



## **SPINE TANGO INFORMATION PORTFOLIO for representatives of national societies and the EuSSAB**

Produced: 15 May 2020

### **Content**

1	The Spine Tango Registry .....	1
2	Mission of the ST Registry .....	2
3	Key Benefits .....	2
3.1	Key Benefits for Individual Users.....	2
3.2	Specific Benefits for National Spine Societies .....	3
4	Impressions of the ST Registry .....	3
5	Models of Collaboration with National Societies .....	5
6	Trend Towards Mandatory Registries.....	6
7	Application Provider: Northgate Public Services Ltd. in UK .....	6
8	How to Join the Registry? .....	6
9	Contact.....	6
10	APPENDIX I: Sample Quarterly Benchmarking Report.....	7

# 1 The Spine Tango Registry

Spine Tango is an international web-based registry application that collects and evaluates data on treatment effectiveness, patient safety and best practice for quality assurance and research on surgical and non-surgical treatments.

The registry was created and is being continually developed to serve **individual users and hospitals, groups of hospitals and national societies.**

Key aspects:

- **Dilemma:** Everyone wants to do quality assessment, but they are doing it independently. Spine Tango was created to develop a common language.
- **Experience:** The registry was established in 2002 and, thus, has a history of 18 years.
- **Funding:** By EUROSPINE.
- **Data:** Over 750,000 forms have been documented, including over 120,000 surgeries with over 400,000 patient outcome forms from 17 countries from Europe and non-European countries such as the USA, Australia, and Iraq.
- **Common language:** The registry is constantly engaged in the standardisation of documentation of spinal treatments, definitions, outcome parameters, and, consequently, of spinal care.
- **Spinal treatments:** Standard documentation forms for surgical and conservative therapies are designed to enable documentation of the whole spectrum of spinal treatments.
- **Implants:** A large pan-European implant library has been created. It is regularly updated by MedTech supplier companies and is under continual development. Today almost 200,000 implantable products are specified in the library, enabling accurate implant documentation and reporting.
- **Quality assurance:** Improving the quality of what we are doing is everyone's responsibility. It is based on standard benchmarking reporting (APPENDIX I) broken down by physician, department, hospital, country etc.
- **Flexibility of the application:** Any additional specialised questionnaires may be added to the registry as a nested study or registry.
- **IT infrastructure:** May be set up locally for national projects incl. content adaptations.
- **Research:** 72 original papers have already been published and many are in preparation, developed by the international research network of the registry. Among other awards, the Spine Tango article was awarded the *Outstanding Full Paper Award* by *Spine Journal* in 2016. Also, research funding has been granted for several projects.
- **National initiatives:** The Belgium Spine Society has started a pilot project for a national registry based on the Spine Tango content. Similarly, the Swiss Spine implant registry, SIRIS Spine, which is under development to be piloted in 2020, is based on the Spine Tango registry.

## 2 Mission of the ST Registry

- Improving spine care by measuring, observing and comparing treatment of various spinal pathologies
- Providing performance benchmarking and developing a collective evidence base of treatment effectiveness, patient safety and best practice based on real life data

## 3 Key Benefits

### 3.1 Key Benefits for Individual Users

- **EUROSPINE's approach for registering spinal treatments**, incl. common language across borders (data structure, terms, definitions, outcome measures, implant specifications etc.)
- **Personal research database**
- **Access to a variety of valuable functions:**
  - **User, hospital and national benchmarking reports** (APPENDIX I) comparing data to pooled data from other European hospitals
  - **Online statistics**
  - **Dashboard** showing frequent statistical requests
  - **Quick links** to frequently used tasks (e.g. incomplete forms)
- **Access to the registry data for research purposes** (over 750,000 forms from five continents have been collected)
- **Participation in an international research network**
- **Ability to register any surgical and conservative spinal treatment** in a structured way
- **Access to numerous outcome instruments in various languages** (COMI, Oswestry, NDI, EQ3D, SF36, SRS30 etc.)
- **Evidence of your performance including feedback to users** through online statistics and regular benchmark reports (APPENDIX I) as quality assurance instruments
- **Modern and continually evolving registry platform:**
  - Compliant with the European General Data Protection Regulation (GDPR)
  - Highest standards in information security (ISO27001)
- **Registry platform as a web application** (no specific hardware required; the registry may be accessed from any location via the internet)
- **Electronic outcome collection using ePROMs** (automatically sends forms to patients via email and/or smartphone on a scheduled basis with no administrative burden for hospitals)

- **Access to the pan-European Implant Library:**
  - Facilitates compliance with the European Union Medical Device Regulation with minimal burden to clinicians and hospitals
  - Allows automatic and high-quality recordkeeping for every implant device using an industry-supported implant library and barcode scanning facility
- **Access to prognostic models to predict patient outcome**, supporting informed decision-making and fostering realistic patient expectations

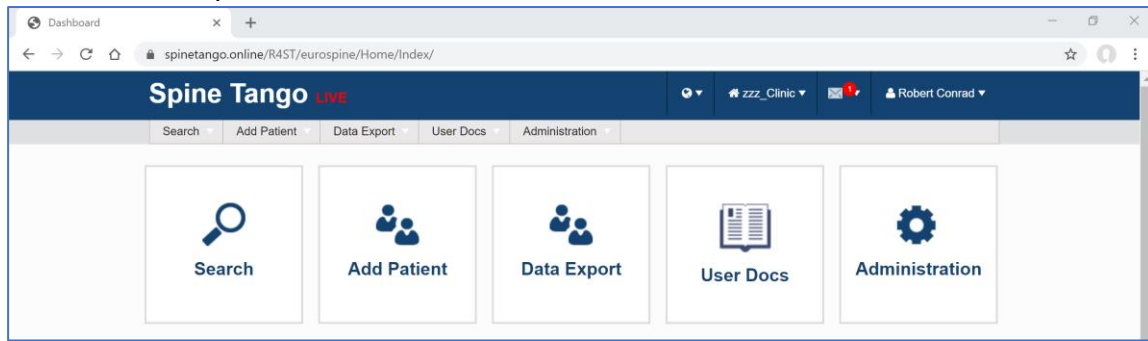
### 3.2 Specific Benefits for National Spine Societies

- **Access to available data, know-how and infrastructure incl. European Implant Library** (make it your own)
- **Data aggregation to produce statistically robust analyses sooner** (e.g. for national surveillance purposes)
- **‘Develop once and share’ platform features:** Access to the European Spine Registry generic services including all existing and future tools and functions at no additional cost
- **Flexible modular approach** that allows societies to tailor the registry to their individual needs while ensuring a minimal set of common data
- **Ability to create a personalised spine registry** based on Spine Tango content and infrastructure (optional)
- **Personal database**
- **Quality assurance and research tool** as well as proof of performance
- **Opportunity to develop national best practice standards** in spine care
- **Continuous collaborative development of the registry approach** in accordance with society needs
- **A full voting position on the Spine Tango Task Force** (Spine Tango governance responsible for further development of the registry)
- **Innovative financial model** (medium-term) based on subscription funding from industry reporting that applies certain income to reduce registry costs, registration costs and/or yield shared profits, after fixed costs have been covered (under development)

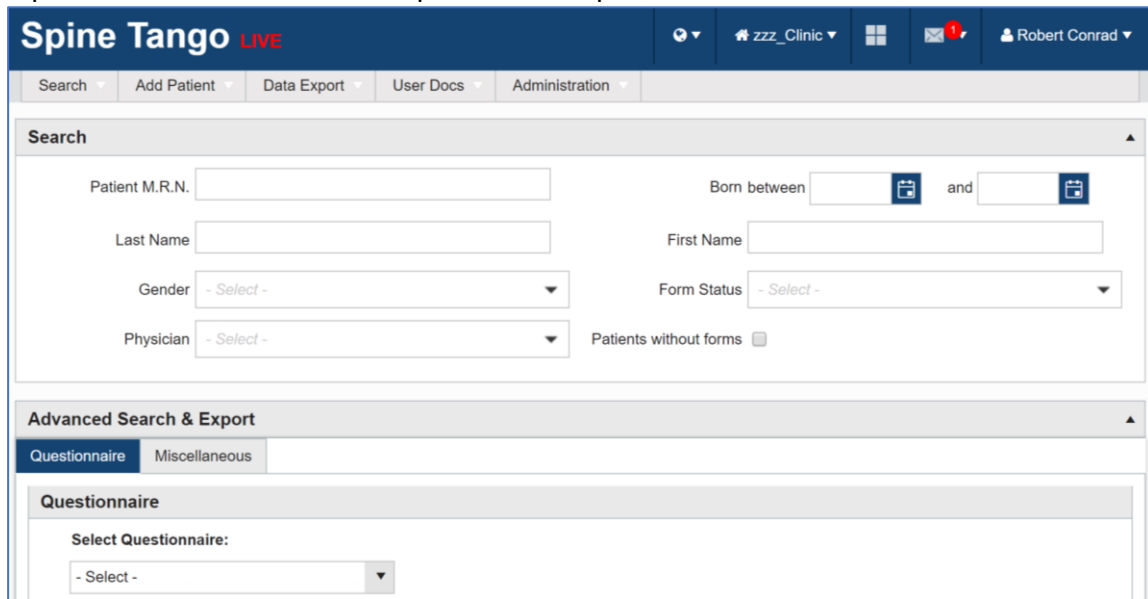
## 4 Impressions of the ST Registry

The following screen shots are made from the web interface of the ST registry.

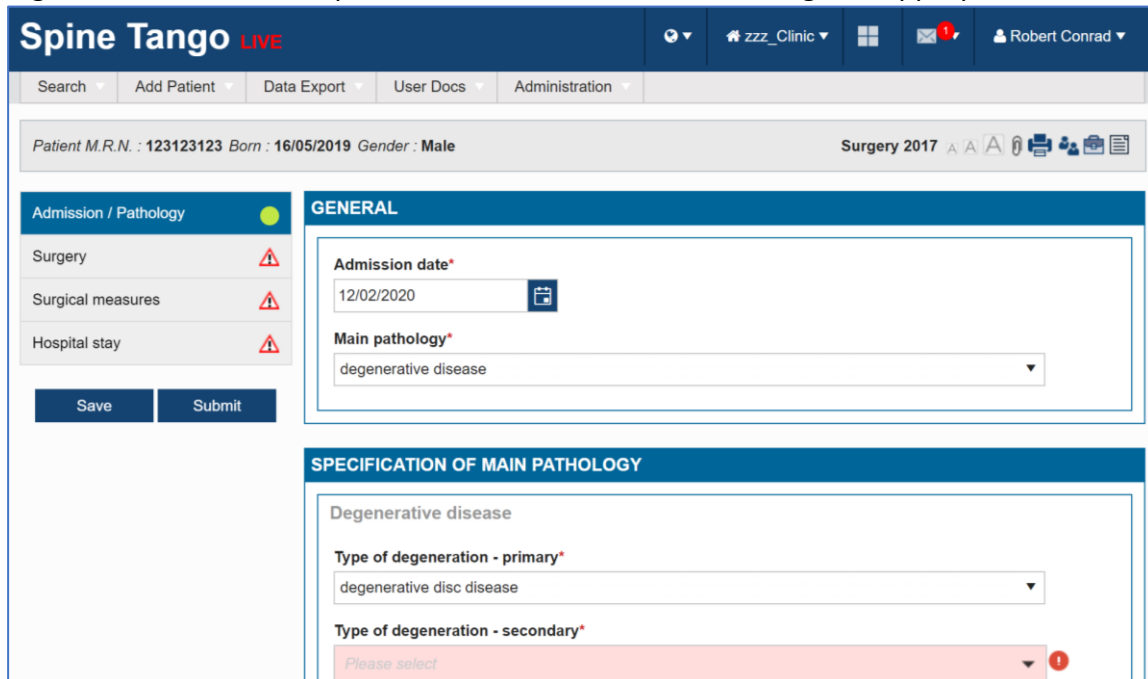
The user-friendly dashboard:



A powerful search mask to find patients and questionnaires:



A guided documentation procedure with indication on missing or inappropriate data:



The surgery and conservative forms as well as the key patient reported outcome measure forms can be found [here](#).

## 5 Models of Collaboration with National Societies

There are four models how a national society can collaborate with the Spine Tango registry.

	Basic	Basic Plus	Independent Registry	Customised Registry
Description	<ul style="list-style-type: none"> <li>✓ This model is based on the common simple use of the existing application, its functions, reports and other services.</li> </ul>	<ul style="list-style-type: none"> <li>✓ This model differs from the basic model with the option of additional services that may be separately agreed upon with EUROSPINE.</li> <li>✓ A written agreement will be required.</li> <li>✓ A variety of additional services may be offered. For example, benchmarking of national data to the rest of the world, individualised national reports, central scanning of paper forms, national coordinator, extended data structure etc.</li> </ul>	<ul style="list-style-type: none"> <li>✓ This model allows the establishment of a separate – politically and technically – independent registry (not under the control of EUROSPINE) based on Spine Tango content.</li> <li>✓ It mirrors the Spine Tango registry.</li> <li>✓ Such a registry may be modified based on a society’s own concept.</li> <li>✓ A technical set-up of the registry is done by the interested national society.</li> </ul>	<ul style="list-style-type: none"> <li>✓ This model has a wide variety of implementation options and is therefore contingent on the requirements of the new registry.</li> <li>✓ Technical set-up is performed by EUROSPINE</li> <li>✓ Registry content and services may be tailored with a high degree of flexibility to meet the requirements of the new registry.</li> </ul>
Provider	<ul style="list-style-type: none"> <li>✓ Northgate</li> </ul>	<ul style="list-style-type: none"> <li>✓ Northgate</li> </ul>	<ul style="list-style-type: none"> <li>✓ Northgate or an alternate provider</li> </ul>	<ul style="list-style-type: none"> <li>✓ Northgate</li> </ul>
Costs	<ul style="list-style-type: none"> <li>✓ Free of charge and open to any EUROSPINE member or colleagues who apply for EUROSPINE membership within 1 year of registration.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Some fees may apply depending on the required additional services.</li> </ul>	<ul style="list-style-type: none"> <li>✓ The content of the registry is licenced to the society for €10,000 annually based on an agreement between EUROSPINE and the licensing society.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Dependent on requirements, which are highly flexible.</li> </ul>

## 6 Trend Towards Mandatory Registries

- Documentation of spine care to evidence performance is being made mandatory in more and more countries
- New Medical Device Regulation requires spinal implants in Europe to collect real life-cycle data

Most of us are collecting some data and doing some quality assurance and research. Why not join forces to foster a common language in spine care?

## 7 Application Provider: Northgate Public Services Ltd. in UK

The Spine Tango application is delivered through Northgate Public Services (NPS). Northgate hosts a number of medical registries such as the National Joint Registry (NJR), which is probably the largest orthopaedics registry in the world with more than 2 million patient records, and the Indian Joint Registry (IJR) – all of which collect data to help clinicians, regulators and industry deliver evidence-based treatments for patients.

For more information please visit

- [News: Evidence to improve outcomes for spinal patients with EUROSPINE registry](#)
- [Information on NPS and NPS Registry Solutions](#)

## 8 How to Join the Registry?

Individual users and hospitals using the basic model can join the registry in 3 steps:

### Step 1



Download and complete the [Hospital/User Registration Form](#)

### Step 2



Download, read, complete and sign the [General Terms & Conditions](#) (see help for assistance).

### Step 3



Send both completed forms to [spinetango@eurospine.org](mailto:spinetango@eurospine.org).

For more information please visit <https://www.eurospine.org/spine-tango-new-users.htm>

## 9 Contact

For further questions please contact Robert Conrad ([spinetango@eurospine.org](mailto:spinetango@eurospine.org); +49 176 58 22 23 15) or visit [www.eurospine.org/spinetango](http://www.eurospine.org/spinetango).

## 10 APPENDIX I: Sample Quarterly Benchmarking Report

This appendix is an extract of a few pages out of a benchmarking report for an example hospital. The benchmarking report is produced for every hospital quarterly. It describes the registered cases including their diagnosis, treatment and outcomes (like complications and preop and postop pain levels at different time points) by pathology and benchmarks the results to the pooled Spine Tango data.

For more details, please see the next pages.



# Hospital Report

## Example Hospital

Containing usage data up to **31/12/2019**  
Created on **15/05/2020**

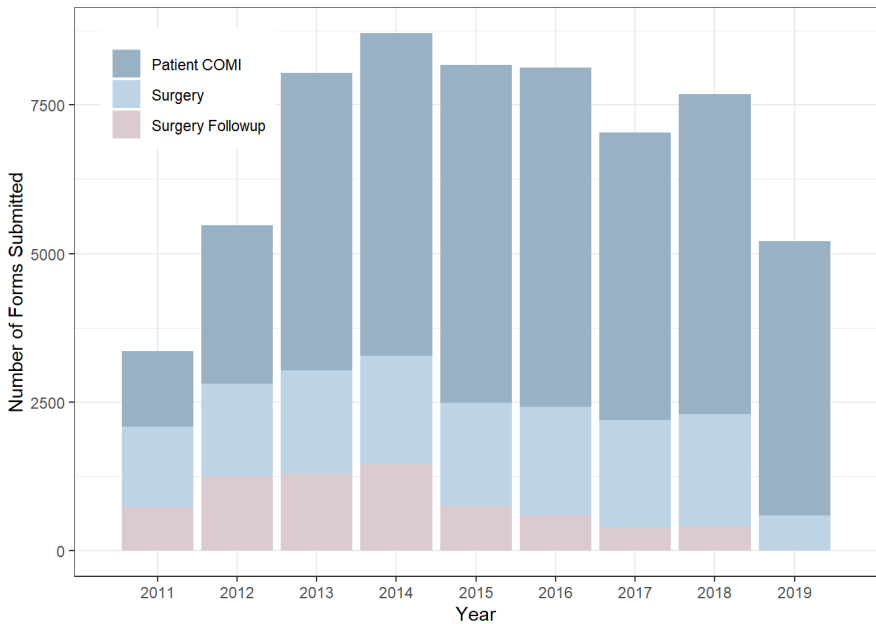
## Contents

Activity Overview .....	2
Consultant Activity .....	3
Level of Procedure .....	4
Main Pathology .....	5
Degenerative Disease .....	6
Preoperative Profile .....	7
Perioperative Profile .....	8
Surgical Measures .....	9
Surgical Complications .....	10
Pre and Postoperative COMI Scores .....	11
COMI Domain Improvement - Cervical .....	12
COMI Domain Improvement - Lumbar .....	13
Adverse Events .....	14
Dural Lesions (Funnel Plot) .....	14

This report has been produced by EUROSPINE. This report is subject to the Spine Tango Subscriber Services Terms and Conditions. This analysis must not be released to any third party, unless directly employed by the Supplier, without the written permission of EUROSPINE.

# Activity Overview

First Recorded Procedure	13/02/2011
Last Recorded Procedure	22/05/2019
Number of Procedures	14340
Number of Patients	12545



	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Patient COMI	1274	2670	5005	5427	5686	5700	4836	5376	4609	40583
Surgery	1358	1555	1744	1820	1740	1818	1806	1902	597	14340
Surgery Followup	731	1254	1292	1458	751	605	394	402	0	6887
<b>Total</b>	<b>3363</b>	<b>5479</b>	<b>8041</b>	<b>8705</b>	<b>8177</b>	<b>8123</b>	<b>7036</b>	<b>7680</b>	<b>5206</b>	<b>61810</b>

# Perioperative Profile

	Characteristic	This Department	Spine Tango
Blood Loss	Unknown	8.4% (1,199)	9.1% (10,653)
	< 100ml	69.7% (9,965)	38.4% (44,959)
	100-500ml	19.4% (2,774)	39.9% (46,709)
	500-1000ml	1.7% (244)	8.5% (9,932)
	1000-2000ml	0.6% (90)	3.1% (3,653)
	> 2000ml	0.2% (26)	1.0% (1,216)
Blood Transfusion	None	93.8% (12,175.0)	85.3% (61,981)
	< 2 units	0.6% (79.0)	1.4% (1,049)
	>= 2 units	0.3% (45.0)	2.0% (1,470)
	Cell Saver	0.3% (39.0)	7.7% (5,595)
	Unknown	5.0% (643.0)	3.5% (2,534)
Technology	Conventional	26.7% (5,084)	36.5% (54,691)
	MISS/LISS	0.8% (152)	11.2% (16,836)
	3D Imaging	0.1% (11)	7.3% (10,985)
	Endoscope	6.0% (1,147)	15.4% (23,021)
	CASS Navigation	0.3% (48)	0.5% (775)
	Microscope	56.2% (10,705)	24.8% (37,108)
	Neuromonitoring	0.9% (174)	3.7% (5,474)
	Other	9.0% (1,713)	0.6% (953)
Operation Time	Unknown	1.5% (220)	2.1% (2,415)
	< 1 hour	34.0% (4,868)	25.3% (29,562)
	1-2 hours	45.4% (6,486)	35.7% (41,704)
	2-3 hours	12.1% (1,734)	18.5% (21,647)
	> 3 hours	6.9% (991)	18.4% (21,457)
Posterior Access	None	17.9% (2,563)	16.2% (19,645)
	Midline	76.0% (10,880)	70.1% (85,047)
	Paramedian	5.5% (794)	9.7% (11,751)
	Posterolateral	0.2% (22)	1.6% (1,966)
	Para-coccygeal (AxiALIF)	0.4% (58)	2.1% (2,568)
	Other	0.0% (5)	0.3% (379)

# Adverse Events

Adverse Event	This Department	Spine Tango	Expected	p-value
Nerve Root Damage	0.3% (42)	0.2% (165)	29	0.019
Spinal Cord Damage	0.0% (3)	0.1% (41)	7	0.135
Dural Lesion	6.5% (846)	4.3% (3,230)	563	< 0.001
Vascular Injury	0.1% (9)	0.1% (86)	15	0.153
FX Vertebral Structures	0.0% (3)	0.1% (89)	16	< 0.001
Other	0.4% (58)	0.6% (434)	76	0.044

## Dural Lesions (Funnel Plot)

