

# SPINE TANGO EURO SPINE

## ANNUAL REPORT 2022

“To qualify and re-qualify for certification, EUROSPINE Surgical Spine Centres of Excellence (SSCoE) are required to monitor their treatment quality by collecting and evaluating pre- and postoperative data on all spine patients.

EUROSPINE’s Spine Tango offers powerful generic and customisable registry tools for the documentation and evaluation of spinal treatments. Besides clinical data on surgical interventions, data on implants, clinical scores, patient-reported outcome measures, follow-ups as well as non-surgical treatments can be registered and analysed.”

Thomas R. Blattert, Past President EUROSPINE, Ingolstadt, Germany

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## **FOREWORD MARCO TELI AND SABRINA DONZELLI**

### **MAIN OBJECTIVES AND ACHIEVEMENTS DURING MY TENURE**

Dear colleagues and members of EUROSPINE,

As I reflect on our achievements, I am proud and grateful for my time in this esteemed organisation. We have focused on key objectives and made progress in important areas. Streamlining and improving forms was a priority, collecting valuable data and enabling research. The successful implementation of the new conservative form broadened our approach to spine care.

Our task force worked diligently to revise the surgical form, incorporating insights from multiple specialties. This collaboration resulted in a robust and efficient new procedure.

While the pandemic presented unprecedented challenges, we adapted quickly and embraced digital technologies. Our transition to conducting most activities online, with the exception of the annual meeting, not only ensured continuity, but also acted as a catalyst for the growth of Spine Tango.

With the guidance of the talented team around me, we began the process of digitising Spine Tango. This journey is ongoing and I am excited about the progress in 2023 and 2024. The digital platform offers new opportunities for research and collaboration.

One of my roles has been to foster collaboration within the Task Force, which is made up of individuals with diverse backgrounds and expertise. I am pleased to say that our team members have a natural, intrinsic motivation to work together, resulting in well blended and inclusive forms that meet the unique needs of surgeons, physiotherapists and researchers.

As we move forward, the outlook for Spine Tango is extremely promising. More and more countries are recognising the value of surgical registries and I am confident that the flexible Spine Tango platform, which can be adopted for national use, will continue to play a leading role in this area. Its established data structure and implementation experience position it as a leader in the field.

It is with a sense of fulfilment that I pass the torch to Sabina Donzelli, who brings a wealth of expertise as a clinician and researcher. Her qualifications, including a Master of Science in Evidence-Based Healthcare from Oxford, make her the ideal candidate to take the Task Force to even greater heights.

In conclusion, it has been an honour to serve this community. Our progress demonstrates the resilience and commitment of EUROSPINE. With unwavering support, we are paving the way for a brighter future.

Marco Teli, Eurospine President 2022-23

## **EMBRACING THE POWER OF DATA FOR BETTER PATIENT CARE**

Dear colleagues and esteemed members of EUROSPINE,

It is with great honour and responsibility that I have accepted the role of Chair of the Spine Tango Task Force. I firmly believe in its potential to revolutionise patient care in all settings.

My 13-year career has been dedicated to conservative spine care, fuelled by a deep passion for statistics and research. My studies at Oxford University, where I obtained a Master of Science in Evidence-Based Healthcare with a focus on medical statistics, further fuelled my commitment to research.

For me, research is about making a real difference to patients' lives, driven by the needs of frontline clinicians. Creating better predictive models in spine care is critical to identifying patients at higher risk, and prospective data is key to achieving this.

My journey with Spine Tango began when big data was relatively unknown in medicine. Its potential to revolutionise the conservative treatment of scoliosis drew me in, and as a member I have witnessed its profound impact on data collection and the advancement of research.

As SOSORT's President-elect, I'm proud to improve the quality of research in spine care, especially in conservative treatments. I am excited to be the first female president in 2024.

By harnessing the wealth of data collected through Spine Tango, we have the opportunity to provide clinicians and healthcare providers with the insights they need to deliver personalised, patient-centred treatments. Through evidence-based research and predictive modelling, we can make informed decisions that lead to better patient outcomes and improved quality of life.

Towards a brighter future! With unwavering commitment, we, united under EUROSPINE, will drive progress and innovation in spine care. Together, we'll touch countless lives by treating spinal conditions with the utmost precision and care. Thank you all for your support and commitment to our common mission.

Warmest regards,

Sabrina Donzelli, Spine Tango Task Force Chair

## **OUR MISSION**

Our registry is dedicated to achieving better patient outcomes in the future.

Spine Tango serves as a unifying force, establishing a common language and data structure for spine treatments worldwide, including terms, definitions, outcome measures, implant registration, evaluation and reporting.

These standards, developed and promoted by EUROSPINE, enable clinicians to accurately record, measure and statistically evaluate both surgical and conservative treatments, ensuring a common language in spine care.

## ADVANCING SPINAL HEALTH BY COMBINING DATA, INNOVATION AND EXCELLENCE

Spine Tango is an international web-based registry focused on advancing spine health through data collection and evaluation, innovation and excellence. Its mission is to enable data collection and evaluation for participants all over the world, including surgeons and non-surgeons, to provide a benchmark for treatment performance and a robust collective evidence base in spine care. The ultimate goal is to make this wealth of data accessible to all stakeholders, fostering collaboration and driving innovation in the field.

Committed to excellence, Spine Tango supports implant manufactures in meeting their regulatory requirements. Its secure platform features and an industry-fedded implant library ensures an accurate registrations of implant. In addition, the registry offers tools in multiple languages, ensuring comprehensive patient follow-up and raising the standard of care.

The collaborative efforts of Spine Tango aim to shape a future of improved spine care, where data-driven insights lead to better outcomes and healthier lives for patients worldwide. With its standardised data collection and analysis capabilities, the registry benefits individual users, hospitals and national spine societies, contributing to advances in treatment outcomes, patient safety and research in spine care.

**“We have used Spine Tango since 2011 with over 12,000 patients on the system. We have published research, measured our own performance and changed our practice due to the information we have gained from the system. It is a vital part of our everyday practice.”**

**Tim Pigott, former Consultant Neurosurgeon, Walton Centre for Neurosurgery, United Kingdom**

## FACTS & FIGURES



Over  
**20**  
years



More than  
**850,000**  
forms documented



across  
**160,000**  
surgeries



with over  
**600,000**  
patients' outcomes



across  
**20**  
countries

## KEY STRATEGIC PRIORITIES FOR SPINE TANGO IN 2022

We welcome Sabrina Donzelli as the new Chair of the Spine Tango Task Force. We congratulate Marco Telli on his election as President and appreciate his previous role as Past Chair of Spine Tango.

In 2022, Spine Tango will focus on advancing and expanding the Spine Tango Registry, partnering with MedTech companies, incorporating ePROMs, and exploring potential collaborations with national professional societies.

- In 2022, further functional development and expansion of the Spine Tango Registry was prioritised. Spine Tango has placed a high priority on the continuous improvement of its registry, focusing on the further development of its functionalities and features to increase the value of the registry for users. Efforts were also made to broaden the clinical user base by reaching out to more medical institutions and professionals worldwide to participate in the registry.
- Collaborating with MedTech Companies: Spine Tango recognises the importance of collaboration with MedTech companies to support them in meeting their regulatory requirements. Simultaneously, this collaboration benefits Spine Tango by advancing the development of its implant catalogue. The registry aims to further develop implant reporting services to assist MedTech companies, while also obtaining crucial implant specifications for accurate documentation and reporting.
- Conceptual Work on ePROMs Integration: An essential aspect of Spine Tango's strategic plan for 2023 is the conceptual work and integration of electronic Patient-Reported Outcome Measures (ePROMs) in both the Swiss Implant Registry (SIRIS Spine) and the Spine Tango registry. The focus here is on designing an efficient system to gather patient-reported data, recognising the significance of the patient's perspective in assessing treatment outcomes.
- Exploring Collaborations with National Specialist Societies: Spine Tango seeks opportunities for collaboration with individual national specialist societies. The objective is to provide support and encouragement in establishing or advancing national registration systems for spinal treatments. Through these collaborations, Spine Tango aims to better understand the specific needs of specialist societies and individual hospitals while promoting dialogue and cooperation.

By prioritising these key strategic initiatives, Spine Tango aims to strengthen its position as an invaluable tool for spine care professionals and stakeholders. The continued development of the registry, collaboration with MedTech companies, integration of ePROMs, and partnerships with national specialist societies will contribute to a comprehensive and data-driven approach to enhance spinal healthcare and patient outcomes.

Empowering EUROSPINE members to monitor and improve their treatment outcome, to research and network, to develop best practice standards and to steer the development of spinal care.

## **SPINE TANGO'S INITIATIVES FOR PROGRESS**

Spine Tango is dedicated to providing EUROSPINE members and partners with the necessary instruments and data to continuously monitor and improve treatment outcomes. By harnessing comprehensive data, healthcare professionals and partners can make evidence-based decisions to enhance patient care in real-time.

In 2022, significant efforts are underway to enhance the Spine Tango registry, aiming to broaden its user base and increase clinical participation. New users are being introduced to the registry and provided with tailored training based on their specific requirements and demands. A particular focus is being placed on collaboration with MedTech companies, which have regular regulatory requirements to meet. Spine Tango actively fosters this partnership by providing implant reporting services, while MedTech companies reciprocate by contributing to Spine Tango's implant catalogue with essential implant specifications. This collaboration ensures accurate documentation of medical devices and facilitates subsequent reporting processes.

A considerable amount of efforts has been dedicated to developing a concept for the integration of electronic Patient-Reported Outcome Measures (ePROMs) in the Swiss Implant Registry. Recognising the paramount importance of the patient's perspective in assessing treatment results, Spine Tango is committed to automating the ePROMs process to the highest possible degree. This ensures minimal effort at the hospital level while optimising the gathering of critical patient-reported data.

Spine Tango actively engages in collaborative discussions with individual national specialist societies to support and encourage the establishment or further development of national registration systems for spinal treatments. These discussions not only serve Spine Tango's mission to better understand the needs of specialist societies and hospitals but also foster a sense of involvement and cooperation among the specialist societies. The registry provides a platform for dialogue and exchange, further strengthening this collaborative effort.

During the EUROSPINE Annual Meeting in Milan, Spine Tango organised a lunch symposium, which was well-attended by various professionals and stakeholders. As a result of this meeting, several new hospitals expressed interest in joining Spine Tango, further expanding its user base and enhancing its potential for research and quality assurance in spine healthcare.

Furthermore, Spine Tango actively contributed to the development of an international project proposal for the EU HORIZON program. The registry is part of a consortium consisting of approximately 20 partner institutions across Europe. The aim of this project is to apply artificial intelligence (AI) to clinical data, seeking to improve patient treatment outcomes and rehabilitation. This ambitious venture promises to advance medical practice and pave the way for better healthcare not only in the field of spine but beyond as well.

## GOVERNANCE

It is with great pleasure that we introduce Sabrina Donzelli as the newly appointed Chair of the Spine Tango Task Force. With her extensive expertise and unwavering dedication to the field of spine care, we are confident that she will lead the Task Force with an exceptional blend of vision and skill.

As Sabrina embarks on this new chapter, we extend our warmest congratulations to Marco Telli, who now assumes the esteemed role of EUROSPINE President. Marco's exemplary leadership during his tenure as Past Chair of Spine Tango has been instrumental in shaping the organisation's development and achievements. His unwavering commitment to upholding the highest standards of excellence is truly commendable and we have no doubt that he will continue to thrive in his new role.

With Sabrina and Marco's collective expertise and unwavering commitment, we are confident that Spine Tango will continue to flourish and make significant strides in improving global spine healthcare. The horizon is full of promise as we eagerly await the positive impact that the combined efforts of these exceptional individuals will have on our organisation.

In addition, our sincere thanks go to Samuel Morris for his exceptional support within the Spine Tango Task Force. We are also delighted to welcome Enrico Gallazzi and Eric Parent to the Task Force. Their presence is a testament to the growth and success that lies ahead for our endeavours, and we look forward to their contributions with great anticipation.

## OUTLOOK FOR 2023

Under the leadership of our new Chair, Sabrina Donzelli, and Senior Advisor, Emin Aghayev, Spine Tango is making significant strides towards progress and innovation.

We are actively pursuing funding from the EU's HORIZON programme for a large international project, which aims at the application of artificial intelligence to Spine Tango and other medical data to predict patient outcomes and improve patient rehabilitation in spine care and beyond.

In 2023, we look forward to the successful pilot of ePROMS in Switzerland and its subsequent implementation in Spine Tango. The use of ePROMS will provide valuable insights into treatment effectiveness and patient experience, contributing to improved quality of care.

To provide more timely reporting, we are preparing to produce benchmark reports on a quarterly basis. This approach will help us track progress and identify areas for improvement more effectively.

We understand the importance of having convenient access to these reports, which is why we are pleased to announce that the reports will be available to you in your personal dashboard starting from 2023.

This dashboard will be your central hub for performance data and insights. With a user-friendly interface, you can easily access the latest benchmark reports, analyse trends and make informed decisions. We are committed to enhancing your experience and providing actionable insights to drive your success.



We are actively seeking greater support from medical device companies by offering reporting services on the performance and outcomes associated with their implants. This collaboration is designed to drive the advancement of spinal care technologies.

Expanding our reach is a top priority, with the aim of increasing the number of hospitals and users participating in Spine Tango. A broader user base will increase the impact of our registry and promote evidence-based practices worldwide.

Finally, we are introducing new features and translations into other languages to make Spine Tango accessible to a wider audience. These enhancements will facilitate seamless collaboration and knowledge sharing among spine care professionals worldwide.

With these initiatives and advancements, EUROSPINE remains committed to driving innovation, advancing research and ultimately improving patient outcomes in spine care. Together, we are on a path of progress, driven by the commitment of our esteemed members and partners.

## SELECTED STATISTICS

### World map

The Spine Tango registry and the majority of participating hospitals are based in Europe. Hospitals from many other countries are or have previously been participating in the registry, as illustrated in the following three maps. This international distribution demonstrates the interest for a common language in the registration of spinal treatments and their outcomes, which in turn will help to further develop spinal care as well as harmonise and improve it. All following maps are based on registry data collected up to 31 December 2022.

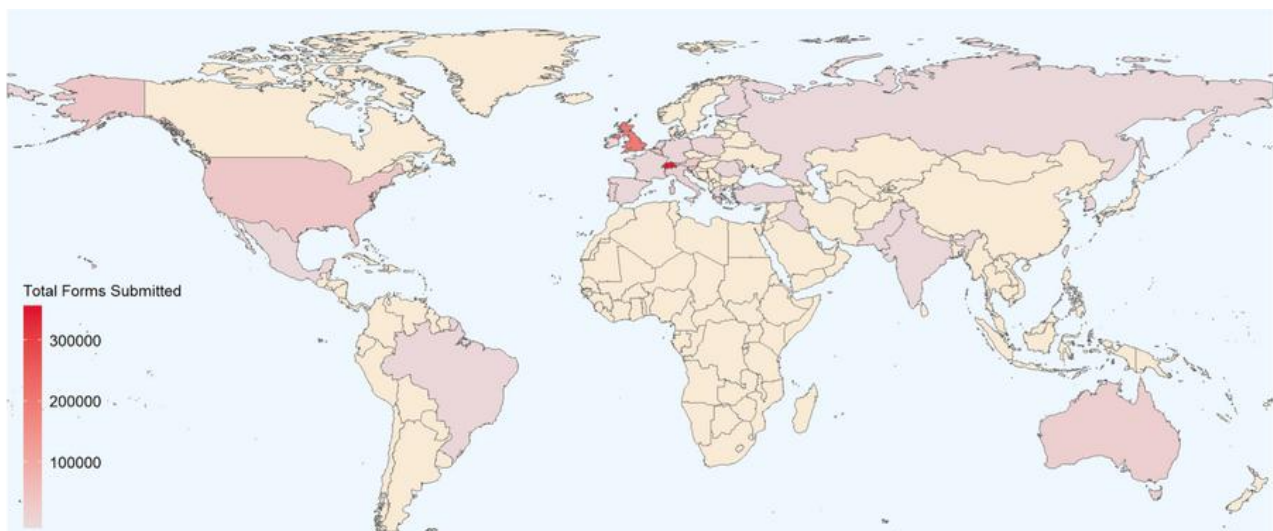


Figure 1. Global overview of origin of participants in the registry and submitted forms by country

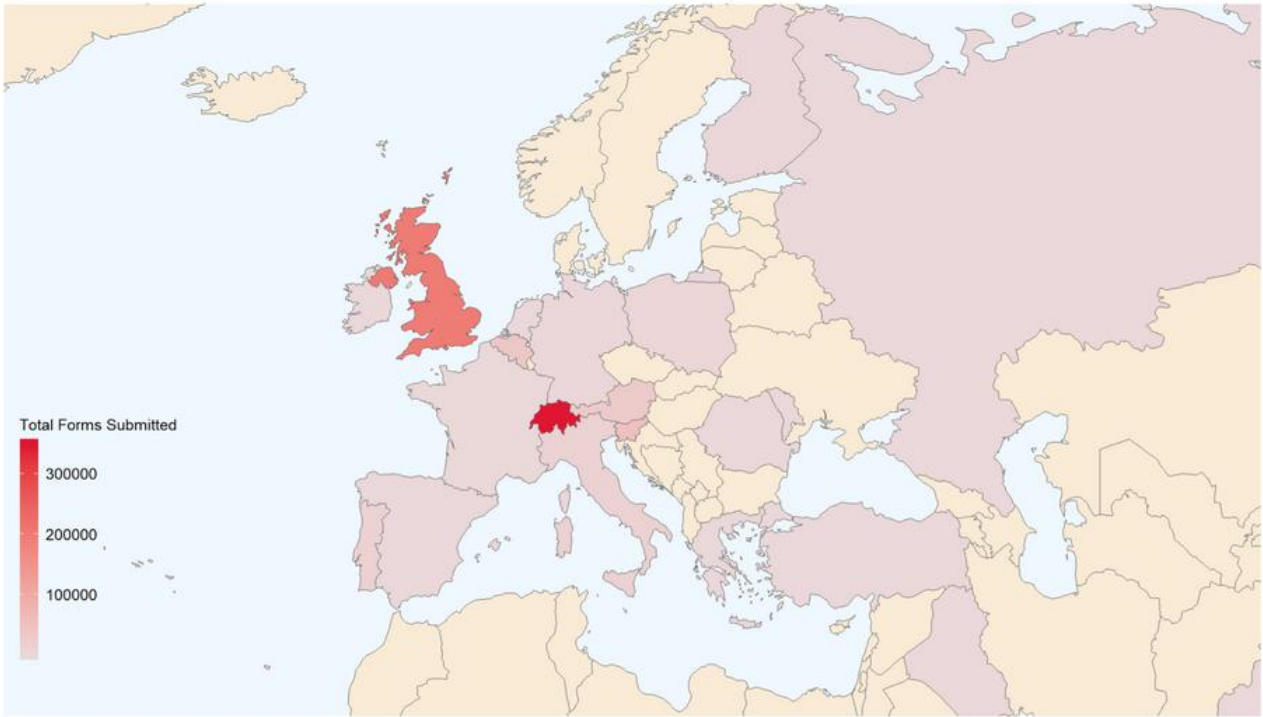


Figure 2. Overview of submitted forms of the participants by country in Europe

**OVERALL DATA GROWTH BY FORM TYPE**

The number of documented forms in the registry increases each year. After a significant drop in 2021, the number of documented forms in 2022 has picked up again. The drop in 2021 was probably related to the COVID 19 pandemic.

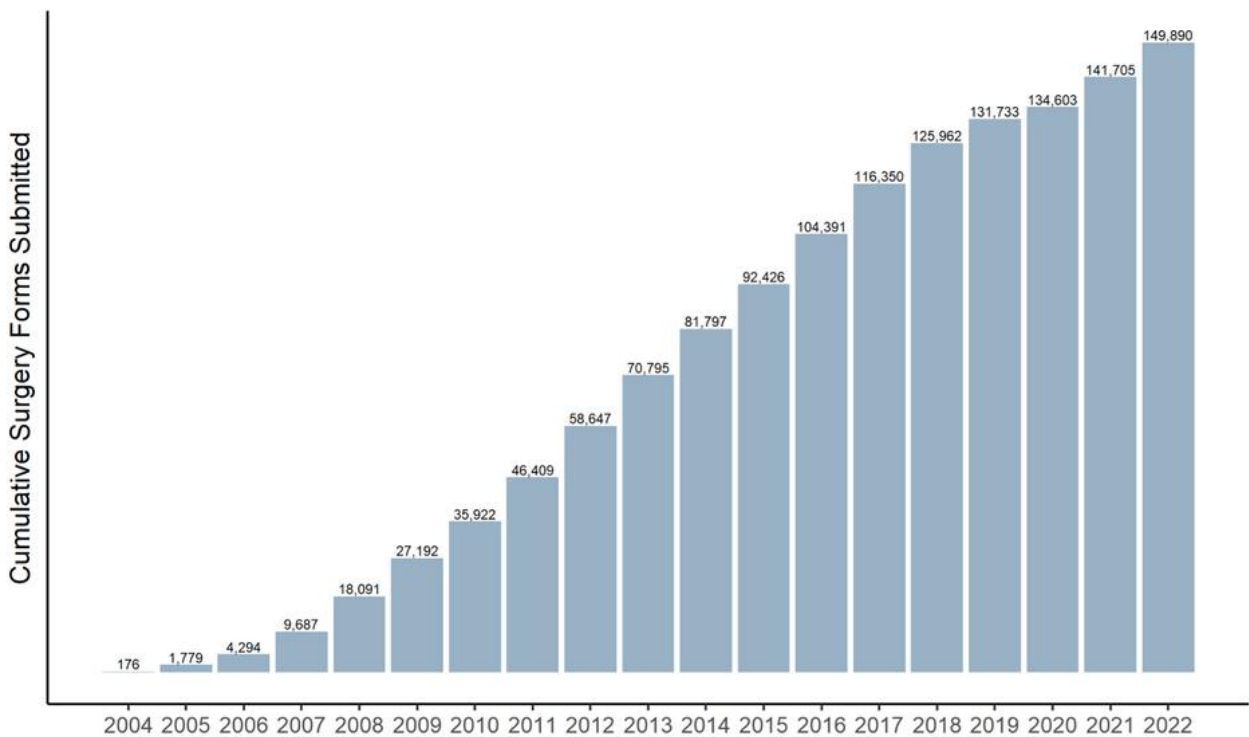


Figure 3. Cumulative Surgery forms

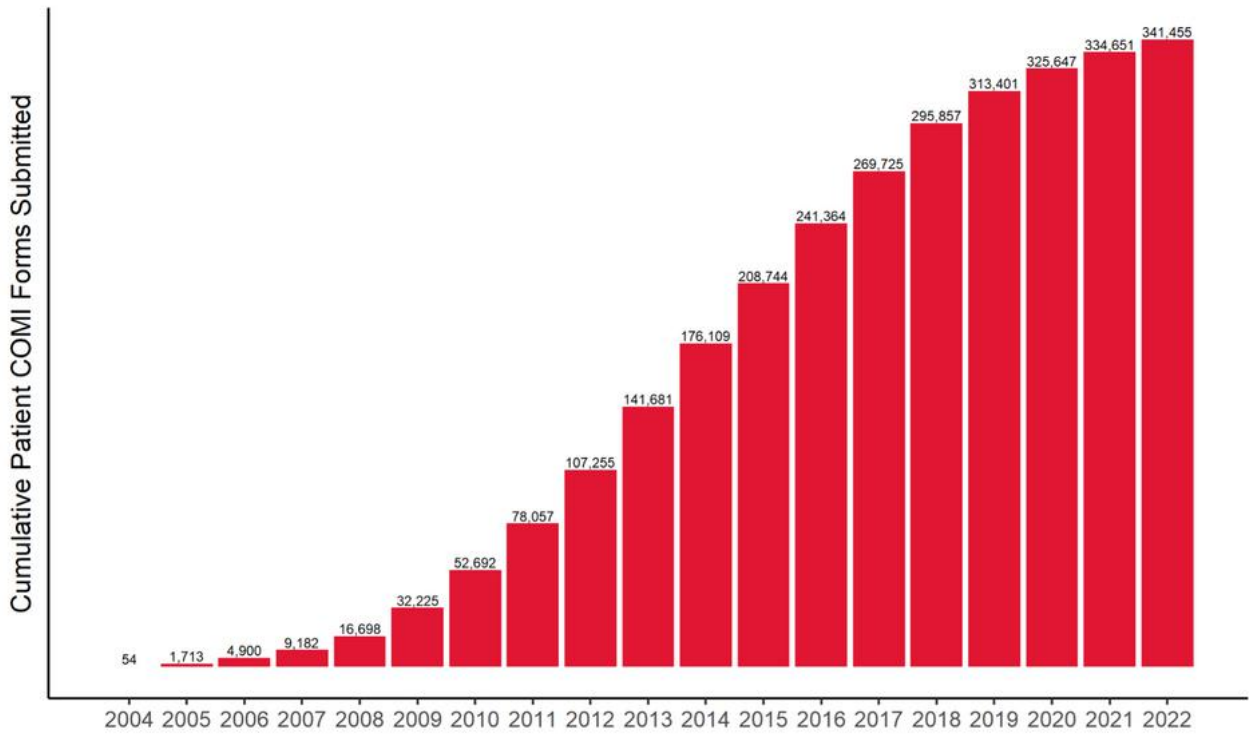


Figure 4. Cumulative COMI forms (both surgery and conservative COMI)

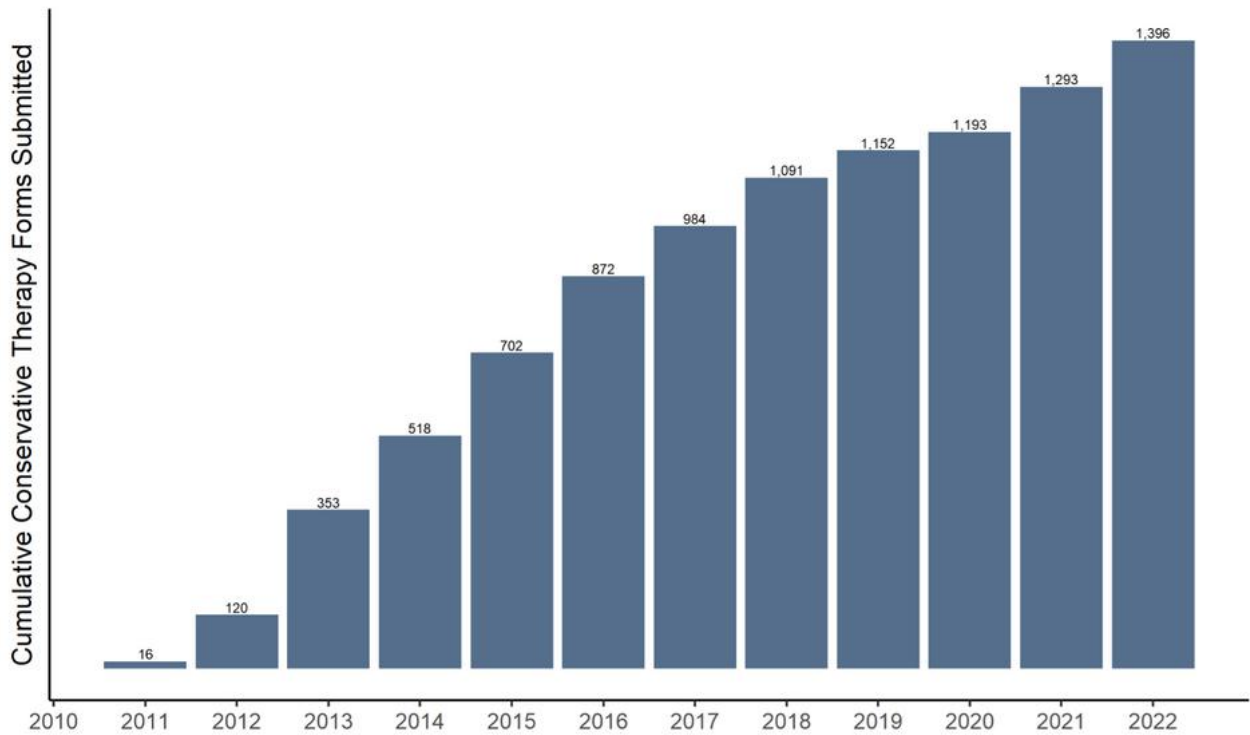


Figure 5. -Cumulative Conservative treatment forms

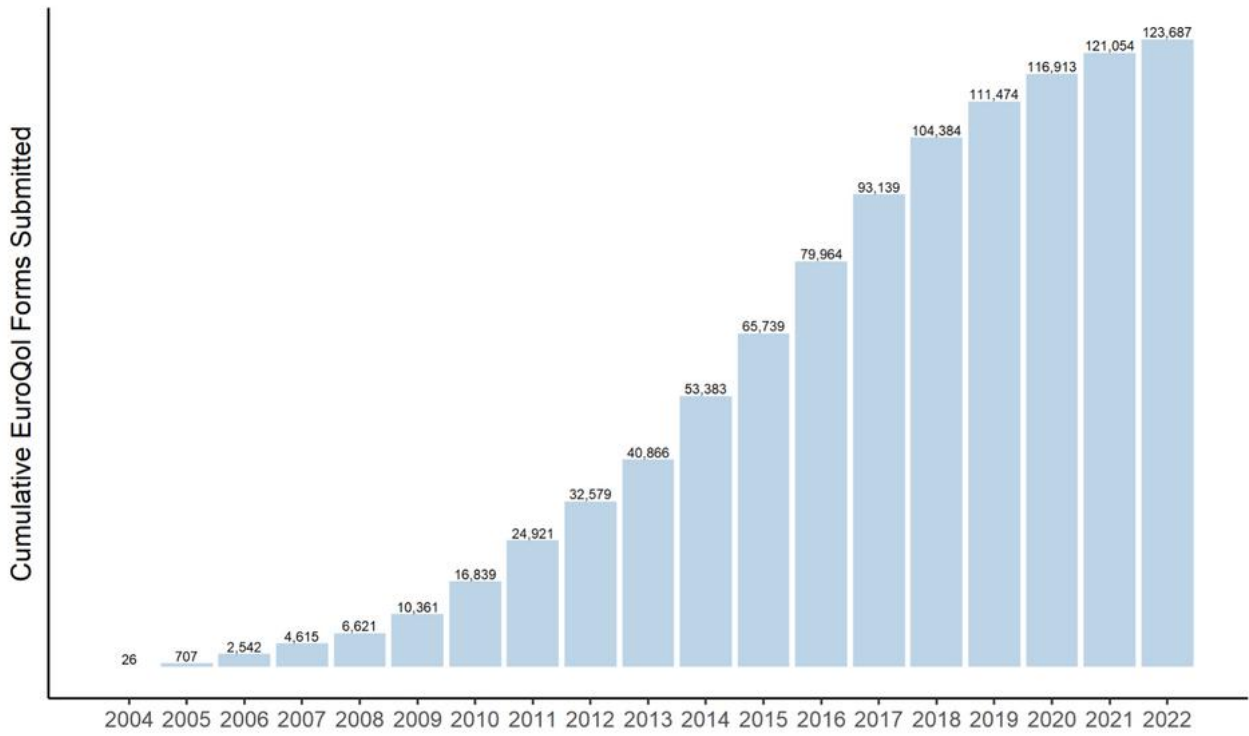


Figure 6. Cumulative EuroQol forms

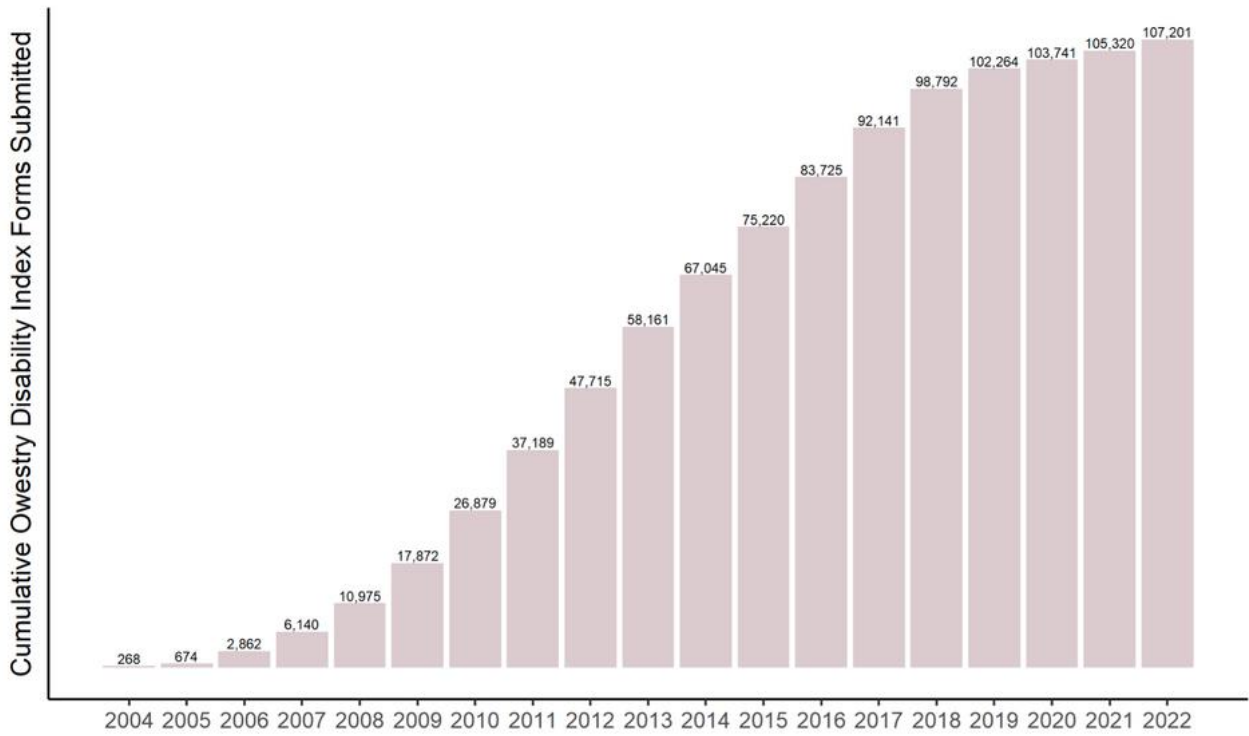


Figure 7. Cumulative Oswestry Disability Index (ODI) forms

## PATIENT CHARACTERISTICS

The figures presented in the following tables are based on 149'890 surgeries documented up to 31 December 2022.

Table 1. Patient characteristics overview (\*these characteristics were documented in the 2011 and 2017 form versions only and their proportions are calculated based on the number of those 91,226 forms.)

<b>Surgical Forms (N=)</b>	<b>149'890</b>		
<b>Age</b>	< 40	15,1%	22'551
	40-50	16,6%	24'932
	50-60	20,4%	30'596
	60-80	40,5%	60'637
	> 80	7,4%	11'065
<b>Gender</b>	Male	48,1%	72'030
	Female	51,9%	77'777
<b>Smoker</b>	No	50,3%	50'172
	Yes	35,2%	35'137
	Unknown	14,4%	14'403
<b>BMI</b>	< 20	4,8%	4'773
	20-25	30,9%	30'795
	26-30	34,0%	33'893
	31-35	15,1%	15'074
	> 35	7,1%	7'097
	Unknown	8,1%	8'080
<b>Number of Segments Affected</b>	1	35,1%	52'540
	2-3	27,8%	41'540
	>= 4	37,1%	55'596
<b>Number of Previous Surgeries</b>	0	70,4%	104'461
	1	19,4%	28'835
	> 1	10,2%	15'189

## MAIN PATHOLOGIES

The most frequent pathology seen in the registry is degenerative disease with around 3/4 of the surgeries, followed by repeat surgery with 4.9% and other less frequent pathologies.

Pathology	Percent	Count
Degenerative Disease	76.8%	115'122
Repeat Surgery	4.9%	7'352
Fracture / Trauma	3.8%	5'683
Spondylolithesis (Non-Degenerative)	3.2%	4'743
Non-Degenerative Deformity	2.4%	3'659
Pathological Fracture	2.5%	3'351
Tumour	2.4%	3'559
Failed Surgery	1.4%	2'060
Other	1.1%	1'669
Infection	1.0%	1'446
Inflammation	0.2%	246

Table 2. Main pathologies tabular overview

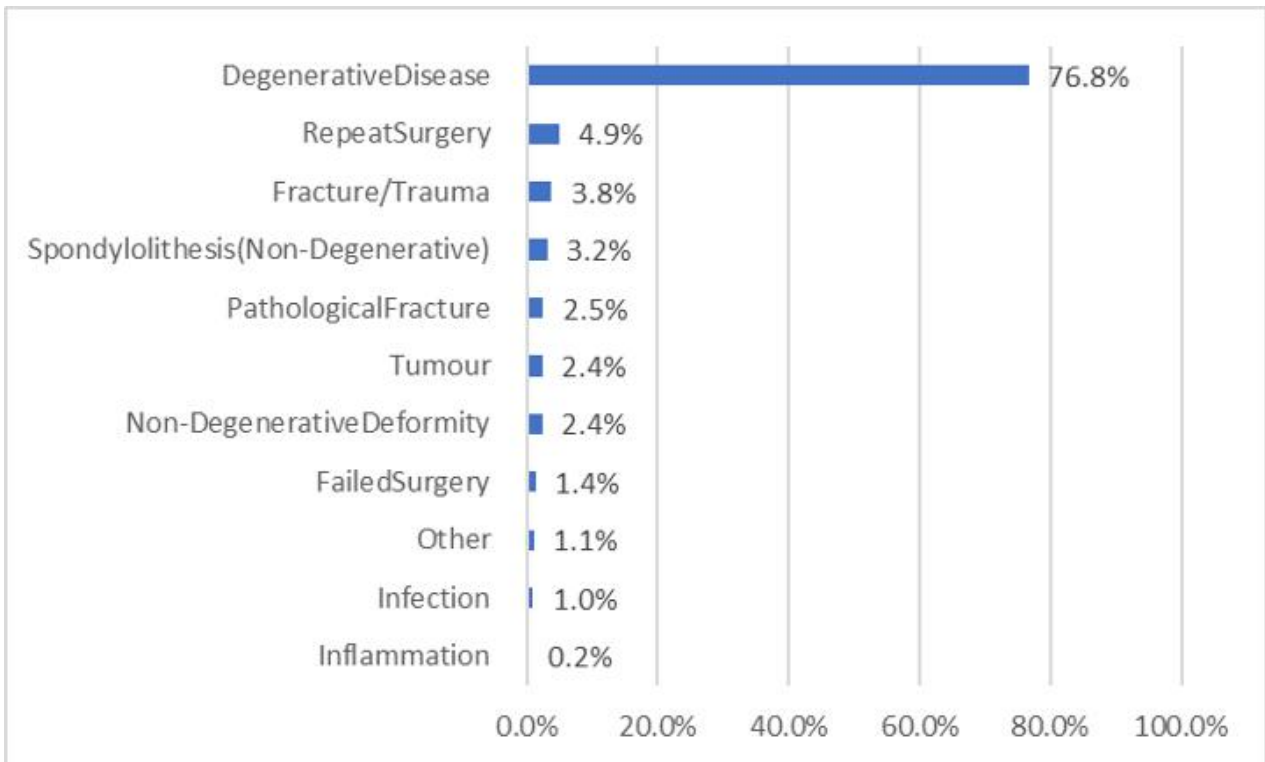


Figure 8. Main pathologies bar chart overview

Regarding the levels of intervention, the majority of the cervical surgeries take place at C5 (11.2%), followed by C6 (9.0%). Thoracic levels are rather rare with Th12 as the most frequent thoracic level at 3.2%. The three most treated levels are L4 (47.2%) followed by L5 (37.2%) and L3 (20.7%).

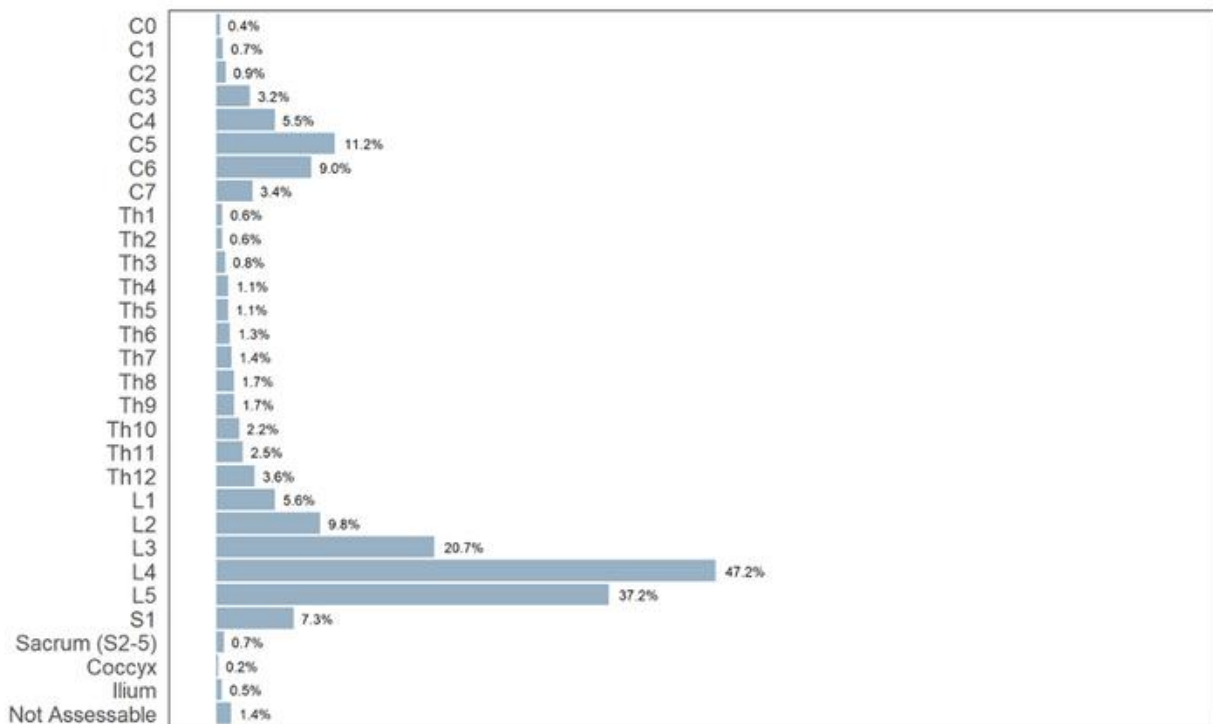


Figure 9. Levels of intervention

## DESCRIPTIVE ANALYSIS OF SELECTED PATHOLOGIES

The authors of this annual report elected to describe some key characteristics of patient groups undergoing surgical treatment for one of the two most frequent pathologies: disc herniation and spinal stenosis

### DISC HERNIATION

38.1% of all documented surgeries in Spine Tango (N= 57'119) were related to the treatment of disc herniation. The following Table 3 describes characteristics of this patient population.

Surgical forms	57'119		
Age	< 40	22.5%	12'880
	40-50	25.6%	14'609
	50-60	22.8%	13'019
	60-80	26.1%	14'891
	> 80	3.0%	1'720
Gender	Male	52.3%	29'894
	Female	47.7%	27'235
Smoker	No	43.8%	16'904
	Yes	15.5%	5'964
	Unknown	40.7%	15'724
BMI	< 20	4.0%	1'528
	20-25	30.0%	11'596
	26-30	34.2%	13'216
	31-35	14.5%	5'606
	> 35	7.1%	2'745
	Unknown	10.1%	3'901
Number of Segments Affected	1	45.9%	26'250
	2-3	22.5%	12'851
	>= 4	31.6%	18'057
Number of Previous Surgeries	0	77.8%	44'426
	1	16.4%	9'354
	> 1	5.9%	3'345



## SURGICAL MEASURES

The following Figure 15 demonstrates proportions of key surgical measures over a time period of 17 years between 2005 and 2022. The distribution of the individual surgical measures remained rather stable over this time period with a slight increase of motion preserving stabilisation in the last year.

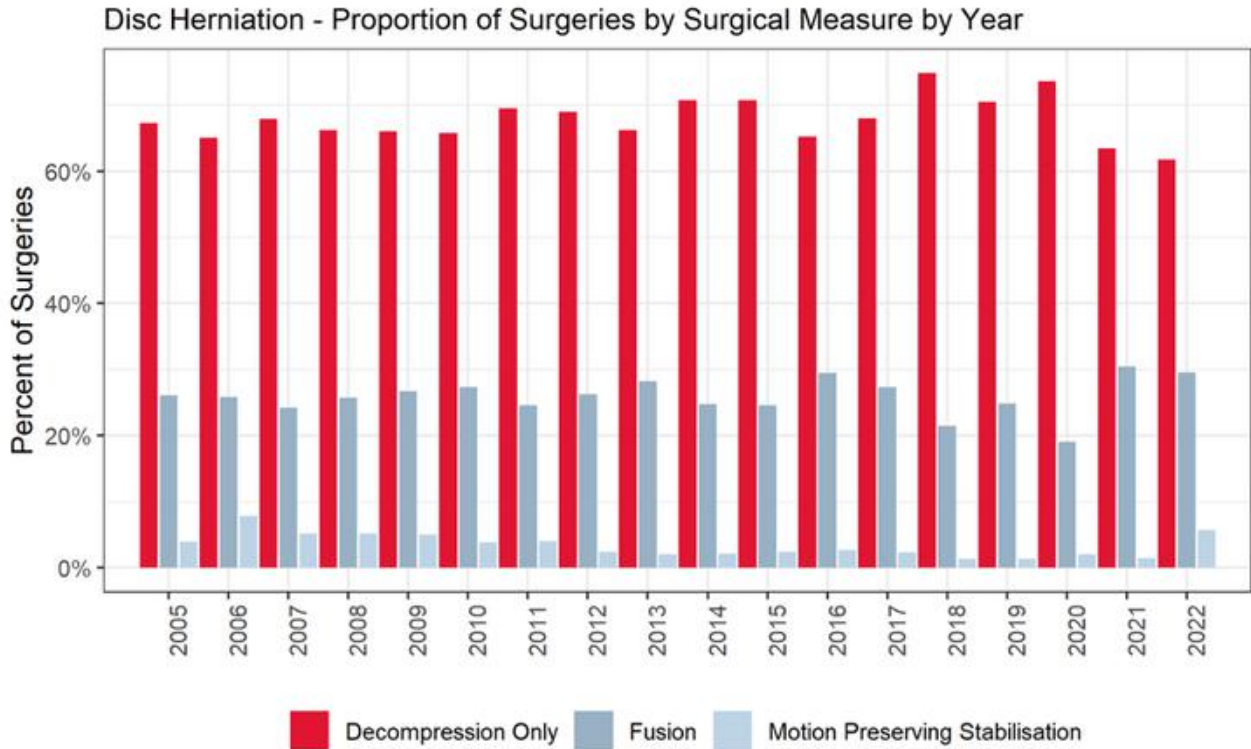


Figure 10. Proportion of surgeries by surgical measure by year

## Complications

General complications were rather rare with the leading complication type of kidney and urinary tract in 0.25% of the surgeries (Figure 11).

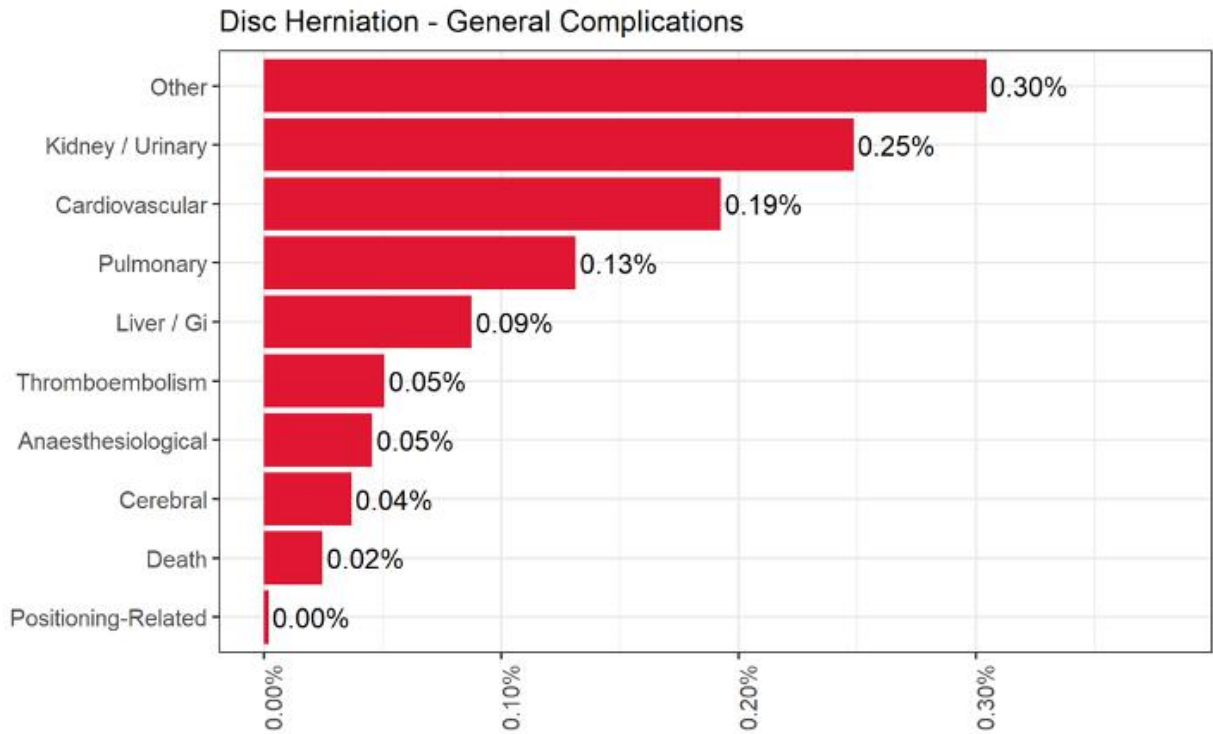


Figure 11. General complications for herniated disc cases

Surgical complications were more frequent with dural lesions documented in 2.86% of the surgeries (Figure 12). The next most frequent complications were neurological with motor dysfunction, radiculopathy and sensory dysfunction in 0.37%, 0.32% and 0.30%, respectively.

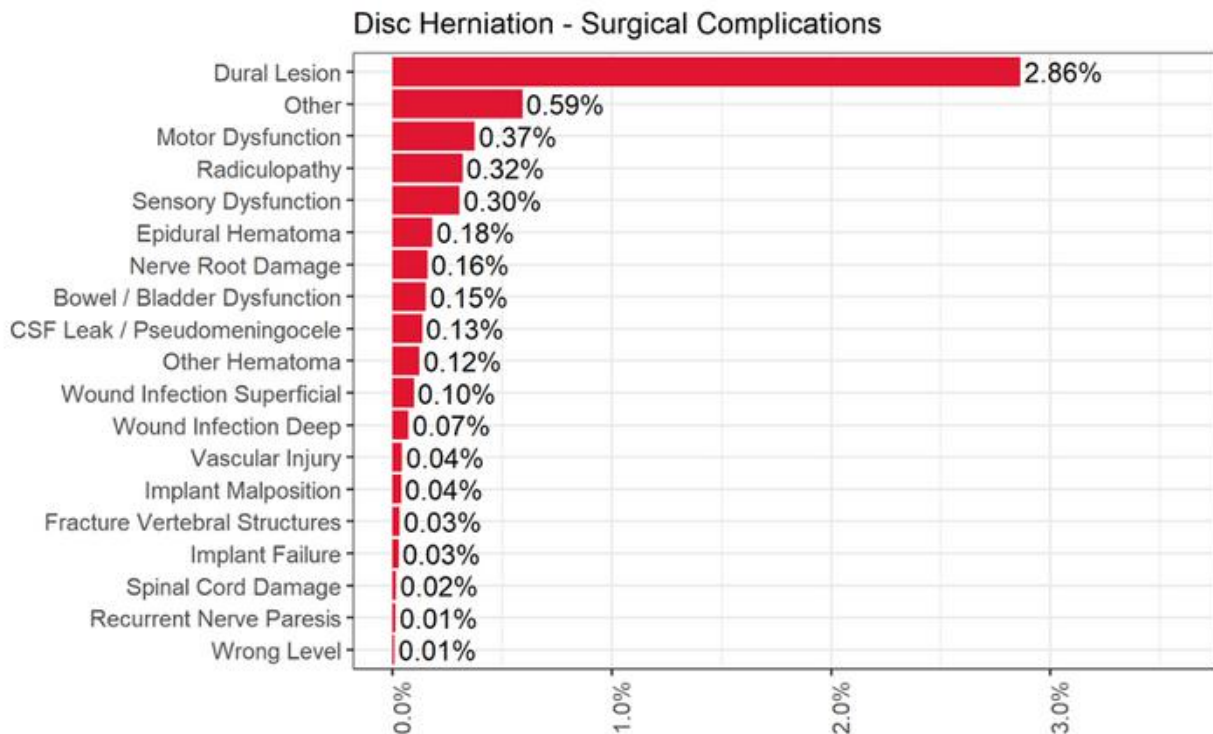


Figure 12. Surgical complications for herniated disc cases

## OUTCOMES - COMI

In 24.4% of all patients with disc herniation a baseline COMI form and a 3-month postoperative or a later COMI form were documented. This rate varies considerably between hospitals, depending on whether they collect COMI or not. The following Figure 13 to Figure 15 demonstrates the average preoperative and postoperative axial and peripheral pain levels as well as COMI score with 95% confidence intervals over the last 17 years. The curves were not adjusted by patient characteristics, surgical measures and follow-up interval, which are assumed to be relatively stable. Nevertheless, the figures have a descriptive character only and a conclusive interpretation requires more granular investigations.

Over this time period the preoperative axial pain has steadily increased from about 5 points to 6.4 points in 2019, to drop in 2022 to about 5.5 points, while the postoperative axial pain has fluctuated but did not change between 2008 and 2022 (3.5 points). The figure shows the relatively stable gain of 2 points almost over the whole period of registration, which is positive. Interesting is the slight drop of the preoperative and postoperative pain levels, which is however, difficult to explain. The data from the national Swiss Implant registry, which is operating since 2021, may have contributed to this change.

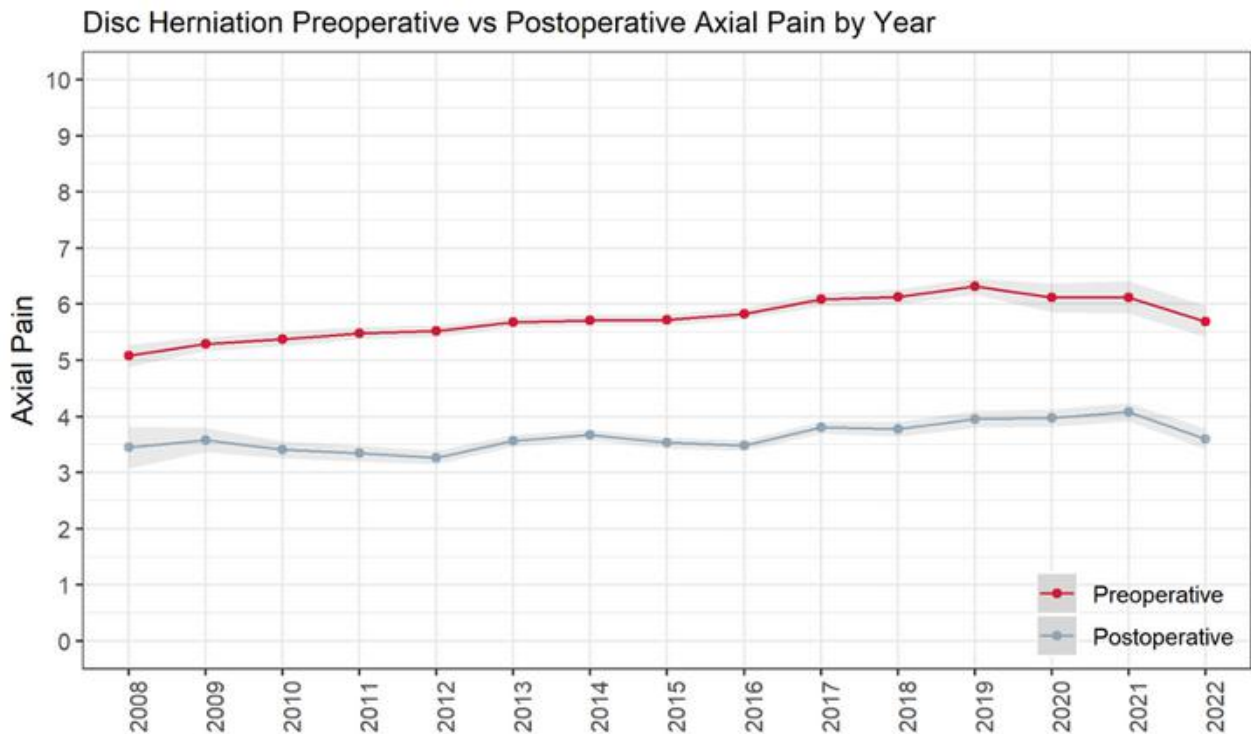


Figure 13. Preoperative and postoperative axial pain in disc herniation cases by year

Over this time period the preoperative peripheral pain has slightly increased from about 6.7 points to 7.2 points in 2022, while the postoperative peripheral pain did not change substantially when comparing 2008 and 2022. Also for the peripheral pain, a stable improvement of at least 3.5 points is seen over time, while in the last year there was a drop of ca. 0.5 points in both preoperative and postoperative peripheral pain.

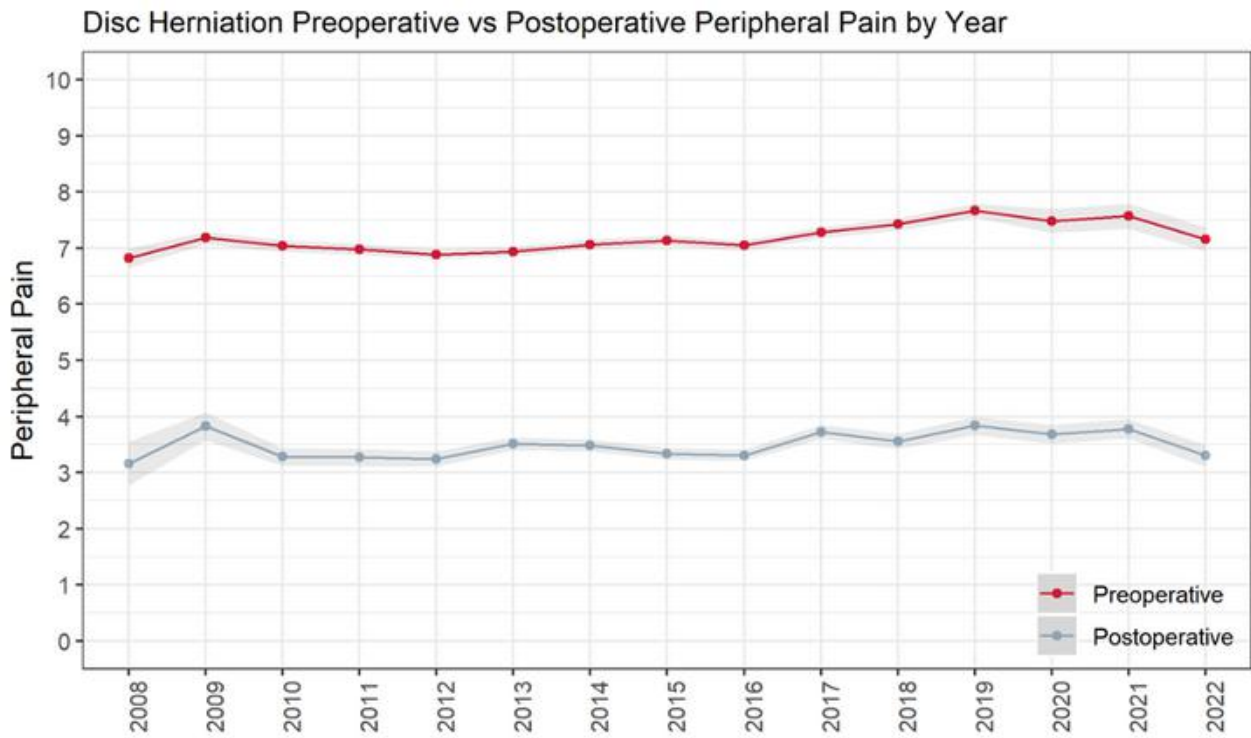


Figure 14. Preoperative and postoperative peripheral pain in disc herniation cases by year

Over this time period the composite COMI score remained very stable at 8 points, while the postoperative COMI score has oscillated around 4.5 points. No relevant trend both for preoperative and postoperative scores were observed over the whole time period.

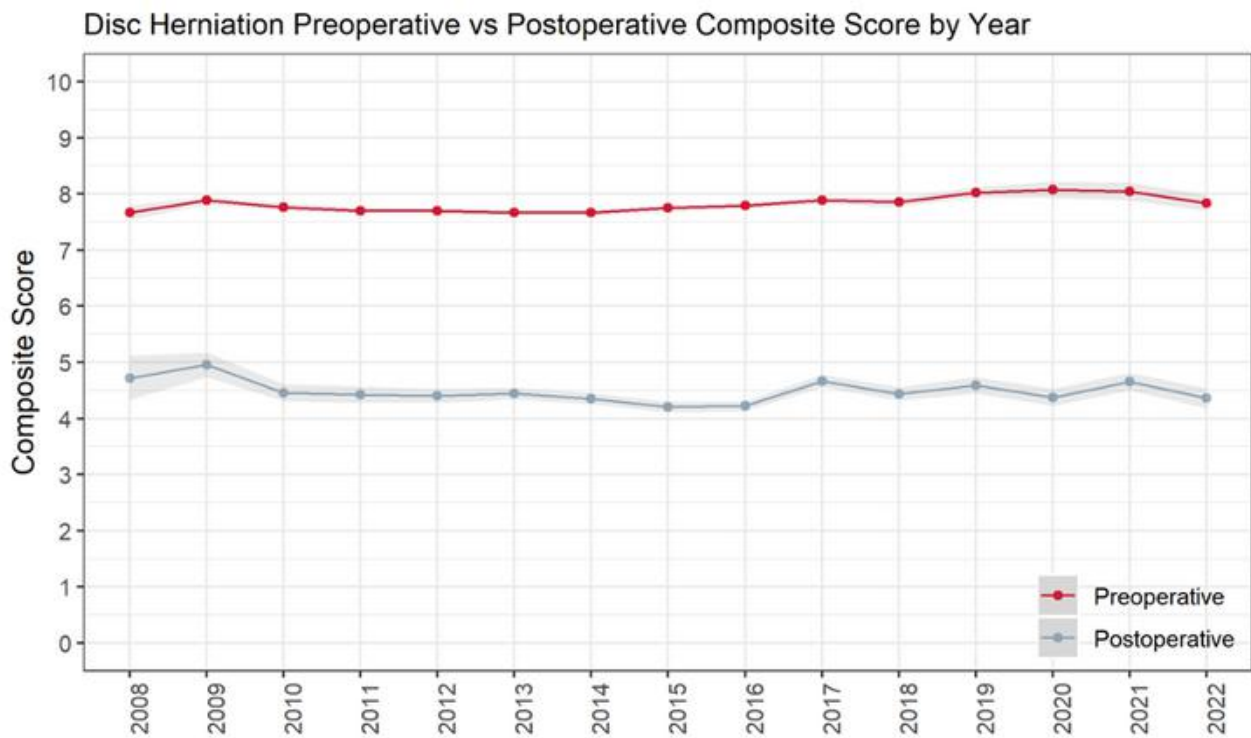


Figure 15. Preoperative and postoperative COMI score in disc herniation cases by year

**SPINAL STENOSIS**

36.8% of all surgeries documented in Spine Tango (N= 55'178) were related to the treatment of spinal stenosis. The following Table 4 describes characteristics of this patient population.

**Patient characteristics**

Table 4. Patient characteristics spinal stenosis

Age	< 40	4.5%	2'504
	40-50	10.5%	5'784
	50-60	19.9%	10'950
	60-80	55.0%	30'344
	> 80	10.1%	5'575
Gender	Male	49.4%	27'269
	Female	50.6%	27'896
Smoker	No	51.0%	19'664
	Yes	12.5%	4'810
	Unknown	36.5%	14'063
BMI	< 20	3.2%	1'232
	20-25	25.5%	9'811
	26-30	36.2%	13'941
	31-35	17.9%	6'908
	> 35	7.8%	2'990
	Unknown	9.5%	3'655
Number of Segments Affected	1	33.1%	18'281
	2-3	34.6%	19'088
	>= 4	32.3%	17'800
Number of Previous Surgeries	0	74.6%	41'105
	1	17.8%	9'805
	> 1	7.6%	4'217

## SURGICAL MEASURES

The following Figure 16 demonstrates proportions of key surgical measures over a time period of 17 years between 2005 and 2022. The distribution of individual surgical measures changed especially in 2021 and 2022 with a growing proportion for fusion surgery. This change is, however, not natural but caused by the inclusion of Swiss Implant Registry data, which includes fusions and excludes simple decompression.

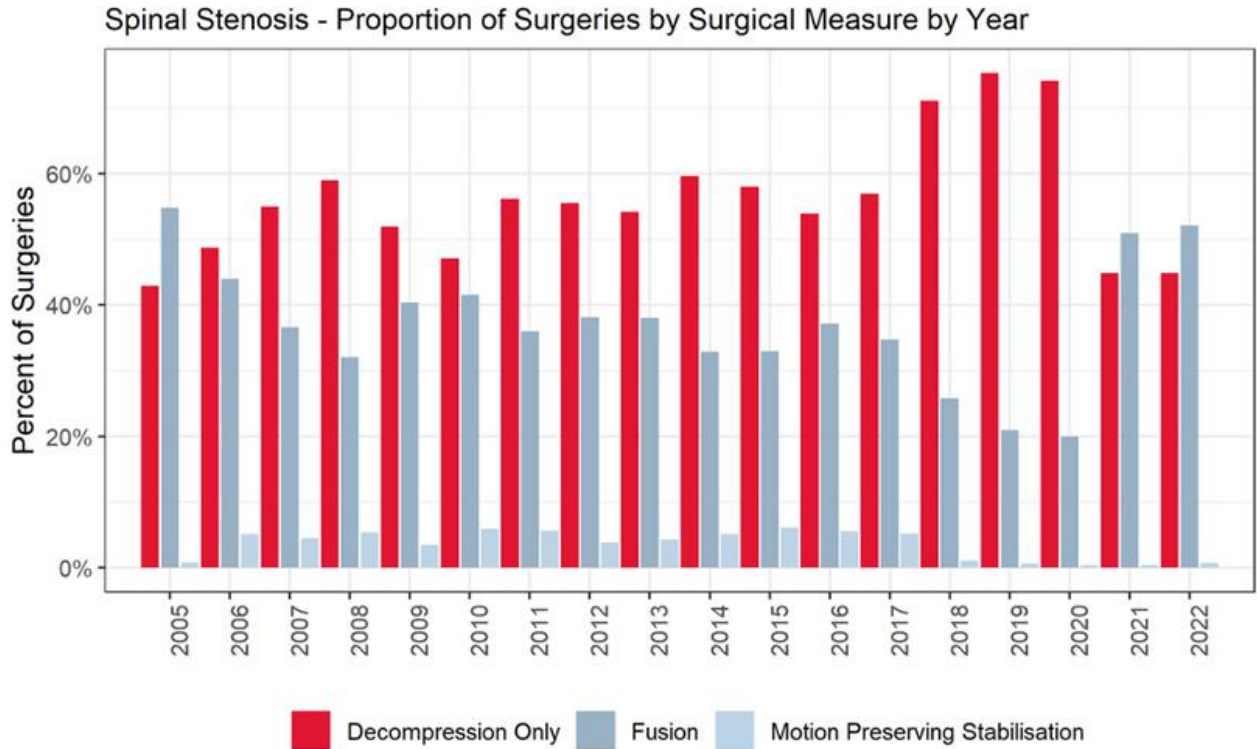


Figure 16. Proportion of surgeries by surgical measures by year

**COMPLICATIONS**

General complications were rather rare with the leading complication of kidney and urinary tract in 0.53% of the surgeries (Figure 17).

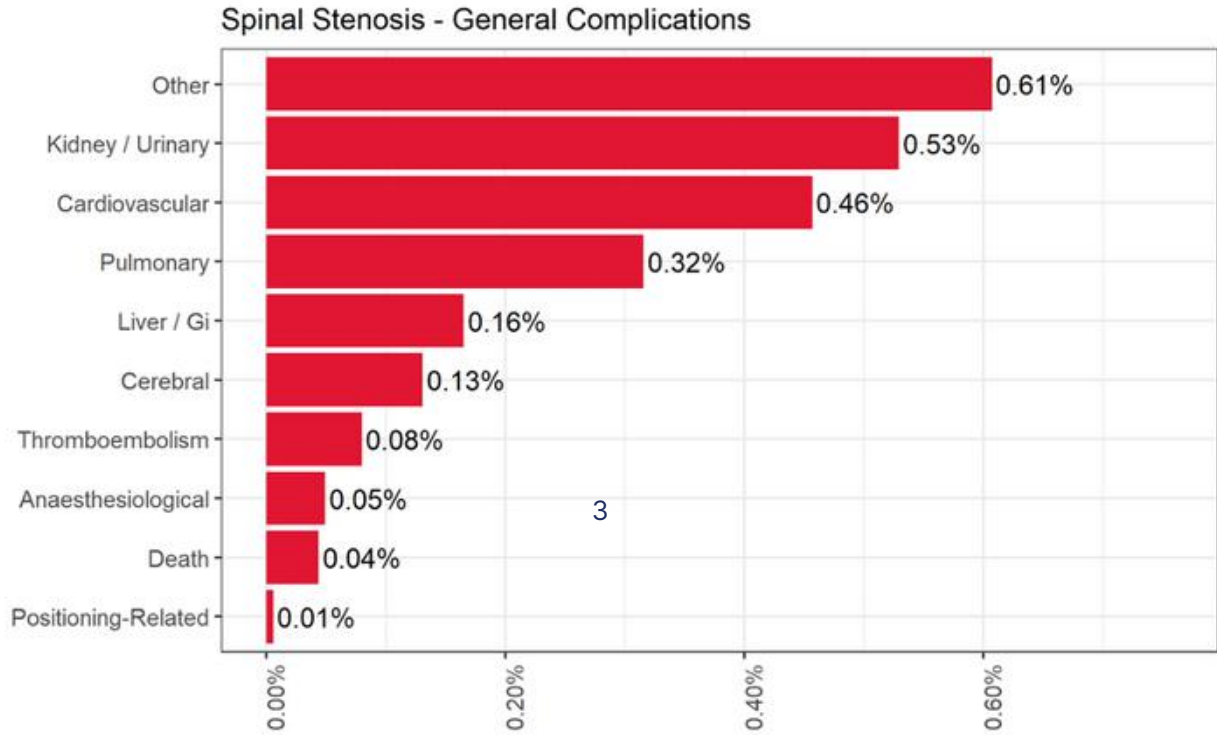


Figure 17. General complications for spinal stenosis cases

Surgical complications were more frequent with dural lesions documented in 4.43% of the surgeries (Figure 18). The next most frequent complications were neurological with motor dysfunction, epidural hematoma, sensory dysfunction and radiculopathy in 0.53%, 0.47%, 0.37% and 0.34%, respectively.

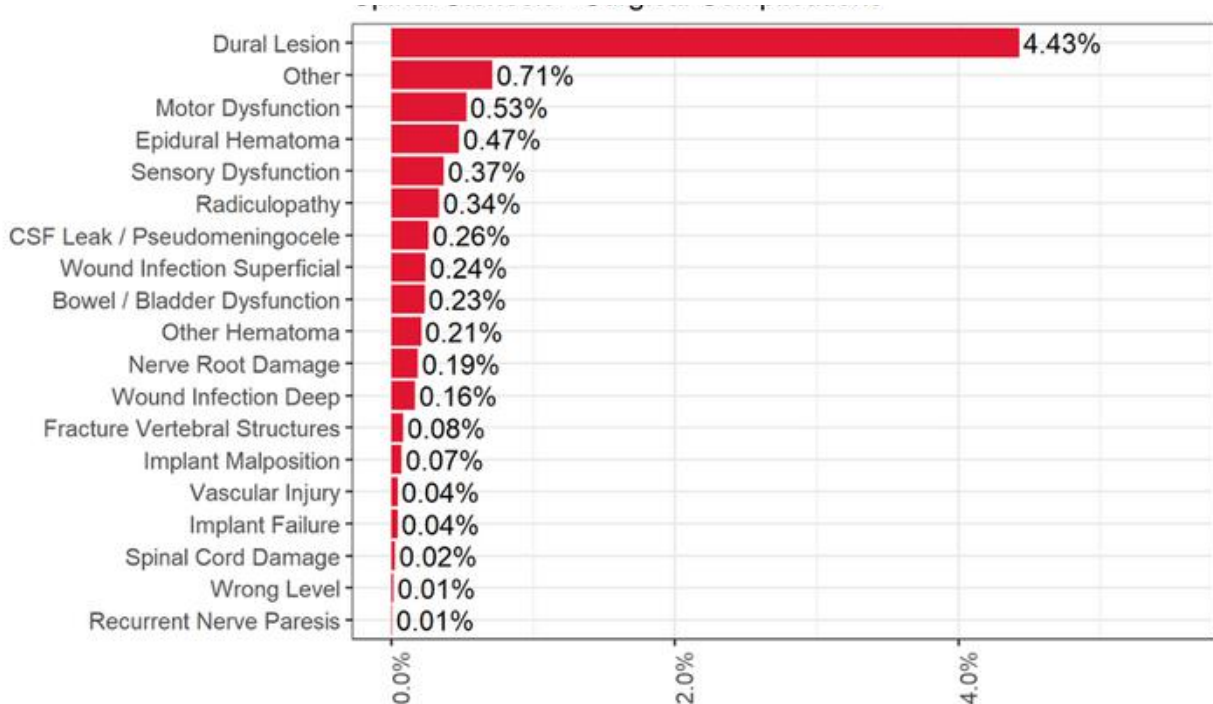


Figure 18. Surgical complications for spinal stenosis cases

## OUTCOMES – COMI

In 31.2% of all patients, a baseline COMI form and a 3-month postoperative or a later COMI form were documented. This rate varies considerably between hospitals, depending on whether they collect COMI or not. The following Figure 19 to Figure 21 demonstrates the average preoperative and postoperative axial and peripheral pain levels as well as COMI score with 95% confidence intervals over the last 17 years. The curves were not adjusted by patient characteristics, surgical measures and follow-up intervals, which are assumed to be relatively stable. Nevertheless, the figures have a descriptive character only and a conclusive interpretation requires more granular investigations.

Over this time period the preoperative axial pain has increased from about 5.5 points to 6.4 points in 2022, while the postoperative axial pain has slightly fluctuated around 4 points mark. This finding of increasing preoperative axial pain points to a stable but marginally improving treatment indication. The stable postoperative axial pain is rather a neutral finding pointing out that changes in the treatment strategy did not result in relevant worsening or improving postoperative axial pain. The patients seem to have improved on average for 2 points almost every year, except in 2021, during which the improvement was less.

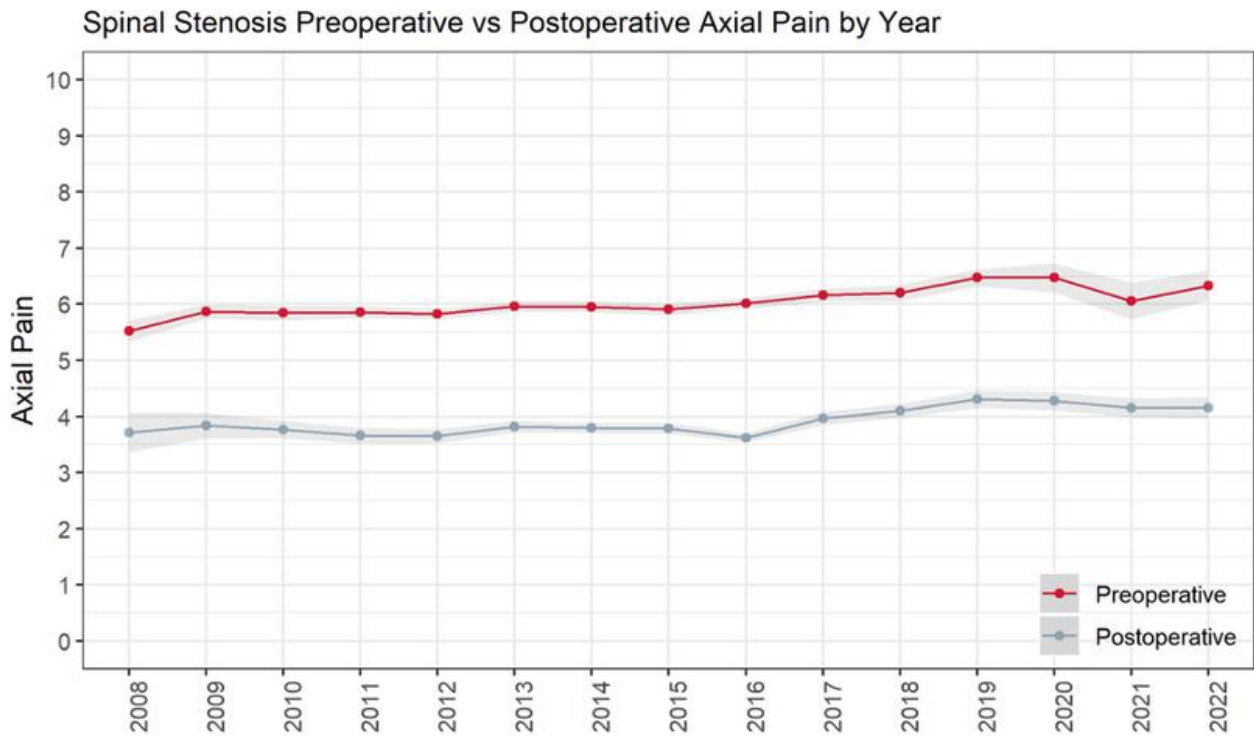


Figure 19. Preoperative and postoperative axial pain in spinal stenosis cases by year

Over this time period the preoperative peripheral pain has steadily increased from about 6.6 points to 7.5 points in 2019, with a decrease to 7 points in 2020-2022, while the postoperative peripheral pain has steadily increased from 3.5 to 4.0 points. The postoperative pain relief remains rather stable over the years with approximately 3 points.



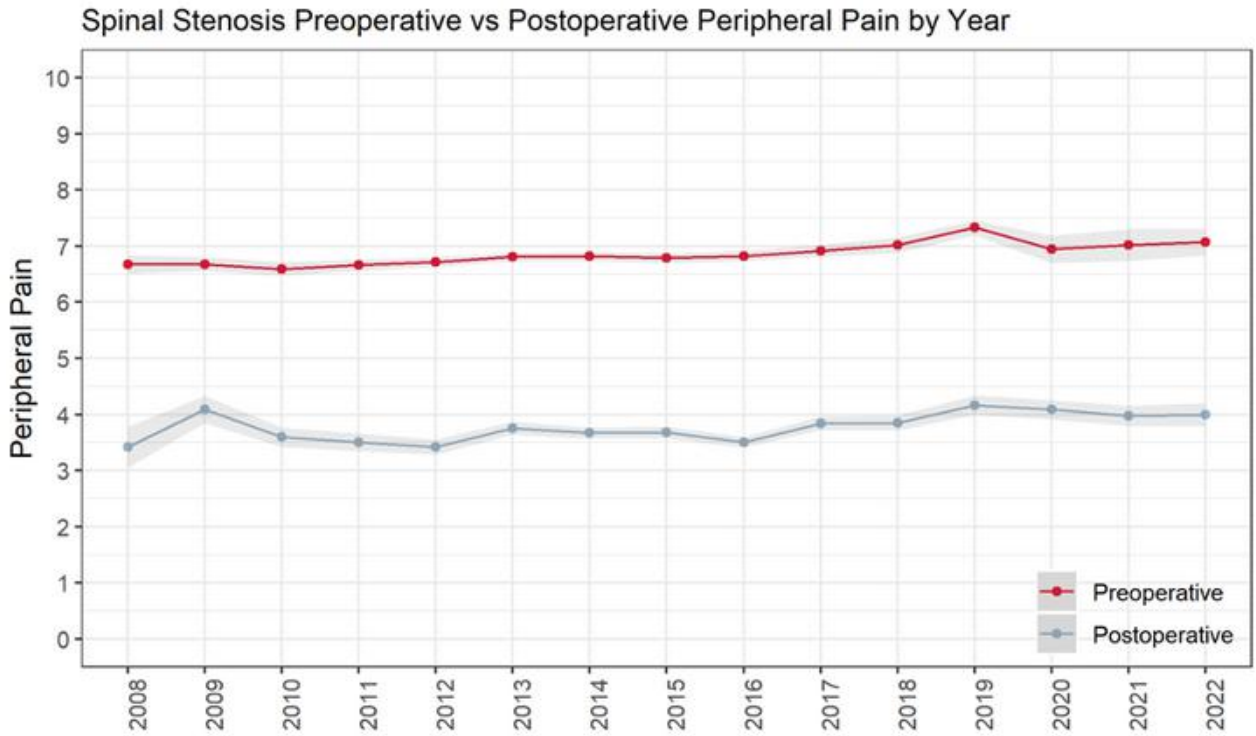


Figure 20. Preoperative and postoperative peripheral pain in spinal stenosis cases by year

Over this time period the preoperative remained very stable at 7.5 points and the postoperative COMI score remained rather stable between 4.5 and 5 points.

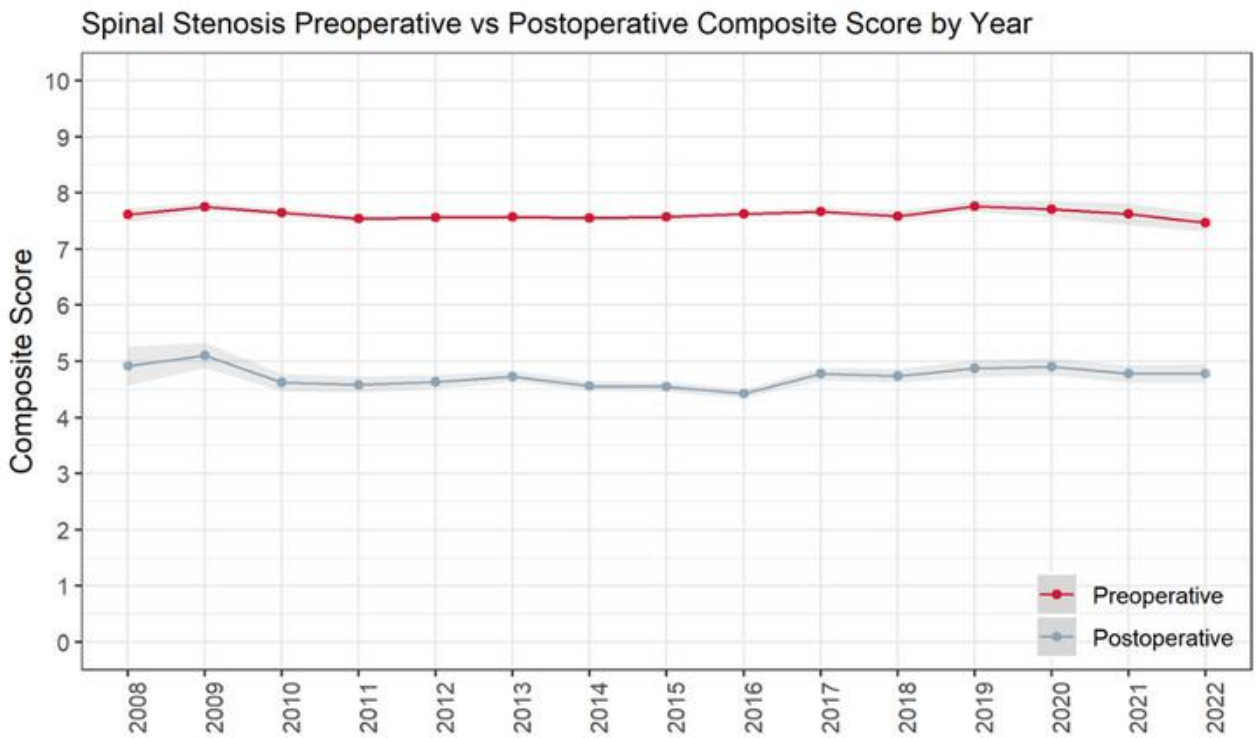


Figure 21. Preoperative and postoperative COMI score in spinal stenosis cases by year

## HOW TO ACCESS AND PUBLISH WITH SPINE TANGO DATA

As a valued participant in the Spine Tango Registry, you have the privilege of accessing the pooled data of all international Spine Tango participants for research purposes. To gain access, you must follow a process that ensures the integrity and appropriateness of data use.



Submit your study protocol: A study protocol template is available on the website.  
Submit the completed protocol to [spinetango@eurospine.org](mailto:spinetango@eurospine.org).

We are committed to ensuring the responsible and ethical use of Spine Tango data for research and appreciate your cooperation in following the procedures outlined. By adhering to the highest standards of scientific practice, we collectively contribute to the advancement of spine care and the dissemination of valuable knowledge within the medical community.

Take action now and start your research journey with Spine Tango data! If you have any questions or require further assistance, please do not hesitate to contact us. We look forward to supporting your research efforts with Spine Tango data. Together, let's make a meaningful impact on improving spinal health worldwide!

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**Spine Tango Task Force Meeting at the EUROSPINE Annual Meeting in Frankfurt 2023**

Enrico Gallazzi, Sabrina Donzelli, Pedro Dos Santos, Oge Swaby (NEC), Emin Aghayev, Everard Munting, Rolf Sobottke, Josef Gross, Sylvia Hartog-Meisser (Staff)

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