



DOI: 10.5137/1019-5149.JTN.14945-15.1

Received: 11.05.2015 / Accepted: 18.06.2015

Published Online: 26.04.2016

Original Investigation

Spine Tango in Turkish: Development of a Local Registry System

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ABSTRACT

AIM: Successfully established registry systems, rather than personal efforts to collect data, are required to record, analyze, compare and secure patient related data. Unfortunately, our country does not have such patient registry systems for spinal pathologies and surgeries at this time. In order to fill this gap in patient management in Turkey, the authors adopted already established Spine Tango registry system in a unique way answering the requirements of our health system. This article aims to present the adaptation process of Spine Tango forms for use in Turkish and describe the first implementation with 50 patients treated for spinal pathologies in a tertiary referral center.

MATERIAL and METHODS: In 2011, an effort was initiated by the first author to translate the original Spine Tango forms into Turkish. Funding for this project was provided by authors themselves. With the assistance of a Spine Tango team, the translation process was completed. The Turkish forms were then used in an academic institution with a high spinal workload. A local solution was developed by the authors using commercially available software and mobile instruments. This system was tested with 50 spine patients from June 2012 to January 2013.

RESULTS: The analysis of the data gathered using the new Turkey Spine Tango registry system was successful.

CONCLUSION: In an environment of exponentially increasing medical data, successfully established registry systems have the potential to facilitate patient management. The authors recommend the use of Turkish Spine Tango forms for clinics performing spinal interventions.

KEYWORDS: Electronic medical records, Patient registry, Spine tango

INTRODUCTION

As the use of technology increases, the amount of data that we are exposed increases exponentially every day. Access to healthcare has also increased throughout the world, especially in developing countries. Together, these changes result in an enormous accumulation of medical data. Careful handling and evaluation of this data with user-friendly and subject-focused registry systems is necessary to provide satisfactory patient management.

Spine Tango is an established patient registry system developed under supervision of the Spine Society of Europe. It is constructed to collect data from world-wide contributors and aims at improving patient management by analyzing the collected data of individual users and the complete data pool.

This paper describes the successful adaptation of a patient registry system specifically designed for spine pathologies, Spine Tango, into Turkish. The authors share their experiences with Spine Tango and provide some suggestions regarding the registry system.



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■ MATERIAL and METHODS

Preparation of Translations and Data Recording

The study was designed to record data from 50 consecutive patients with complex spinal pathologies using the Spine Tango data structure. The primary aim was to determine the usability of the Turkish versions of the Spine Tango forms. After preparation of the recording system described below, data collection began in June 2012 and concluded in January 2013 when data from 50 patients had been collected. Patients requiring staged surgeries were excluded from this study.

English versions of the surgery and follow-up forms were translated into Turkish with the assistance of the Spine Tango team. We did not follow a validated, scientific translation methodology for the forms, mainly because of their “physician-based” nature. After translating the original forms into Turkish, the Spine Tango team constructed Turkish forms in a portable document format (PDF) with a layout similar to that of the original English forms (see PDF file, Supplemental Digital Content 1, which shows a sample of Spine Tango form in Turkish in the online version of the paper). The forms were then published on the Spine Tango web page (web link: <http://www.eurospine.org/p31000375.html>). These forms served as templates for data recording.

The Spine Tango developers have constructed a web-based system in which you can record patient data through a web interface to Spine Tango servers. These servers handle all aspects of data management and evaluation. However, to use this functionality, you must transfer your data either to a remote server located in another country or to a server located elsewhere in the users own country. Although the Spine Tango system provides strict security requirements based on the current internet technology, our institution felt uncomfortable in terms of medico-legal concerns regarding the collection and sharing of medical data in our country, we were not able to use powerful online features of the system. These limitations lead us to develop a local system for easy data handling based on the available Spine Tango forms.

To develop such a system, we first structured a user-friendly data collection environment to facilitate data capture and collection. To achieve this goal, a page layout was designed using MS Word (Microsoft Office Professional Plus 2010, Microsoft Cooperation, Washington, USA), and then the files were imported to Adobe Acrobat Pro software (version 11, Adobe, California, USA). The built-in “form preparation” function of Adobe Acrobat was used to produce forms with drop-down menus, radio buttons and checkmarks. Additionally to prevent incorrect data entry we applied data validation rules to the forms. The question format and data structure of the forms we developed were similar to the original paper forms; however, due to some limitations of the software, the page layouts were different (see PDF file, Supplemental Digital Content 2, which shows a sample PDF form used in this study in the online version of the paper).

The translated electronic forms were then transferred to a handheld tablet (iPad 2, Apple, California, USA) to provide mobility to the recorder. The forms were completed at the

patient’s bedside or in the operating theater immediately after the surgical intervention using a commercially available application called “PDF Expert” (Igor Zhadanov, Version 4.3, retrieved from <https://itunes.apple.com/us/app/pdf-expert-fill-forms-annotate/id393316844?mt=8>).

For each patient, the surgeon recorded the interventions and other data required by Spine Tango. The measurement of time required to fill forms was performed in two steps. First the time passed during form filling at initial admission to the clinic was recorded. Then the time passed for recording surgical intervention details was recorded and the total time required filling whole forms was reported. Measurements were performed by an observer blinded to the process.

The data for each patient were collected as PDF files and recorded with a patient-specific identifier using the “save as” function of the “PDF Expert” software. This approach was also used for the follow-up forms at the initial follow-up visit typically performed 3 months after surgery.

The described system can be used by as many surgeons as required. We performed data collection for two surgeons from our clinic. The differentiation of record from each surgeon was performed simply adding an identifier to the name of the recorded final file in the PDF software.

After collecting data for 50 patients, the preliminary work of patient recording was complete. One hundred PDF files were collected; half for surgical data and the other half for follow-up data. The forms were then transferred to a desktop computer and using a built-in functionality of the Adobe Acrobat software, the data were exported to IBM SPSS Statistics for Windows (version 21.0, IBM, Armonk, NY) in spreadsheet format, and statistical analyzes were performed.

The follow-up forms suggested by Spine Tango primarily rely on physician judgment to determine the success rate of the surgical intervention, which is rated as poor, fair, good or excellent. Additionally, users can record the “therapeutic goals” of surgery preoperatively and then select “achieved”, “partially achieved” or “not achieved” in the follow-up form. The absence of an objective assessment scale for outcome is a major drawback of the current Spine Tango system. Although the online infrastructure permits additional questionnaires that include the COMI or Oswestry scale to be added to achieve a more objective assessment of outcomes, this approach requires the completion of additional forms pre- and postoperatively. Although, only surgery and follow-up forms of the Spine Tango system used in this study do not provide such functions, with the described development processes such quantitative forms can also be added to the current forms with ease. For now, we just wanted to see if such an effort is feasible and will be successful. Our goal is to expand the usage of this system.

In an attempt to quantify aforementioned subjective approach, we developed a quantitative formula to measure the success of the surgical results based on the number of achieved and partially achieved therapeutic goals. First, we recorded our therapeutic goals for each patient in the surgical form, and then, during the follow-up period, we recorded whether

these goals had been “achieved”, “partially achieved” or “not achieved” based on the radiological and clinical findings. Then, we developed the following simple formula to determine the overall success rate:

$$\left(\frac{\text{No of Achieved Goals}}{\text{No of Preoperative Goals}} \times 100 \right) + \left(\frac{\text{No of Partially Achieved Goals}}{2 \times \text{No of Preoperative Goals}} \times 100 \right)$$

Statistical Analyses

Descriptive statistics included the mean, standard deviation and median. The parametric data were analyzed using ANOVA and t-tests, and the Kruskal-Wallis and chi-square tests were applied to the non-parametric data. A p value of less than 0.05 was considered statistically significant.

RESULTS

The main objective of this work was to demonstrate the technical background of the data recording system development and the adaptation of the Turkish forms. For this reason, we do not report the statistical analyzes of patients in this paper. For those who are interested in the results obtained for these 50 patients, a supplementary file accompanies this paper (Tables I-V). Other data relevant to the purpose of this paper are summarized below.

The data handling infrastructure described above cost less than \$1,500 US. The tablet, desktop computer, remote back-up disc and software were the primary expenditures. No other personnel worked on this project, and all of the systems were developed by the authors of this paper.

The mean length of time to complete the forms was 14.7±3.61 minutes (median 14.5, range 9-23 minutes). The time required to complete the form for each “main pathology” is shown in Figure 1. Recurrent surgery patients required more time than other patients; however, the difference was not statistically significant (p=0.283)

All of the surgeries were performed by one of two surgeons; Surgeon 1 performed 26 surgeries (52%), and Surgeon 2 performed 24 (48%). No significant differences in gender distribution (p=0.98), patients’ age distribution (p=0.44), surgical time (4 hours as the cutoff point, p=0.698), blood loss (1,000 ml as the cutoff point, p=0.934), need for blood transfusion (p=0.674), BMI distribution (27.34 as the cutoff point, p=27.34) or the use of an O-arm system (p=0.674) were detected between the surgeries performed by the two surgeons.

The mean follow-up time of the patient group was 3.9±1.9 months (range 0.69-7.78 months).

The results of the proposed “success rate” calculation was as follows: in the preoperative period, 193 therapeutic goals were set by the surgeons for the 50 patients. Of these goals, 133 were achieved (68.91%), 46 were partially achieved (23.83%) and 14 (7.24%) were not achieved. The mean overall success rate based on the aforementioned formula was calculated as 80.20% ± 19.05 for this patient cohort. The bar graph in Figure 2 shows the achieved and not achieved therapeutic goals. The success rates of the two surgeons were not significantly

different (p=0.089). Additionally, there was no difference in terms of success between patient groups classified according to the type of main pathology (p=0.487), surgery time (p=0.108), O-Arm usage (0.684), body mass index (p=0.631) preoperative morbidity status (p=0.88), or gender (p=708). The mean overall success rate calculated for the patients that encountered complications was 73.92% ± 23.32.

DISCUSSION

Medical knowledge stems from various sources including experiments with humans and animals as well as the personal

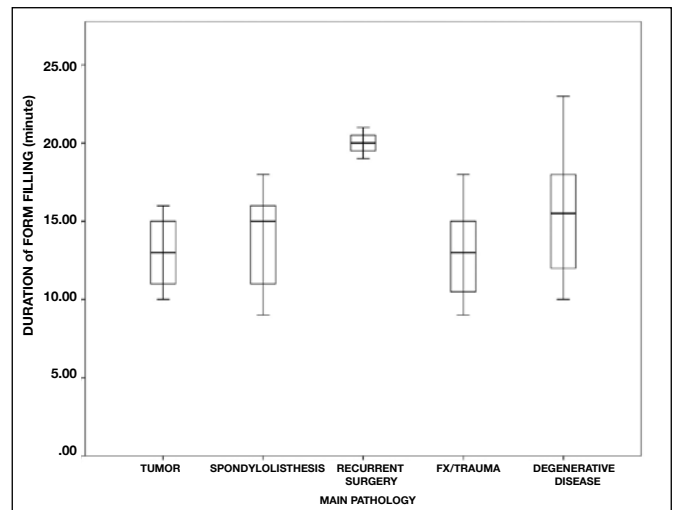


Figure 1: Box plot demonstrating time required for filling each form versus each “main pathology”.

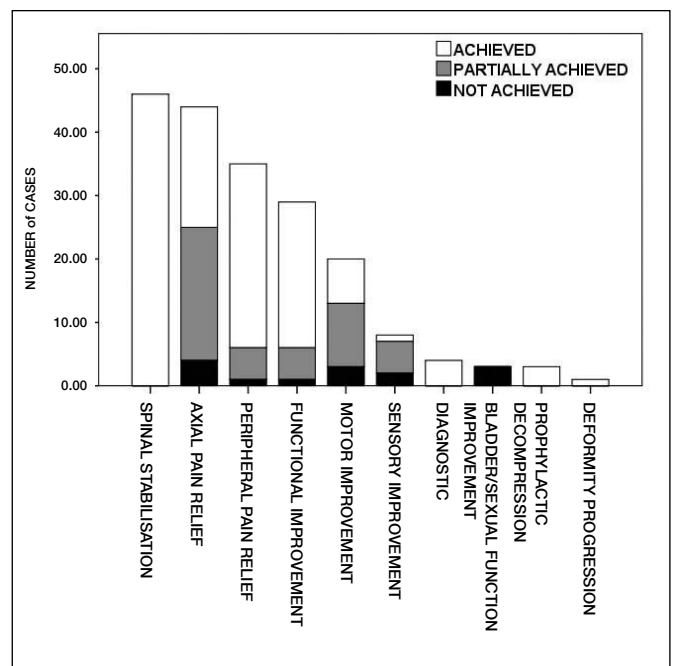


Figure 2: Bar graph demonstrating number of preoperative, achieved, partially achieved and not achieved treatment goals.

experiences of physicians. However, information based on animal studies has severe limitations because its adaptability to human subjects is almost impossible. In contrast, information gathered from humans is invaluable and provides information that cannot be collected from animals. Today, especially in developed countries, some type of medical data related to diseases is collected from the majority of the population. Tremendous volumes of data are generated every day, requiring proper data management procedures (2).

Today, most developing countries use medical data from developed countries to plan their own health systems. This largely arises from the absence of sufficient infrastructure for data collection and management. Unfortunately, this situation produces a gap between knowledge and practice since developing countries do not have medical data derived from

their own national population. This problem also diminishes their contribution to international science and increases their dependency on more developed nations.

The process of data management, particularly in a field such as medicine, is demanding. It requires dedicated personnel and significant funding to collect, store and interpret data. Furthermore, concerns about the security of personal data increase the burden. In our opinion, this issue should be handled as a health policy with governmental involvement.

There are various examples of successfully established registry systems throughout the world, especially in developed countries, that have helped improve established treatment protocols (3). In 2000, under the supervision of the Spine Society of Europe, a registry including all major spine pathologies and interventions was developed and is referred to as "Spine

Table I: Data Derived from "Admission/Pathology" Part of the Spine Tango Surgery Form

	n	% of cases
Age (years)		
Mean	51.68	
Std. Dev.	14.59	
Median	52	
Range	14-78	
Duration of hospitalization (day)		
Mean	5.24	
Std. Dev.	3.12	
Median	4	
Range	1-14	
Time between admission and surgical intervention (day)		
Mean	1.48	
Std. Dev.	1.52	
Median	1	
Range	1-7	
	n	% of cases
Gender		
Female	35	70
Male	15	30
Level of Main Pathology		
Lumbar	25	50
Thoracic	9	18
Lumbosacral	6	12
Mid-Lower Cervical	5	10
Thoracolumbar	5	10
Main Pathology		
Degenerative Disease	26	52
Fracture/Trauma (all C3/L5S1 fx)	12	24
Recurrent Surgery	3	6
Spondylolisthesis	5	10
Tumor (All secondary malignancy)	4	8
Type of Degeneration		
Degenerative spondylolisthesis	21	19.3
Degenerative disc disease	20	18.3
Pathology		
Foraminal stenosis	20	18.3
Central stenosis	18	16.5
Disc herniation	15	13.8
Facet joint arthrosis	9	8.3
Lateral stenosis	5	4.6
Myelopathy	1	0.9
Type of Spondylolisthesis		
Type 1	1	2
Type 2	4	8
Type 3	22	44
Type 4	1	2
Type 5	0	0
Type 6	3	6
Grade of Spondylolisthesis		
Grade 1	20	40
Grade 2	11	22
Number of Previous Spine Surgeries		
Previous surgeries at same level	7	14
Previous surgeries at same hospital	5	10
BMI		
<20	3	6
21-25	10	20
26-30	23	46
31-35	12	24
>36	2	4
BMI		
Mean	27.78	
Std. Dev	4.32	
Range	17.72-39.06	
Current smoker		
	13	26

Tango.” The technological infrastructure of the system was developed to bypass or at least diminish the dependence on paper-based records and to reduce the required human and financial resources. According to a report published in 2011, the international Spine Tango registry included almost 50,000 cases, and it continues to grow (4). The main reason why we choose Spine Tango to adapt is its proven nature in terms of ability in collecting almost all aspects of spine related issues. However, as in any other patient registry infrastructure, it has some problems.

Table II: Data Derived from “Surgery” Part of the Spine Tango Surgery Form

	n	% of cases
Treatment Aims		
Spinal stabilization	46	92
Axial pain relief	44	88
Peripheral pain relief	35	70
Functional improvement	29	29
Motor improvement	20	40
Sensory improvement	8	16
Diagnostic	4	8
Prophylactic decompression	3	6
Bladder/sex. Function improvement	3	6
Stop deformity progression	1	2
Approach		
Anterolateral	4	8
Posterolateral	4	8
Posterior midline	42	84
Morbidity State		
ASA 1	29	58
ASA 2	15	30
ASA 3	6	12
Technology used		
Microscope	25	50
O-arm	22	44
Computer assisted (Navigation)	1	2
Neuromonitoring	2	4
Operation time		
<1 hour	1	2
1-2	3	6
2-3	9	18
3-4	10	20
4-5	19	38
5-6	5	10
6-7	3	6
Blood loss		
100-500 ml	9	18
500-1000 ml	13	26
1000-2000 ml	23	46
>2000 ml	7	14
Blood transfusion		
None	37	74
<2 units	4	8
≥2 units	9	18

Table III: Data Derived from “Surgical Measures” Part of the Spine Tango Surgery Form

	n	% of cases
Decompression		
None	5	10
Anterior	4	8
Posterior	14	28
Both	27	54
Decompression Method		
Laminectomy	32	64
Flavectomy	31	62
Facet joint resection partial	26	52
Foraminotomy	25	50
Discectomy	23	46
Vertebrectomy partial	12	24
Facet joint resection full	8	16
Hemilaminectomy	9	18
Sequestrectomy	4	8
Tumor decompression	4	8
Ligamentotaxis (Recorded as other)	3	6
Uncoforaminotomy	2	4
Osteotomy	1	2
Fusion promoting measures		
None	0	0
Anterior	6	12
Posterior	41	82
Both	3	6
Fusion Material		
Bone substitute	43	86
Autol. Bone locally procured	35	70
Autol. Bone harvested	1	2
Cement	1	2
Stabilization rigid		
None	1	2
Anterior	5	10
Posterior	40	80
Both	4	8
Rigid stabilization method		
Pedicle screw with rod	43	86
Plates	6	12
Interbody stabil. With cage	5	10
Vertebral body replacement by cage	4	8
Lateral mass screw with rod	1	2
Extent of surgery (Number of levels that were incorporated to fusion or number of segments that undergo surgical intervention)		
Mean		3.6
Std. Deviation		1.17
Median		3
Range		2-6

Table III: Cont.

	n	% of cases
Intraop surgical complications		
Dura lesion	4	8
Other		
Implant malposition (Corrected at the same session)	4	8
Wrong level (Corrected at the same session)	1	2
Pneumothorax	1	2
Intraop general complications		
Anaesthesiological	1	2
Pulmonary	1	2
Other		
Neuropraxia	1	2

Table IV: Data Derived from “Hospital Stay” Part of the Spine Tango Surgery Form

	n	% of cases
Postop surgic. compl. before discharge		
Implant malposition	3	6
Motor dysfunction	2	4
Radiculopathy	1	2
CSF leak	1	2
Other hematoma	1	2
Reintervention after index surgery (During same hospitalization)		
Hematoma evacuation	1	2
Hardware re-implantation	3	6
Hospital stay		
Uneventful	40	80
ICU > 2 days	1	2
Extended stay	9	18
Status of surg. complications		
No complication	35	70
Resolved	4	8
Improved	6	12
Persisting	5	10

Like most of the world, Turkey also needs such medical registry systems. Although there have been previous attempts to establish such a system in our country (5), no system similar to Spine Tango is in current use. Because of Spine Tango's established efficacy and 10 years of history, we thought that translation of the Spine Tango forms into Turkish could increase its usage and help Turkey physicians collect data and analyze their own results. With its growing population of over 75 million people, Turkey is one of the biggest “developing countries”, with great potential to produce valuable medical data. The spine interventions in our country are mainly performed by neurosurgeons as well as by a limited number

of orthopedic surgeons. Except in deformity cases, most of the spinal surgeries are performed in neurosurgery clinics. Although there have been various joint attempts, currently there is no “spine surgery” training program providing solely spinal education to residents or fellows. In an environment such as that, Turkish Spine Tango may provide invaluable data and promote the development of spinal surgery in our country. In addition to aiding education, a registry system such as Spine Tango may permit comparisons among clinical management protocols of different clinics. It may also lead to protocol changes based on the evaluation of large-scale data on performance and hazards of interventions.

The current study was undertaken to demonstrate that the Spine Tango forms can be used in the context of Turkish spinal surgery. Our experience with Spine Tango forms during this past year was promising and largely successful. However, we did encounter some problems. A major drawback of this study was its local nature. The main obstacle that we encountered was concern about transferring local, private data to a remote server in another location. This problem stemmed from current medico-legal concerns in our country; however, this problem revealed its own solutions. The original Spine Tango system was structured for secure online data entry and statistical analyzes. Without this feature, the workload required by the current Turkish version of the registry is increased; however, we solved this problem with the help of today's software and mobile technologies, as explained above. We were able to successfully develop a simple and feasible computer-based solution to aid the process. The first suggestion of our Spine Tango team was to develop a more flexible infrastructure. For physicians who do not want to use a remote service, local solutions based completely on current forms should be developed. Mobile applications (i.e. iOS and Android applications that can be used with handheld tablets) may increase the usage of the system.

We are aware of the importance of centralized international data registries. Pooling data from all over the world may increase medical knowledge in a rapid and more accurate way. Although this paper demonstrates a limited, local experience, we believe that the proposed infrastructure in this study may serve as a starting point for development of large scale registry system in our country.

Additionally, we suggest the following changes be made to the forms:

1. For the section regarding “technology”, an option for the O-Arm (or similar real-time imaging modalities) and Spinal Navigation should be included. These systems are widely available today and have a great potential for improving patient management.
2. We feel that an option for preoperative and postoperative neurological examination should be included as well. We realize that a thorough examination report will not serve to the purpose of the system and will produce unnecessarily longer forms. However, a simple documentation of the patient's neurological status including key muscles and dermatomes can provide relatively quantitative data.

Table V: Data Derived From “Hospital Stay” Part of the Spine Tango Surgery Form

			n	% of cases
Follow-up time (months)				
Mean		3.9		
Std. dev		1.9		
Median		3.6		
Range		0.6-7.7		
<hr/>				
			n	% of cases
Work status				
Housewife	19	38		
Not at work since op	15	30		
Retired before op	8	16		
Fully reintegrated	3	6		
Resumed work, different job	2	4		
Started partially, same job	1	2		
Child/student	1	2		
<hr/>				
Therapeutic goals/measures achieved				
Spinal stabilization	46	92		
Axial pain relief	19	38		
Peripheral pain relief	29	58		
Functional improvement	23	46		
Motor improvement	7	14		
Sensory improvement	1	2		
Diagnostic	4	8		
Prophylactic decompression	3	6		
Bladder/sex. Function improvement	0	0		
Stop deformity progression	1	2		
<hr/>				
Therapeutic goals/measures partially achieved				
Spinal stabilization	0	0		
Axial pain relief	21	42		
Peripheral pain relief	5	10		
Functional improvement	5	10		
Motor improvement	10	20		
Sensory improvement	5	10		
Diagnostic	0	0		
Prophylactic decompression	0	0		
Bladder/sex. Function improvement	0	0		
Stop deformity progression	0	0		
<hr/>				
Therapeutic goals/measures not achieved				
Spinal stabilization	0	0		
Axial pain relief	4	8		
Peripheral pain relief	1	2		
Functional improvement	1	2		
Motor improvement	3	6		
Sensory improvement	2	4		
<hr/>				
Diagnostic				
Diagnostic			0	0
Prophylactic decompression			0	0
Bladder/sex. Function improvement			3	6
Stop deformity progression			0	0
<hr/>				
Medication for spinal surgery/pathology				
None			32	64
NSAII			12	24
Other			7	14
Antibiotics			5	10
Antidepressants			1	2
Opiates			1	2
<hr/>				
Rehabilitation				
None			7	14
Home based			31	62
Outpatient rehab/physio			6	12
Inpatient rehab/physio			6	12
<hr/>				
Overall outcome (Examiner)				
Poor			7	14
Fair			0	0
Good			17	34
Excellent			26	52
<hr/>				
Complication (Reported or realized at follow up visit)				
Yes			14	28
No			36	62
<hr/>				
Complication time				
Early, op-day-28 days postop			14	28
Sub-acute, 2-6 months			0	0
Late, >6 months			0	0
<hr/>				
Complication type				
Wound infection superficial			8	16
CSF leak			6	12
Wound infection deep			3	6
Recurrence of symptoms			1	2
Motor dysfunction			1	2
Implant malposition			1	2
Sensory dysfunction			1	2
<hr/>				
Other				
Secondary gain			1	2
<hr/>				
Therapeutic consequences				
Reintervention			4	8
Non operative inpatient			1	2
Non operative outpatient			9	18

3. An option for emergent surgeries should be used to differentiate elective and emergent cases.
4. We suggest changing the “tumor localization” section of the surgery form to use the Weinstein-Boriani-Biagini staging system (1) to provide a more scientific classification.
5. We had two trauma cases with a CSF leak due to a tear in the dura that resulted from the trauma itself. An option to specify this type of pathology may help to differentiate surgical complications from traumatic ones.
6. An option for cases requiring instrument lengthening should also be added.
7. The difference between “posterolateral fusion” and “posterior fusion” is unclear. The “Spine Tango Dictionary of Terms” file also does not help. These terms should be clearly defined.
8. Parameters regarding spinal measurements such as sagittal balance, Cobb angle or scoring systems for determining radiological instability should be added to the forms. In our opinion, this may add some radiological classification information to the current clinically based system.

The suggested success rate calculation in this paper takes only achieved- and partially achieved therapeutic goals into account. We are aware that this approach is not sufficient and may not reflect patients’ perceptions of their final condition since complications, re-interventions and unreached goals were not considered. The effects of these problems during patient management may decrease the level of success obtained from a patient’s perspective. However, we believe that this approach attempts to provide a quantification-based approach to assessing the achievement of treatment goals and should be used instead of a completely subjective physician-based judgment. To determine the success rate in a more scientific way, we suggest using health-related quality-

of-life measures for patients. We are currently developing similar setups as those explained in this paper for established quality-of-life measurement batteries (i.e. EuroQol 5D, Oswestry Disability Index). A study is in progress to validate Turkish versions of core outcome measures index batteries.

With the current Turkey Spine Tango system, we collected valuable data from 50 patients. Now, we can clearly and easily see every relevant parameter regarding our patients’ pathologies and final results without the need of a cumbersome archive search process. Completing the forms, which requires only a few minutes, does not add any additional burden to the clinical workload. In fact, it reduces the time required to analyze patient data, potentially facilitating academic and scientific research. We recommend that every colleague performing spinal surgeries use Spine Tango forms.

■ ACKNOWLEDGEMENTS

We want to thank to Christoph Röder and Michal Neukamp for their and their team’s great assistance during translation process of the Spine Tango Forms into Turkish.

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SPINE TANGO

CERRAHI
2011

yönergeler

- İşaretleme için kurşun kalem kullanın
- Yazılı cevaplar web sistemi üzerinden girilmeli
- Aksı belirtilmedikçe tüm sorular cevaplandırılmalı
- cevapları kaydetmek için kutuların tamamını işaretleyin

Soru Tipleri

- Sadece tek bir cevap
 Birden çok cevap verilebilir
 Zorunlu Sorular

Format

- Minimal
 tam

İç kullanım için / tarayıcı okumaz

Soyadı	Adı	Cinsiyet
Adres		Dosya No
Ulke	Posta Kodu	Şehir
Sosyal Sigorta Numarası	D.Tarihi (GG.AA.YYYY)	

Temel patolojinin seviyesi

- üst servikal servikotorasik torasik torako-lumbo-sakral lumbo-sakral koksiks
 orta alt servikal serviko-torako-lomber torakolomber lomber sakral

Hasta Kabul / Patoloji

- Gün 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
Ay 1 2 3 4 5 6 7 8 9 10 11 12 Yıl 1 2 3 4 5 6 7 8 9 20

Temel patoloji

- Dejeneratif hastalık Kırık / Travma Spondilolistezis Enfeksiyon Mükerrer cerrahi
 Dej. Olmayan Deformite Patolojik Kırık Enflamasyon Tümör diğer:belirtiniz

Temel patolojinin özellikleri

sadece ana patoloji ile ilişkili sorulara cevap veriniz ("diğer" cevabı için işaretleme gerekmemektedir)

Dejeneratif hastalık

- Dejenerasyonun tipi**
 disk herniasyonu/protrüz. dej. spondilolistezis
 santral stenoz diğer instabilite
 lateral stenoz miyelopati
 foraminal stenoz faset eklem artrozu
 dejeneratif disk hastalığı diğer

Deformitenin tipini belirtiniz

Deformite

- Deformite tipi** *Dejeneratif deformitenin tipini de belirtin*
 skolyoz kifoz kombine
- Skolyoz tipi** tek eğim çift eğim
- Baskın etiyoloji**
 idiyopatik posttravmatik
 konjenital M. Scheuermann
 nöromusküler diğer

(Patolojik) kırık / travma

- Farklı tedavi edilen ek kırıklar için başka form doldurun*
- (Patolojik) kırık / travma tipi**
 kondiler (C0) C2 diğer kırık
 C0/1 disosiasyon yumuşak doku hasarı-boyun
 C1 kırığı C3-L5/S1 kırığı
 C1/2 instabilite sakrum kırığı
 C2 dens kırığı diğer
- Dens kırığı tipi**
 tip I A B C
 tip II Grup 1 2 3
 tip III Alt grup 1 2 3
- Patolojik kırık nedeni ...**
 osteoporoz Kırık yaşı
 tümör taze fraktür
 diğer eski fraktür

Tümör varlığında, "TÜMÖR" bölümündeki "tümör tipi" ve "Lokalizasyon" sorularını cevaplayın.

Spondilolistezis

- Spondilolistezis tipi**
 Type I Tip I (konjenital, displastik)
 Tip II (istmik)
 Tip III "dej. tipi" bölümüne bakın
 Tip IV (travmatik)
 Tip V (patolojik)
 Tip VI (cerrahi sonrası)
- Spondilolistezis derecesi**
 Grade 0
 Grade I
 Grade II
 Grade III
 Grade IV
 Spondiloptozis (V)

Enflamasyon

- Enflamasyon tipi**
 enflamatuvar artrit (seropozitif)
 seronegatif artrit
 ankilozan spondilit (M. Bechterew)
 diğer

Enfeksiyon

- Enfeksiyon tipi**
 piyojenik fungal spondilit paravertebral
 parazitik diğer diskit alan
 tüberkülotik epidural alan diğer

Tümör

- Tümör tipi**
 primer malign kemik dışı yumuşak doku
 primer benign kemik içi (yüzeysel)
 sekonder malign kemik içi (derin)
 tümör benzeri lezyon kemik dışı (ekstradural)
 diğer kemik dışı (intradural)
 diğer
- Lokalizasyon**
 kemik dışı yumuşak doku
 kemik içi (yüzeysel)
 kemik içi (derin)
 kemik dışı (ekstradural)
 kemik dışı (intradural)
 diğer

Tümör tipini belirtin

Mükerrer cerrahi

- Mükerrer cerrahinin tipi veya nedeni**
 enstru. çıkarılması nöral kompresyon implant yetersizliği
 kaynamama postop. yüzeysel sagittal dengesizlik
 instabilite enfeksiyon komşu segment
 tedavi hedeflerine ulaşamama postop. derin enfeksiyon patolojisi
 implant malpozisyonu diğer

Temel patoloji hakkında yorumlar:

Segment için kraniyal vertebrayı işaretleyin SA = sakrum/ CO = koksiks

- En çok etkilenen yer** segment vertebra korpusu
 C0 C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12
 T1 T2 T3 T4 T5 T6 T7 T8 T9 T10 T11 T12 L1 L2 L3 L4 L5 S1 S2 S3

Lezyon yaygınlığı (segment / vertebra korpusu)

- 1 2 3 4 5 6 7 8 9 10 11 12 13
 14 15 16 17 18 19 20 21 22 23 24 25

Ek patoloji

- "Temel patoloji" için işaretlenen dışındaki patoloji.*
 hiçbir deformite patolojik kırık enflamasyon tümör diğer: belirtiniz
 dejen. hastalık kırık / travma spondilolistezis (dej. olmayan) enfeksiyon mükerrer cerrahi

Önceki spinal cerrahi sayısı

- 0 1 2 3 4 5 6

"0" ise her iki "Önceki cerrahi" sorusunu cevaplamayın

Aynı seviyeden önceki cerrahi(ler)

- hayır evet kısmen

Aynı hastanedeki önceki cerrahi(ler)

- hayır evet kısmen

Temel patoloji için önceki tedaviler

- hiçbir 3-6 ay konzervatif
 cerrahi 6-12 ay konzervatif
 <3 ay konzervatif >12 ay konzervatif

Risk faktörleri

- BMI**
 < 20 20-25 26-30 bilinmiyor
- Sigara kullanımı**
 evet hayır bilinmiyor
- Bayraklar**
 hiçbir turuncu kırmızı sarı değerlendiremiyor

Kırmızı: Biyomedikal faktörler; ciddi spinal patoloji
Sarı: Psikososyal veya davranışsal faktörler
Turuncu: Psikiyatrik bozukluk göstergesi olabilecek anormal psikolojik süreç olabilecek anormal psikolojik süreç
Mavi: Sosyoekonomik faktörleri
Siyah: İşle ve toplumla ilgili faktörler

SPINE TANGO

iç kullanım için / tarayıcı okumaz

CERRAHİ
Sayfa 2

Cerrah Asistan

Cerrahi

Gün C1) C2) C3) C4) C5) C6) C7) C8) C9) C10) C11) C12) C13) C14) C15) C16) C17) C18) C19) C20) C21) C22) C23) C24) C25) C26) C27) C28) C29) C30) C31)
Ay C1) C2) C3) C4) C5) C6) C7) C8) C9) C10) C11) C12) Yıl C1) C2) C3) C4) C5) C6) C7) C8) C9) C10) C11) C12) C13) C14) C15) C16) C17) C18) C19) C20)

Tedavi amaçları

- aksiyel ağrıya iyileşme spinal stabilizasyon
 periferik ağrıya iyileşme deformite progresyonunun durması
 fonksiyonel düzelleme profilaktik dekompresyon
 motor düzelleme kozmetik düzelleme
 duyuşsal düzelleme tanısal yöntemler
 mesane/cinsel fonks. düzelleme diğer.....

Anterior yaklaşım

- anterior girişim yok torakotomi
 transoral torakoabdominal
 anterolateral retroperitoneal
 servikotorasik anterolateral transperitoneal
 sternotomi ile ekstrem lateral (örn XLIF)
 servikotorasik anterolateral diğer

Bileşenler

SEDICO implant takip sistemi kullanıldı ise tarif gerekmez.

- hiçbir sağlayan:.....
 açıklama ile
 açıklama olmadan Alet adı:

Posterior yaklaşım

- hiçbir perkutan
 orta hat trans-sakral (örn. TransLIF)
 paramediyal diğer
 posterolateral

Alet sayıları veya çoklu implant kullanımında www.eurospine.org adresindeki "İmplant dokümantasyonu" kullanın.

Cerrahin özellikleri

- omurga cerrahi
 ortopedist
 beyin cerrahi
 ortopedi asistanı
 bey. cerr. asistanı
 diğer

Morbidite durumu

- bilinmiyor
 ASA 1 (Patoloji yok)
 ASA 2 (hafif / orta)
 ASA 3 (ciddi)
 ASA 4 (yaşamsal tehlike)
 ASA 5 (ölmeğe üzere)

Teknoloji

- geleneksel endoskop
 MISC/AISC mikroskop
 cerrahi loop nöromonitorizasyon
 Bilgisayar diğer

Operasyon süresi

- bilinmiyor 4-5 st
 <1 st 5-6 st
 1-2 st 6-8 st
 2-3 st 8-10 st
 3-4 st > 10 st

Profilaksi

- hiçbir tromboemboli diğer
 enfeksiyon osifikasyon

Kan kaybı

- bilinmiyor 500 - 1000 ml
 < 100 ml 1000 - 2000 ml
 100 - 500 ml > 2000 ml

Kan transfüzyonu

- hiçbir >= 2 ünite bilin-
 <2 ünite hücre kurtarıcı miyor

Cerrahi Teknikler

Dikkat. "anterior" / "posterior" girişim yöntemini değil problemin omurgadaki yerini tarif etmektedir!

Dekompresyon

- hiçbir
 anterior } Belirtiniz..
 posterior

Omurgadaki yerleşim, en az bir tanesini seçin

- diskektomi kısmi / total
 vertebrektomi kısmi
 vertebrektomi total
 osteotomi

- laminotomi
 hemi laminektomi
 laminektomi
 faset eklem rezeksi. kısmi

- faset eklem rezeksiyonu tam
 sekestrektomi
 flavektomi
 flavotomi

- foraminotomi
 laminoplasti
 unkoforaminotomi
 diğer

Füzyon kolaylaştırıcı yöntemleri

- hiçbir
 anterior } Belirtiniz..
 posterior

Omurgadaki yerleşim, en az bir tanesini seçin

- interbody füzyon (ALIF)
 inerbody füzyon (PLIF)
 interbody füzyon (TLIF)
 interbody füzyon (XLIF)

- diğer interbody füzyon
 posterolateral füzyon
 posterior füzyon
 diğer

Füzyon materyali

- hiçbir
 uzun otolog kemik alınması
 lokal otolog kemik
 allograft kemik

- kemik eşdeğeri
 çimento
 KMP veya benzeri
 diğer

Rijit stabilizasyon

- hiçbir
 anterior } Belirtiniz..
 posterior

Omurgadaki yerleşim, en az bir tanesini seçin

- cage ile interbody stab.
 oto/allög. İle interbody stab.
 cage ile korpus onarımı
 plaklar
 rod ve pedikül vidası

- faset vidası
 C1-C2 transartiküler vida
 rod ve laminar hook
 rod ve pedikül kook
 rod ve lateral mass vidası

- odontoid vidası
 laminar vida
 diğer

Hareket koruyucu stabil.

- hiçbir
 anterior } Belirtiniz..
 posterior

Omurgadaki yerleşim, en az bir tanesini seçin

- disk protezi
 dinamik stab.
 intersp. distraktör
 diğer

Perkutan yöntemler

- hiçbir
 < post. } Belirtiniz..
 diğer

Birini seçin

- faset bloğu
 kök bloğu
 diskografi
 vertebroplasti

- kifoplasti
 epidural enjeksiyon
 diğer

Diğer cerrahi yöntemler

- hayır evet
 Belirtiniz evet:

Cerrahi seviye

- segmentler den C0) C1) C2) C3) C4) C5) C6) C7) C8) C9) C10) C11) C12) C13) C14) C15) C16) C17) C18) C19) C20) C21) C22) C23) C24) C25) C26) C27) C28) C29) C30) C31)
 vert. korpusu e kadar C0) C1) C2) C3) C4) C5) C6) C7) C8) C9) C10) C11) C12) C13) C14) C15) C16) C17) C18) C19) C20) C21) C22) C23) C24) C25) C26) C27) C28) C29) C30) C31)

SA = sakrum/ CO = koksiks

İntraop. cerrahi komplikasyonlar

- hiçbir
 kök hasarı
 kord hasarı
 dura lezyonu
 vasküler hasar
 kırık omurga yapıları
 diğer

İlk cerrahideki yöntemler

- hiçbir
 sütür/yapıştırıcı
 diğer

İntraoperatif komplikasyonlar

- hiçbir
 anesteziyolojik
 kardiyovasküler
 pulmoner
 tromboemboli
 ölüm
 diğer

Hastanede yatış

Taburculuk öncesi postop cerrahi komplikasyonlar

- hiçbir
 epidural hematoma
 diğer hematoma
 radikülopati
 BOS kaçağı/pseudomeningosel
 motor disfonksiyon
 duyuşsal disfonksiyon
 barsak/mesane bozukluğu
 yüzeysel yara enfeksiyonu
 derin yara enfeksiyonu
 implant malpozisyonu
 implant yetersizliği
 yanlış mesafe
 diğer

Taburculuk öncesi postop genel komplikasyonlar

- hiçbir
 kardiyovasküler
 pulmoner
 serebral
 böbrek/ıdrar y.
 karaciğer/GI
 tromboemboli
 ölüm
 diğer

İlk cerrahiden sonraki tekrar girişim nedeni

- hiçbir
 hematoma boşaltılması
 sütür/yapıştırıcı
 implant çıkarılması
 impantın tekrar yerleştirilmesi
 abse drenajı
 (ileri) dekompresyon
 diğer

Hastanede yatış

- sorunsuz
 >2 gün YBÜ

Komplikasyonların durumu

- uzamış yatış
 iyileşme
 düzelleme

Taburculuk sırasında tedavi hedefleri

- devam ediyor
 ulaşıldı
 kısmen ulaşıldı

Öngörülen takip

- hayır
 evet

Taburculuk

Gün C1) C2) C3) C4) C5) C6) C7) C8) C9) C10) C11) C12) C13) C14) C15) C16) C17) C18) C19) C20) C21) C22) C23) C24) C25) C26) C27) C28) C29) C30) C31)
Ay C1) C2) C3) C4) C5) C6) C7) C8) C9) C10) C11) C12) Yıl C1) C2) C3) C4) C5) C6) C7) C8) C9) C10) C11) C12) C13) C14) C15) C16) C17) C18) C19) C20)

Kısaltmalar:

MISC = Minimal invazif spinal cerrahi; AISC = Az invazif spinal cerrahi; BOS = Beyin omurilik sıvısı; KMP = Kemik morfojenik protein

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GAZİ ÜNİVERSİTESİ TIP FAKÜLTESİ
BEYİN ve SİNİR CERRAHİSİ
SPINE TANGO CERRAHİ GİRİŞİM ve TAKİP FORMU



DEMOGRAFİK BİLGİLER

AD SOYAD	
CİNSİYET	ERKEK <input type="checkbox"/> KADIN <input type="checkbox"/>
DOSYANO	
DOĞUM TARİHİ (gg/aa/yyyy)	
FORM TARİHİ (gg/aa/yyyy)	
YATIŞ TARİHİ (gg/aa/yyyy)	
TABURCULUK TARİHİ (gg/aa/yyyy)	

EĞİTİM DURUMU

--

MEDENİ HALİ

--

İŞ DURUMU

--

TEMEL PATOLOJİNİN SEVİYESİ

--

TEMEL PATOLOJİ

--

DEJENERASYONUN TİPİ

DİSK HERN/PROT	<input type="checkbox"/>	SANTRAL STENOZ	<input type="checkbox"/>
LATERAL STENOZ	<input type="checkbox"/>	FORAMİNAL STENOZ	<input type="checkbox"/>
DEJENERATİF DİSK HAST	<input type="checkbox"/>	DEJENERATİF DEFORMİTE	<input type="checkbox"/>
DEJ. SPONDİLOLİSTEZİS	<input type="checkbox"/>	DİĞER İNSTABİLİTE	<input type="checkbox"/>
MYELOPATİ	<input type="checkbox"/>	FASET EKLEM ARTROZU	<input type="checkbox"/>
DİĞER (belirtiniz)			

SPONDİLOLİSTEZİS

SPNDLSTZS TİPİ	
SPNDLSTZS DERECE	

ENFLAMASYON

ENFLAM TİPİ	
ENFLAM DİĞER	

ENFEKSİYON

ENFKS TİPİ	
ENFKS DİĞER	

ETKİLENE YAPILAR

SPONDİLİT	<input type="checkbox"/>	DİSKİT	<input type="checkbox"/>
EPİDURAL ALAN	<input type="checkbox"/>	PARAVERTEBRAL ALAN	<input type="checkbox"/>
DİĞER (belirtiniz)			

TÜMÖR

TÜMÖR TİPİ	
TM TİPİ DİĞER	

TÜMÖR LOKALİZASYONU KESİN PATOLOJİYİ YAZIN

KEMİK DİŞİ YUMUŞAK DOK	<input type="checkbox"/>	KEMİK İÇİ YÜZEYEL	<input type="checkbox"/>
KEMİK İÇİ DERİN	<input type="checkbox"/>	KEMİK DİŞİ EKSTRADURAL	<input type="checkbox"/>
KEMİK DİŞİ İNTRADURAL	<input type="checkbox"/>		
DİĞER (belirtiniz)			

MÜKERRER CERRAHİ

ENSTRUMAN ÇIKARILMASI	<input type="checkbox"/>	KAYNAMAMA	<input type="checkbox"/>
İNSTABİLİTE	<input type="checkbox"/>	HEDEFLERE ULAŞAMAMA	<input type="checkbox"/>
NÖRAL KOMPRESYON	<input type="checkbox"/>	POSTOP YÜZEYEL ENFK.	<input type="checkbox"/>
POSTOP DERİN ENFK.	<input type="checkbox"/>	IMPLANT MALPOZİS	<input type="checkbox"/>
IMPLANT YETERSİZLİĞİ	<input type="checkbox"/>	SAGITTAL DENGESİZLİK	<input type="checkbox"/>
KOMŞU SEGMENT PAT	<input type="checkbox"/>		
DİĞER (belirtiniz)			

ÖNCEKİ TEDAVİLER

ÖNCEKİ SPINAL CERRAHİ	
AYNI SEVİYE ÖNCEKİ CER	
AYNI HASTANE ÖNCEKİ CERR	
TEMEL PAT İÇİN ÖNCEKİ TX	

DİĞER VERİLER

BMI		SİGARA	
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TEDAVİ AMAÇLARI

AKSİYEL AĞRIDA İYİLEŞME	<input type="checkbox"/>	PERİFER AĞRIDA İYİLEŞME	<input type="checkbox"/>
FONKSİYONEL DÜZELME	<input type="checkbox"/>	MOTOR DÜZELME	<input type="checkbox"/>
DUYUSAL DÜZELME	<input type="checkbox"/>	MESANE/CİNSSEL FONK	<input type="checkbox"/>
SPİNAL STABİLİZASYON	<input type="checkbox"/>	DEFORMİTENİN DURMASI	<input type="checkbox"/>
PROFİLAK DEKOMPRES.	<input type="checkbox"/>	KOZMETİK DÜZELME	<input type="checkbox"/>
TANISAL	<input type="checkbox"/>		
DİĞER (belirtiniz)			

DEFORMİTE

DEFORMİTE TİPİ	
SKOLYOZ TİPİ	
BASKIN ETİYOLOJİ	
BASK ETY DİĞER	

PATOLOJİK / TRAVMATİK KIRIK

KIRIK TİPİ		
KIRIK TİPİ DİĞER		
DENS KIRIĞI TİPİ		
KIRIK NEDENİ		
KIRIK NEDENİ DİĞER		
KIRIK YAŞI		
C3-L5/S1 AO KIRIK TİPİ		
TİP	GRUP	ALTGRUP

EN ÇOK ETKİLENE YER (PATOLOJİ-CERRAHİ DEĞİL)

EN ÇOK KETKİLENE	SEGMENT <input type="checkbox"/>	KORPUS <input type="checkbox"/>
SEVİYE		

LEZYON YAYGINLIĞI

KORPUS SAYISI	
---------------	--

EK PATOLOJİ

HİÇBİRİ	<input type="checkbox"/>	DEJENERATİF HASTALIK	<input type="checkbox"/>
DEFORMİTE	<input type="checkbox"/>	TRAVMATİK KIRIK	<input type="checkbox"/>
PATOLOJİK KIRIK	<input type="checkbox"/>	DEJ. OLMAYAN LİSTEZİS	<input type="checkbox"/>
ENFLAMASYON	<input type="checkbox"/>	ENFEKSİYON	<input type="checkbox"/>
TÜMÖR	<input type="checkbox"/>	MÜKERRER CERRAHİ	<input type="checkbox"/>
DİĞER			

TEMEL PATOLOJİ HAKKINDA YORUMLAR

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GAZİ ÜNİVERSİTESİ TIP FAKÜLTESİ
BEYİN ve SİNİR CERRAHİSİ
SPINE TANGO CERRAHİ GİRİŞİM ve TAKİP FORMU



CERRAHİ			
CERRAHİ TARİHİ (gg/aa/yyyy)			
CERRAHİN ADI			
PRİMER ASİSTANINI ADI			
YAKLAŞIM			
ANTERİÖR YAKLAŞIM			
ANT.YAK.DİĞER			
POSTERİÖR YAKLAŞIM			
POST.YAK.DİĞER			
CERRAHİN ÖZELLİKLERİ			
MORBİDİTE			
PROFİLAKSİ			
HİÇBİRİ	<input type="checkbox"/>	ENFEKSİYON	<input type="checkbox"/>
TROMBOEMBOLİ	<input type="checkbox"/>	OSSİFİKASYON	<input type="checkbox"/>
DİĞER			
OPERASYON SÜRESİ		KAN KAYBI	KAN TRANSFÜZYONU
KULLANILAN TEKNOLOJİ			
GELENEKSEL	<input type="checkbox"/>	MİKROSKOP	<input type="checkbox"/>
MISC/AISC	<input type="checkbox"/>	CERRAHİ LOOP	<input type="checkbox"/>
BİLGİSAYAR DESTEKLİ	<input type="checkbox"/>	ENDOSKOP	<input type="checkbox"/>
NÖROMONİTORİZASYON	<input type="checkbox"/>	O-ARM vd	<input type="checkbox"/>
DİĞER (belirtiniz)			
DEKOMPRESYON			
YOK	<input type="checkbox"/>	ANTERİÖR	<input type="checkbox"/>
		POSTERİÖR	<input type="checkbox"/>
DİSKEKTOMİ	<input type="checkbox"/>	VERTEBREKTOMİ KİSMİ	<input type="checkbox"/>
VERTEBREKTOMİ TOTAL	<input type="checkbox"/>	OSTEOTOMİ	<input type="checkbox"/>
LAMİNOTOMİ	<input type="checkbox"/>	HEMİLAMİNEKTOMİ	<input type="checkbox"/>
LAMİNEKTOMİ	<input type="checkbox"/>	FASET EKLEM REZ KİSMİ	<input type="checkbox"/>
FASET EKLEM REZ TOTAL	<input type="checkbox"/>	SEKESTREKTOMİ	<input type="checkbox"/>
FLAVEKTOMİ	<input type="checkbox"/>	FLAVOTOMİ	<input type="checkbox"/>
FORAMİNOMİ	<input type="checkbox"/>	LAMİNOPLASTİ	<input type="checkbox"/>
UNKOFORAMİNOMİ	<input type="checkbox"/>	LİGAMANTOTAKSİ	<input type="checkbox"/>
DİĞER (belirtiniz)			
FÜZYON			
HİÇBİRİ	<input type="checkbox"/>	ANTERİÖR	<input type="checkbox"/>
		POSTERİÖR	<input type="checkbox"/>
ALIF	<input type="checkbox"/>	PLIF	<input type="checkbox"/>
TLIF	<input type="checkbox"/>	XLIF	<input type="checkbox"/>
DİĞER INTERBODY	<input type="checkbox"/>	POSTEROLATERAL	<input type="checkbox"/>
POSTERİÖR	<input type="checkbox"/>		
DİĞER (belirtiniz)			
FÜZYON MATERYALİ			
YOK	<input type="checkbox"/>	UZAK OTOLOG	<input type="checkbox"/>
LOKAL OTOLOG	<input type="checkbox"/>	ALLOGREFT	<input type="checkbox"/>
KEMİK EŞDEĞERİ	<input type="checkbox"/>	ÇİMENTO	<input type="checkbox"/>
KMP	<input type="checkbox"/>		
DİĞER (belirtiniz)			
RIJİT STABİLİZASYON			
HİÇBİRİ	<input type="checkbox"/>	ANTERİÖR	<input type="checkbox"/>
		POSTERİÖR	<input type="checkbox"/>
CAGE İLE INTERBODY	<input type="checkbox"/>	OTO/ALLO INTERBODY	<input type="checkbox"/>
CAGE İLE KORPUS	<input type="checkbox"/>	SERVİKAL PLAK ANTER	<input type="checkbox"/>
ROD PEDİKÜL VİDASI	<input type="checkbox"/>	FASET VİDASI	<input type="checkbox"/>
C1-C2 TRANSARTİKÜLER	<input type="checkbox"/>	C2 ODONTOİD VİDASI	<input type="checkbox"/>
ROD VE LAMİNA HOOK	<input type="checkbox"/>	ROD VE PEDİKÜL HOOK	<input type="checkbox"/>
ROD VE LATERAL MASS	<input type="checkbox"/>	LAMİNAR VİDA	<input type="checkbox"/>
DİĞER (belirtiniz)			
HAREKET KORUYUCU STABİLİZASYON			
HİÇBİRİ	<input type="checkbox"/>	ANTERİÖR	<input type="checkbox"/>
		POSTERİÖR	<input type="checkbox"/>
DİSK PROTEZİ	<input type="checkbox"/>	DİNAMİK STABİLİZASYON	<input type="checkbox"/>
İNTERSPİNÖZ DİSTRAKTÖR	<input type="checkbox"/>		
DİĞER (belirtiniz)			
PERKUTAN GİRİŞİM			
EVET	<input type="checkbox"/>	HAYIR	<input type="checkbox"/>
FASET BLOĞU	<input type="checkbox"/>	KÖK BLOĞU	<input type="checkbox"/>
DİSKOGRAFİ	<input type="checkbox"/>	VERTEBROPLASTİ	<input type="checkbox"/>
KİFOPLASTİ	<input type="checkbox"/>	EPİDURAL ENJEKSİYON	<input type="checkbox"/>
DİĞER (belirtiniz)			
DİĞER CERRAHİ YÖNTEMLER			
EVET	<input type="checkbox"/>	HAYIR	<input type="checkbox"/>
TARİF			
CERRAHİ GİRİŞİMİN SEVİYESİ			
KRANİYAL VERTEBRA			den
KAUDAL VERTEBRA			e kadar
İNTRAOPERATİF CERRAHİ KOMPLİKASYONLAR			
YOK	<input type="checkbox"/>	KÖK HASARI	<input type="checkbox"/>
KORD HASARI	<input type="checkbox"/>	DURA LEZYONU	<input type="checkbox"/>
VASKÜLER HASAR	<input type="checkbox"/>	KIRIK OMURGA YAPILARI	<input type="checkbox"/>
BELİRTİLMEMİŞ	<input type="checkbox"/>		
DİĞER (belirtiniz)			
KOMPLİKASYON NEDENİ İLE YAPILAN İŞLEM			
YAPILMADI	<input type="checkbox"/>	DOKU YAPIŞTIRICISI	<input type="checkbox"/>
SÜTÜR	<input type="checkbox"/>	SÜTÜR VE YAPIŞTIRICI	<input type="checkbox"/>
DİĞER (belirtiniz)			
GENEL KOMPLİKASYONLAR			
YOK	<input type="checkbox"/>	ANESTEZİYOLOJİK	<input type="checkbox"/>
KARDİYOYASKÜLER	<input type="checkbox"/>	PULMONER	<input type="checkbox"/>
TROMBOEMBOLİ	<input type="checkbox"/>	ÖLÜM	<input type="checkbox"/>
BELİRTİLMEMİŞ	<input type="checkbox"/>		
DİĞER (belirtiniz)			
TABURCULUK ÖNCESİ POSTOP CERRAHİ KOMPLİKASYONLAR			
YOK	<input type="checkbox"/>	EPİDURAL HEMATOM	<input type="checkbox"/>
DİĞER HEMATOM	<input type="checkbox"/>	RADİKÜLOPATİ	<input type="checkbox"/>
BOS KAÇAĞI/PSEUDOMEN	<input type="checkbox"/>	MOTOR DİSFONKSİYON	<input type="checkbox"/>
DUYUSAL DİSFONKSİYON	<input type="checkbox"/>	BARSAK MESANE BOZ	<input type="checkbox"/>
YÜZEYEL YARA YERİ ENF	<input type="checkbox"/>	DERİN YARA YERİ ENF	<input type="checkbox"/>
İMLANT MALPOZİSYONU	<input type="checkbox"/>	İMLANT YETERSİZLİĞİ	<input type="checkbox"/>
YANLIŞ MESAFE	<input type="checkbox"/>	BELİRTİLMEMİŞ	<input type="checkbox"/>
DİĞER (belirtiniz)			
TABURCULUK ÖNCESİ GENEL KOMPLİKASYONLAR			
YOK	<input type="checkbox"/>	KARDİYOYASKÜLER	<input type="checkbox"/>
PULMONER	<input type="checkbox"/>	SEREBRAL	<input type="checkbox"/>
ÜRİNER	<input type="checkbox"/>	KARACİĞER/GİS	<input type="checkbox"/>
TROMBOEMBOLİ	<input type="checkbox"/>	ÖLÜM	<input type="checkbox"/>
BELİRTİLMEMİŞ	<input type="checkbox"/>		
DİĞER (belirtiniz)			
İLK CERRAHİ SONRASI TEKRAR GİRİŞİM			
YOK	<input type="checkbox"/>	HEMATOM BOŞALTILMASI	<input type="checkbox"/>
SÜTÜR/YAPIŞTIRICI	<input type="checkbox"/>	İMLANT ÇIKARILMASI	<input type="checkbox"/>
İMLAN TEKRAR YERLEŞTİRİL	<input type="checkbox"/>	ABSE DRENAJİ	<input type="checkbox"/>
İLERİ DEKOMPRESYON	<input type="checkbox"/>	BELİRTİLMEMİŞ	<input type="checkbox"/>
DİĞER (belirtiniz)			
HASTANEDE YATIŞ		KOMPLİKASYONLAR	HEDEFLER
			TAKİP



GAZİ ÜNİVERSİTESİ TIP FAKÜLTESİ
BEYİN ve SİNİR CERRAHİSİ
SPINE TANGO CERRAHİ GİRİŞİM ve TAKİP FORMU



TAKİP FORMU – HASTA KONTROLE GELDİĞİNDE DOLDURULACAK				
TAKİP TARİHİ		ÇALIŞMA DURUMU		
TEDAVİ HEDEFLERİ (CERRAHİ FORMUNDA DOLDURULAN TEDAVİ AMAÇLARI İÇİN)				
ULAŞILAN HEDEFLER	KISMEN ULAŞILAN HEDEFLER	ULAŞILAMAYAN HEDEFLER		
<input type="checkbox"/> HİÇBİRİ	<input type="checkbox"/> HİÇBİRİ	<input type="checkbox"/> HİÇBİRİ		
<input type="checkbox"/> AKSİYEL AĞRININ GEÇMESİ	<input type="checkbox"/> AKSİYEL AĞRININ GEÇMESİ	<input type="checkbox"/> AKSİYEL AĞRININ GEÇMESİ		
<input type="checkbox"/> PERİFERİK AĞRININ GEÇMESİ	<input type="checkbox"/> PERİFERİK AĞRININ GEÇMESİ	<input type="checkbox"/> PERİFERİK AĞRININ GEÇMESİ		
<input type="checkbox"/> FONKSİYONEL DÜZELME	<input type="checkbox"/> FONKSİYONEL DÜZELME	<input type="checkbox"/> FONKSİYONEL DÜZELME		
<input type="checkbox"/> MOTOR DÜZELME	<input type="checkbox"/> MOTOR DÜZELME	<input type="checkbox"/> MOTOR DÜZELME		
<input type="checkbox"/> DUYUSAL DÜZELME	<input type="checkbox"/> DUYUSAL DÜZELME	<input type="checkbox"/> DUYUSAL DÜZELME		
<input type="checkbox"/> İDRAR Y/ÇİNSEL FONKSİYON	<input type="checkbox"/> İDRAR Y/ÇİNSEL FONKSİYON	<input type="checkbox"/> İDRAR Y/ÇİNSEL FONKSİYON		
<input type="checkbox"/> SPİNAL STABİLİZASTON	<input type="checkbox"/> SPİNAL STABİLİZASTON	<input type="checkbox"/> SPİNAL STABİLİZASTON		
<input type="checkbox"/> DEFOR PROGRESİNİN DURMASI	<input type="checkbox"/> DEFOR PROGRESİNİN DURMASI	<input type="checkbox"/> DEFOR PROGRESİNİN DURMASI		
<input type="checkbox"/> PROFİLAKTİK DEKOMPRESYON	<input type="checkbox"/> PROFİLAKTİK DEKOMPRESYON	<input type="checkbox"/> PROFİLAKTİK DEKOMPRESYON		
<input type="checkbox"/> KOZMETİK İYİLEŞME	<input type="checkbox"/> KOZMETİK İYİLEŞME	<input type="checkbox"/> KOZMETİK İYİLEŞME		
<input type="checkbox"/> TANISAL İLERLEME	<input type="checkbox"/> TANISAL İLERLEME	<input type="checkbox"/> TANISAL İLERLEME		
<input type="checkbox"/> DİĞER (AŞAĞIDA AÇIKLAYINIZ)	<input type="checkbox"/> DİĞER (AŞAĞIDA AÇIKLAYINIZ)	<input type="checkbox"/> DİĞER (AŞAĞIDA AÇIKLAYINIZ)		
EK TEDAVİLER				
SPİNAL CERRAHİ / PATOLOJİ İÇİN MEDİKASYONLARI		REHABİLİTASYON		
<input type="checkbox"/> HİÇBİRİ		<input type="checkbox"/> HİÇBİRİ		
<input type="checkbox"/> NSAİİ, PARACETAMOL		<input type="checkbox"/> EV TEMELLİ		
<input type="checkbox"/> ZAYIF OPIYATLAR		<input type="checkbox"/> AYAKTAN FTR		
<input type="checkbox"/> GÜÇLÜ OPIYATLAR		<input type="checkbox"/> YATARAK FTR		
<input type="checkbox"/> STEROİDLER		<input type="checkbox"/> DİĞER (açıklayınız)		
<input type="checkbox"/> ANTİDEPRESANLAR				
<input type="checkbox"/> VİTAMİN B KOMPLEKSİ				
<input type="checkbox"/> ANTİBİYOTİKLER				
<input type="checkbox"/> DİĞER (açıklayınız)				
GENEL SONUÇ (MUAYENE EDEN DOKTORA GÖRE)				
UYGULANAMAZ	MÜKEMMEL	İYİ	İDARE EDER	KÖTÜ
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
KOMPLİKASYONLAR (AŞAĞIDAKİ SORULAR KOMPLİKASYON VARLIĞINDA CEVAPLANACAKTIR)				
KOMPLİKASYON VAR MI? EVET <input type="checkbox"/> HAYIR <input type="checkbox"/>				
KOMPLİKASYON TİPİ				
<input type="checkbox"/> DUYUSAL DİSFONKSİYON	<input type="checkbox"/> SPONDİLİT	<input type="checkbox"/> KOMŞU SEG. PATOLOJİSİ		
<input type="checkbox"/> MOTOR DİSFONKSİYON	<input type="checkbox"/> DİSKİT	<input type="checkbox"/> REKÜRREN TÜMÖR		
<input type="checkbox"/> BARSAK MESANE DİSFONKSİYONU	<input type="checkbox"/> EPİDURAL HEMATOM	<input type="checkbox"/> OMURGA DEKOMPANZASYONU		
<input type="checkbox"/> NON-UNION	<input type="checkbox"/> EKSTRAVERTEBRAL HEMATOM	<input type="checkbox"/> KARDİOVASKÜLER		
<input type="checkbox"/> İMPLANT YETERSİZLİĞİ	<input type="checkbox"/> YANLIŞ SEVİYE	<input type="checkbox"/> GASTROİNTESTİNAL		
<input type="checkbox"/> İNSTABİLİTE	<input type="checkbox"/> İMPLANT MALPOZİSYONU	<input type="checkbox"/> SANTRAL SİNİR SİSTEMİ		
<input type="checkbox"/> BOS KAÇAĞI / PSEUDOMENİNGOSEL	<input type="checkbox"/> SEMPTOMLARIN REKÜRRENSİ	<input type="checkbox"/> OMURGA KIRIĞI		
<input type="checkbox"/> YÜZEYEL YARA YERİ ENFEKSİYONU	<input type="checkbox"/> GREFT KOMPLİKASYONU	<input type="checkbox"/> TROMBOEMBOLİ		
<input type="checkbox"/> DERİN YARA YERİ ENFEKSİYONU	<input type="checkbox"/> ANESTEZİ SEKELİ	<input type="checkbox"/> DİĞER (açıklayınız)		
KOMPLİKASYON SONUÇLARI				
TEDAVİ SONUÇLARI	DİĞER	BİREYSEL SONUÇLAR	DİĞER	
MUAYENE EDEN DOKTOR ADI				