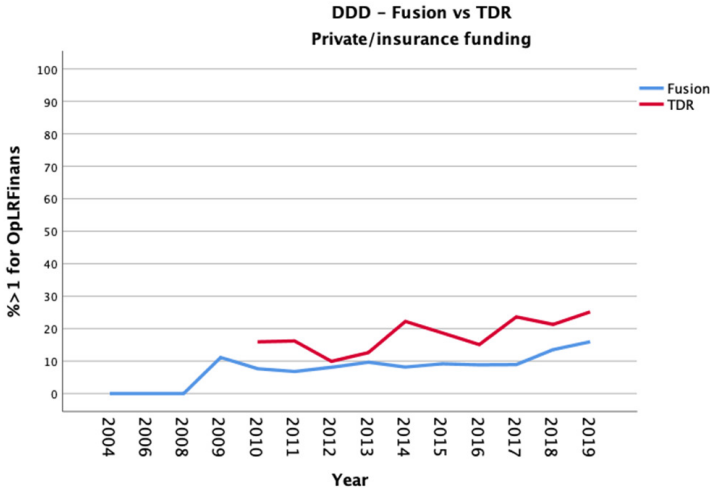


Preoperative demographics TDR

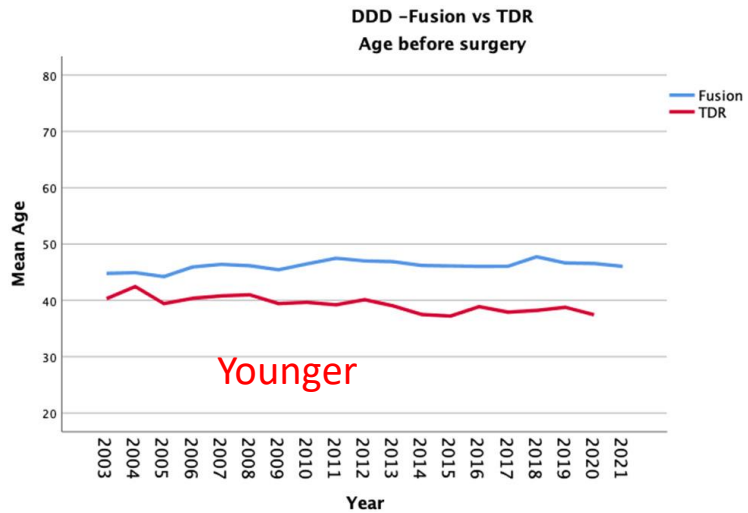


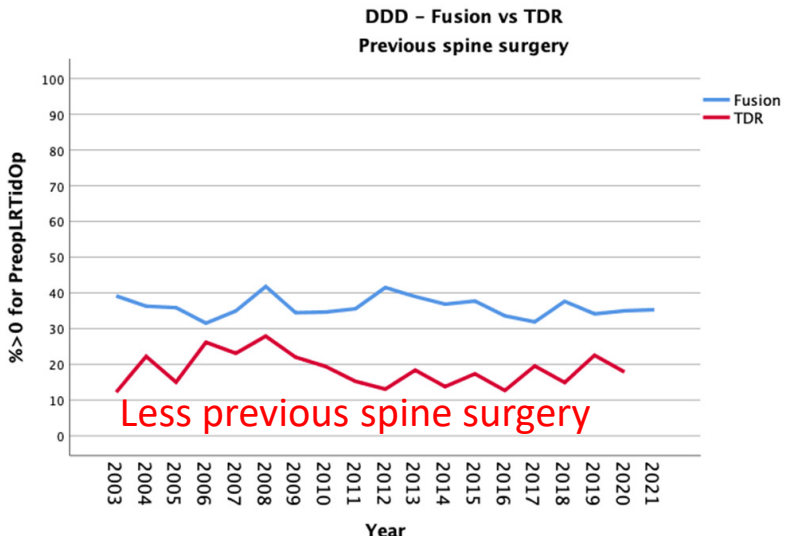


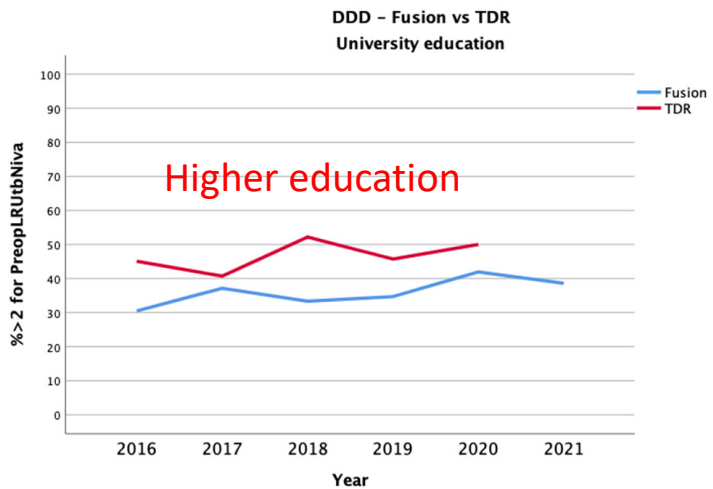


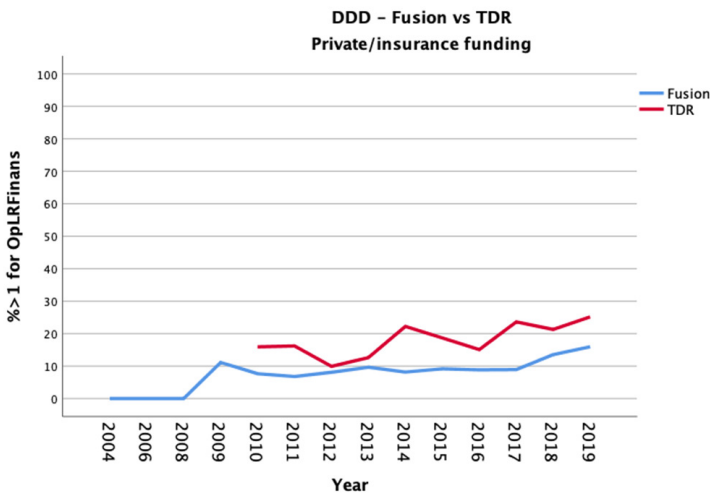


Preoperative demographics TDR









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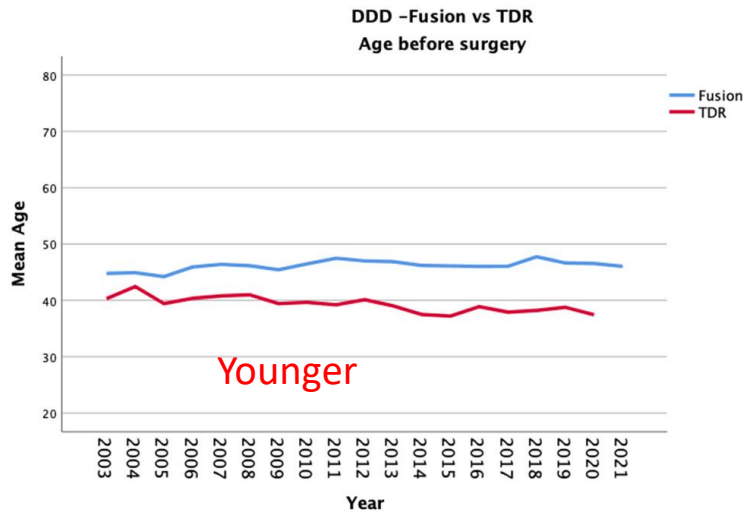
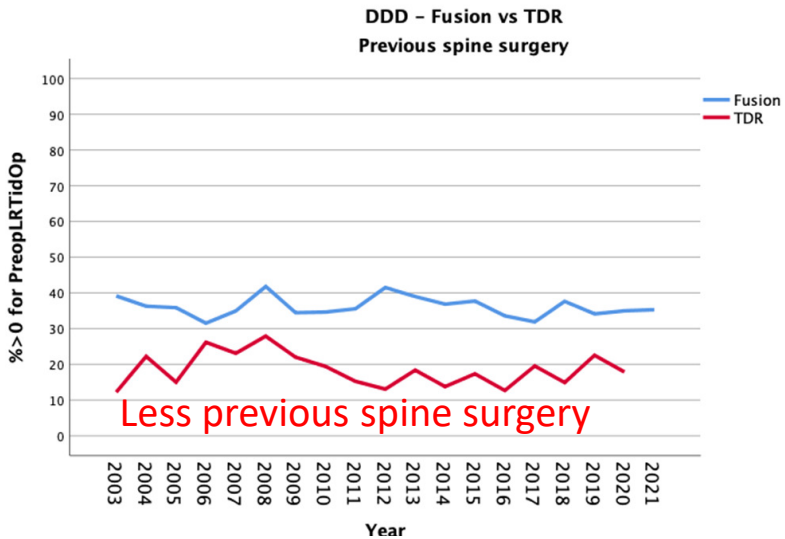
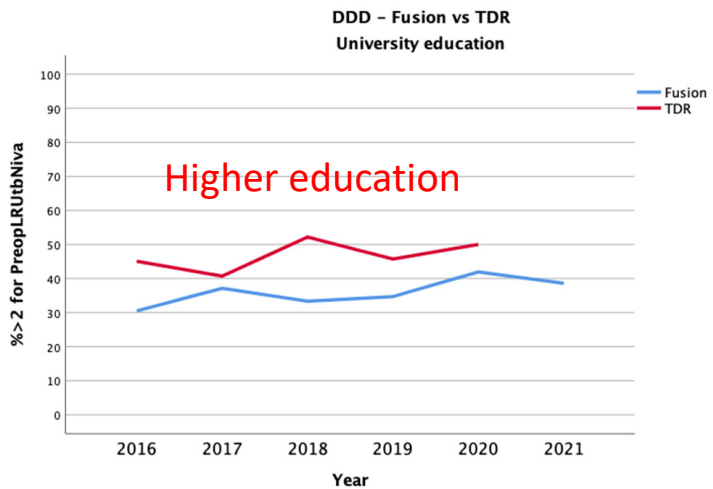
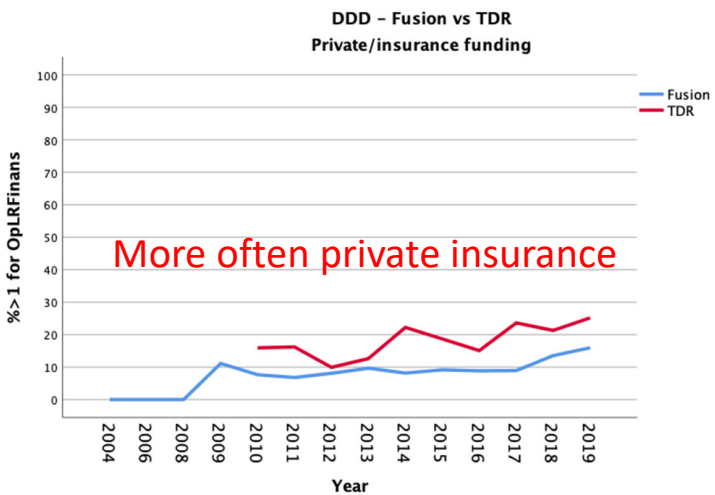








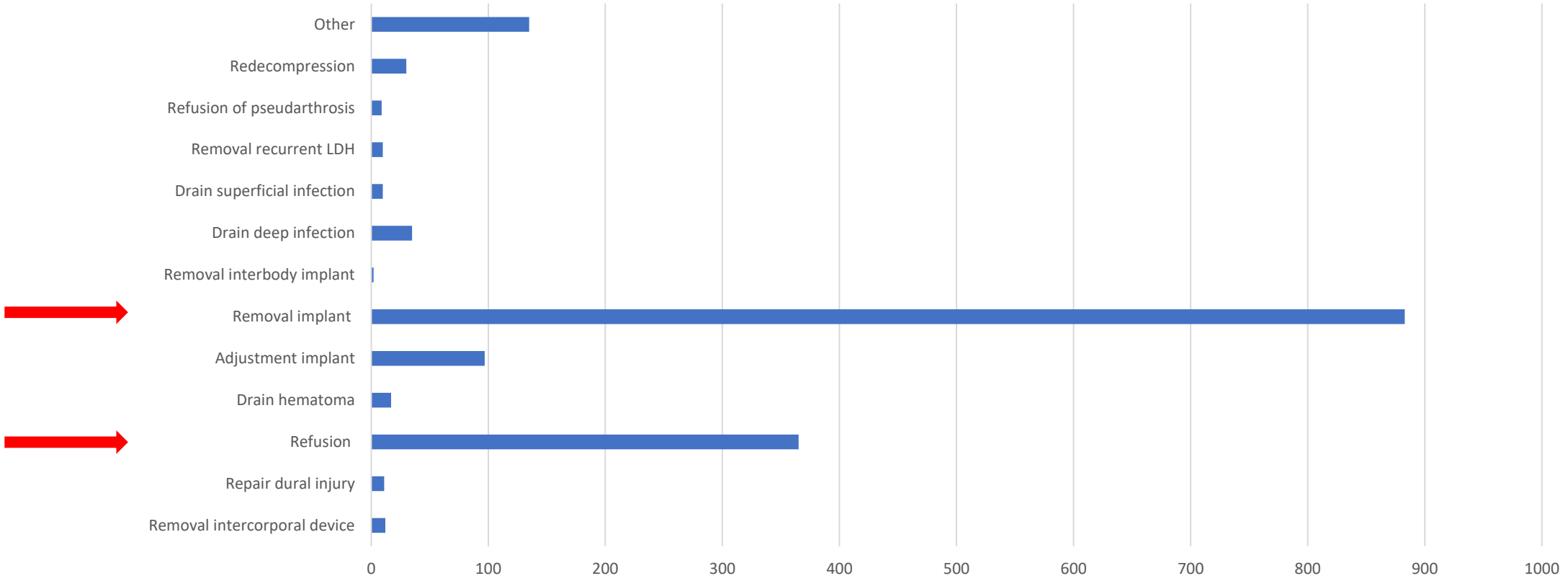
Reinterventions: Fusion 15,1% - TDR 5,2%

Reinterventions: Fusion 15,1% - TDR 5,2%

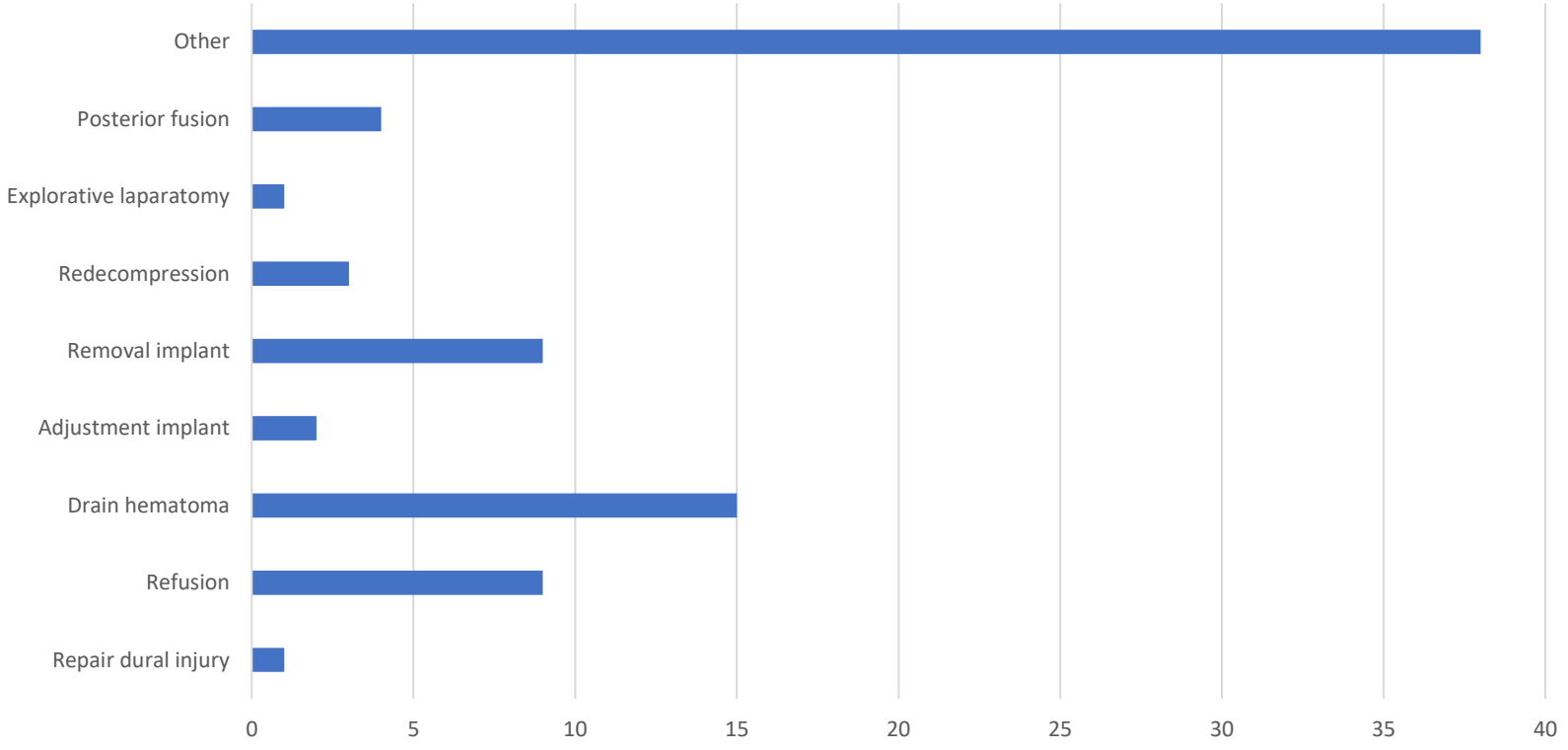
But

- Repeat anterior lumbar surgery is high risk
- Registry data on complications are not detailed

Reintervention fusion, N = 1616



Reintervention TDR, N = 82



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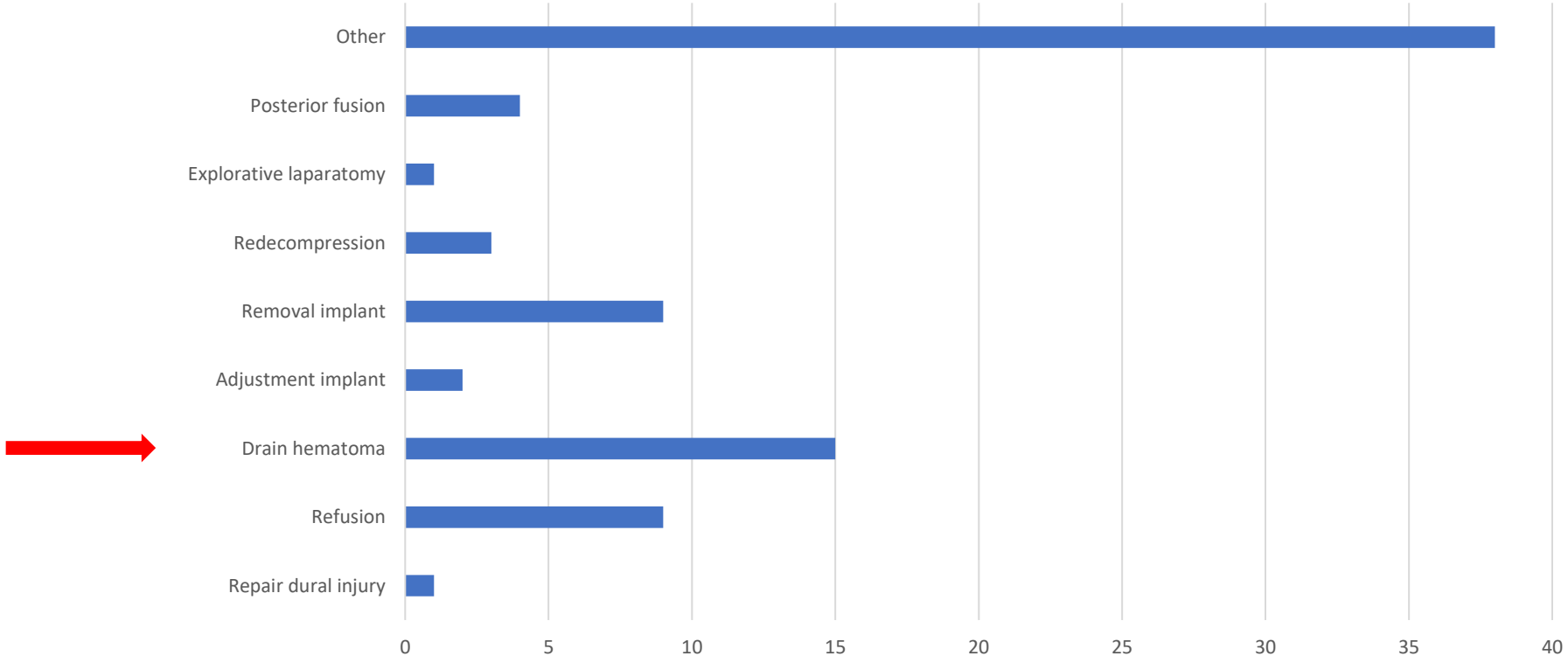
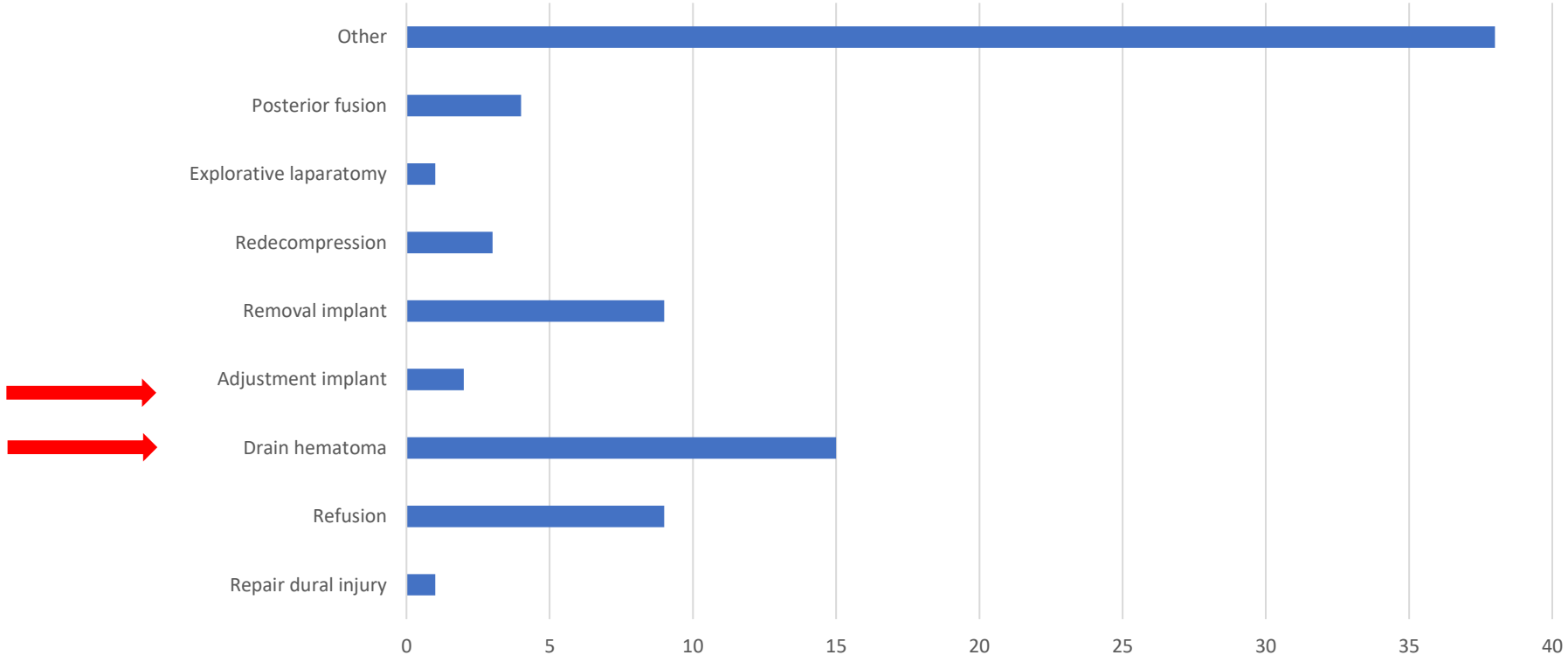


Reintervention TDR, N = 82



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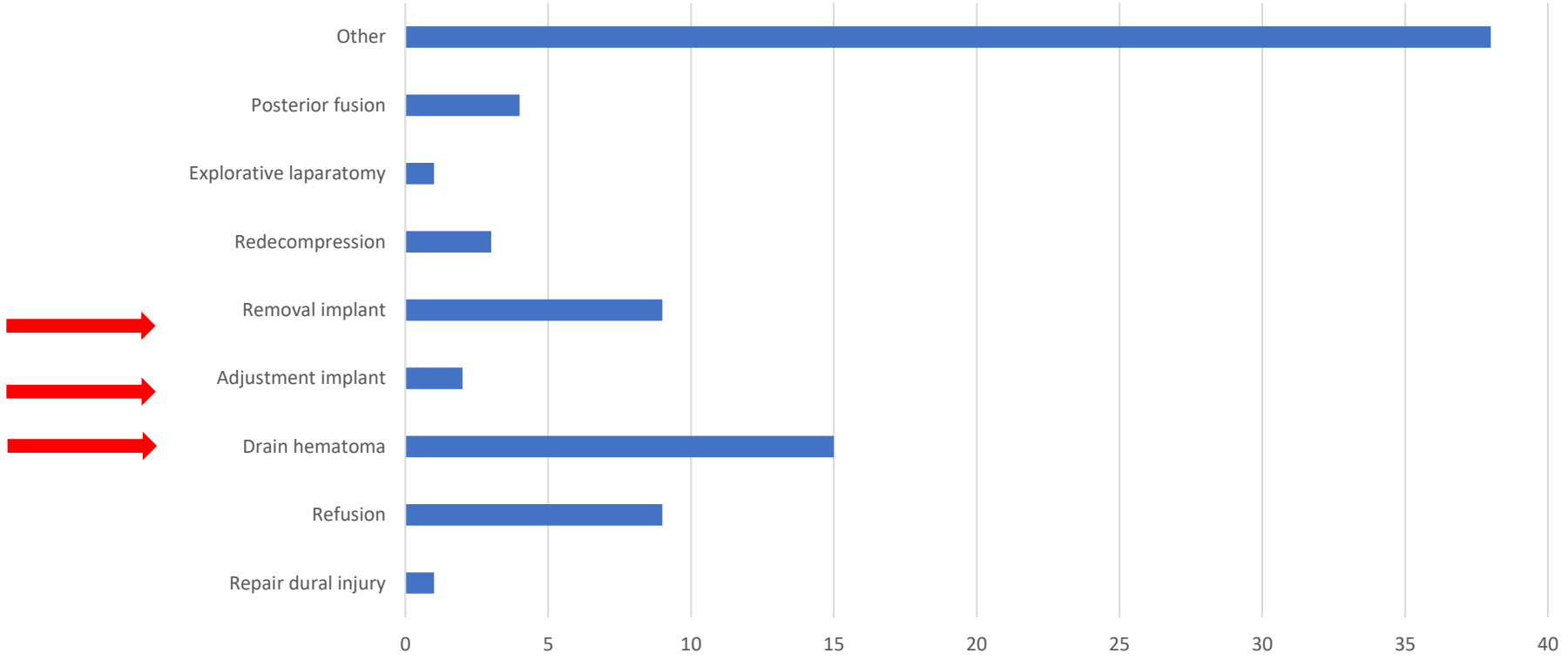

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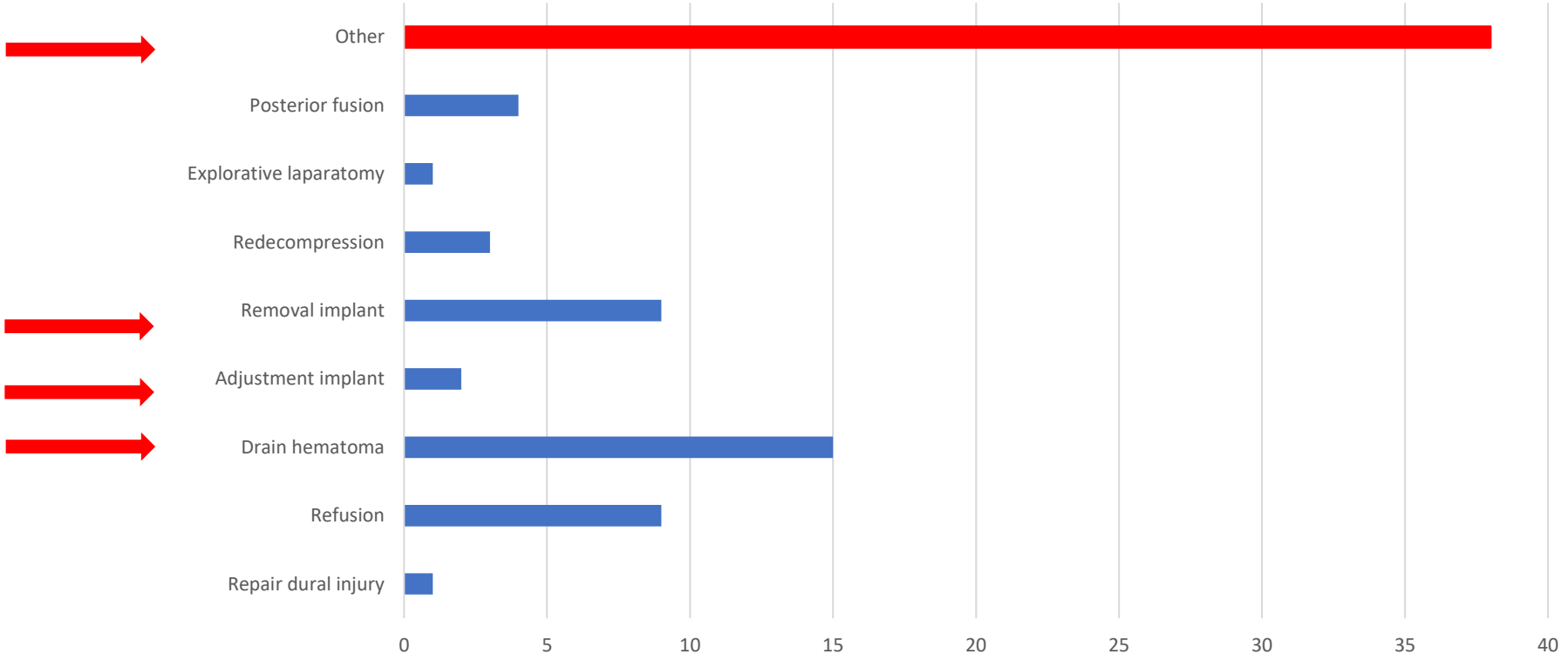

Interpretation

Registry data are not detailed enough for conclusive discussion

Suggestion

Thourough analysis of all TDRs including scrutiny of medical records and available radiology

Example 5:

Has outcome after decompression of lumbar stenosis changed since we abandoned routine fusion in cases with spondylolisthesis?

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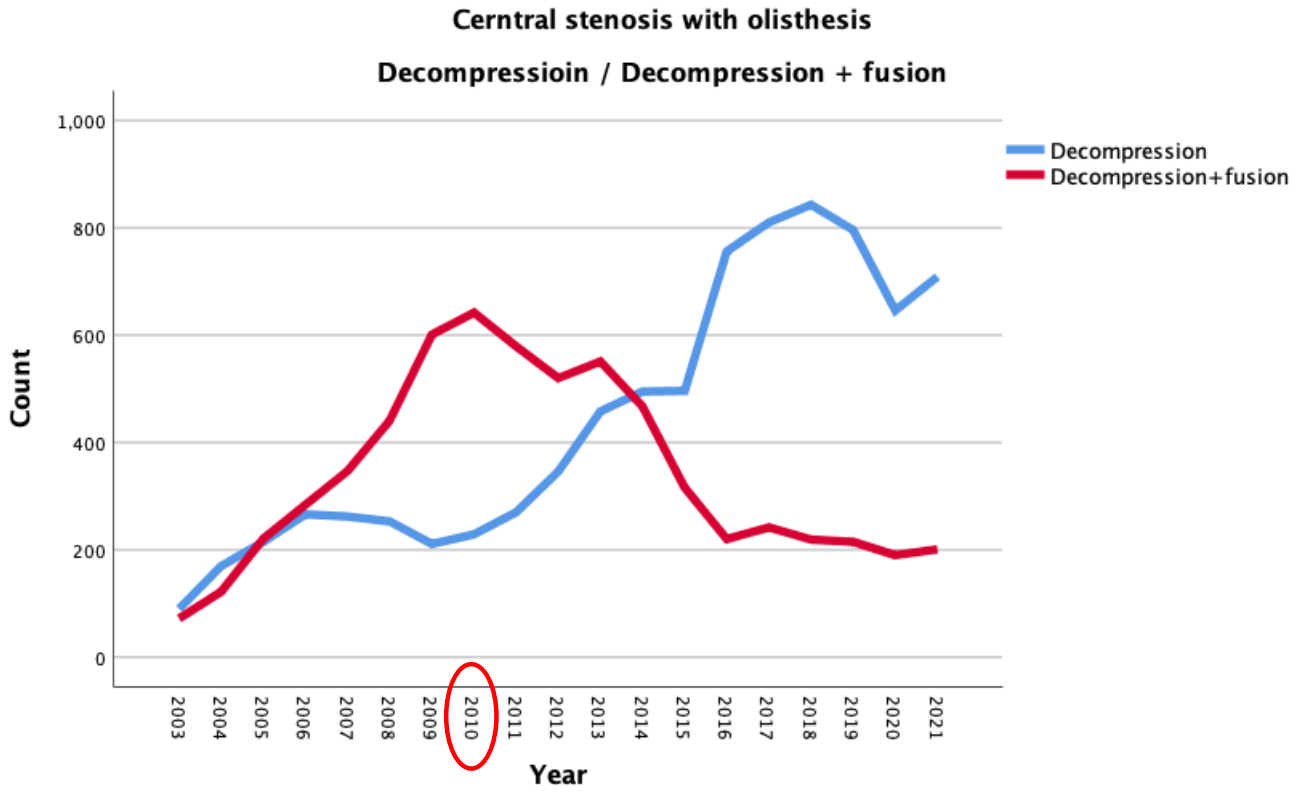
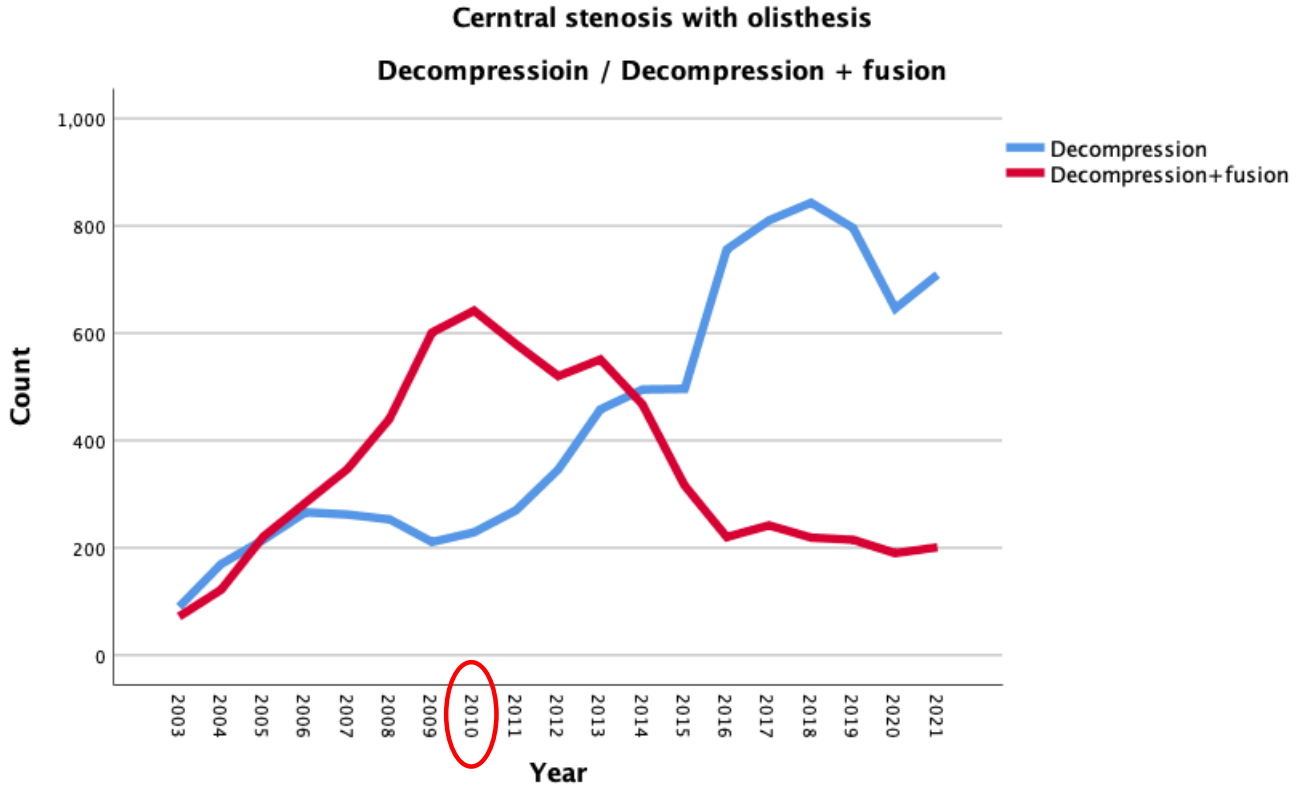


Example 5:

Has outcome after decompression of lumbar stenosis changed after we abandoned routine fusion in cases with spondylolisthesis?



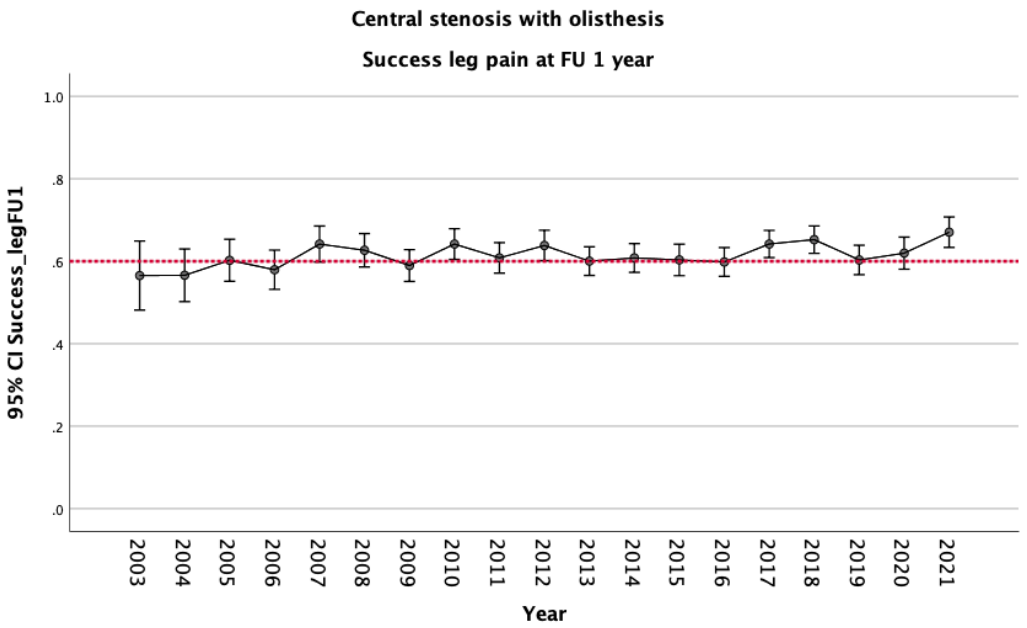
Registry study 2013

Försth P, et al. Does fusion improve the outcome after decompressive surgery for lumbar spinal stenosis?: A two-year follow-up study involving 5390 patients. Bone Joint J. 2013 Jul;95-B(7):960-5. doi: 10.1302/0301-620X.95B7.30776. PMID: 23814250.

RCT 2016

Försth P, et al. A Randomized, Controlled Trial of Fusion Surgery for Lumbar Spinal Stenosis. N Engl J Med. 2016 Apr 14;374(15):1413-23. doi: 10.1056/NEJMoa1513721. PMID: 27074066.

Outcome remains on the same level



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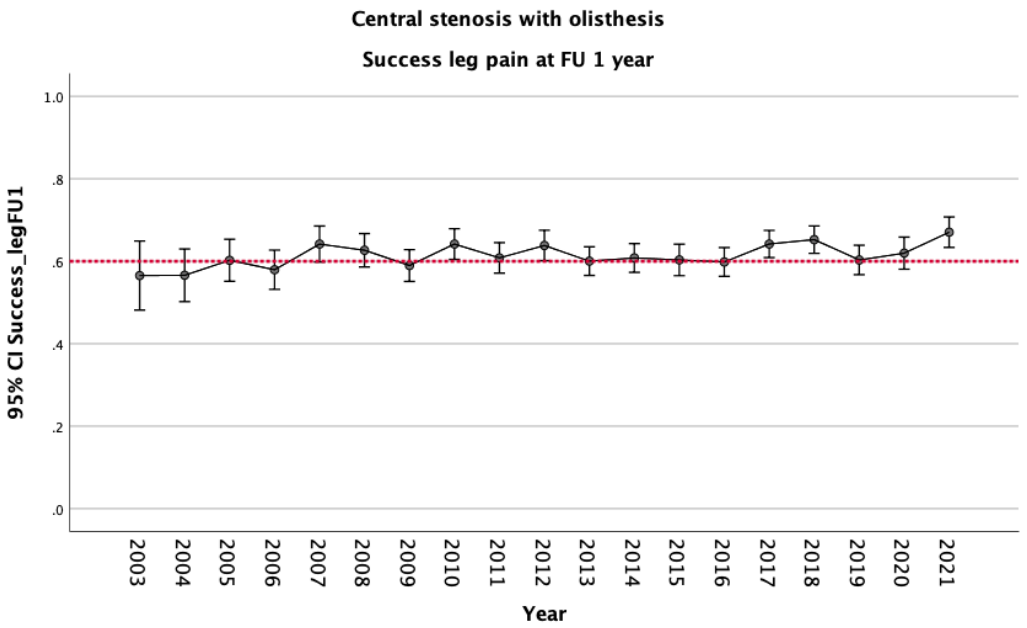

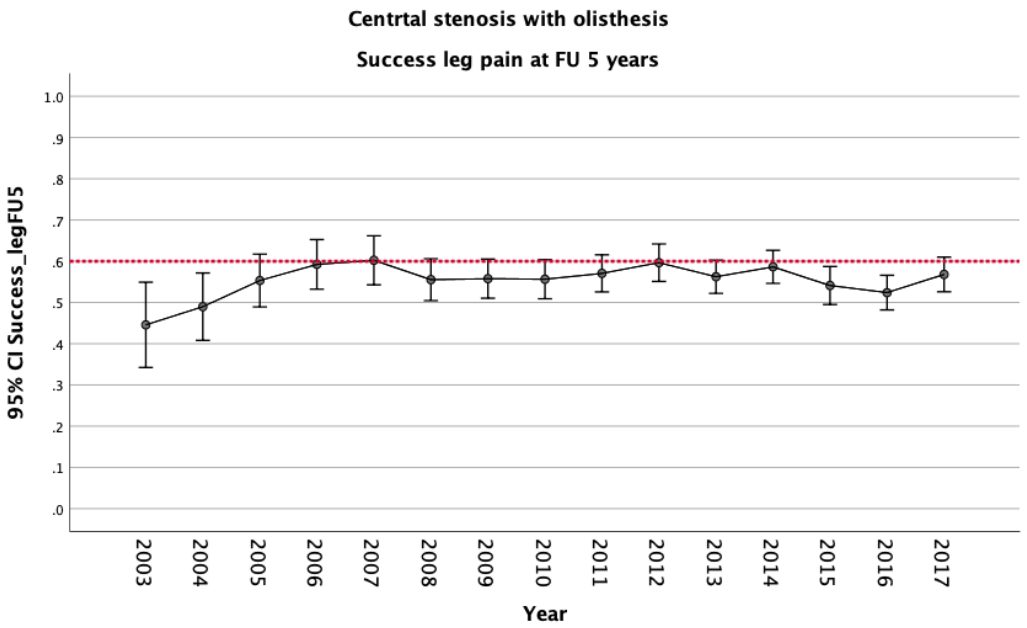

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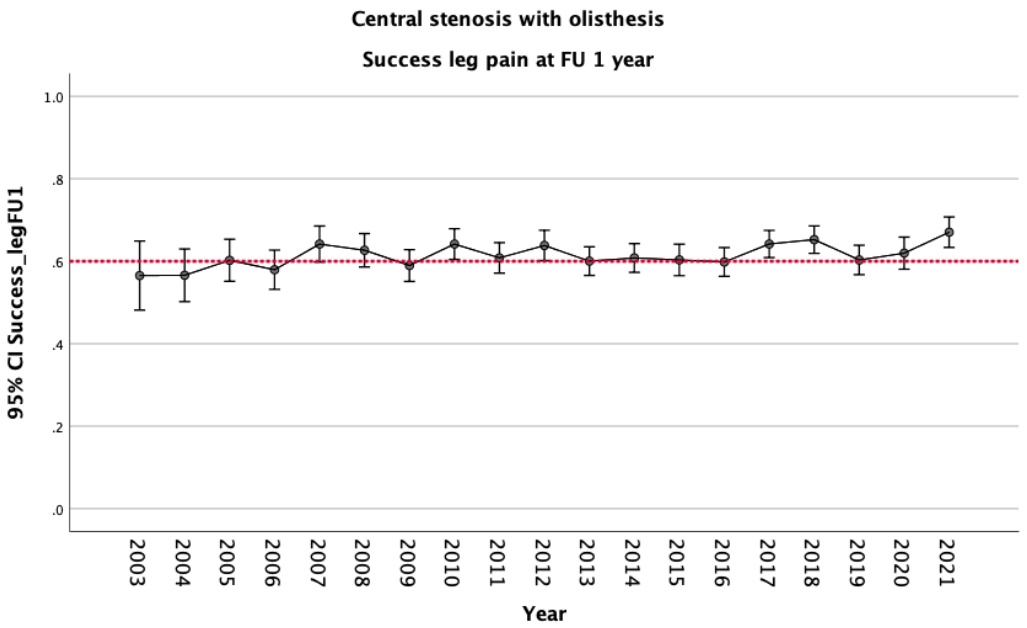
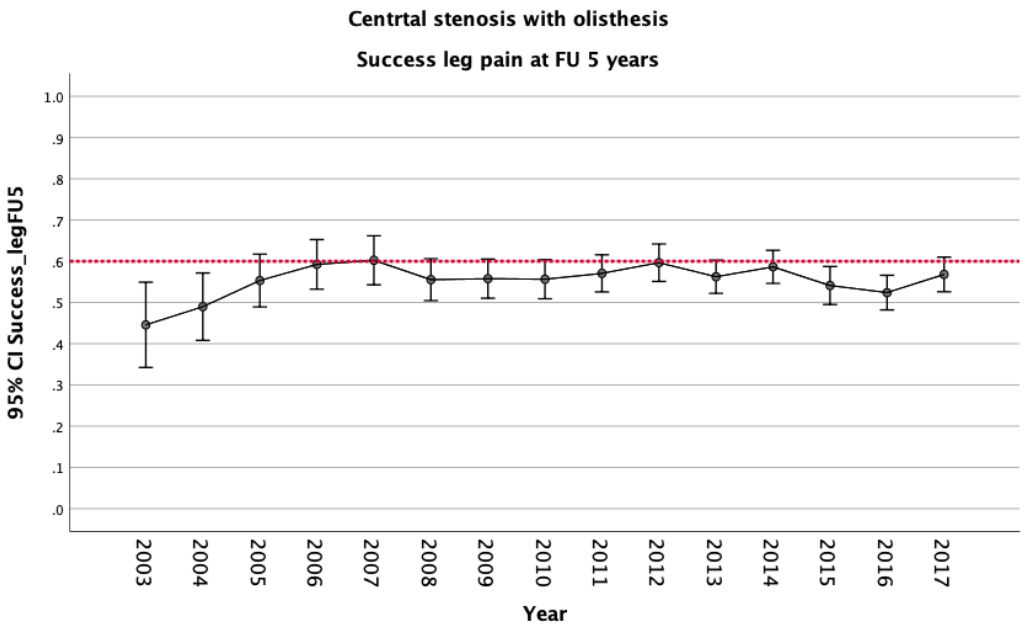
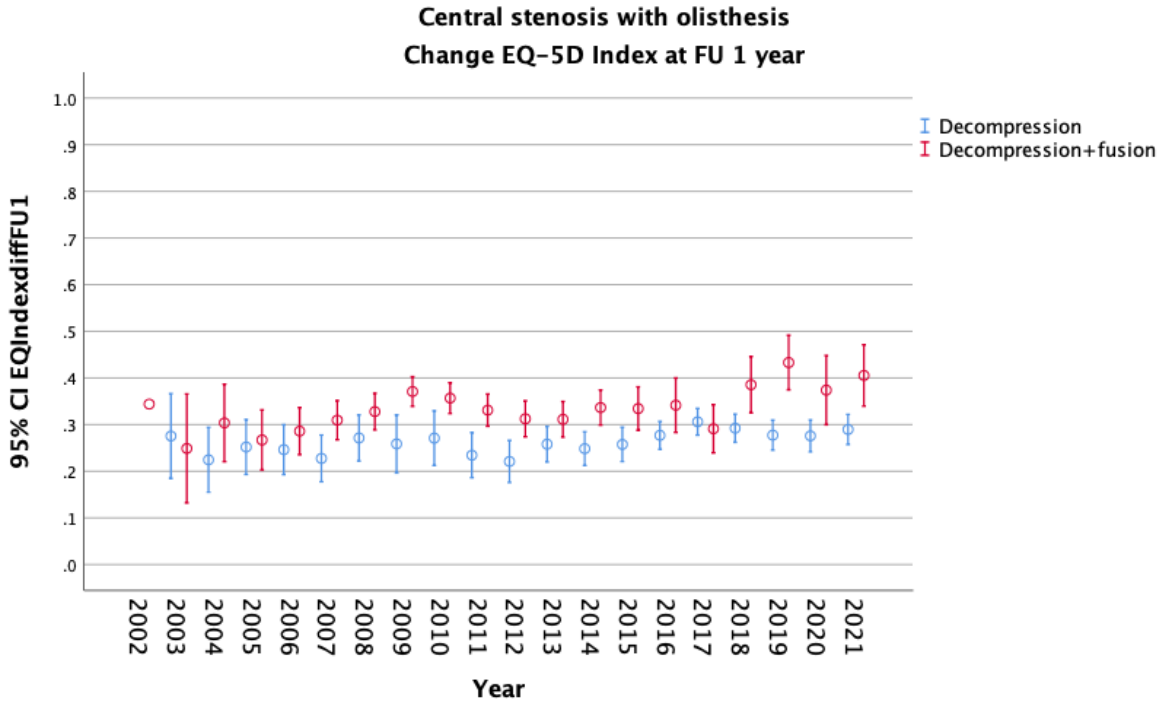




Conclusion: Sole decompression is sufficient in the majority of cases with olisthesis

But: outcome seems better after fusion and may increase in later years



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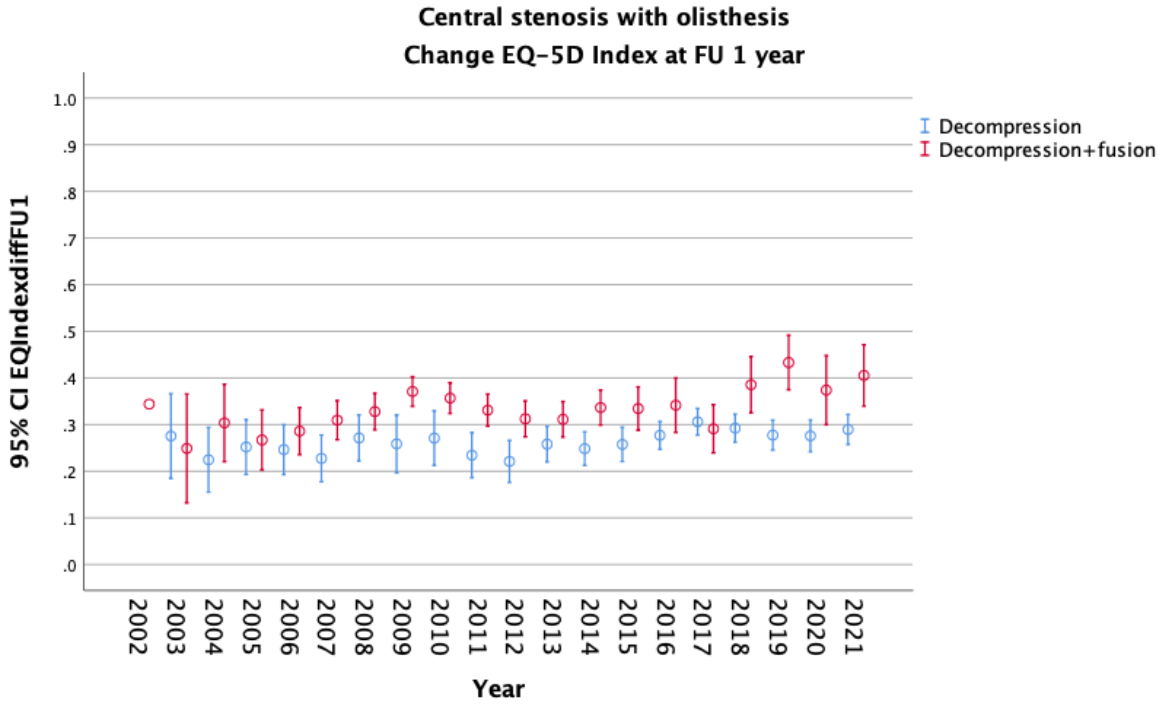
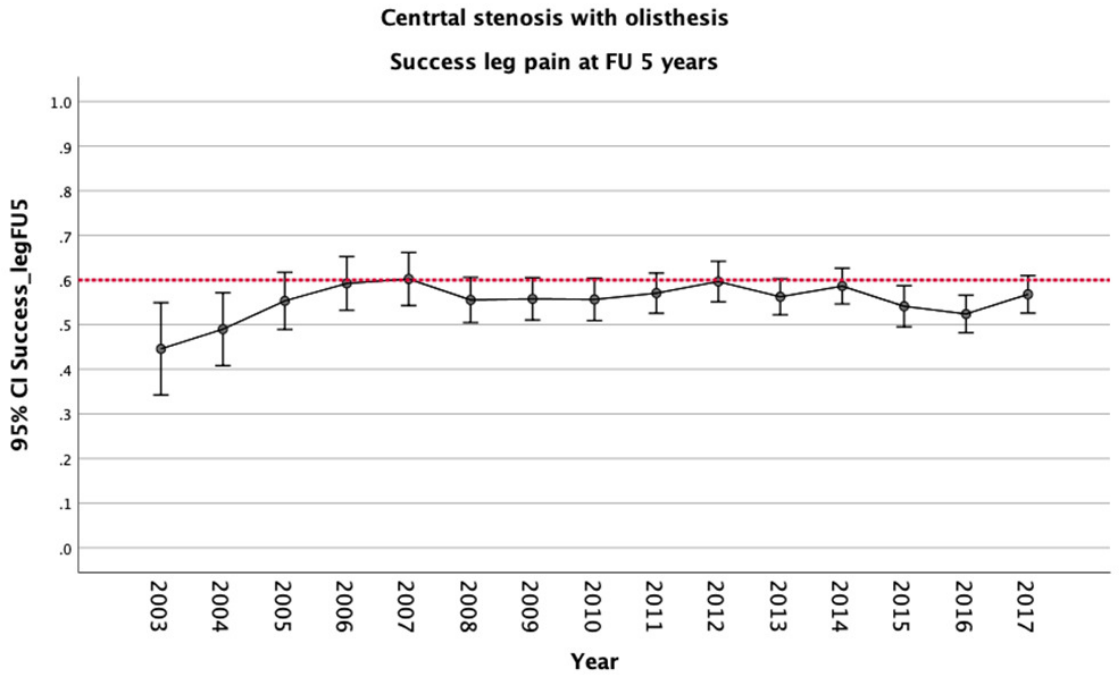


Hypothesis: There is probably a subgroup of patients who benefit from added fusion

And also: Despite >10 Swespine based publications on prognostic factors, outcome remains less favorable



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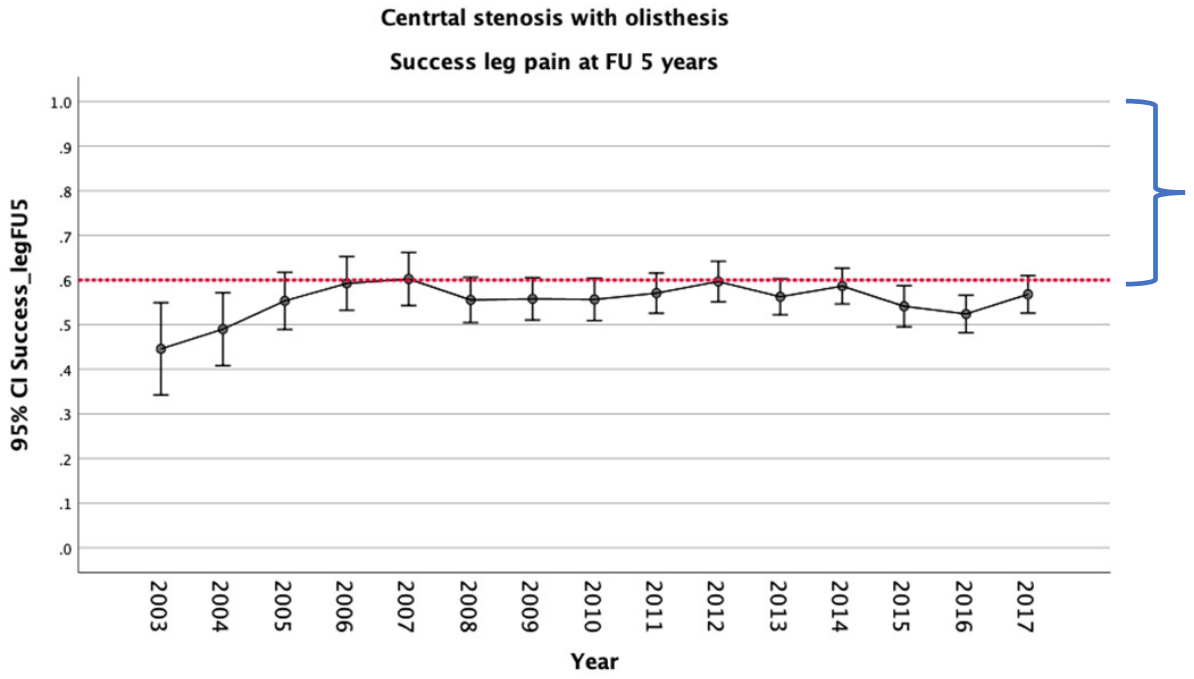
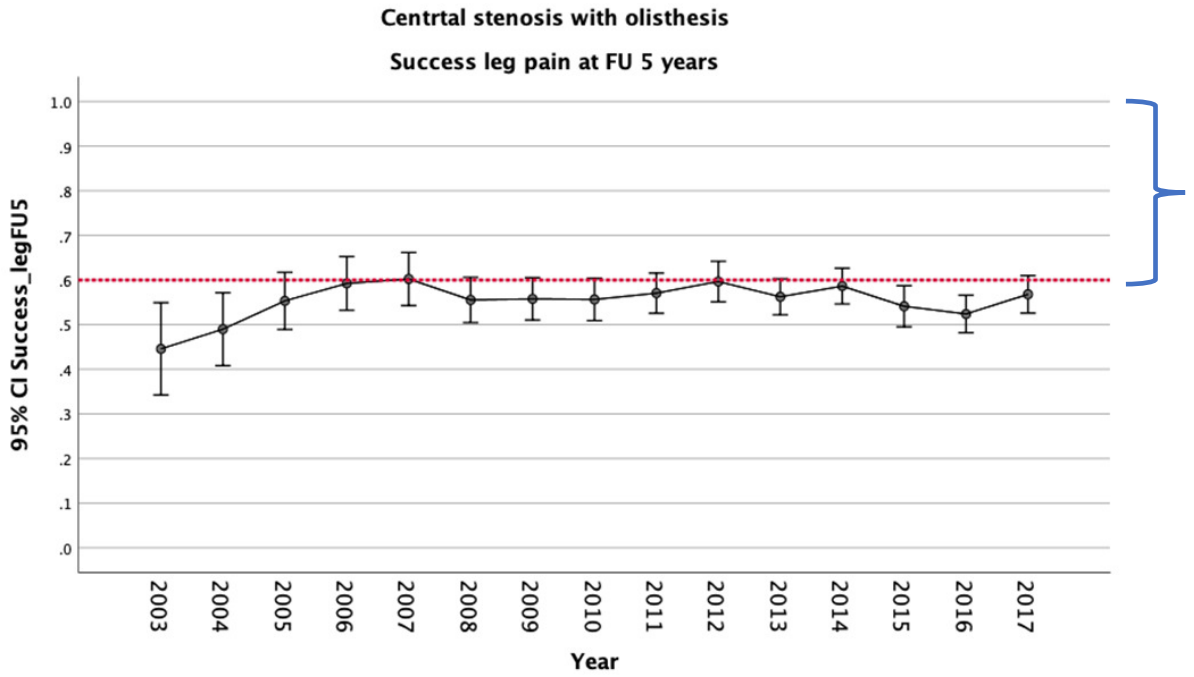


40% operated without obvious benefit

And also: Despite >10 Swespine based publications on prognostic factors, outcome remains less favorable



40% operated without obvious benefit

Problem: Indications for surgery may be too wide and diagnostics need better precision

Suggestions

- Define the subgroup of patients who benefit from fusion
- Examine diagnostics, including radiology, as indications of surgery

ANNUAL REPORT 2023
SWESPINE 25 YEAR

https://www.swespine.se/page.aspx?id=12&lang=1

Spine surgery – meeting the patient

The ”Dialogue support”

www.eurospine.org

A prediction tool based on data from

the Swedish national quality spine register;

Swespine

Peter Fritzell/register manager Swespine

The ”Dialogue support”, is based on national Swespine data in a ”ten year window” - upgraded each year

each prediction is based on appr. 2-20 000 patients depending on the individual’s profile at baseline

EUROSPINE

Your all-in-one destination for everything spine.

Advancing Spine Healthcare: Discover EUROSPINE's Comprehensive Offerings

The Dialogue Support (Swespine)

The Dialogue Support is predicting outcome 1 year after surgery for spinal disorders. The underlying prediction models used have been trained on a sizable body of data throughout Sweden during a 10-year period and is updated every year. The data quantity thus always includes outcomes no more than 1 year old.

Visit the website

Underg

Diagnose Diskbråck

Type of clinic Universitet

Sociodemografi

Age 45 (0 28 55 83 110)

Gender Kvinna

Work status

Sick pension Nej

Age pension Nej

Hälsoprofil

Smoking

Previous spine surgery

QOL -0.59 0.3 1

Satisfied patients

Andel nöjda patienter
91 %
Nöjd inställning till resultat

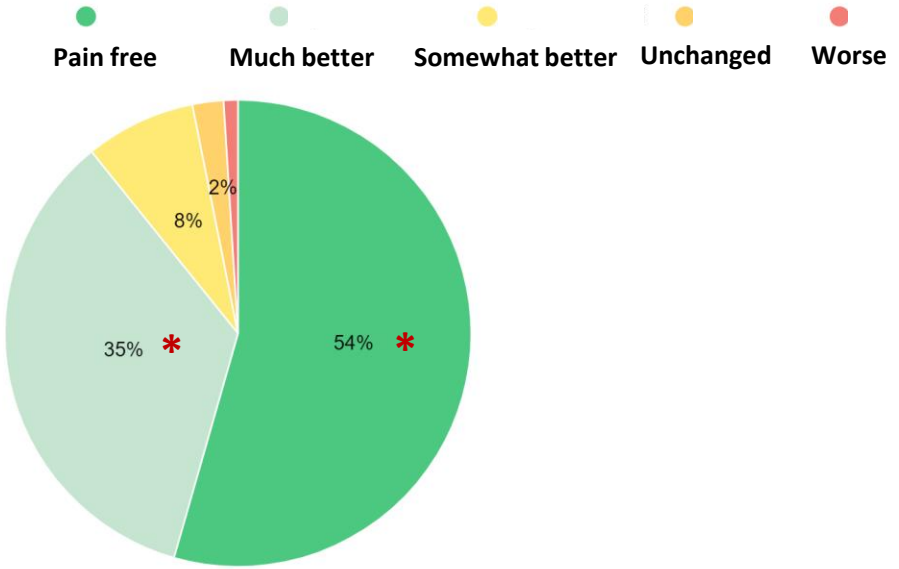
*** Improved patients = Pain free+Much better**

Andel med lyckat utfall
89 % *
Smärta helt försvunnen eller mycket förbättrad

Indoor stay

Förväntad vårdtid
1.5 dygn
Utskrivningsdatum - operationsdatum

Improved patients (Pain free+Much better) after 1 year = dark + light green.



The ”Dialogue support”

We awant to acknowledge the Board of Eurospine Society, especially Everard Munting for the foresight of making register data available in the clinical situation - and to make this available on one of the biggest spine Home pages in the world; www.eurospine.org

This should be an important part for the complience of registering

Theme 3 Variables included in a spine register

1600-1605 ICHOM *Peter Fritzell*

https://www.ichom.org/patient-centered-outcome-measures/#Musculoskeletal

Low Back Pain

Completed

The ICHOM Set of Patient-Centered Outcome Measures for Low Back Pain is the result of hard work by a group of leading physicians, measurement experts and patients. It is our recommendation of the outcomes that matter most to patients with low back pain. We urge all providers around the world to start measuring these outcomes to better understand how to improve the lives of their patients.

1. Includes operative mortality, nerve root injury including cauda equina, deep wound infection, pulmonary embolus, wrong site procedure, vascular injury, dural tear, other, and need for rehospitalisation.
2. Tracked via the Oswestry Disability Index (ODI)
3. Tracked via the Numeric Pain Rating Scale (NPRS)
4. Tracked via the EuroQol-5D (EQ-5D)

Request Implementation Support

Implementation Resources

You will need a Connect account to access the following documents:

Low Back Pain Reference Guide	Login
Low Back Pain Data Dictionary	Login

You can access the following documents without:

Low Back Pain Flyer	Download
Low Back Pain Manuscript	Download

You can join here. If you are already a member, please login here.

ICHOM CERTIFIED

All of the basic information you need to implement ICHOM Sets is available in the links above.

However, for a faster, more easily integrated

Team that developed this set

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Richard Kahler | BrizBrain and Spine

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Isador Lieberman | Texas Back Institute
Kevin Foley | University of Tennessee Health Science Center
Neil Shonnard | Rainier Orthopedic Institute
Safdar Kahn | Ohio State University
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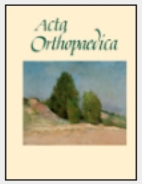
* Patient representative



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Original Articles

A proposed set of metrics for standardized outcome reporting in the management of low back pain

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Abstract

Background and purpose — Outcome measurement has been shown to improve performance in several fields of healthcare. This understanding has driven a growing interest in value-based healthcare, where value is defined as outcomes achieved per money spent. While low back pain (LBP) constitutes an enormous burden of disease, no universal set of metrics has yet been accepted to measure and compare outcomes. Here, we aim to define such a set.

Patients and methods — An international group of 22 specialists in several disciplines of spine care was assembled to review literature and select LBP outcome metrics through a 6-round modified Delphi process. The scope of the outcome set was degenerative lumbar conditions.