

Hospital Report

Sample Hospital

Containing usage data up to 31/12/2021
Created on 20/09/2022

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Notes

This report has been produced by NEC Software Solutions on behalf of EUROSPINE. It represents activity recorded in the Spine Tango registry for Sample Hospital, based on data collected up to the specified date. This report is made available to Sample Hospital under the Spine Tango Agreement between the parties. Under this Agreement, Sample Hospital is free to share this report as they choose.

Notes on Methodology

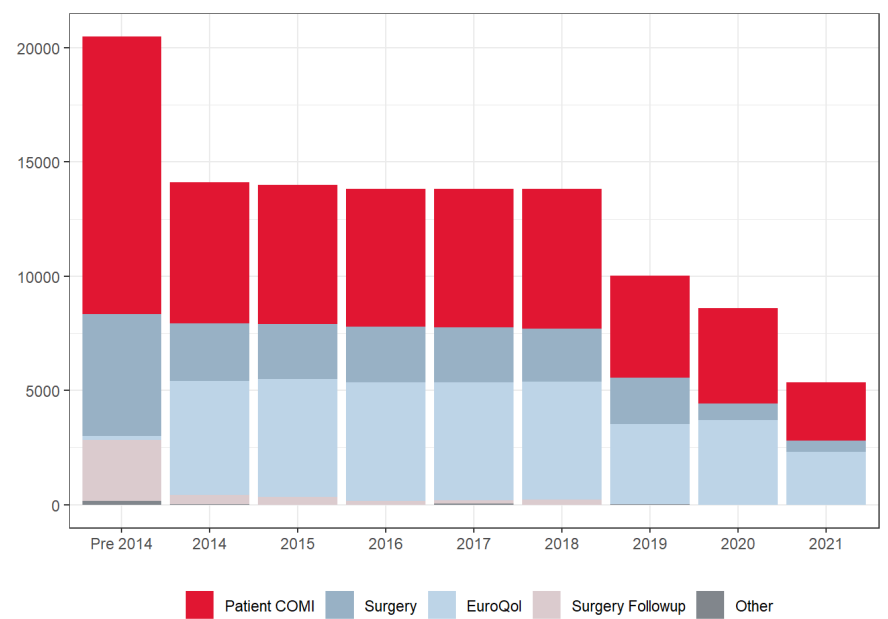
Please see the accompanying Methodology and Guidance Notes for further information.

Pathologies Included

Main Pathology	Number of Cases	Included in Report?
Degenerative Disease	17,003	Yes
Fracture / Trauma	779	Yes
Repeat Surgery	718	Yes
Tumor	812	Yes

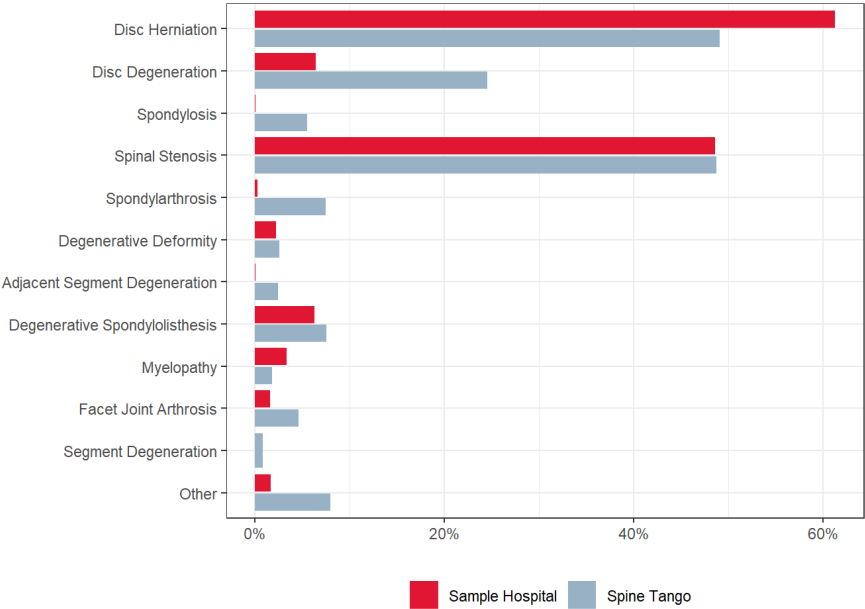
Activity Overview for Sample Hospital

First Recorded Procedure	01/10/2000
Last Recorded Procedure	27/12/2021
Number of Patients	18,682
Number of Procedures	20,723



Form Type	Pre 2014	2014	2015	2016	2017	2018	2019	2020	2021	Total
Patient COMI	12,143	6,181	6,086	6,035	6,071	6,127	4,471	4,181	2,559	53,854
Surgery	5,339	2,528	2,412	2,427	2,421	2,306	2,038	744	508	20,723
EuroQol	178	4,990	5,179	5,186	5,140	5,169	3,516	3,686	2,299	35,343
Surgery Followup	2,651	401	323	166	168	220	4	0	0	3,933
Other	171	11	0	0	36	2	4	2	1	227
Total	20,482	14,111	14,000	13,814	13,836	13,824	10,033	8,613	5,367	114,080

Degenerative Disease



Type of Degenerative Disease	Sample Hospital	Spine Tango
Disc Herniation	61.3% (10417)	49.1% (45158)
Disc Degeneration	6.4% (1090)	24.6% (22592)
Spondylosis	0.1% (10)	5.5% (5041)
Spinal Stenosis	48.6% (8266)	48.8% (44850)
Spondylarthrosis	0.2% (40)	7.5% (6876)
Degenerative Deformity	2.2% (374)	2.6% (2384)
Adjacent Segment Degeneration	0.1% (13)	2.4% (2229)
Degenerative Spondylolisthesis	6.3% (1067)	7.6% (6949)
Myelopathy	3.4% (570)	1.8% (1681)
Facet Joint Arthrosis	1.6% (267)	4.6% (4209)
Segment Degeneration	0.0% (0)	0.8% (753)
Other	1.7% (282)	8.0% (7337)

Preoperative Profile

	Sample Hospital	Spine Tango
Mean Age	54.6	58.6
< 18	0.1% (13)	0.2% (163)
18-39	19.5% (3311)	12.5% (11479)
40-49	21.5% (3654)	17.8% (16365)
50-59	21.1% (3584)	21.6% (19875)
60-79	33.2% (5635)	41.4% (38117)
>= 80	4.7% (794)	6.7% (6139)
Gender		
Male	51.4% (8732)	49.1% (45244)
Female	48.6% (8262)	50.9% (46914)
Smoker		
No	36.6% (6223)	31.6% (29165)
Yes	11.0% (1867)	9.1% (8410)
Unknown	52.4% (8913)	59.2% (54587)
Median BMI	28.1	27.4
< 20	5.2% (882)	2.0% (1867)
20-25	24.4% (4157)	18.0% (16579)
26-30	33.2% (5641)	21.8% (20119)
31-35	15.1% (2574)	10.0% (9237)
> 35	9.1% (1547)	4.2% (3875)
Unknown	13.0% (2202)	43.9% (40485)
Number of Segments Affected		
1	71.0% (12080)	61.0% (56178)
2-3	17.3% (2945)	27.4% (25291)
>= 4	5.1% (862)	4.4% (4093)
Unknown	6.6% (1116)	7.2% (6600)
Previous Surgeries (Any Level)		
0	80.8% (13730)	72.0% (66371)
1	14.8% (2523)	17.5% (16115)
> 1	4.4% (745)	7.7% (7136)
Unknown	0.0% (5)	2.8% (2540)

Perioperative Profile

Characteristic	Sample Hospital	Spine Tango
Blood Loss		
< 100 ml	67.0% (11387)	40.8% (37627)
100 - 500 ml	12.3% (2096)	39.2% (36124)
500 - 1000 ml	2.4% (409)	5.8% (5374)
1000 - 2000 ml	0.8% (141)	1.6% (1480)
> 2000 ml	0.2% (39)	0.4% (340)
Unknown	17.2% (2931)	12.2% (11217)
Blood Transfusion		
None	94.0% (15991)	52.2% (48138)
< 2 units	0.4% (73)	0.6% (563)
>= 2 units	0.2% (40)	0.5% (499)
Cell Saver	2.0% (340)	3.2% (2966)
Unknown	3.5% (591)	43.9% (40443)
Prophylaxis		
None	6.5% (1108)	0.9% (798)
Infection	64.5% (10968)	41.7% (38457)
Thromboembolism	43.0% (7311)	34.1% (31453)
Ossification	0.2% (36)	0.3% (318)
Other	0.1% (9)	0.2% (187)
Unknown	27.6% (4685)	55.5% (51172)
Technology		
Conventional	34.7% (5895)	38.4% (35359)
MISS / LISS	13.3% (2256)	12.2% (11205)
Loops	9.4% (1594)	7.5% (6868)
Endoscope	0.4% (66)	0.6% (557)
Microscope	62.9% (10697)	60.5% (55717)
CASS	0.1% (11)	0.6% (588)
Neuromonitoring	1.4% (244)	2.7% (2506)
Intraoperative 3d-Imaging	0.1% (13)	0.5% (416)
Other	1.5% (256)	2.3% (2111)
Unknown	0.6% (110)	5.1% (4741)

Characteristic	Sample Hospital	Spine Tango
Operation Time		
< 1 hr.	24.8% (4224)	27.0% (24854)
1-2 hrs.	46.3% (7875)	37.9% (34966)
2-3 hrs.	15.3% (2601)	16.2% (14895)
3-4 hrs.	5.0% (853)	6.9% (6336)
4-5 hrs.	1.9% (315)	2.8% (2552)
5-6 hrs.	1.2% (198)	1.2% (1131)
6-8 hrs.	1.0% (173)	0.8% (693)
8-10 hrs.	0.3% (46)	0.2% (185)
> 10 hrs.	0.0% (0)	0.0% (0)
Unknown	4.2% (718)	7.1% (6550)
Anterior Access		
No Anterior Access	81.9% (13928)	78.4% (72296)
Transoral	0.6% (97)	0.1% (82)
Anterolateral	16.8% (2851)	10.4% (9557)
Cervicothoracic Anterolateral	0.4% (65)	0.3% (305)
Cervicothoracic With Sternotomy	0.0% (1)	0.0% (1)
Cervicothoracic Anterolat With Sternotomy	0.0% (0)	0.0% (4)
Thoracotomy	0.1% (10)	0.1% (121)
Cervicothoracic Anterolat With Thoracotomy	0.0% (0)	0.0% (0)
Thoracoabdominal	0.0% (6)	0.0% (19)
Retroperitoneal	0.1% (14)	2.0% (1806)
Thoraco-Phrenico-Lumbotomy	0.0% (0)	0.0% (8)
Transperitoneal	0.0% (1)	0.0% (40)
Trans-Psoas (XLIF)	0.1% (11)	1.0% (937)
Other	0.1% (20)	0.2% (173)
Unknown	0.0% (2)	7.4% (6833)
Posterior Access		
No Posterior Access	18.2% (3089)	17.7% (16269)
Midline	76.6% (13019)	70.1% (64618)
Paramedian	4.7% (800)	9.9% (9092)
Posterolateral	0.4% (67)	1.6% (1455)
Percutaneous	0.1% (20)	0.5% (445)
Para-Coccygeal (AxialIF)	0.0% (0)	0.0% (3)
Other	0.2% (35)	0.4% (367)

Surgical Measures

Decompression

Characteristic	Sample Hospital	Spine Tango
Decompression		
None	1.4% (245)	3.0% (2777)
Discectomy	64.3% (10937)	53.9% (49679)
Vertebrectomy Partial	0.9% (157)	1.2% (1066)
Vertebrectomy Full	0.2% (33)	0.3% (254)
Osteotomy	0.5% (92)	1.6% (1458)
Laminotomy	31.3% (5328)	31.1% (28685)
Hemi-Laminectomy	3.9% (656)	8.8% (8094)
Laminectomy	14.3% (2428)	12.5% (11546)
Facet Joint Resection Partial	20.7% (3526)	31.0% (28595)
Facet Joint Resection Full	3.3% (554)	5.9% (5456)
Flavectomy	32.4% (5516)	44.6% (41105)
Foraminotomy	22.5% (3830)	32.3% (29802)
Sequestrectomy	3.9% (671)	20.7% (19113)
Flavotomy	2.6% (434)	2.9% (2689)
Uncoforaminotomy	2.8% (469)	2.0% (1889)
Other	1.4% (240)	3.9% (3563)
Unknown	0.0% (4)	0.4% (340)

Fusion

Characteristic	Sample Hospital	Spine Tango
Fusion Promoting Measures		
None	74.7% (12707)	59.7% (55065)
Posterolateral Fusion	2.7% (465)	8.4% (7761)
Posterior Fusion	1.8% (304)	5.7% (5295)
Interbody Fusion (A-IF)	11.3% (1927)	7.2% (6608)
Interbody Fusion (PLIF)	5.7% (973)	3.1% (2888)
Interbody Fusion (TLIF)	1.8% (305)	8.5% (7852)
Interbody Fusion (XLIF)	0.1% (21)	1.2% (1064)
Other Interbody Fusion	3.1% (525)	2.2% (1996)
Ilio-Sacral Fusion	0.0% (2)	0.0% (17)
Other	1.4% (231)	11.9% (10963)
Unknown	0.0% (1)	1.7% (1590)

Stabilisation

Characteristic	Sample Hospital	Spine Tango
Rigid Stabilisation		
None	76.8% (13051)	59.7% (55017)
Interbody Stabilisation With Cage	16.7% (2846)	27.1% (24978)
Interbody Stabilisation With Auto-/ Allograft	0.8% (144)	0.6% (542)
Vertebral Body Replacement By Cage	0.2% (28)	0.4% (373)
Plates	2.7% (454)	7.1% (6508)
Pedicle Screws With Rod	6.0% (1012)	16.4% (15090)
Pedicle Screws With Plate	0.0% (0)	0.2% (155)
Facet Screws	0.0% (8)	0.5% (428)
Transarticular Screw	0.0% (0)	0.4% (412)
Transarticular Screw C1-C2	0.0% (1)	0.1% (65)
Laminar Hooks	0.0% (5)	0.0% (33)
Pedicle Hooks	0.1% (22)	0.2% (176)
Lateral Mass Screw	1.4% (242)	0.9% (786)
Odontoid Screws	0.0% (2)	0.0% (2)
Laminar Screws	0.1% (11)	0.1% (91)
Pedicle Screws Cemented	0.1% (21)	0.5% (435)
Pedicle Screws Uncemented	2.0% (336)	4.0% (3641)
Other	0.2% (38)	0.9% (840)
Unknown	0.0% (2)	2.4% (2184)
Motion Preserving Stabilisation		
None	98.9% (16817)	88.7% (81753)
Disc Replacement	0.6% (110)	2.4% (2235)
Dynamic Stabilization	0.1% (22)	2.5% (2266)
Interspinous Spacer	0.2% (39)	0.5% (437)
Other	0.1% (15)	0.3% (275)
Unknown	0.0% (0)	5.7% (5248)

Complications

General Complications

	Sample Hospital	Spine Tango
Intraoperative General Complications		
None	99.2% (16868)	62.1% (57226)
Anaesthesiological	0.1% (12)	0.1% (50)
Cardiovascular	0.1% (16)	0.1% (60)
Pulmonary	0.0% (5)	0.0% (14)
Thromboembolism	0.0% (5)	0.0% (10)
Death	0.0% (0)	0.0% (2)
Not Documented	0.5% (88)	37.7% (34782)
Other	0.1% (12)	0.0% (34)
Postoperative General Complications		
None	97.5% (16578)	58.0% (53426)
Cardiovascular	0.2% (30)	0.3% (296)
Pulmonary	0.3% (46)	0.2% (215)
Cerebral	0.1% (18)	0.1% (84)
Kidney / Urinary	0.2% (33)	0.4% (383)
Liver / Gi	0.1% (15)	0.2% (159)
Thromboembolism	0.1% (9)	0.0% (45)
Death	0.0% (4)	0.0% (30)
Not Documented	1.3% (229)	40.5% (37301)
Positioning-Related	0.0% (1)	0.0% (4)
Other	0.3% (57)	0.5% (447)

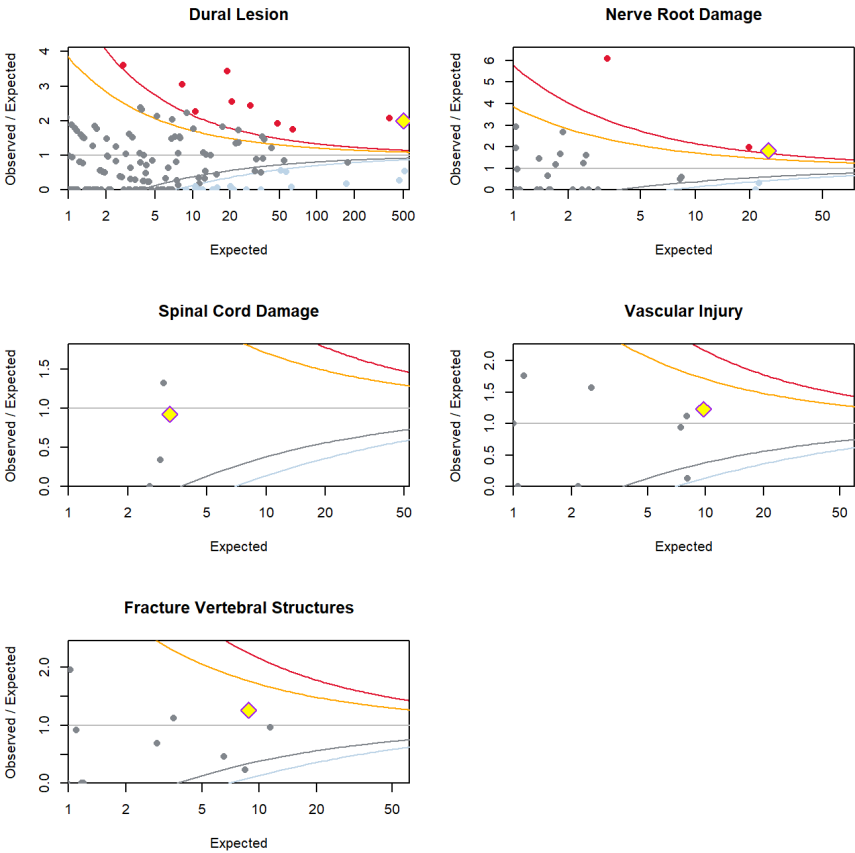
Surgical Complications

	Sample Hospital	Spine Tango
Intraoperative Surgical Complications		
None	92.9% (15798)	59.1% (54493)
Nerve Root Damage	0.3% (46)	0.1% (129)
Spinal Cord Damage	0.0% (3)	0.0% (19)
Dural Lesion	5.8% (988)	2.9% (2653)
Vascular Injury	0.1% (12)	0.1% (48)
Fracture Vertebral Structures	0.1% (11)	0.1% (60)
Not Documented	0.5% (84)	37.6% (34624)
Other	0.5% (90)	0.2% (206)
Postoperative Surgical Complications		
None	95.8% (16291)	57.6% (53115)
Epidural Hematoma	0.4% (68)	0.3% (258)
Other Hematoma	0.1% (21)	0.2% (146)
Radiculopathy	0.7% (117)	0.3% (245)
CSF Leak / Pseudomeningocele	0.3% (57)	0.2% (151)
Motor Dysfunction	0.6% (105)	0.4% (357)
Sensory Dysfunction	0.5% (90)	0.3% (267)
Bowel / Bladder Dysfunction	0.2% (32)	0.2% (165)
Wound Infection Superficial	0.2% (30)	0.2% (170)
Wound Infection Deep	0.1% (19)	0.1% (116)
Implant Malposition	0.1% (14)	0.1% (85)
Implant Failure	0.1% (11)	0.0% (46)
Wrong Level	0.0% (5)	0.0% (5)
Not Documented	1.2% (203)	40.3% (37169)
Recurrent Nerve Paresis	0.0% (3)	0.0% (7)
Other	0.4% (70)	0.4% (361)

Adverse Events

Adverse Event	Sample Hospital	Spine Tango	Expected	p-value
Dural Lesion	5.8% (988)	2.9% (2653)	2.9% (495)	< 0.001
Fracture Vertebral Structures	0.1% (11)	0.1% (60)	0.1% (9)	0.40
Nerve Root Damage	0.3% (46)	0.1% (129)	0.1% (25)	< 0.001
Spinal Cord Damage	0.0% (3)	0.0% (18)	0.0% (3)	1.00
Vascular Injury	0.1% (12)	0.1% (48)	0.1% (10)	0.42

Funnel Plots

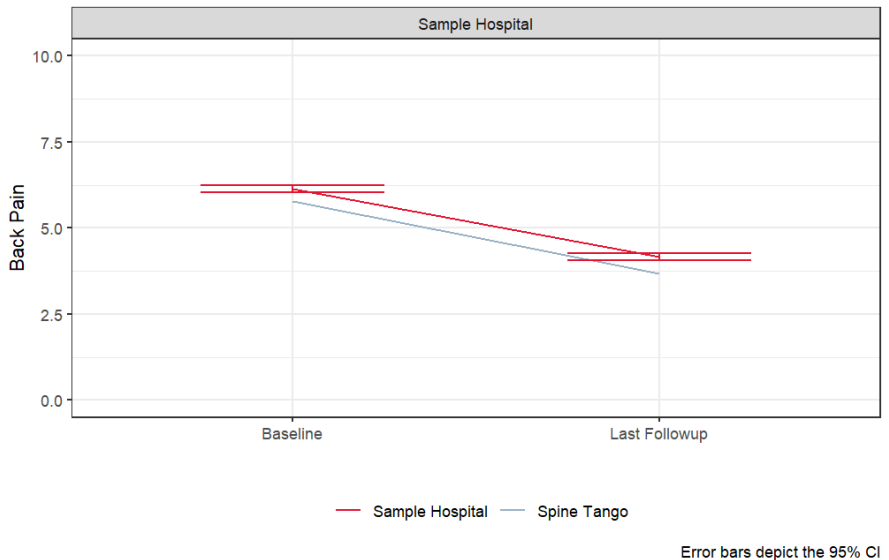


COMI Analysis - Back / Legs

Summary

Group	Patients	Baseline	<= 3 Months	<= 6 Months	<= 1 Year	<= 2 Years	> 2 Years	Mean (Years)	Range (Years)
Sample Hospital	8467	5447	2288	4167	1476	4459	4413	1.25	0.00-12.87
Spine Tango	49213	42918	31881	12200	17402	20475	22354	1.35	0.00-14.89

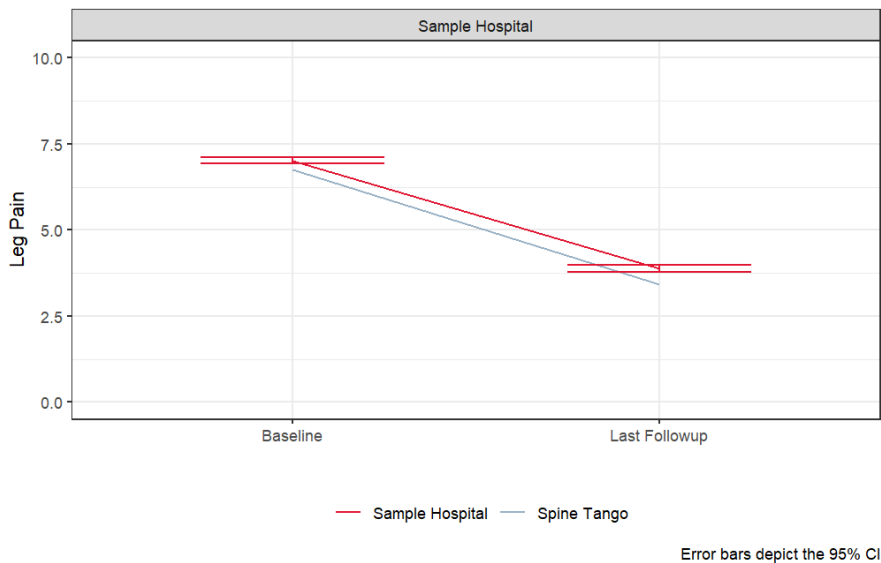
Back Pain Analysis



Group	Paired Observations	Baseline			Last Followup			p-value
		Mean	CI (95%)	SD	Mean	CI (95%)	SD	
Sample Hospital	3367	6.14	6.05-6.24	2.81	4.17	4.07-4.28	3.03	< 0.001
Spine Tango	28875	5.78	5.74-5.81	2.89	3.67	3.64-3.70	2.94	< 0.001

Note: p-values were calculated using a one-sided Wilcoxon test

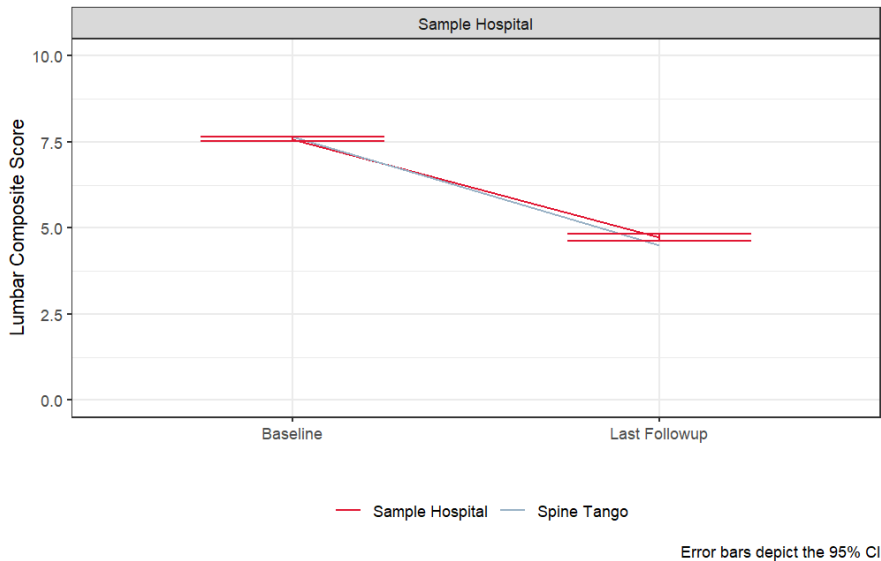
Leg Pain Analysis



Group	Paired Observations	Baseline			Last Followup			p-value
		Mean	CI (95%)	SD	Mean	CI (95%)	SD	
Sample Hospital	3367	7.02	6.93-7.11	2.63	3.88	3.77-3.99	3.30	< 0.001
Spine Tango	28875	6.75	6.72-6.78	2.66	3.43	3.39-3.47	3.16	< 0.001

Note: p-values were calculated using a one-sided Wilcoxon test

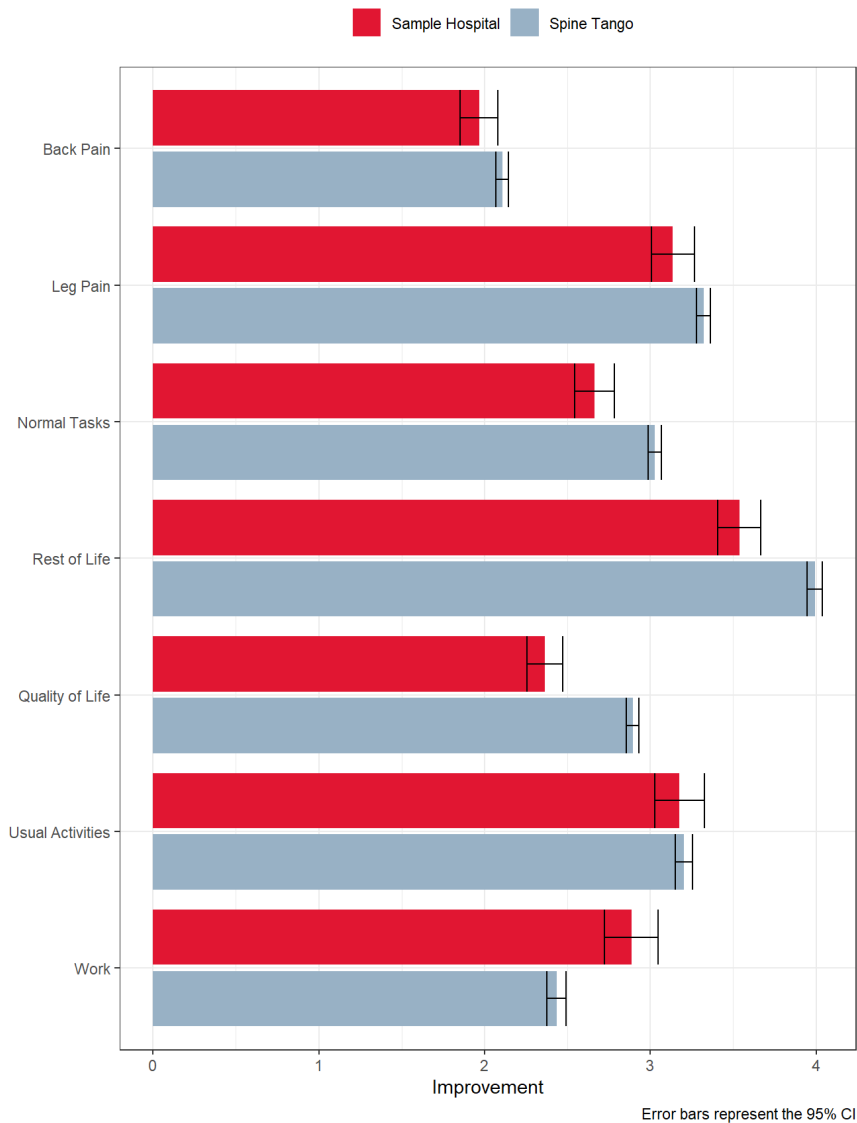
Composite Score Analysis



Group	Paired Observations	Baseline			Last Followup			p-value
		Mean	CI (95%)	SD	Mean	CI (95%)	SD	
Sample Hospital	3367	7.59	7.53-7.65	1.82	4.73	4.64-4.83	2.92	< 0.001
Spine Tango	28875	7.65	7.63-7.67	1.78	4.50	4.46-4.53	2.96	< 0.001

Note: p-values were calculated using a one-sided Wilcoxon test

Domain Analysis

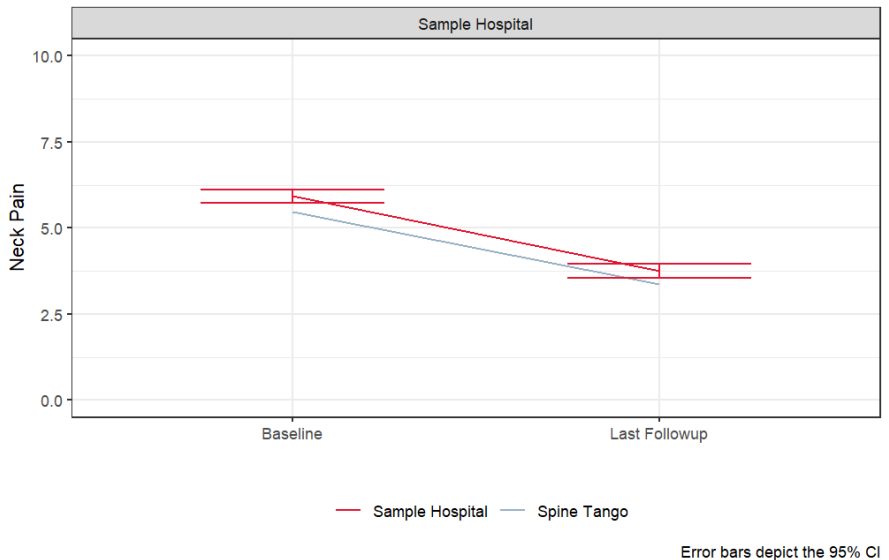


COMI Analysis - Neck / Arms

Summary

Group	Patients	Baseline	<= 3 Months	<= 6 Months	<= 1 Year	<= 2 Years	> 2 Years	Mean (Years)	Range (Years)
Sample Hospital	2453	1353	682	1025	313	1112	1145	1.24	0.00-12.01
Spine Tango	11304	9143	7117	2492	3269	4955	4808	1.32	0.00-13.69

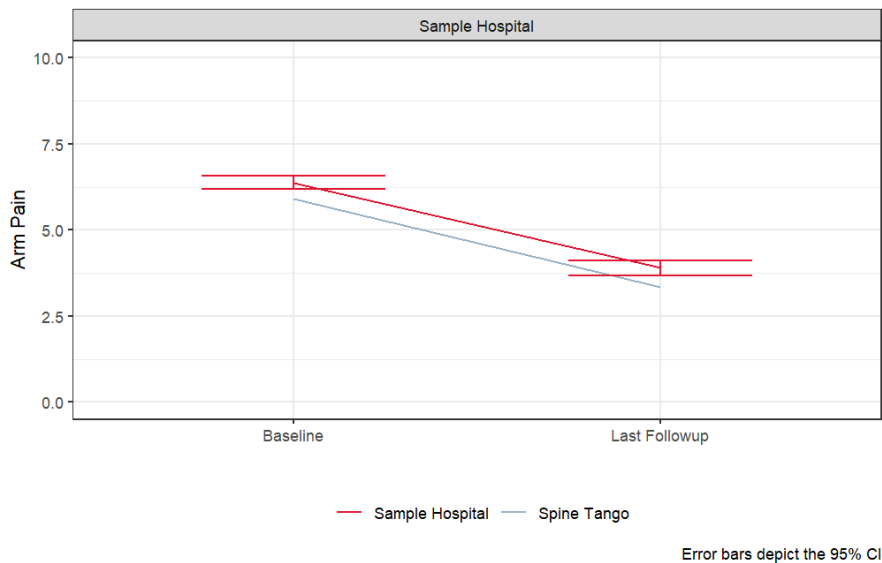
Neck Pain Analysis



Group	Paired Observations	Baseline			Last Followup			p-value
		Mean	CI (95%)	SD	Mean	CI (95%)	SD	
Sample Hospital	776	5.93	5.74-6.13	2.77	3.76	3.56-3.97	2.88	< 0.001
Spine Tango	6461	5.46	5.39-5.54	2.93	3.37	3.29-3.44	2.92	< 0.001

Note: p-values were calculated using a one-sided Wilcoxon test

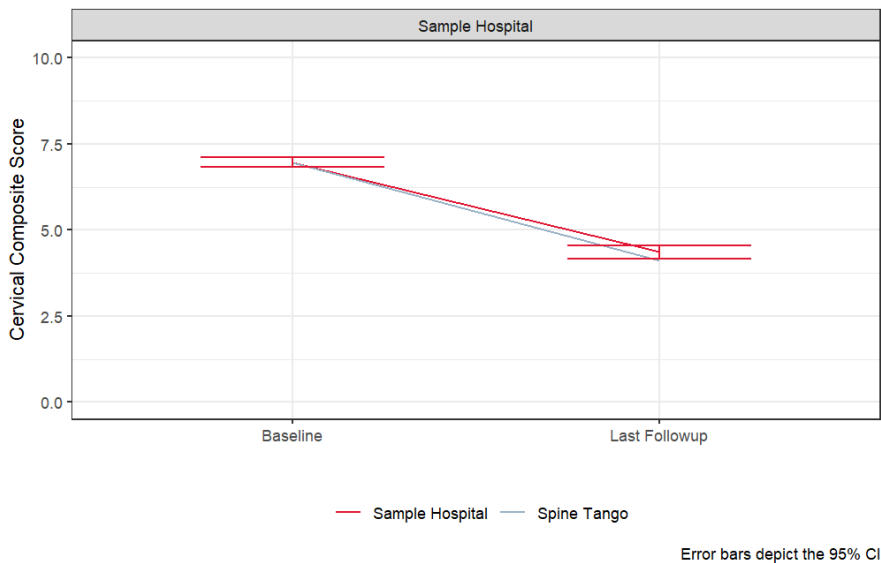
Arm Pain Analysis



Group	Paired Observations	Baseline			Last Followup			p-value
		Mean	CI (95%)	SD	Mean	CI (95%)	SD	
Sample Hospital	776	6.38	6.18-6.57	2.74	3.90	3.69-4.12	3.06	< 0.001
Spine Tango	6461	5.90	5.83-5.98	2.96	3.34	3.27-3.42	3.10	< 0.001

Note: p-values were calculated using a one-sided Wilcoxon test

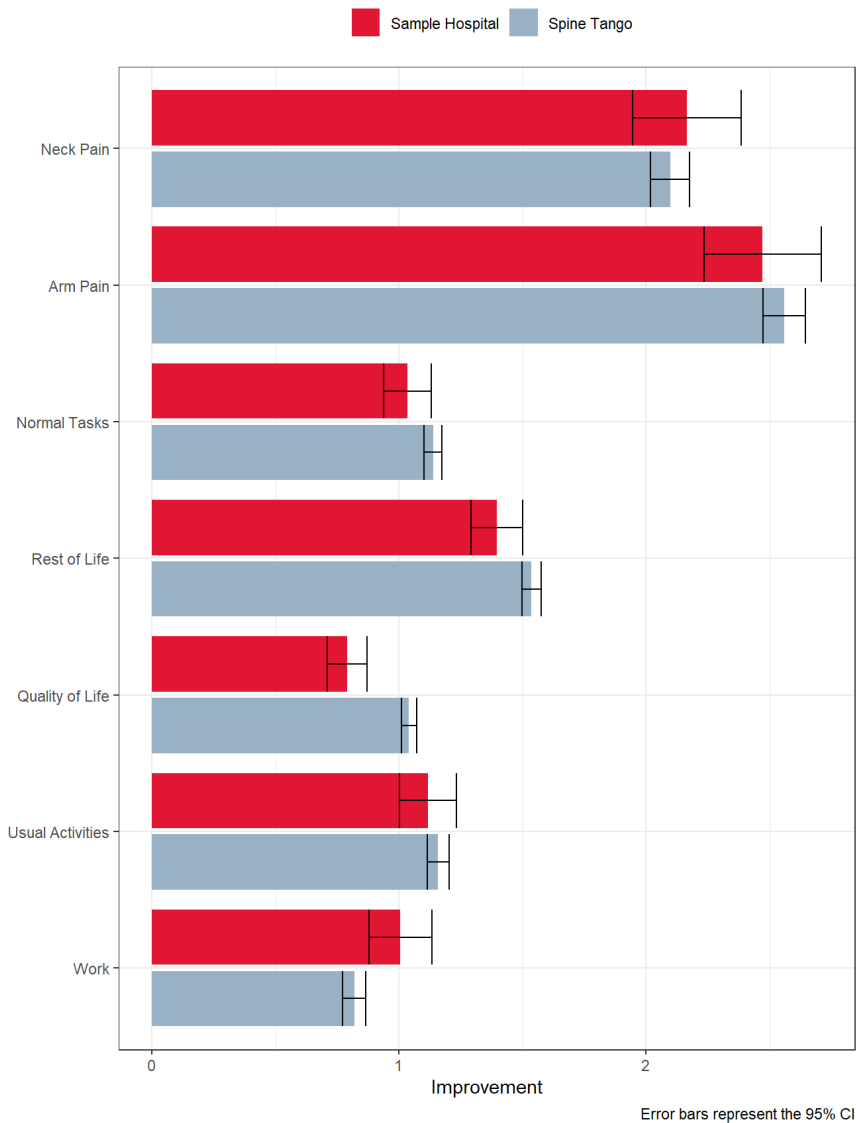
Composite Score Analysis



Group	Paired Observations	Baseline			Last Followup			p-value
		Mean	CI (95%)	SD	Mean	CI (95%)	SD	
Sample Hospital	776	6.97	6.83-7.11	2.01	4.36	4.17-4.56	2.76	< 0.001
Spine Tango	6461	6.96	6.91-7.01	2.16	4.11	4.04-4.18	2.90	< 0.001

Note: p-values were calculated using a one-sided Wilcoxon test

Domain Analysis

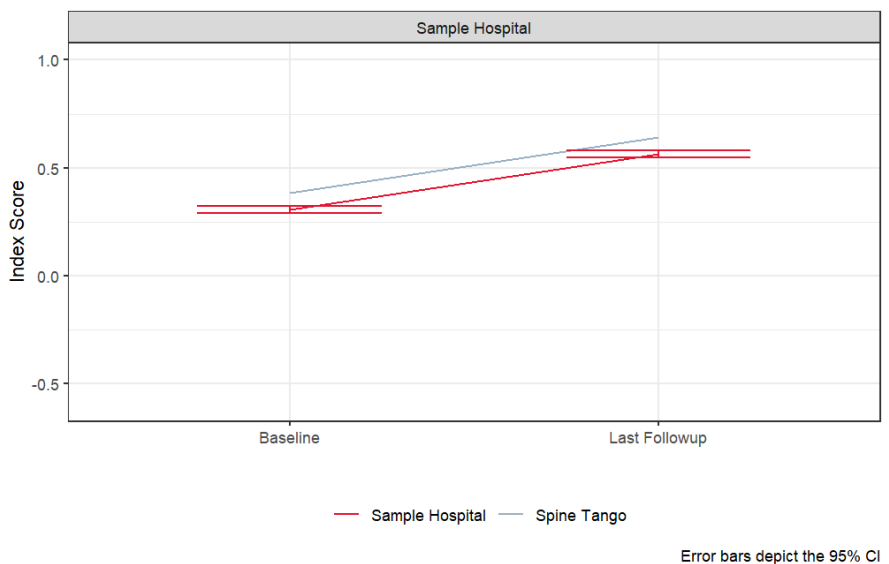


EQ-5D-3L Analysis

Summary

Group	Patients	Baseline	<= 3 Months	<= 6 Months	<= 1 Year	<= 2 Years	> 2 Years	Mean (Years)	Range (Years)
Sample Hospital	6693	2777	2334	2691	924	3573	3838	1.26	0.00-10.14
Spine Tango	11378	10777	4073	1509	1676	2792	3681	1.51	0.00-14.89

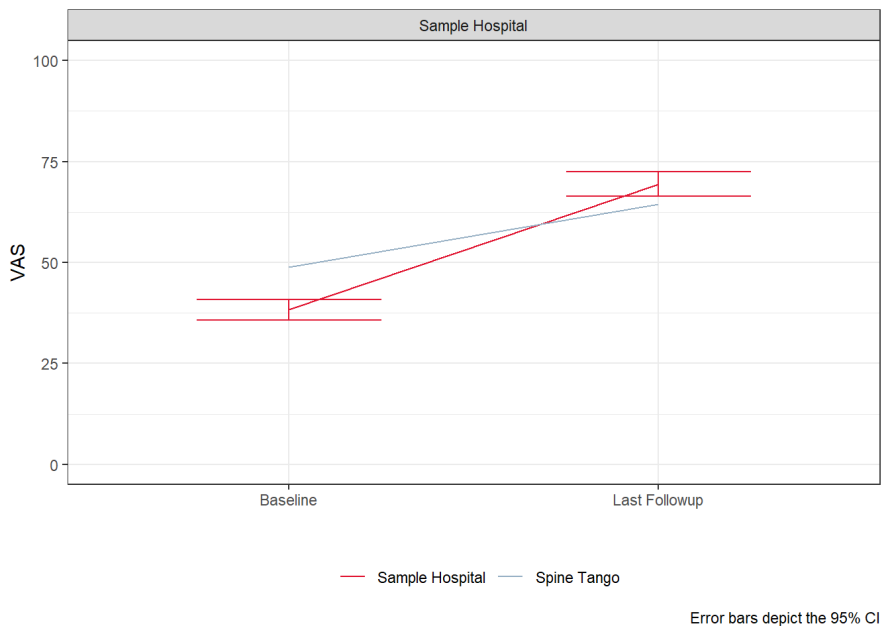
Index Score Analysis



Group	Paired Observations	Baseline			Last Followup			p-value
		Mean	CI (95%)	SD	Mean	CI (95%)	SD	
Sample Hospital	1828	0.31	0.29-0.32	0.35	0.56	0.55-0.58	0.36	< 0.001
Spine Tango	6507	0.38	0.38-0.39	0.34	0.64	0.64-0.65	0.31	< 0.001

Note: p-values were calculated using a one-sided Wilcoxon test

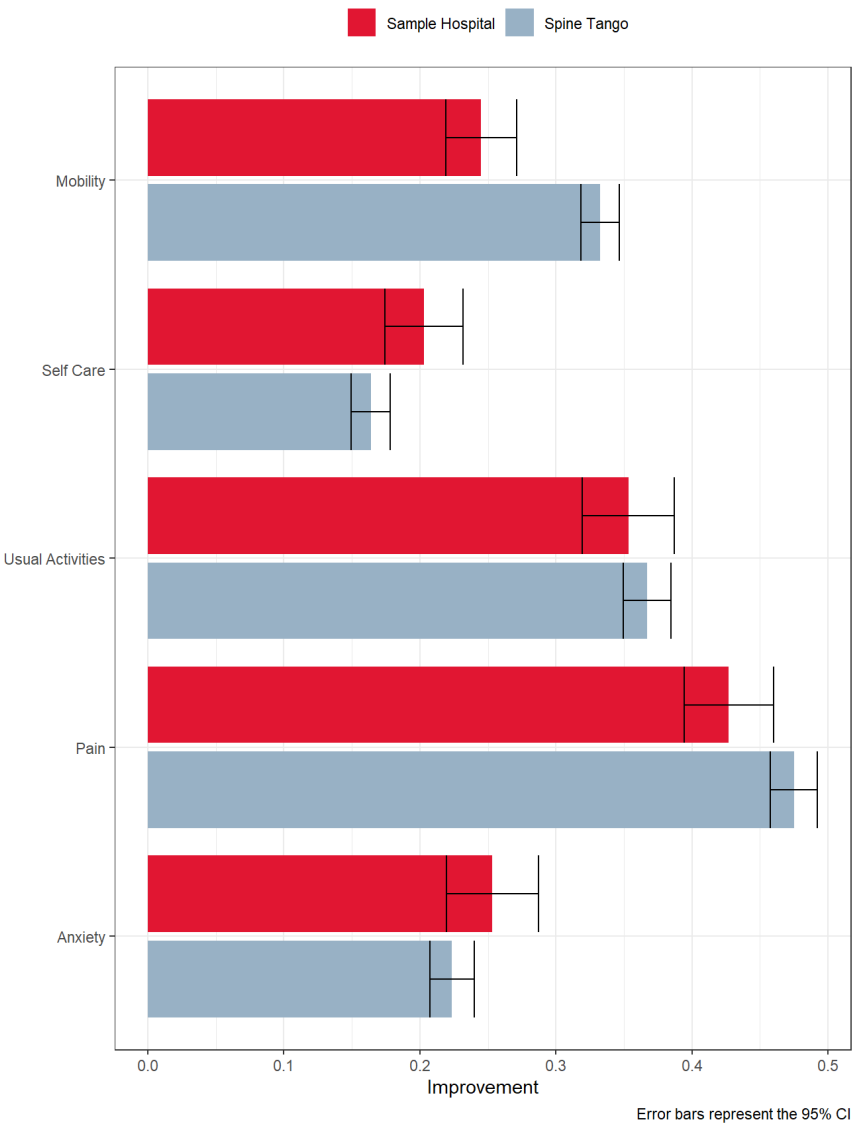
VAS Analysis



Group	Paired Observations	Baseline			Last Followup			p-value
		Mean	CI (95%)	SD	Mean	CI (95%)	SD	
Sample Hospital	191	38.33	35.79-40.87	17.90	69.45	66.40-72.50	21.51	< 0.001
Spine Tango	300	48.80	46.51-51.09	20.22	64.45	62.02-66.88	21.51	< 0.001

Note: p-values were calculated using a one-sided Wilcoxon test

Domain Analysis



Surgery Follow-up

Summary

Group	Patients	6 Weeks	3 Months	6 Months	1 Year	2 Years	Other	Mean	Range
Sample Hospital	2463	1026	657	817	369	131	933	0.60	0.02-9.61
Spine Tango	51723	35118	20162	9456	12437	4230	6535	0.85	0.00-14.84

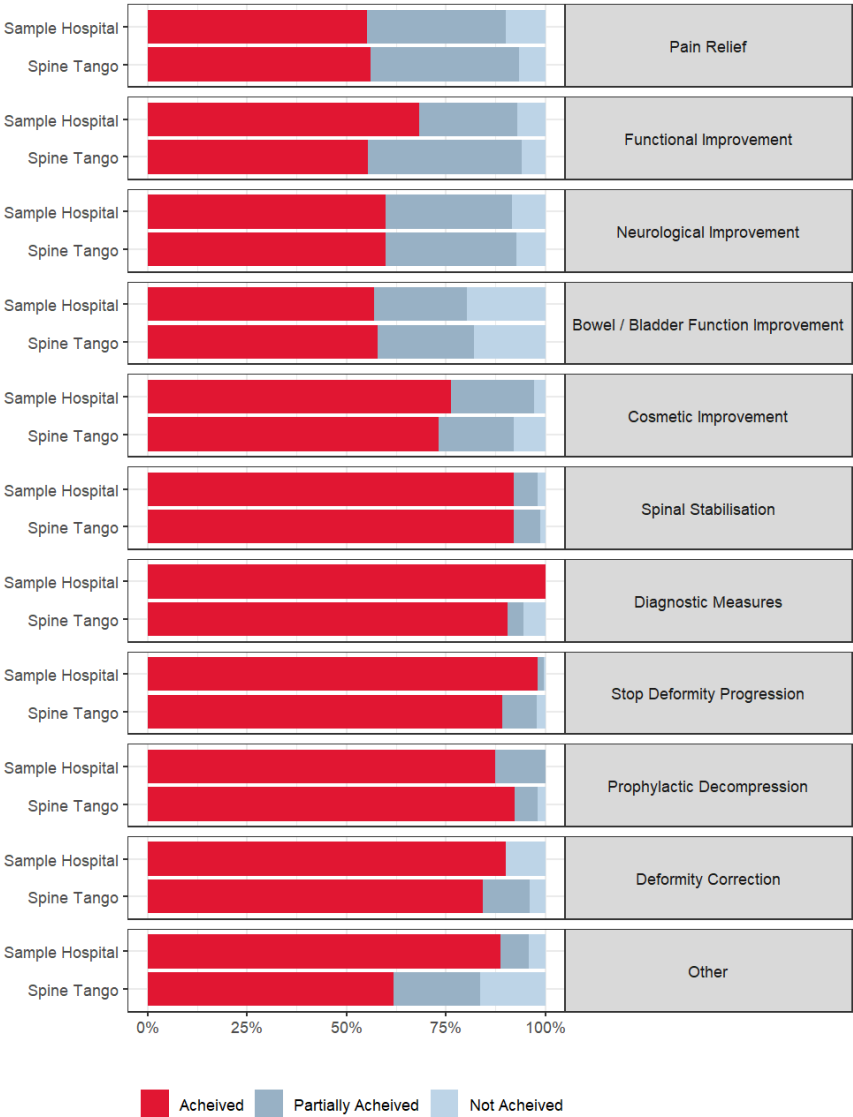
Outcome

Outcome	Sample Hospital	Spine Tango
Excellent	42.2% (1658)	29.8% (26248)
Good	35.9% (1411)	49.5% (43529)
Fair	13.7% (537)	15.2% (13400)
Poor	8.2% (322)	4.8% (4262)
Not Applicable	0.1% (5)	0.6% (494)
Unknown	0.0% (0)	0.0% (5)

Work Status

Work Status	Sample Hospital	Spine Tango
Not at work since OP	25.4% (999)	27.3% (24021)
Started partially, same job	3.9% (154)	7.2% (6343)
Fully reintegrated	15.9% (626)	15.3% (13430)
Resumed work, but quit again	0.6% (24)	0.5% (430)
Resumed work, different job	0.6% (22)	0.8% (680)
Has been dismissed	1.4% (54)	0.7% (619)
Retired since OP	1.5% (60)	1.1% (1000)
Retired before OP	38.7% (1521)	37.2% (32741)
Housewife/man	3.0% (118)	5.3% (4668)
Child/student	7.2% (282)	1.0% (923)
Other	1.9% (73)	3.5% (3083)

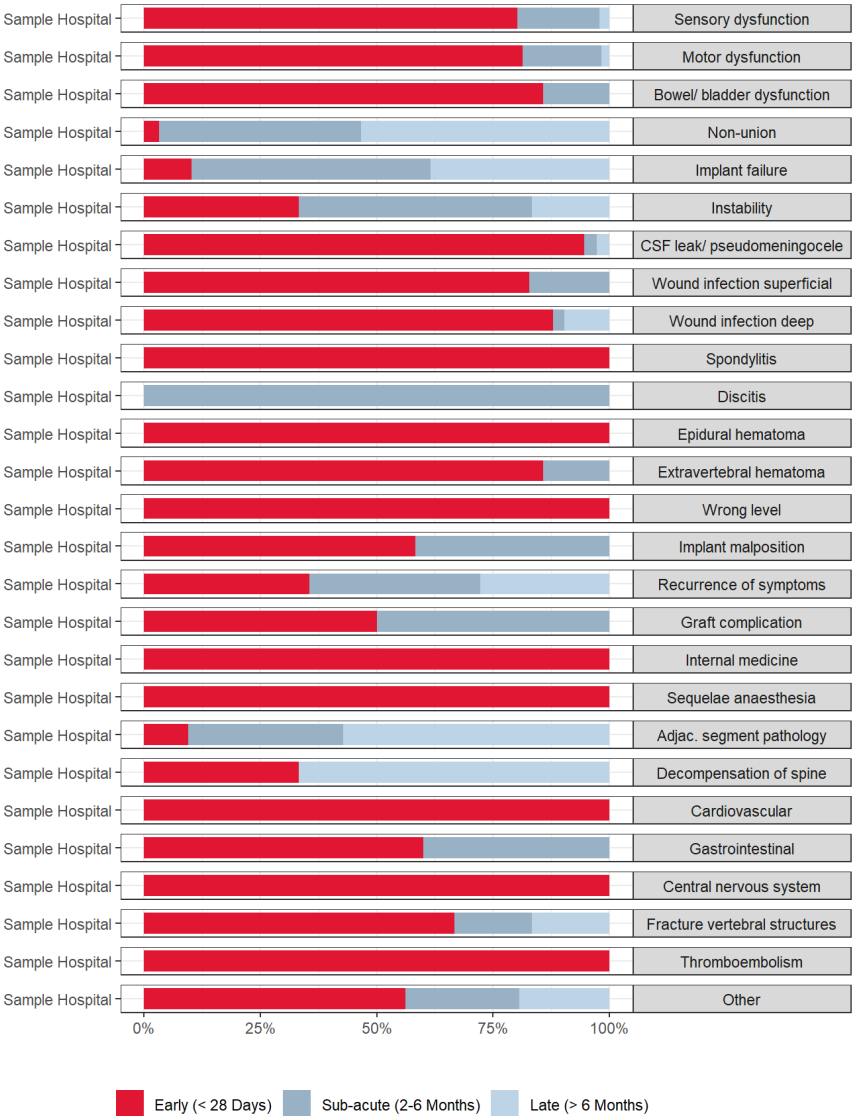
Therapeutic Goals



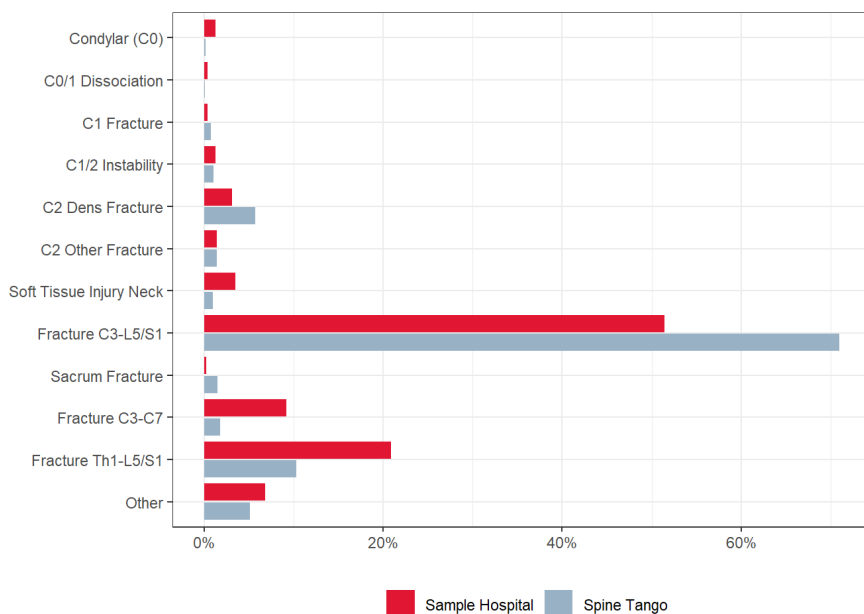
Postoperative Complications

Complications?	Sample Hospital	Spine Tango
No	86.2% (3389)	91.4% (80378)
Yes	13.8% (544)	8.6% (7560)
Complication Type	Sample Hospital	Spine Tango
Sensory dysfunction	2.3% (91)	1.3% (1158)
Motor dysfunction	1.5% (59)	1.0% (850)
Bowel/ bladder dysfunction	0.5% (21)	0.2% (198)
Non-union	0.8% (30)	0.4% (344)
Implant failure	1.0% (39)	0.6% (562)
Instability	0.3% (12)	0.3% (250)
CSF leak/ pseudomeningocele	0.9% (37)	0.3% (299)
Wound infection superficial	0.7% (29)	0.8% (730)
Wound infection deep	1.0% (41)	0.4% (338)
Spondylitis	0.0% (1)	0.0% (26)
Discitis	0.1% (2)	0.1% (45)
Epidural hematoma	0.7% (26)	0.1% (105)
Extravertebral hematoma	0.2% (7)	0.1% (62)
Wrong level	0.1% (4)	0.0% (5)
Implant malposition	0.3% (12)	0.2% (182)
Recurrence of symptoms	2.3% (90)	1.3% (1164)
Graft complication	0.3% (10)	0.1% (68)
Internal medicine	0.2% (6)	0.1% (96)
Sequelae anaesthesia	0.1% (3)	0.0% (18)
Adjac. segment pathology	0.5% (21)	0.7% (587)
Recurrent tumor	0.0% (0)	0.0% (8)
Decompensation of spine	0.1% (3)	0.1% (90)
Cardiovascular	0.1% (2)	0.1% (56)
Gastrointestinal	0.1% (5)	0.1% (44)
Central nervous system	0.1% (5)	0.0% (30)
Fracture vertebral structures	0.2% (6)	0.4% (317)
Thromboembolism	0.1% (3)	0.1% (65)
Other	3.5% (139)	1.9% (1632)
None	86.2% (3389)	91.4% (80378)

Complication Time



Fracture / Trauma



Type of Fracture / Trauma	Sample Hospital	Spine Tango
Condylar (C0)	1.3% (10)	0.2% (8)
C0/1 Dissociation	0.4% (3)	0.1% (6)
C1 Fracture	0.4% (3)	0.8% (34)
C1/2 Instability	1.3% (10)	1.1% (49)
C2 Dens Fracture	3.1% (24)	5.7% (257)
C2 Other Fracture	1.4% (11)	1.4% (64)
Soft Tissue Injury Neck	3.5% (27)	1.0% (46)
Fracture C3-L5/S1	51.4% (397)	71.0% (3200)
Sacrum Fracture	0.3% (2)	1.5% (69)
Fracture C3-C7	9.2% (71)	1.8% (80)
Fracture Th1-L5/S1	20.9% (161)	10.3% (466)
Other	6.9% (53)	5.1% (231)

Preoperative Profile

	Sample Hospital	Spine Tango
Mean Age	51.2	57.0
< 18	1.3% (10)	2.1% (97)
18-39	29.2% (227)	22.2% (1025)
40-49	16.7% (130)	11.1% (513)
50-59	18.1% (141)	15.3% (705)
60-79	27.5% (214)	34.9% (1610)
>= 80	7.2% (56)	14.4% (663)
Gender		
Male	67.5% (525)	54.7% (2523)
Female	32.5% (253)	45.3% (2091)
Smoker		
No	30.0% (234)	29.9% (1380)
Yes	12.8% (100)	8.5% (393)
Unknown	57.1% (445)	61.6% (2841)
Median BMI	24.4	25.2
< 20	9.5% (74)	2.9% (132)
20-25	36.5% (284)	23.8% (1098)
26-30	26.2% (204)	15.9% (734)
31-35	8.0% (62)	5.2% (240)
> 35	3.6% (28)	1.9% (86)
Unknown	16.3% (127)	50.4% (2324)
Number of Segments Affected		
1	66.2% (516)	69.1% (3186)
2-3	20.0% (156)	22.4% (1035)
>= 4	7.3% (57)	4.5% (206)
Unknown	6.4% (50)	4.1% (187)
Previous Surgeries (Any Level)		
0	90.2% (703)	85.4% (3942)
1	7.1% (55)	10.3% (477)
> 1	1.9% (15)	3.6% (167)
Unknown	0.8% (6)	0.6% (28)

Perioperative Profile

Characteristic	Sample Hospital	Spine Tango
Blood Loss		
< 100 ml	33.8% (263)	35.1% (1618)
100 - 500 ml	40.7% (317)	36.0% (1663)
500 - 1000 ml	9.2% (72)	8.0% (370)
1000 - 2000 ml	1.9% (15)	2.5% (115)
> 2000 ml	0.1% (1)	0.8% (35)
Unknown	14.2% (111)	17.6% (813)
Blood Transfusion		
None	82.2% (640)	46.1% (2126)
< 2 units	1.9% (15)	3.3% (151)
>= 2 units	1.0% (8)	1.8% (84)
Cell Saver	9.9% (77)	2.7% (126)
Unknown	5.3% (41)	46.8% (2159)
Prophylaxis		
None	6.7% (52)	1.6% (75)
Infection	56.6% (441)	36.5% (1685)
Thromboembolism	47.1% (367)	29.5% (1363)
Ossification	0.6% (5)	0.7% (34)
Other	0.0% (0)	0.2% (9)
Unknown	34.0% (265)	59.8% (2760)
Technology		
Conventional	72.0% (561)	54.1% (2497)
MISS / LISS	6.0% (47)	22.9% (1056)
Loops	5.4% (42)	6.7% (310)
Endoscope	0.0% (0)	0.4% (20)
Microscope	26.2% (204)	12.8% (591)
CASS	0.0% (0)	1.9% (87)
Neuromonitoring	3.5% (27)	2.8% (131)
Intraoperative 3d-Imaging	0.3% (2)	1.8% (81)
Other	1.8% (14)	4.3% (198)
Unknown	0.3% (2)	8.0% (370)

Characteristic	Sample Hospital	Spine Tango
Operation Time		
< 1 hr.	6.4% (50)	26.7% (1231)
1-2 hrs.	24.1% (188)	25.7% (1187)
2-3 hrs.	31.5% (245)	19.8% (913)
3-4 hrs.	18.2% (142)	9.4% (436)
4-5 hrs.	7.1% (55)	3.6% (165)
5-6 hrs.	4.9% (38)	2.1% (96)
6-8 hrs.	3.1% (24)	1.1% (52)
8-10 hrs.	0.4% (3)	0.3% (15)
> 10 hrs.	0.0% (0)	0.0% (0)
Unknown	4.4% (34)	11.2% (519)
Anterior Access		
No Anterior Access	77.8% (606)	78.4% (3616)
Transoral	0.1% (1)	0.1% (6)
Anterolateral	20.0% (156)	10.2% (470)
Cervicothoracic Anterolateral	1.2% (9)	1.0% (46)
Cervicothoracic With Sternotomy	0.0% (0)	0.0% (1)
Cervicothoracic Anterolat With Sternotomy	0.0% (0)	0.0% (0)
Thoracotomy	0.4% (3)	2.4% (111)
Cervicothoracic Anterolat With Thoracotomy	0.0% (0)	0.0% (1)
Thoracoabdominal	0.3% (2)	0.1% (6)
Retroperitoneal	0.4% (3)	1.2% (56)
Thoraco-Phrenico-Lumbotomy	0.0% (0)	0.3% (15)
Transperitoneal	0.0% (0)	0.0% (1)
Trans-Psoas (XLIF)	0.1% (1)	0.3% (12)
Other	0.0% (0)	0.8% (38)
Unknown	0.0% (0)	5.1% (236)
Posterior Access		
No Posterior Access	17.1% (133)	20.7% (956)
Midline	79.6% (620)	46.3% (2135)
Paramedian	1.0% (8)	15.4% (712)
Posterolateral	0.3% (2)	2.8% (129)
Percutaneous	1.8% (14)	13.4% (618)
Para-Coccygeal (AxialIF)	0.0% (0)	0.1% (3)
Other	0.4% (3)	1.7% (78)

Surgical Measures

Decompression

Characteristic	Sample Hospital	Spine Tango
Decompression		
None	62.9% (490)	66.0% (3043)
Discectomy	16.4% (128)	13.4% (620)
Vertebrectomy Partial	2.4% (19)	3.7% (171)
Vertebrectomy Full	1.2% (9)	2.0% (90)
Osteotomy	0.3% (2)	0.6% (29)
Laminotomy	3.7% (29)	3.3% (152)
Hemi-Laminectomy	1.0% (8)	2.2% (100)
Laminectomy	12.7% (99)	11.3% (520)
Facet Joint Resection Partial	2.6% (20)	3.8% (175)
Facet Joint Resection Full	0.6% (5)	1.8% (84)
Flavectomy	4.7% (37)	5.7% (265)
Foraminotomy	2.4% (19)	3.4% (159)
Sequestrectomy	1.0% (8)	0.8% (36)
Flavotomy	0.1% (1)	0.3% (12)
Uncoforaminotomy	0.8% (6)	1.0% (44)
Other	0.9% (7)	2.0% (94)
Unknown	0.4% (3)	1.9% (87)

Fusion

Characteristic	Sample Hospital	Spine Tango
Fusion Promoting Measures		
None	32.0% (249)	53.3% (2457)
Posterolateral Fusion	16.9% (132)	14.2% (653)
Posterior Fusion	23.1% (180)	14.1% (651)
Interbody Fusion (A-IF)	17.7% (138)	6.7% (311)
Interbody Fusion (PLIF)	6.8% (53)	0.4% (18)
Interbody Fusion (TLIF)	0.9% (7)	1.2% (57)
Interbody Fusion (XLIF)	0.3% (2)	0.4% (19)
Other Interbody Fusion	5.1% (40)	2.3% (108)
Ilio-Sacral Fusion	0.0% (0)	0.2% (7)
Other	2.4% (19)	12.6% (581)
Unknown	0.5% (4)	1.9% (89)

Stabilisation

Characteristic	Sample Hospital	Spine Tango
Rigid Stabilisation		
None	6.2% (48)	33.5% (1545)
Interbody Stabilisation With Cage	15.9% (124)	10.2% (469)
Interbody Stabilisation With Auto-/ Allograft	2.3% (18)	0.8% (36)
Vertebral Body Replacement By Cage	2.4% (19)	3.5% (160)
Plates	14.9% (116)	11.8% (544)
Pedicle Screws With Rod	42.1% (328)	34.4% (1586)
Pedicle Screws With Plate	0.0% (0)	0.3% (12)
Facet Screws	0.6% (5)	0.7% (30)
Transarticular Screw	0.0% (0)	0.8% (39)
Transarticular Screw C1-C2	0.1% (1)	0.6% (26)
Laminar Hooks	0.8% (6)	0.3% (16)
Pedicle Hooks	0.3% (2)	0.5% (25)
Lateral Mass Screw	16.3% (127)	6.3% (291)
Odontoid Screws	1.2% (9)	3.0% (139)
Laminar Screws	0.4% (3)	0.3% (13)
Pedicle Screws Cemented	1.9% (15)	1.6% (72)
Pedicle Screws Uncemented	20.7% (161)	7.4% (340)
Other	1.2% (9)	3.8% (176)
Unknown	0.8% (6)	1.7% (78)
Motion Preserving Stabilisation		
None	99.0% (771)	95.5% (4408)
Disc Replacement	0.5% (4)	0.3% (13)
Dynamic Stabilization	0.4% (3)	0.3% (12)
Interspinous Spacer	0.0% (0)	0.0% (2)
Other	0.0% (0)	0.9% (43)
Unknown	0.1% (1)	3.0% (138)

Complications

General Complications

	Sample Hospital	Spine Tango
Intraoperative General Complications		
None	97.8% (762)	61.3% (2828)
Anaesthesiological	0.3% (2)	0.1% (6)
Cardiovascular	0.3% (2)	0.2% (8)
Pulmonary	0.0% (0)	0.2% (8)
Thromboembolism	0.0% (0)	0.0% (1)
Death	0.1% (1)	0.0% (0)
Not Documented	1.5% (12)	38.1% (1760)
Other	0.0% (0)	0.2% (8)
Postoperative General Complications		
None	89.5% (697)	56.5% (2605)
Cardiovascular	0.6% (5)	0.8% (36)
Pulmonary	3.1% (24)	2.0% (94)
Cerebral	0.4% (3)	0.3% (15)
Kidney / Urinary	1.0% (8)	1.1% (52)
Liver / Gi	0.3% (2)	0.6% (27)
Thromboembolism	0.0% (0)	0.2% (8)
Death	1.4% (11)	0.5% (25)
Not Documented	4.0% (31)	38.4% (1771)
Positioning-Related	0.0% (0)	0.0% (0)
Other	1.4% (11)	1.4% (63)

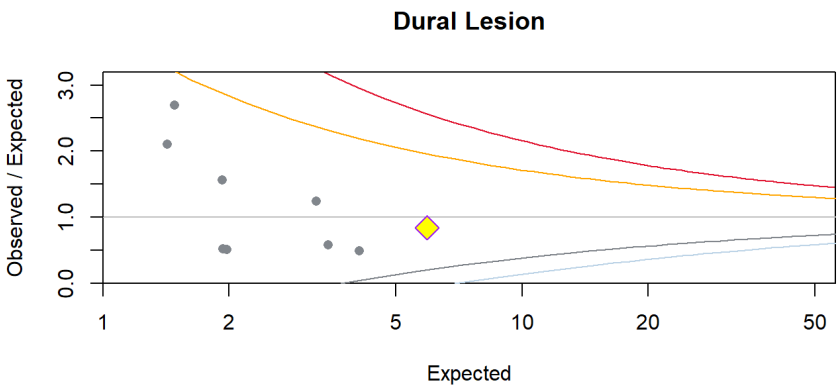
Surgical Complications

	Sample Hospital	Spine Tango
Intraoperative Surgical Complications		
None	96.8% (754)	60.5% (2791)
Nerve Root Damage	0.0% (0)	0.0% (1)
Spinal Cord Damage	0.0% (0)	0.0% (0)
Dural Lesion	0.6% (5)	0.7% (33)
Vascular Injury	0.0% (0)	0.0% (2)
Fracture Vertebral Structures	0.1% (1)	0.1% (4)
Not Documented	1.5% (12)	37.9% (1749)
Other	0.9% (7)	0.8% (35)
Postoperative Surgical Complications		
None	91.3% (711)	58.8% (2711)
Epidural Hematoma	0.0% (0)	0.0% (2)
Other Hematoma	0.1% (1)	0.3% (15)
Radiculopathy	0.0% (0)	0.1% (6)
CSF Leak / Pseudomeningocele	0.3% (2)	0.2% (8)
Motor Dysfunction	0.5% (4)	0.5% (21)
Sensory Dysfunction	0.0% (0)	0.5% (21)
Bowel / Bladder Dysfunction	0.3% (2)	0.1% (6)
Wound Infection Superficial	0.8% (6)	0.4% (20)
Wound Infection Deep	0.9% (7)	0.5% (22)
Implant Malposition	1.0% (8)	0.3% (13)
Implant Failure	0.4% (3)	0.4% (18)
Wrong Level	0.1% (1)	0.0% (0)
Not Documented	3.6% (28)	38.2% (1763)
Recurrent Nerve Paresis	0.1% (1)	0.0% (0)
Other	1.3% (10)	0.9% (42)

Adverse Events

Adverse Event	Sample Hospital	Spine Tango	Expected	p-value
Dural Lesion	0.6% (5)	0.7% (33)	0.8% (6)	1.00
Fracture Vertebral Structures	0.1% (1)	0.1% (4)	0.0% (0)	0.43
Nerve Root Damage	0.0% (0)	0.0% (1)	0.0% (0)	1.00
Spinal Cord Damage	0.0% (0)	0.0% (0)	0.0% (0)	1.00
Vascular Injury	0.0% (0)	0.0% (2)	0.0% (0)	1.00

Funnel Plots

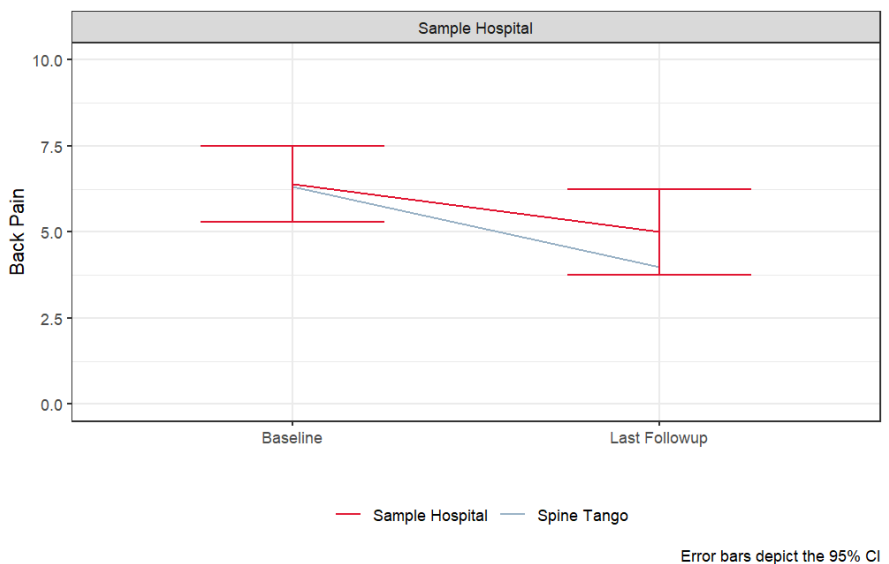


COMI Analysis - Back / Legs

Summary

Group	Patients	Baseline	<= 3 Months	<= 6 Months	<= 1 Year	<= 2 Years	> 2 Years	Mean (Years)	Range (Years)
Sample Hospital	223	44	70	110	43	128	126	1.27	0.00-12.24
Spine Tango	1682	1112	1023	496	663	676	530	1.03	0.00-9.68

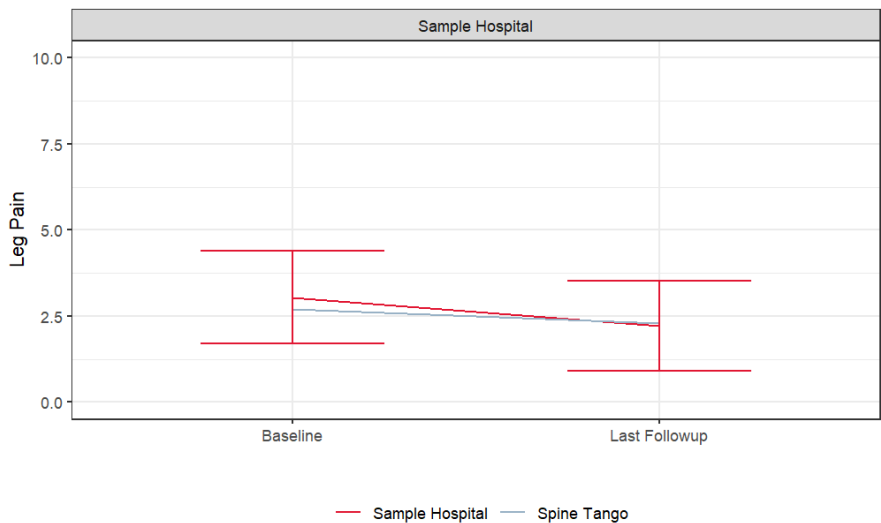
Back Pain Analysis



Group	Paired Observations	Baseline			Last Followup			p-value
		Mean	CI (95%)	SD	Mean	CI (95%)	SD	
Sample Hospital	23	6.39	5.29-7.49	2.69	5.00	3.75-6.25	3.06	0.08
Spine Tango	664	6.31	6.10-6.52	2.76	3.99	3.78-4.20	2.79	< 0.001

Note: p-values were calculated using a one-sided Wilcoxon test

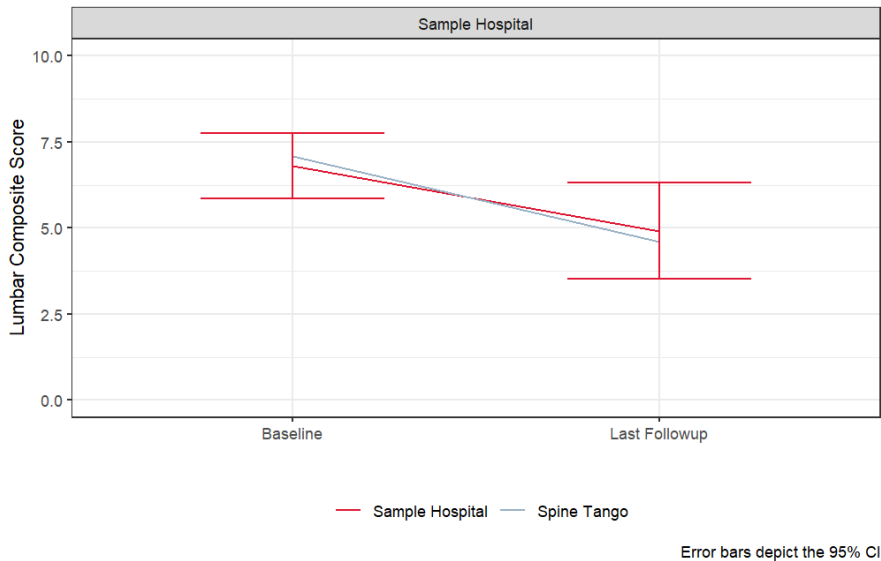
Leg Pain Analysis



Group	Paired Observations	Baseline			Last Followup			p-value
		Mean	CI (95%)	SD	Mean	CI (95%)	SD	
Sample Hospital	23	3.04	1.70-4.39	3.30	2.22	0.91-3.53	3.20	0.31
Spine Tango	664	2.70	2.45-2.94	3.20	2.30	2.09-2.51	2.82	< 0.05

Note: p-values were calculated using a one-sided Wilcoxon test

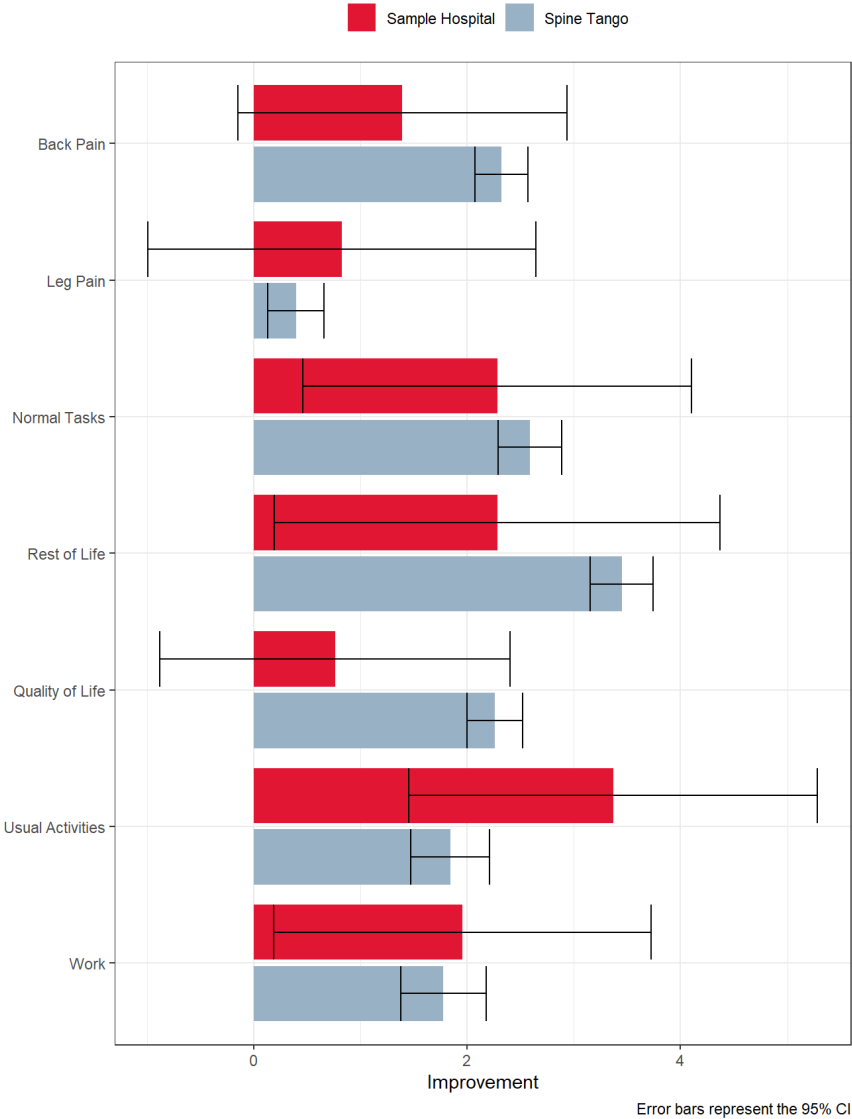
Composite Score Analysis



Group	Paired Observations	Baseline			Last Followup			p-value
		Mean	CI (95%)	SD	Mean	CI (95%)	SD	
Sample Hospital	23	6.80	5.86-7.75	2.31	4.92	3.53-6.31	3.40	< 0.05
Spine Tango	664	7.10	6.93-7.26	2.16	4.61	4.39-4.83	2.83	< 0.001

Note: p-values were calculated using a one-sided Wilcoxon test

Domain Analysis

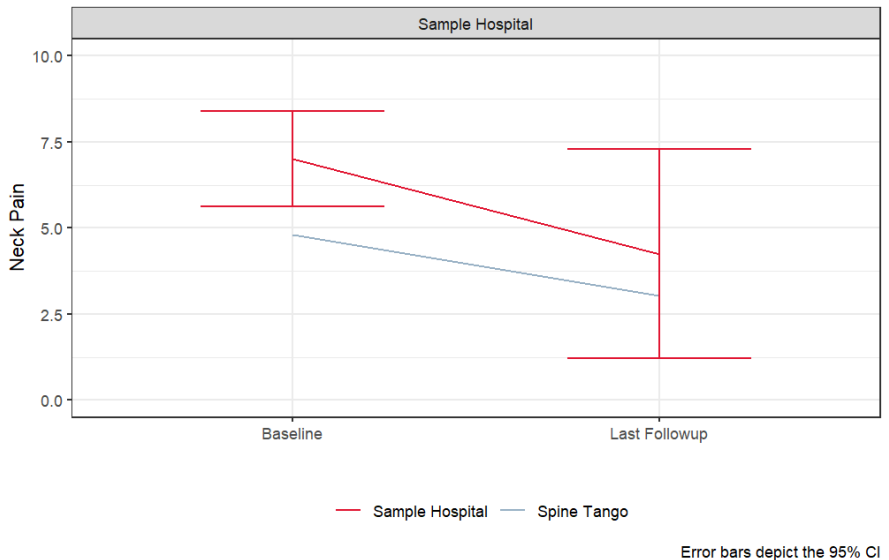


COMI Analysis - Neck / Arms

Summary

Group	Patients	Baseline	<= 3 Months	<= 6 Months	<= 1 Year	<= 2 Years	> 2 Years	Mean (Years)	Range (Years)
Sample Hospital	121	14	42	53	21	76	49	1.00	0.02-3.99
Spine Tango	516	221	287	142	187	226	179	1.10	0.00-9.18

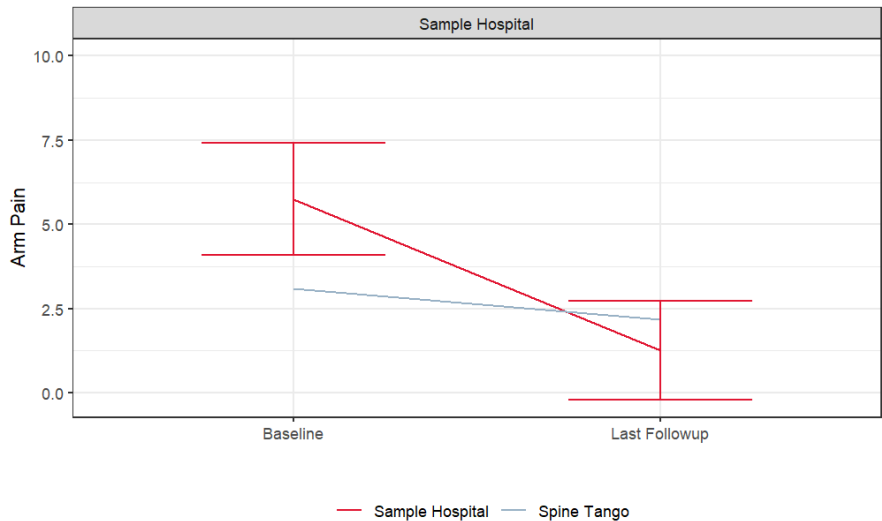
Neck Pain Analysis



Group	Paired Observations	Baseline			Last Followup			p-value
		Mean	CI (95%)	SD	Mean	CI (95%)	SD	
Sample Hospital	4	7.00	5.61-8.39	1.41	4.25	1.22-7.28	3.10	0.37
Spine Tango	165	4.80	4.34-5.26	3.03	3.05	2.64-3.46	2.70	< 0.001

Note: p-values were calculated using a one-sided Wilcoxon test

Arm Pain Analysis

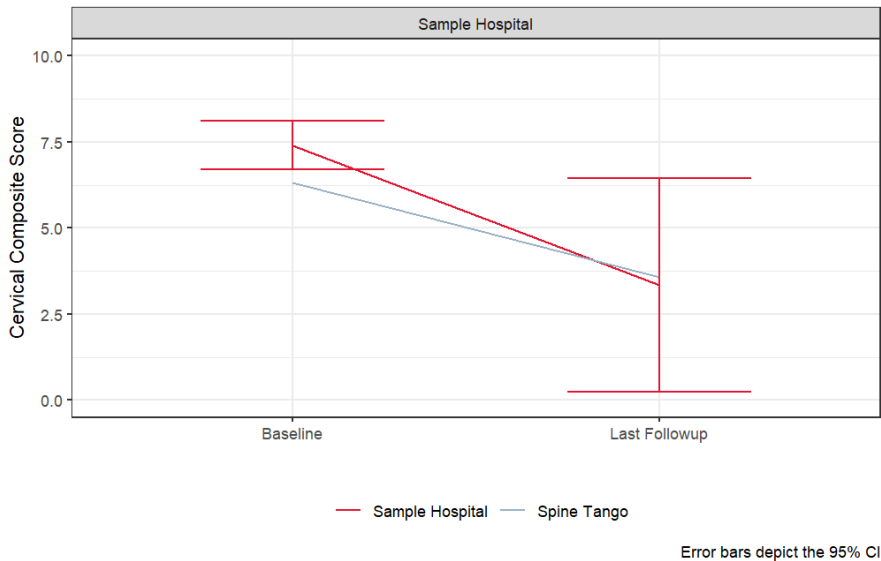


Error bars depict the 95% CI

Group	Paired Observations	Baseline			Last Followup			p-value
		Mean	CI (95%)	SD	Mean	CI (95%)	SD	
Sample Hospital	4	5.75	4.08-7.42	1.71	1.25	-0.22-2.72	1.50	0.10
Spine Tango	165	3.08	2.58-3.59	3.33	2.18	1.79-2.57	2.57	< 0.05

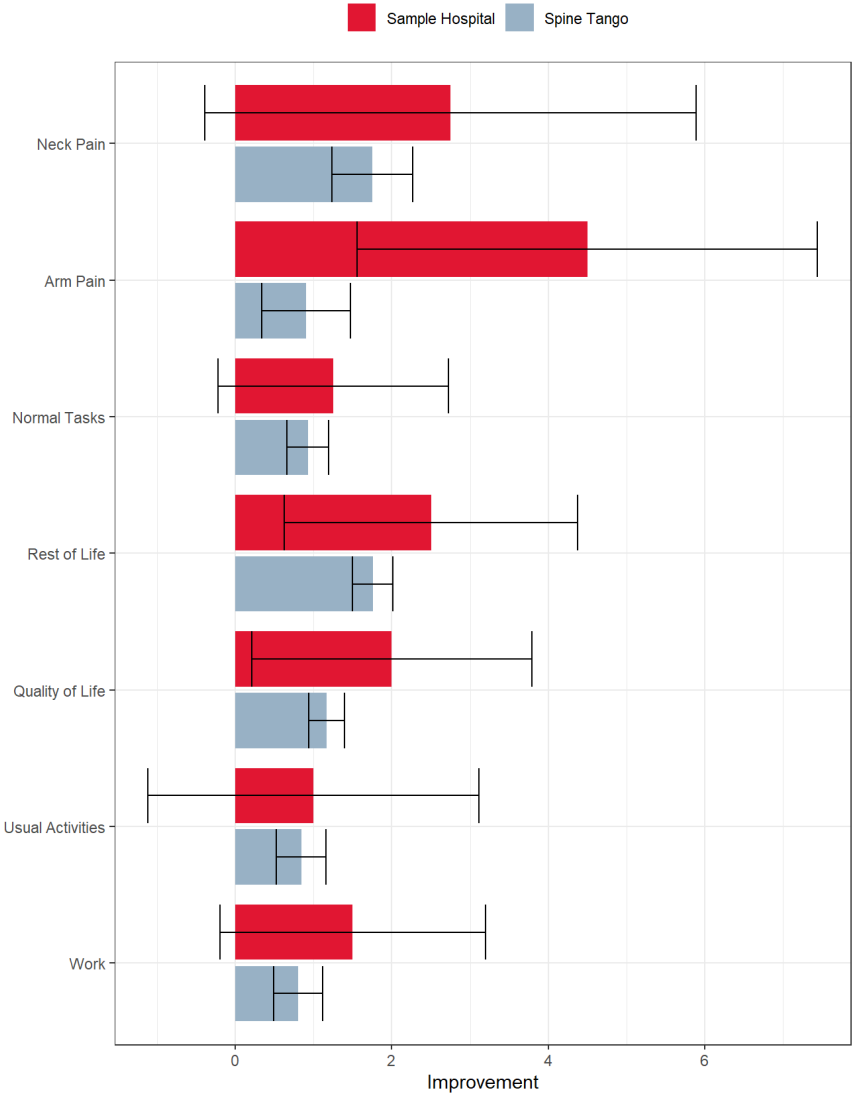
Note: p-values were calculated using a one-sided Wilcoxon test

Composite Score Analysis



Note: p-values were calculated using a one-sided Wilcoxon test

Domain Analysis

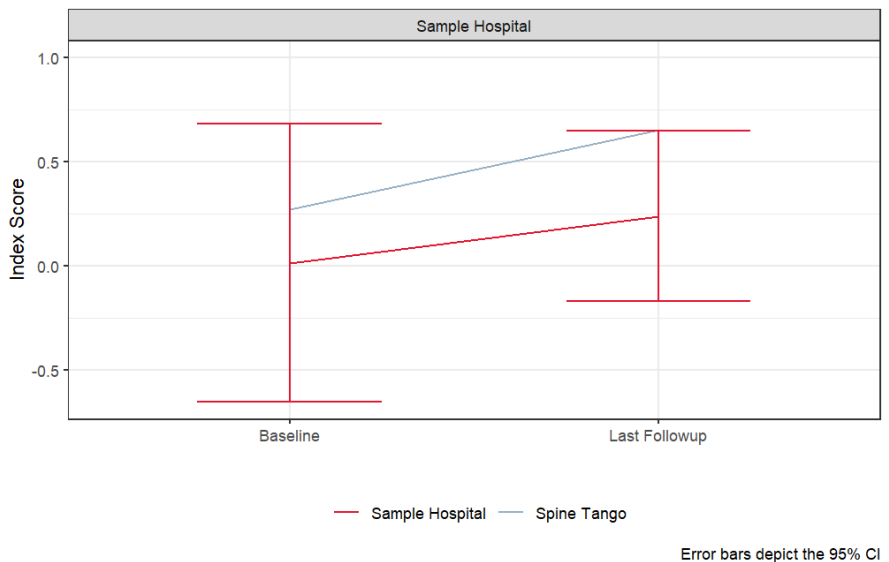


EQ-5D-3L Analysis

Summary

Group	Patients	Baseline	<= 3 Months	<= 6 Months	<= 1 Year	<= 2 Years	> 2 Years	Mean (Years)	Range (Years)
Sample Hospital	234	7	91	97	37	143	116	1.04	0.02-3.75
Spine Tango	938	524	629	266	362	326	248	0.90	0.00-9.68

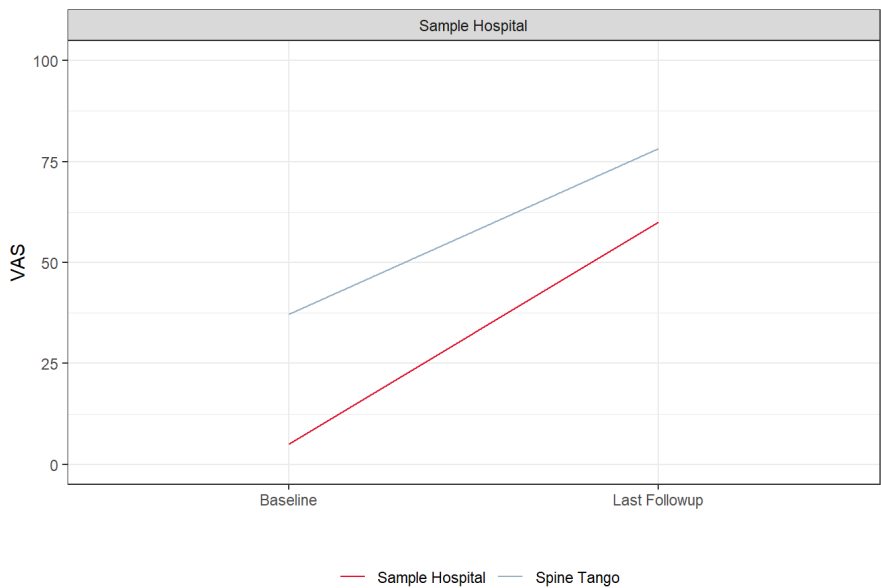
Index Score Analysis



Group	Paired Observations	Baseline			Last Followup			p-value
		Mean	CI (95%)	SD	Mean	CI (95%)	SD	
Sample Hospital	3	0.02	-0.65-0.69	0.59	0.24	-0.17-0.65	0.36	0.75
Spine Tango	343	0.27	0.23-0.32	0.41	0.66	0.62-0.69	0.33	< 0.001

Note: p-values were calculated using a one-sided Wilcoxon test

VAS Analysis

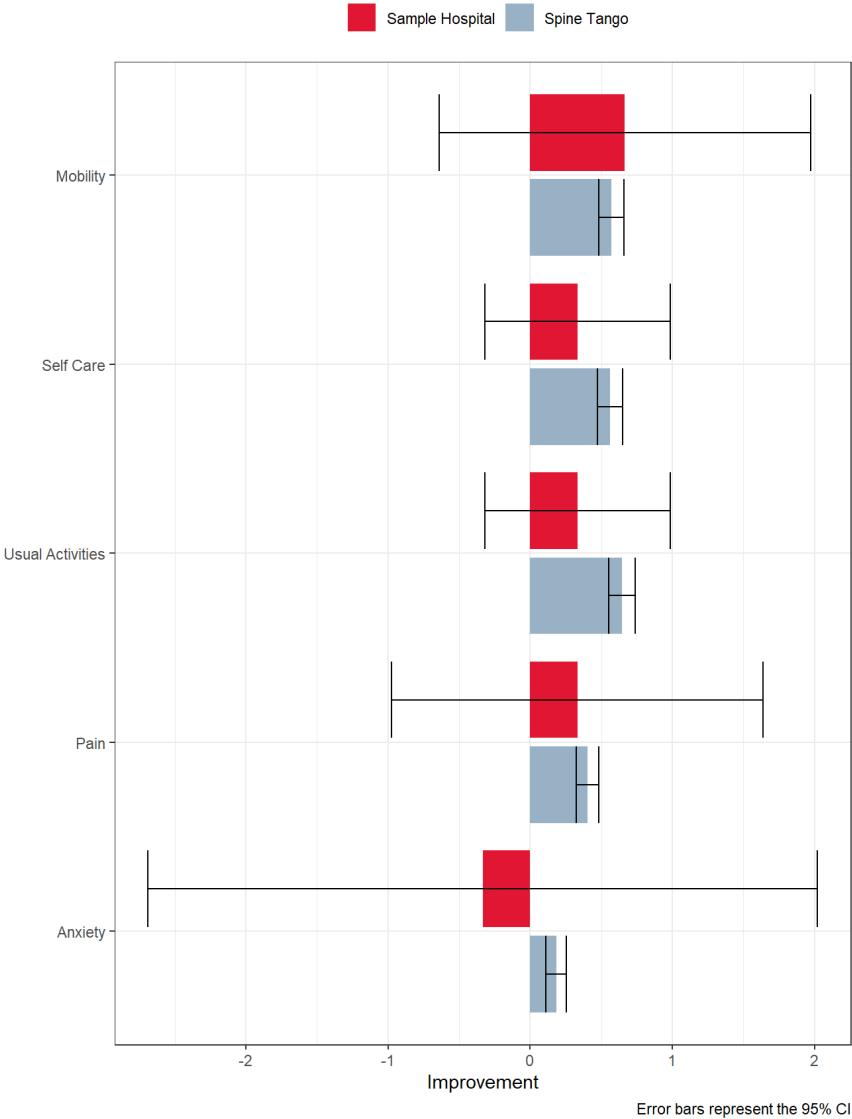


Error bars depict the 95% CI

Group	Paired Observations	Baseline			Last Followup			p-value
		Mean	CI (95%)	SD	Mean	CI (95%)	SD	
Sample Hospital	1	5.00	Undefined	Undefined	60.00	Undefined	Undefined	1.00
Spine Tango	5	37.20	19.04-55.36	20.72	78.20	70.55-85.85	8.73	0.06

Note: p-values were calculated using a one-sided Wilcoxon test

Domain Analysis



Surgery Follow-up

Summary

Group	Patients	6 Weeks	3 Months	6 Months	1 Year	2 Years	Other	Mean	Range
Sample Hospital	2463	1026	657	817	369	131	933	0.61	0.03-3.28
Spine Tango	51723	35118	20162	9456	12437	4230	6535	0.72	0.00-12.22

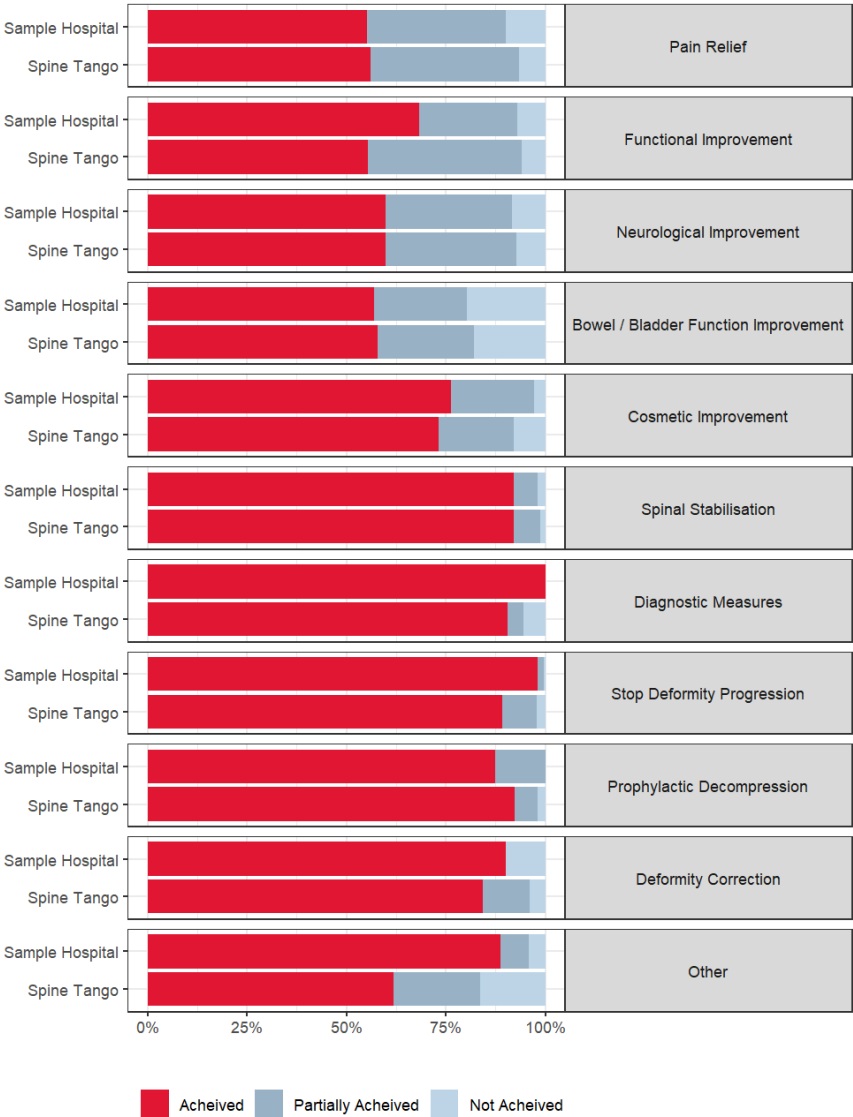
Outcome

Outcome	Sample Hospital	Spine Tango
Excellent	42.2% (1658)	29.8% (26248)
Good	35.9% (1411)	49.5% (43529)
Fair	13.7% (537)	15.2% (13400)
Poor	8.2% (322)	4.8% (4262)
Not Applicable	0.1% (5)	0.6% (494)
Unknown	0.0% (0)	0.0% (5)

Work Status

Work Status	Sample Hospital	Spine Tango
Not at work since OP	25.4% (999)	27.3% (24021)
Started partially, same job	3.9% (154)	7.2% (6343)
Fully reintegrated	15.9% (626)	15.3% (13430)
Resumed work, but quit again	0.6% (24)	0.5% (430)
Resumed work, different job	0.6% (22)	0.8% (680)
Has been dismissed	1.4% (54)	0.7% (619)
Retired since OP	1.5% (60)	1.1% (1000)
Retired before OP	38.7% (1521)	37.2% (32741)
Housewife/man	3.0% (118)	5.3% (4668)
Child/student	7.2% (282)	1.0% (923)
Other	1.9% (73)	3.5% (3083)

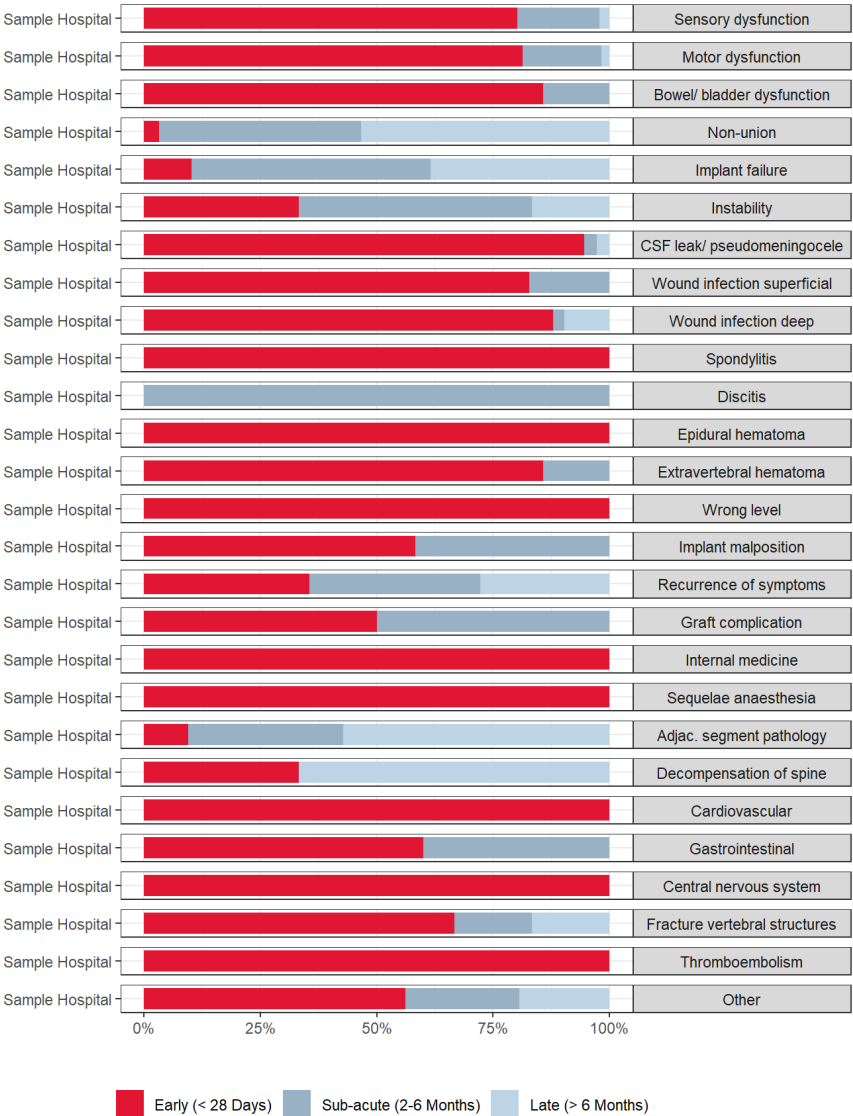
Therapeutic Goals



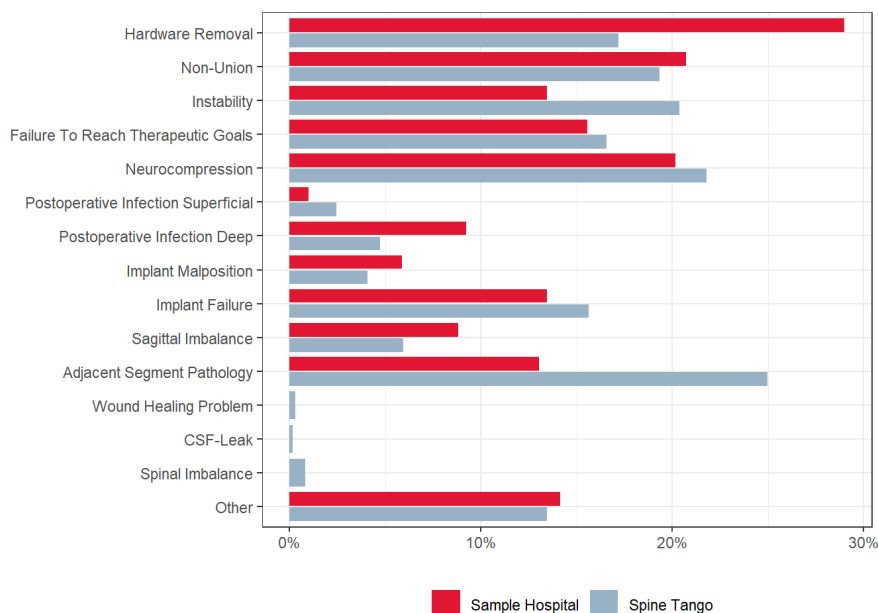
Postoperative Complications

Complications?	Sample Hospital	Spine Tango
No	86.2% (3389)	91.4% (80378)
Yes	13.8% (544)	8.6% (7560)
Complication Type	Sample Hospital	Spine Tango
Sensory dysfunction	2.3% (91)	1.3% (1158)
Motor dysfunction	1.5% (59)	1.0% (850)
Bowel/ bladder dysfunction	0.5% (21)	0.2% (198)
Non-union	0.8% (30)	0.4% (344)
Implant failure	1.0% (39)	0.6% (562)
Instability	0.3% (12)	0.3% (250)
CSF leak/ pseudomeningocele	0.9% (37)	0.3% (299)
Wound infection superficial	0.7% (29)	0.8% (730)
Wound infection deep	1.0% (41)	0.4% (338)
Spondylitis	0.0% (1)	0.0% (26)
Discitis	0.1% (2)	0.1% (45)
Epidural hematoma	0.7% (26)	0.1% (105)
Extravertebral hematoma	0.2% (7)	0.1% (62)
Wrong level	0.1% (4)	0.0% (5)
Implant malposition	0.3% (12)	0.2% (182)
Recurrence of symptoms	2.3% (90)	1.3% (1164)
Graft complication	0.3% (10)	0.1% (68)
Internal medicine	0.2% (6)	0.1% (96)
Sequelae anaesthesia	0.1% (3)	0.0% (18)
Adjac. segment pathology	0.5% (21)	0.7% (587)
Recurrent tumor	0.0% (0)	0.0% (8)
Decompensation of spine	0.1% (3)	0.1% (90)
Cardiovascular	0.1% (2)	0.1% (56)
Gastrointestinal	0.1% (5)	0.1% (44)
Central nervous system	0.1% (5)	0.0% (30)
Fracture vertebral structures	0.2% (6)	0.4% (317)
Thromboembolism	0.1% (3)	0.1% (65)
Other	3.5% (139)	1.9% (1632)
None	86.2% (3389)	91.4% (80378)

Complication Time



Repeat Surgery



Type of Repeat Surgery	Sample Hospital	Spine Tango
Hardware Removal	29.0% (207)	17.2% (976)
Non-Union	20.7% (148)	19.3% (1098)
Instability	13.4% (96)	20.4% (1157)
Failure To Reach Therapeutic Goals	15.5% (111)	16.6% (940)
Neurocompression	20.2% (144)	21.8% (1237)
Postoperative Infection Superficial	1.0% (7)	2.4% (138)
Postoperative Infection Deep	9.2% (66)	4.7% (268)
Implant Malposition	5.9% (42)	4.1% (231)
Implant Failure	13.4% (96)	15.6% (887)
Sagittal Imbalance	8.8% (63)	5.9% (337)
Adjacent Segment Pathology	13.0% (93)	25.0% (1418)
Wound Healing Problem	0.0% (0)	0.3% (16)
CSF-Leak	0.0% (0)	0.2% (9)
Spinal Imbalance	0.0% (0)	0.8% (47)

Other	14.1% (101)	13.5% (764)
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Preoperative Profile

	Sample Hospital	Spine Tango
Mean Age	52.1	60.8
< 18	1.4% (10)	1.1% (63)
18-39	22.7% (163)	10.1% (574)
40-49	16.3% (117)	12.2% (690)
50-59	24.4% (175)	19.7% (1116)
60-79	32.3% (232)	48.6% (2759)
>= 80	2.9% (21)	8.4% (474)
Gender		
Male	40.5% (291)	44.0% (2496)
Female	59.5% (427)	56.0% (3183)
Smoker		
No	58.6% (421)	52.1% (2959)
Yes	24.1% (173)	18.1% (1028)
Unknown	17.3% (124)	29.8% (1692)
Median BMI	25.8	26.9
< 20	9.2% (66)	5.0% (282)
20-25	40.9% (294)	29.2% (1658)
26-30	27.7% (199)	30.3% (1721)
31-35	11.7% (84)	14.1% (801)
> 35	6.1% (44)	6.3% (360)
Unknown	4.3% (31)	15.1% (857)
Number of Segments Affected		
1	38.7% (278)	43.7% (2480)
2-3	20.2% (145)	21.1% (1198)
>= 4	29.1% (209)	14.3% (814)
Unknown	12.0% (86)	20.9% (1187)
Previous Surgeries (Any Level)		
0	0.0% (0)	0.0% (0)
1	55.7% (400)	45.0% (2553)
> 1	43.7% (314)	43.2% (2454)
Unknown	0.6% (4)	11.8% (672)

Perioperative Profile

Characteristic	Sample Hospital	Spine Tango
Blood Loss		
< 100 ml	46.8% (336)	27.0% (1534)
100 - 500 ml	31.3% (225)	29.5% (1678)
500 - 1000 ml	8.6% (62)	11.4% (650)
1000 - 2000 ml	5.3% (38)	5.1% (289)
> 2000 ml	2.2% (16)	2.0% (111)
Unknown	5.7% (41)	25.0% (1417)
Blood Transfusion		
None	81.9% (588)	61.3% (3484)
< 2 units	2.5% (18)	2.4% (139)
>= 2 units	3.1% (22)	4.3% (247)
Cell Saver	13.4% (96)	14.6% (827)
Unknown	1.9% (14)	20.9% (1188)
Prophylaxis		
None	2.4% (17)	1.1% (64)
Infection	60.6% (435)	58.5% (3323)
Thromboembolism	20.9% (150)	51.9% (2945)
Ossification	0.0% (0)	0.2% (10)
Other	0.0% (0)	0.1% (8)
Unknown	36.4% (261)	36.8% (2091)
Technology		
Conventional	71.7% (515)	56.0% (3181)
MISS / LISS	13.4% (96)	7.5% (424)
Loops	27.2% (195)	3.6% (206)
Endoscope	0.1% (1)	0.2% (14)
Microscope	14.5% (104)	20.6% (1168)
CASS	0.3% (2)	2.1% (119)
Neuromonitoring	2.4% (17)	9.6% (545)
Intraoperative 3d-Imaging	0.3% (2)	2.4% (138)
Other	3.2% (23)	1.0% (59)
Unknown	0.3% (2)	17.8% (1012)

Characteristic	Sample Hospital	Spine Tango
Operation Time		
< 1 hr.	29.2% (210)	15.1% (859)
1-2 hrs.	26.9% (193)	21.6% (1225)
2-3 hrs.	13.9% (100)	16.3% (928)
3-4 hrs.	11.1% (80)	11.5% (652)
4-5 hrs.	6.5% (47)	6.7% (379)
5-6 hrs.	5.0% (36)	4.4% (248)
6-8 hrs.	4.2% (30)	4.1% (230)
8-10 hrs.	1.7% (12)	1.3% (72)
> 10 hrs.	0.0% (0)	0.0% (0)
Unknown	1.4% (10)	19.1% (1086)
Anterior Access		
No Anterior Access	91.6% (658)	84.5% (4800)
Transoral	0.1% (1)	0.2% (9)
Anterolateral	6.0% (43)	5.0% (283)
Cervicothoracic Anterolateral	0.1% (1)	0.2% (11)
Cervicothoracic With Sternotomy	0.0% (0)	0.0% (0)
Cervicothoracic Anterolat With Sternotomy	0.0% (0)	0.0% (0)
Thoracotomy	0.0% (0)	0.6% (34)
Cervicothoracic Anterolat With Thoracotomy	0.0% (0)	0.0% (0)
Thoracoabdominal	0.0% (0)	0.2% (14)
Retroperitoneal	2.1% (15)	3.8% (217)
Thoraco-Phrenico-Lumbotomy	0.0% (0)	0.0% (0)
Transperitoneal	0.0% (0)	0.1% (6)
Trans-Psoas (XLIF)	0.0% (0)	4.8% (273)
Other	0.0% (0)	0.7% (37)
Posterior Access		
No Posterior Access	7.0% (50)	8.2% (463)
Midline	87.3% (627)	78.5% (4456)
Paramedian	3.1% (22)	9.9% (563)
Posterolateral	0.1% (1)	0.5% (28)
Percutaneous	1.7% (12)	1.7% (94)
Para-Coccygeal (AxialIF)	0.0% (0)	0.0% (2)
Other	1.0% (7)	1.5% (88)

Surgical Measures

Decompression

Characteristic	Sample Hospital	Spine Tango
Decompression		
None	50.0% (359)	35.2% (1999)
Discectomy	31.3% (225)	37.0% (2099)
Vertebrectomy Partial	4.2% (30)	2.0% (111)
Vertebrectomy Full	0.0% (0)	0.5% (27)
Osteotomy	3.3% (24)	2.9% (162)
Laminotomy	15.3% (110)	24.6% (1398)
Hemi-Laminectomy	1.9% (14)	4.9% (277)
Laminectomy	7.8% (56)	8.6% (489)
Facet Joint Resection Partial	13.0% (93)	19.4% (1104)
Facet Joint Resection Full	10.0% (72)	12.4% (702)
Flavectomy	17.4% (125)	19.5% (1106)
Foraminotomy	12.1% (87)	18.7% (1061)
Sequestrectomy	6.1% (44)	5.5% (314)
Flavotomy	0.4% (3)	1.4% (81)
Uncoforaminotomy	1.3% (9)	0.8% (47)
Other	3.1% (22)	5.2% (296)
Unknown	0.6% (4)	0.0% (1)

Fusion

Characteristic	Sample Hospital	Spine Tango
Fusion Promoting Measures		
None	58.5% (420)	36.2% (2056)
Posterolateral Fusion	10.2% (73)	21.6% (1224)
Posterior Fusion	15.5% (111)	21.6% (1229)
Interbody Fusion (A-IF)	7.7% (55)	7.7% (436)
Interbody Fusion (PLIF)	14.6% (105)	5.8% (331)
Interbody Fusion (TLIF)	5.3% (38)	25.2% (1433)
Interbody Fusion (XLIF)	0.0% (0)	5.6% (316)
Other Interbody Fusion	1.4% (10)	2.1% (117)
Ilio-Sacral Fusion	0.0% (0)	0.3% (16)
Other	0.8% (6)	1.1% (62)
Unknown	0.7% (5)	0.0% (1)

Stabilisation

Characteristic	Sample Hospital	Spine Tango
Rigid Stabilisation		
None	56.7% (407)	31.8% (1808)
Interbody Stabilisation With Cage	19.6% (141)	38.4% (2182)
Interbody Stabilisation With Auto-/ Allograft	6.7% (48)	2.9% (165)
Vertebral Body Replacement By Cage	0.7% (5)	1.1% (64)
Plates	2.4% (17)	3.9% (219)
Pedicle Screws With Rod	24.5% (176)	37.8% (2146)
Pedicle Screws With Plate	0.0% (0)	0.0% (0)
Facet Screws	0.0% (0)	0.3% (18)
Transarticular Screw	0.0% (0)	0.0% (0)
Transarticular Screw C1-C2	0.1% (1)	0.1% (4)
Laminar Hooks	1.4% (10)	0.3% (16)
Pedicle Hooks	1.4% (10)	0.8% (43)
Lateral Mass Screw	1.7% (12)	1.7% (98)
Odontoid Screws	0.1% (1)	0.0% (1)
Laminar Screws	0.0% (0)	0.2% (13)
Pedicle Screws Cemented	0.8% (6)	3.9% (224)
Pedicle Screws Uncemented	9.9% (71)	15.2% (861)
Other	3.3% (24)	4.2% (239)
Unknown	0.8% (6)	0.5% (30)
Motion Preserving Stabilisation		
None	99.4% (714)	85.9% (4878)
Disc Replacement	0.3% (2)	0.3% (19)
Dynamic Stabilization	0.1% (1)	1.2% (68)
Interspinous Spacer	0.0% (0)	0.2% (9)
Other	0.1% (1)	0.2% (9)
Unknown	0.0% (0)	12.3% (699)

Complications

General Complications

	Sample Hospital	Spine Tango
Intraoperative General Complications		
None	99.2% (712)	98.9% (5616)
Anaesthesiological	0.3% (2)	0.1% (7)
Cardiovascular	0.0% (0)	0.2% (9)
Pulmonary	0.0% (0)	0.1% (4)
Thromboembolism	0.0% (0)	0.0% (0)
Death	0.0% (0)	0.0% (2)
Not Documented	0.0% (0)	0.7% (39)
Other	0.6% (4)	0.2% (9)
Postoperative General Complications		
None	95.0% (682)	81.3% (4616)
Cardiovascular	0.4% (3)	1.2% (66)
Pulmonary	0.7% (5)	0.9% (49)
Cerebral	0.8% (6)	0.4% (21)
Kidney / Urinary	0.8% (6)	1.3% (72)
Liver / Gi	0.6% (4)	0.7% (37)
Thromboembolism	0.3% (2)	0.2% (12)
Death	0.3% (2)	0.1% (7)
Not Documented	0.7% (5)	13.9% (792)
Positioning-Related	0.1% (1)	0.0% (0)
Other	1.3% (9)	1.4% (81)

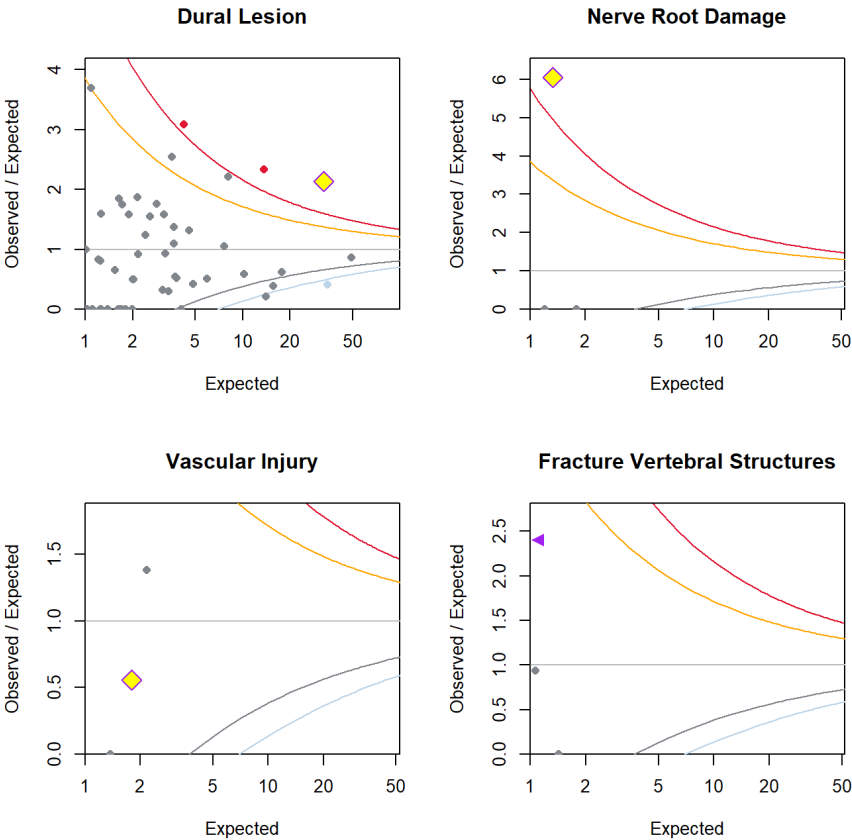
Surgical Complications

	Sample Hospital	Spine Tango
Intraoperative Surgical Complications		
None	87.0% (625)	93.6% (5317)
Nerve Root Damage	1.1% (8)	0.1% (4)
Spinal Cord Damage	0.0% (0)	0.0% (1)
Dural Lesion	9.7% (70)	4.6% (260)
Vascular Injury	0.1% (1)	0.2% (14)
Fracture Vertebral Structures	0.3% (2)	0.1% (7)
Not Documented	0.0% (0)	0.7% (38)
Other	2.6% (19)	0.8% (45)
Postoperative Surgical Complications		
None	90.5% (650)	79.2% (4496)
Epidural Hematoma	0.1% (1)	0.4% (20)
Other Hematoma	0.4% (3)	0.5% (31)
Radiculopathy	2.8% (20)	0.8% (45)
CSF Leak / Pseudomeningocele	0.8% (6)	0.8% (46)
Motor Dysfunction	1.8% (13)	0.8% (44)
Sensory Dysfunction	1.0% (7)	0.7% (37)
Bowel / Bladder Dysfunction	0.4% (3)	0.2% (11)
Wound Infection Superficial	0.3% (2)	1.0% (57)
Wound Infection Deep	1.3% (9)	1.7% (96)
Implant Malposition	0.6% (4)	0.4% (20)
Implant Failure	0.3% (2)	0.2% (14)
Wrong Level	0.1% (1)	0.0% (0)
Not Documented	0.7% (5)	13.5% (769)
Recurrent Nerve Paresis	0.0% (0)	0.0% (1)
Other	1.7% (12)	1.8% (101)

Adverse Events

Adverse Event	Sample Hospital	Spine Tango	Expected	p-value
Dural Lesion	9.7% (70)	4.6% (260)	4.5% (33)	< 0.001
Fracture Vertebral Structures	0.3% (2)	0.1% (7)	0.0% (0)	0.21
Nerve Root Damage	1.1% (8)	0.1% (4)	0.2% (1)	< 0.001
Spinal Cord Damage	0.0% (0)	0.0% (1)	0.0% (0)	1.00
Vascular Injury	0.1% (1)	0.2% (14)	0.2% (2)	1.00

Funnel Plots

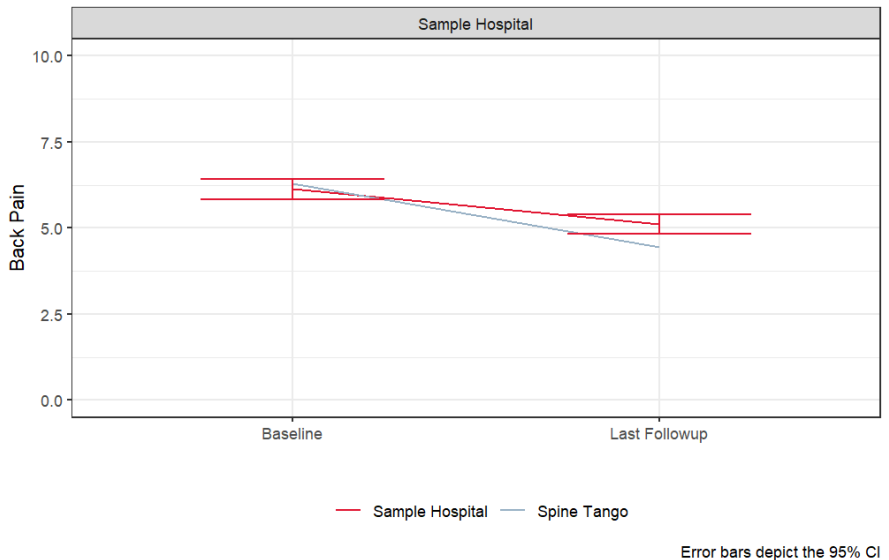


COMI Analysis - Back / Legs

Summary

Group	Patients	Baseline	<= 3 Months	<= 6 Months	<= 1 Year	<= 2 Years	> 2 Years	Mean (Years)	Range (Years)
Sample Hospital	445	743	45	211	89	245	247	1.48	0.03-8.10
Spine Tango	3053	6513	1636	729	986	1211	830	1.02	0.00-8.99

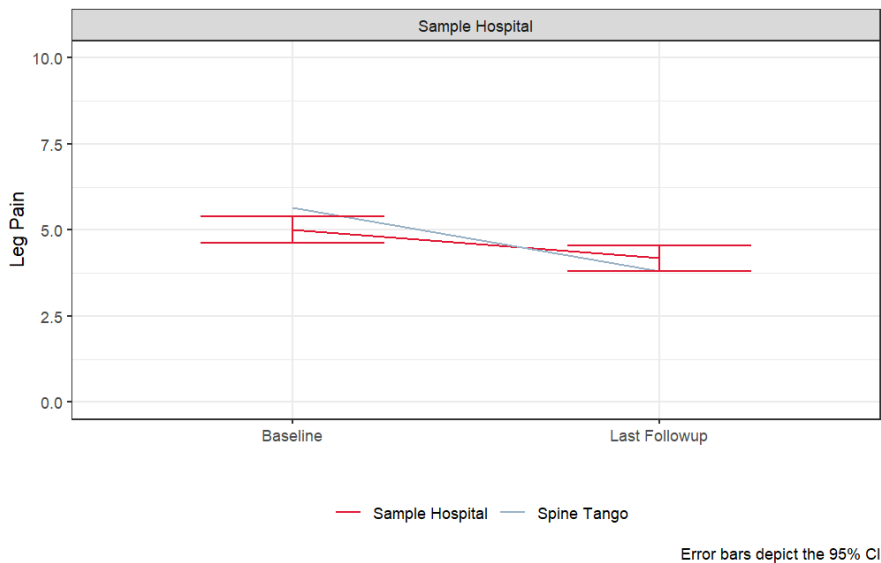
Back Pain Analysis



Group	Paired Observations	Baseline			Last Followup			p-value
		Mean	CI (95%)	SD	Mean	CI (95%)	SD	
Sample Hospital	333	6.13	5.84-6.42	2.74	5.11	4.83-5.40	2.68	< 0.001
Spine Tango	2211	6.28	6.17-6.39	2.70	4.44	4.32-4.56	2.82	< 0.001

Note: p-values were calculated using a one-sided Wilcoxon test

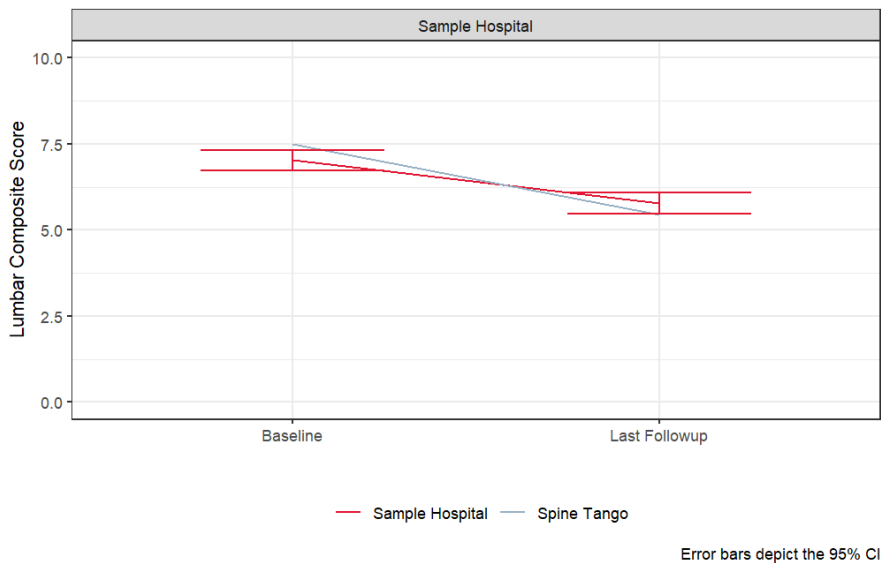
Leg Pain Analysis



Group	Paired Observations	Baseline			Last Followup			p-value
		Mean	CI (95%)	SD	Mean	CI (95%)	SD	
Sample Hospital	333	5.01	4.63-5.39	3.52	4.18	3.82-4.54	3.38	< 0.001
Spine Tango	2211	5.65	5.52-5.79	3.25	3.80	3.67-3.93	3.09	< 0.001

Note: p-values were calculated using a one-sided Wilcoxon test

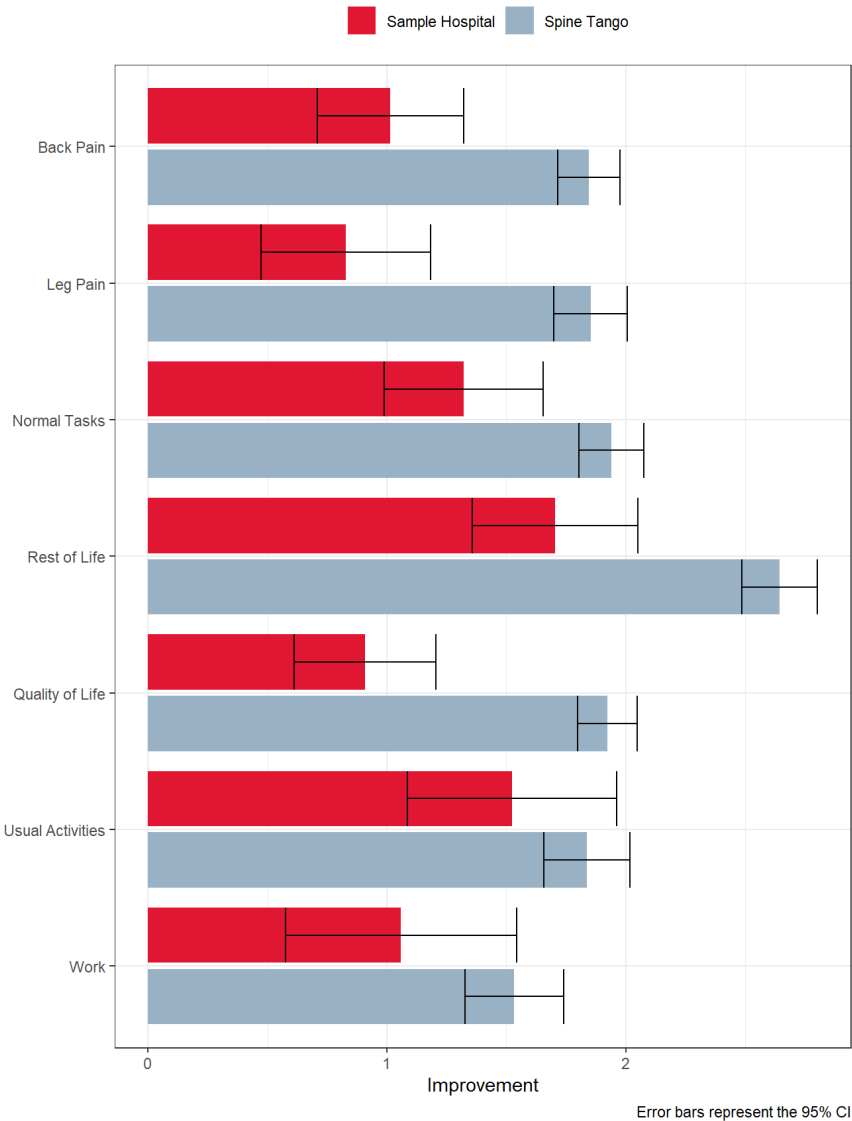
Composite Score Analysis



Group	Paired Observations	Baseline			Last Followup			p-value
		Mean	CI (95%)	SD	Mean	CI (95%)	SD	
Sample Hospital	333	7.02	6.74-7.31	2.67	5.77	5.47-6.08	2.86	< 0.001
Spine Tango	2211	7.51	7.42-7.60	2.12	5.46	5.34-5.57	2.75	< 0.001

Note: p-values were calculated using a one-sided Wilcoxon test

Domain Analysis

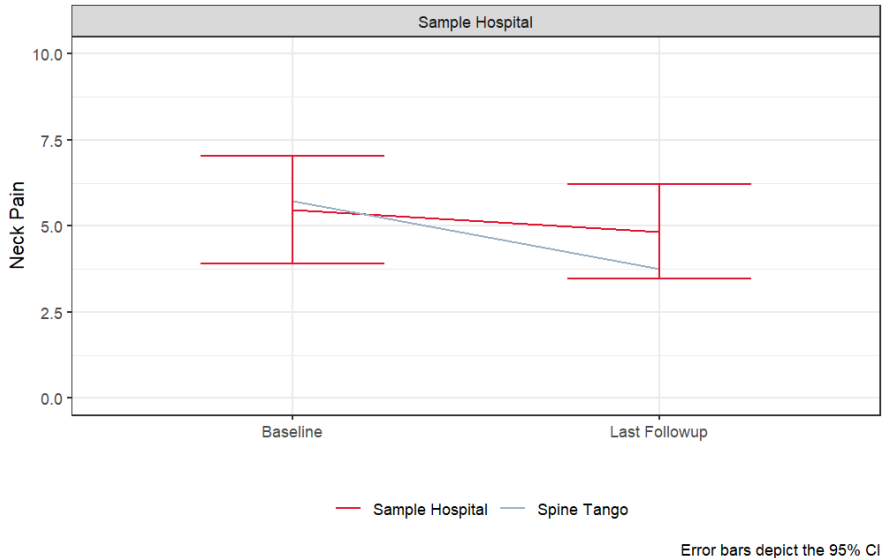


COMI Analysis - Neck / Arms

Summary

Group	Patients	Baseline	<= 3 Months	<= 6 Months	<= 1 Year	<= 2 Years	> 2 Years	Mean (Years)	Range (Years)
Sample Hospital	48	60	5	10	4	11	23	2.50	0.02-8.65
Spine Tango	407	697	178	70	96	128	79	1.02	0.00-7.76

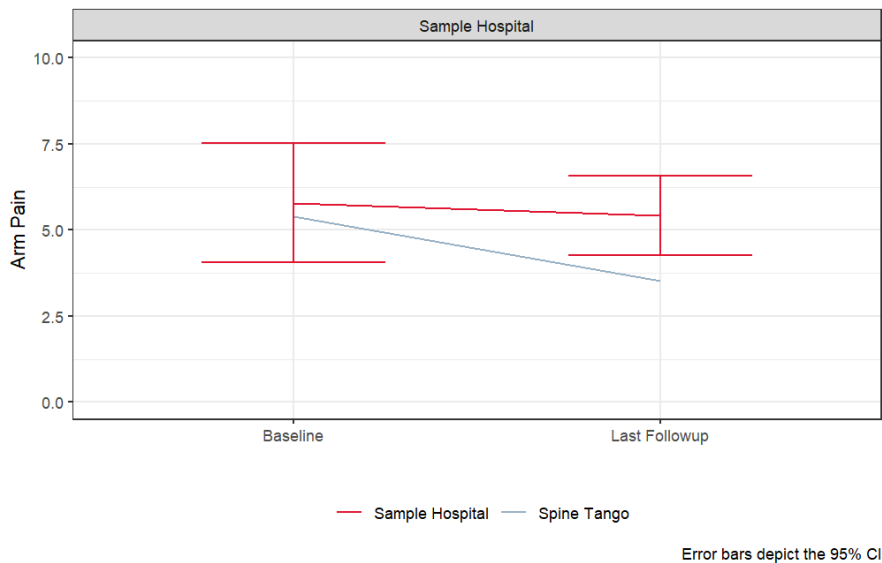
Neck Pain Analysis



Group	Paired Observations	Baseline			Last Followup			p-value
		Mean	CI (95%)	SD	Mean	CI (95%)	SD	
Sample Hospital	19	5.47	3.91-7.03	3.47	4.84	3.47-6.21	3.04	0.33
Spine Tango	211	5.73	5.35-6.12	2.88	3.76	3.39-4.12	2.71	< 0.001

Note: p-values were calculated using a one-sided Wilcoxon test

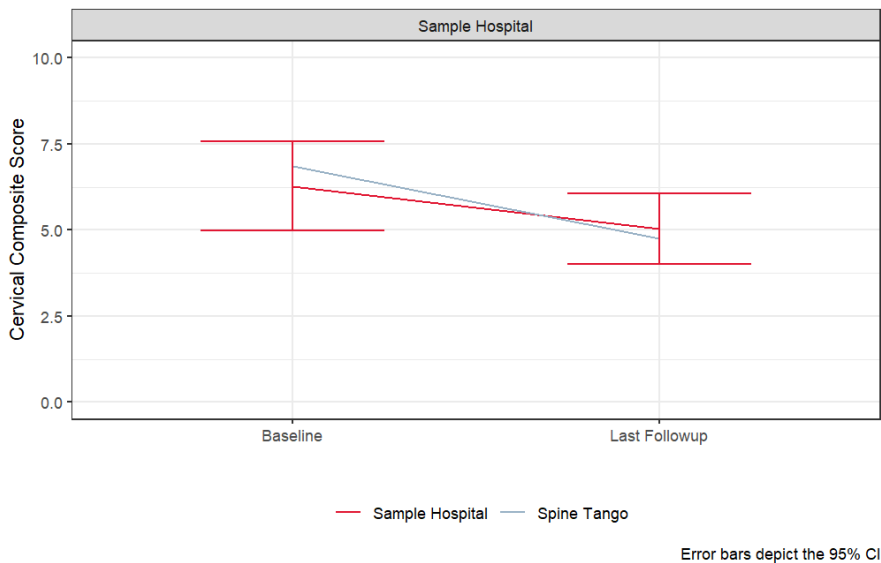
Arm Pain Analysis



Group	Paired Observations	Baseline			Last Followup			p-value
		Mean	CI (95%)	SD	Mean	CI (95%)	SD	
Sample Hospital	19	5.79	4.06-7.52	3.84	5.42	4.27-6.58	2.57	0.81
Spine Tango	211	5.40	4.98-5.82	3.09	3.51	3.12-3.91	2.92	< 0.001

Note: p-values were calculated using a one-sided Wilcoxon test

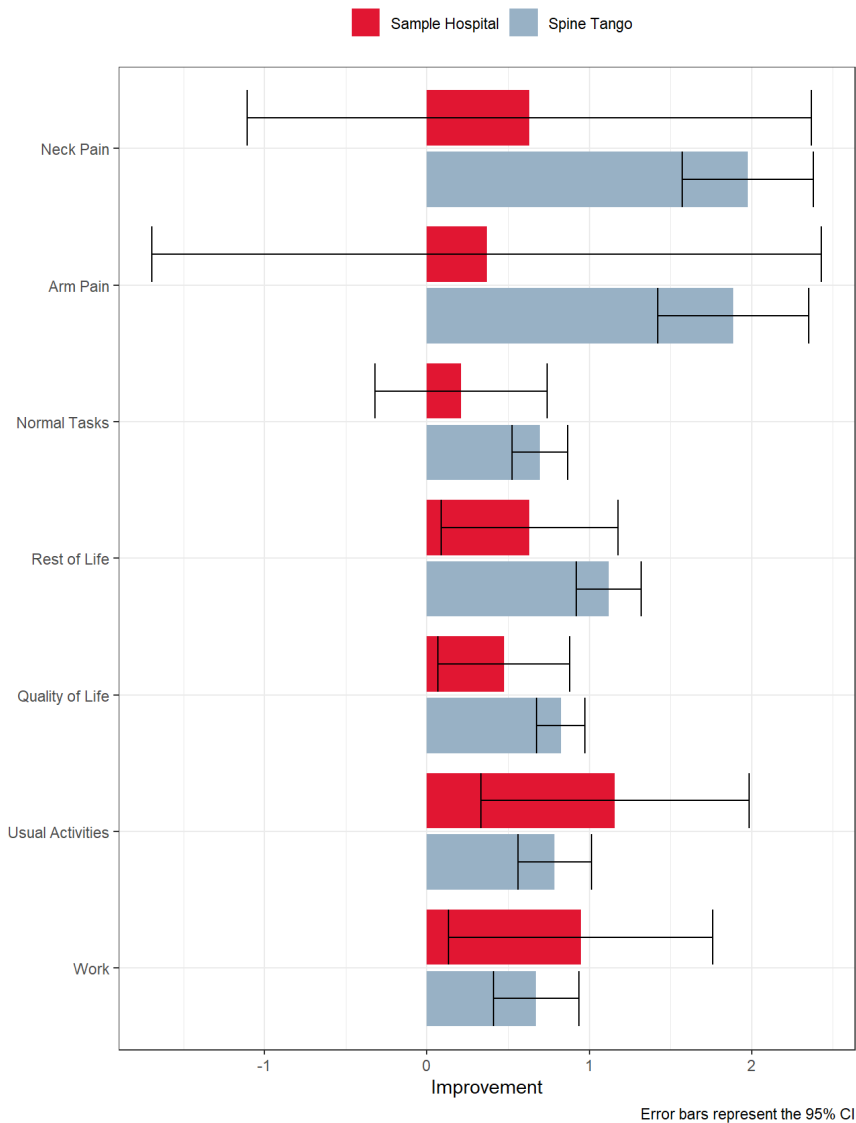
Composite Score Analysis



Group	Paired Observations	Baseline			Last Followup			p-value
		Mean	CI (95%)	SD	Mean	CI (95%)	SD	
Sample Hospital	19	6.28	4.99-7.57	2.87	5.04	4.01-6.07	2.29	0.09
Spine Tango	211	6.86	6.54-7.18	2.39	4.76	4.40-5.12	2.68	< 0.001

Note: p-values were calculated using a one-sided Wilcoxon test

Domain Analysis

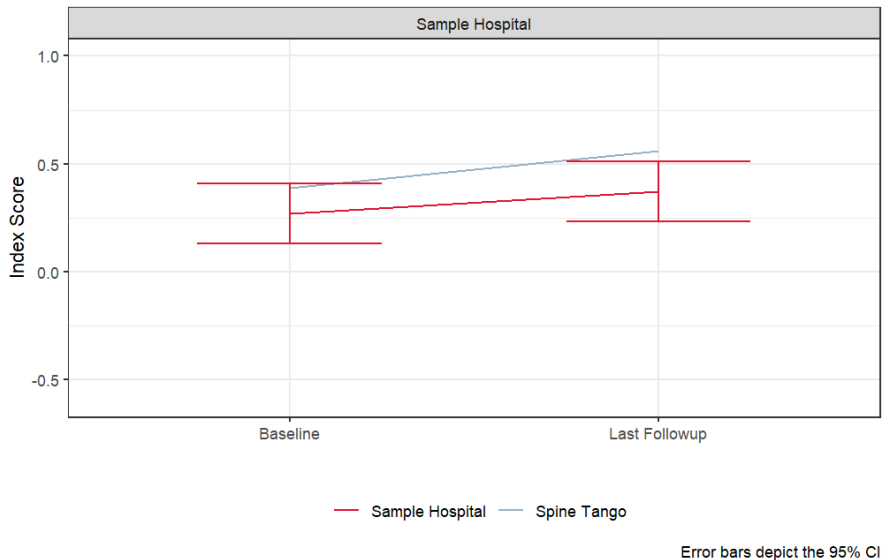


EQ-5D-3L Analysis

Summary

Group	Patients	Baseline	<= 3 Months	<= 6 Months	<= 1 Year	<= 2 Years	> 2 Years	Mean (Years)	Range (Years)
Sample Hospital	106	131	32	32	17	46	56	1.39	0.03-7.33
Spine Tango	1066	2080	425	197	251	382	391	1.28	0.00-8.19

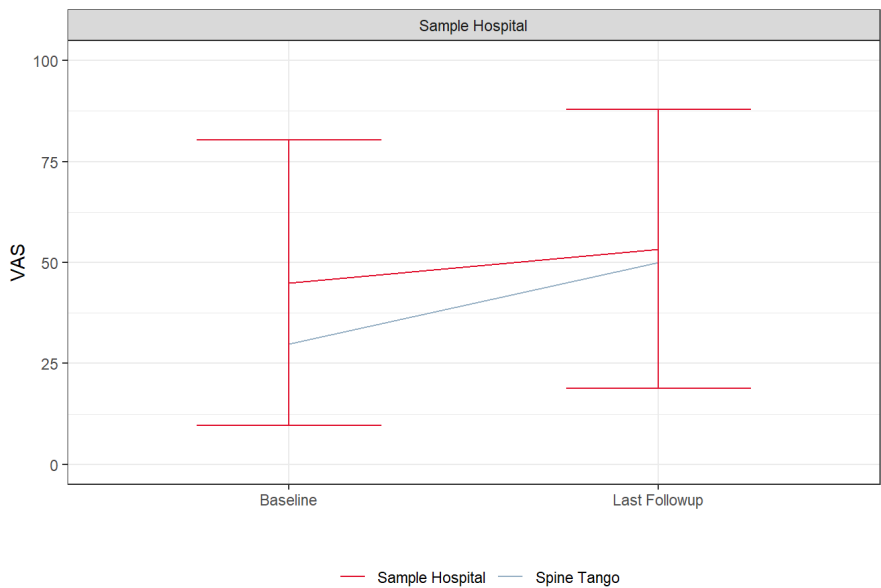
Index Score Analysis



Group	Paired Observations	Baseline			Last Followup			p-value
		Mean	CI (95%)	SD	Mean	CI (95%)	SD	
Sample Hospital	38	0.27	0.13-0.41	0.44	0.37	0.23-0.51	0.44	0.12
Spine Tango	835	0.39	0.37-0.42	0.36	0.56	0.54-0.58	0.33	< 0.001

Note: p-values were calculated using a one-sided Wilcoxon test

VAS Analysis

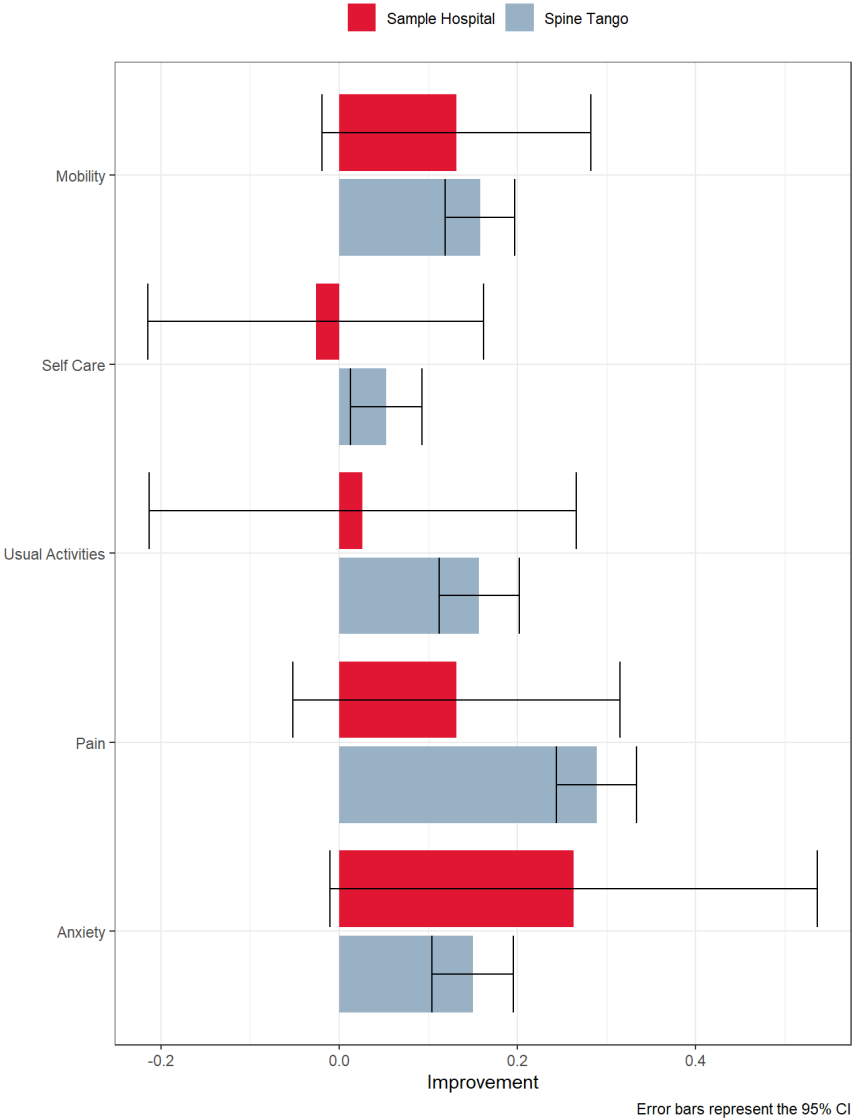


Error bars depict the 95% CI

Group	Paired Observations	Baseline			Last Followup			p-value
		Mean	CI (95%)	SD	Mean	CI (95%)	SD	
Sample Hospital	3	45.00	9.67-80.33	31.22	53.33	18.76-87.90	30.55	0.17
Spine Tango	9	29.78	14.06-45.49	24.05	50.00	33.91-66.09	24.62	0.11

Note: p-values were calculated using a one-sided Wilcoxon test

Domain Analysis



Surgery Follow-up

Summary

Group	Patients	6 Weeks	3 Months	6 Months	1 Year	2 Years	Other	Mean	Range
Sample Hospital	2463	1026	657	817	369	131	933	0.71	0.04-6.15
Spine Tango	51723	35118	20162	9456	12437	4230	6535	0.78	0.02-8.99

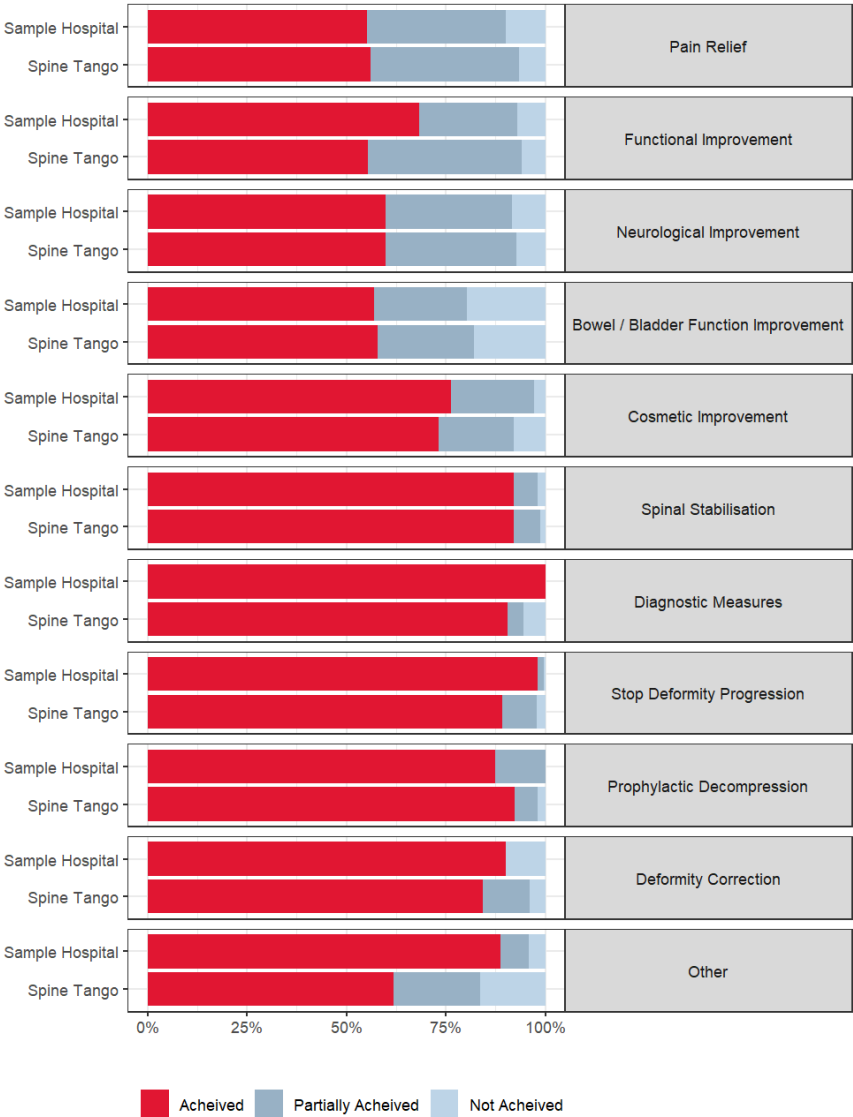
Outcome

Outcome	Sample Hospital	Spine Tango
Excellent	42.2% (1658)	29.8% (26248)
Good	35.9% (1411)	49.5% (43529)
Fair	13.7% (537)	15.2% (13400)
Poor	8.2% (322)	4.8% (4262)
Not Applicable	0.1% (5)	0.6% (494)
Unknown	0.0% (0)	0.0% (5)

Work Status

Work Status	Sample Hospital	Spine Tango
Not at work since OP	25.4% (999)	27.3% (24021)
Started partially, same job	3.9% (154)	7.2% (6343)
Fully reintegrated	15.9% (626)	15.3% (13430)
Resumed work, but quit again	0.6% (24)	0.5% (430)
Resumed work, different job	0.6% (22)	0.8% (680)
Has been dismissed	1.4% (54)	0.7% (619)
Retired since OP	1.5% (60)	1.1% (1000)
Retired before OP	38.7% (1521)	37.2% (32741)
Housewife/man	3.0% (118)	5.3% (4668)
Child/student	7.2% (282)	1.0% (923)
Other	1.9% (73)	3.5% (3083)

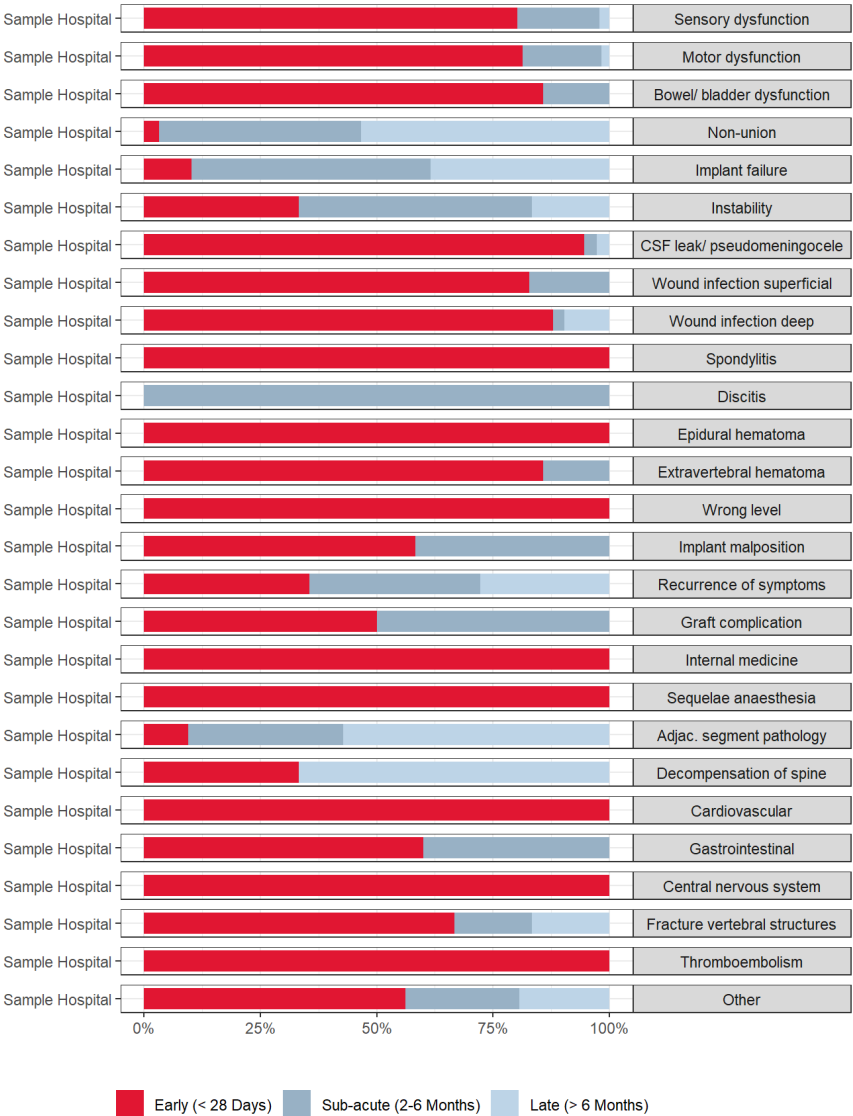
Therapeutic Goals



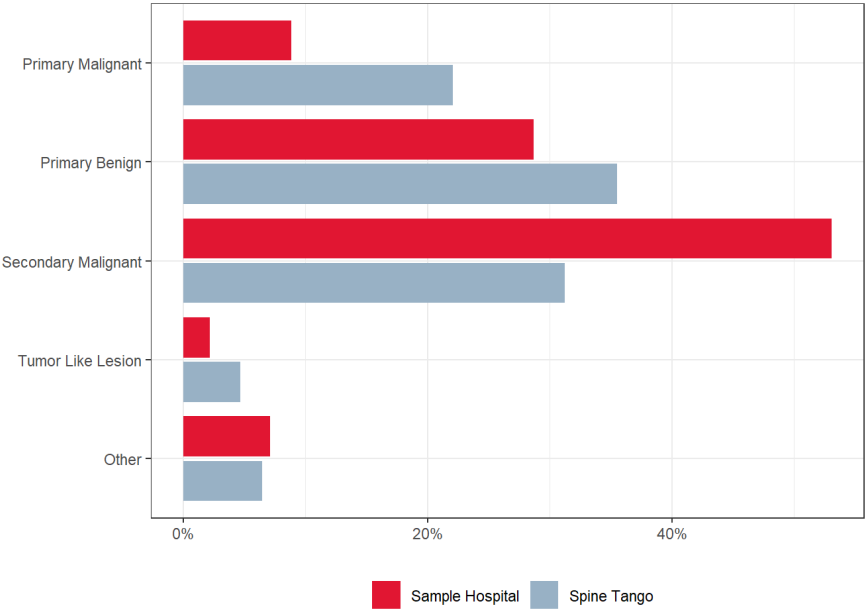
Postoperative Complications

Complications?	Sample Hospital	Spine Tango
No	86.2% (3389)	91.4% (80378)
Yes	13.8% (544)	8.6% (7560)
Complication Type	Sample Hospital	Spine Tango
Sensory dysfunction	2.3% (91)	1.3% (1158)
Motor dysfunction	1.5% (59)	1.0% (850)
Bowel/ bladder dysfunction	0.5% (21)	0.2% (198)
Non-union	0.8% (30)	0.4% (344)
Implant failure	1.0% (39)	0.6% (562)
Instability	0.3% (12)	0.3% (250)
CSF leak/ pseudomeningocele	0.9% (37)	0.3% (299)
Wound infection superficial	0.7% (29)	0.8% (730)
Wound infection deep	1.0% (41)	0.4% (338)
Spondylitis	0.0% (1)	0.0% (26)
Discitis	0.1% (2)	0.1% (45)
Epidural hematoma	0.7% (26)	0.1% (105)
Extravertebral hematoma	0.2% (7)	0.1% (62)
Wrong level	0.1% (4)	0.0% (5)
Implant malposition	0.3% (12)	0.2% (182)
Recurrence of symptoms	2.3% (90)	1.3% (1164)
Graft complication	0.3% (10)	0.1% (68)
Internal medicine	0.2% (6)	0.1% (96)
Sequelae anaesthesia	0.1% (3)	0.0% (18)
Adjac. segment pathology	0.5% (21)	0.7% (587)
Recurrent tumor	0.0% (0)	0.0% (8)
Decompensation of spine	0.1% (3)	0.1% (90)
Cardiovascular	0.1% (2)	0.1% (56)
Gastrointestinal	0.1% (5)	0.1% (44)
Central nervous system	0.1% (5)	0.0% (30)
Fracture vertebral structures	0.2% (6)	0.4% (317)
Thromboembolism	0.1% (3)	0.1% (65)
Other	3.5% (139)	1.9% (1632)
None	86.2% (3389)	91.4% (80378)

Complication Time



Tumor



Type of Tumor	Sample Hospital	Spine Tango
Primary Malignant	8.9% (72)	22.1% (569)
Primary Benign	28.7% (233)	35.5% (915)
Secondary Malignant	53.1% (431)	31.2% (805)
Tumor Like Lesion	2.2% (18)	4.7% (121)
Other	7.1% (58)	6.5% (167)

Preoperative Profile

	Sample Hospital	Spine Tango
Mean Age	58.3	57.2
< 18	0.5% (4)	2.5% (64)
18-39	13.2% (107)	13.1% (342)
40-49	13.1% (106)	13.6% (353)
50-59	22.0% (178)	20.6% (537)
60-79	46.2% (374)	45.4% (1181)
>= 80	5.1% (41)	4.8% (124)
Gender		
Male	50.0% (405)	52.8% (1374)
Female	50.0% (405)	47.2% (1229)
Smoker		
No	39.8% (323)	35.8% (933)
Yes	6.3% (51)	6.3% (163)
Unknown	53.9% (438)	57.9% (1507)
Median BMI	25.4	25.7
< 20	9.1% (74)	2.9% (75)
20-25	30.8% (250)	20.7% (539)
26-30	30.0% (244)	17.7% (461)
31-35	12.1% (98)	7.0% (183)
> 35	4.9% (40)	3.2% (83)
Unknown	13.1% (106)	48.5% (1262)
Number of Segments Affected		
1	47.3% (384)	50.1% (1304)
2-3	29.2% (237)	31.7% (826)
>= 4	11.2% (91)	11.1% (290)
Unknown	12.3% (100)	7.0% (183)
Previous Surgeries (Any Level)		
0	85.8% (697)	81.7% (2126)
1	11.1% (90)	11.9% (310)
> 1	3.1% (25)	5.5% (142)
Unknown	0.0% (0)	1.0% (25)

Perioperative Profile

Characteristic	Sample Hospital	Spine Tango
Blood Loss		
< 100 ml	21.7% (176)	24.5% (638)
100 - 500 ml	35.3% (287)	37.7% (981)
500 - 1000 ml	22.7% (184)	12.2% (317)
1000 - 2000 ml	4.6% (37)	6.9% (180)
> 2000 ml	1.0% (8)	4.3% (112)
Unknown	14.8% (120)	14.4% (375)
Blood Transfusion		
None	74.6% (606)	44.9% (1168)
< 2 units	4.2% (34)	3.6% (93)
>= 2 units	1.7% (14)	4.3% (113)
Cell Saver	16.1% (131)	1.0% (25)
Unknown	4.2% (34)	46.7% (1215)
Prophylaxis		
None	9.2% (75)	0.9% (23)
Infection	60.6% (492)	39.6% (1030)
Thromboembolism	53.1% (431)	28.5% (742)
Ossification	0.1% (1)	0.5% (13)
Other	0.0% (0)	0.5% (12)
Unknown	27.3% (222)	58.7% (1527)
Technology		
Conventional	47.9% (389)	47.4% (1233)
MISS / LISS	4.6% (37)	7.1% (185)
Loops	2.1% (17)	5.0% (129)
Endoscope	0.1% (1)	0.2% (5)
Microscope	53.6% (435)	53.2% (1385)
CASS	0.2% (2)	1.3% (33)
Neuromonitoring	5.8% (47)	11.2% (292)
Intraoperative 3d-Imaging	0.6% (5)	1.1% (28)
Other	2.0% (16)	6.5% (170)
Unknown	0.6% (5)	2.2% (58)

Characteristic	Sample Hospital	Spine Tango
Operation Time		
< 1 hr.	2.2% (18)	9.0% (233)
1-2 hrs.	10.5% (85)	20.9% (545)
2-3 hrs.	24.4% (198)	28.0% (730)
3-4 hrs.	28.0% (227)	18.0% (469)
4-5 hrs.	15.6% (127)	8.1% (211)
5-6 hrs.	8.0% (65)	4.3% (113)
6-8 hrs.	5.5% (45)	3.4% (89)
8-10 hrs.	1.0% (8)	1.2% (31)
> 10 hrs.	0.0% (0)	0.0% (0)
Unknown	4.8% (39)	7.0% (182)
Anterior Access		
No Anterior Access	92.7% (753)	90.0% (2342)
Transoral	0.0% (0)	0.7% (17)
Anterolateral	3.9% (32)	3.8% (99)
Cervicothoracic Anterolateral	1.1% (9)	0.7% (17)
Cervicothoracic With Sternotomy	0.0% (0)	0.0% (1)
Cervicothoracic Anterolat With Sternotomy	0.0% (0)	0.0% (1)
Thoracotomy	1.0% (8)	1.3% (33)
Cervicothoracic Anterolat With Thoracotomy	0.0% (0)	0.0% (1)
Thoracoabdominal	0.2% (2)	0.2% (4)
Retroperitoneal	0.9% (7)	1.0% (27)
Thoraco-Phrenico-Lumbotomy	0.0% (0)	0.2% (4)
Transperitoneal	0.0% (0)	0.2% (5)
Trans-Psoas (XLIF)	0.0% (0)	0.0% (1)
Other	0.1% (1)	0.5% (12)
Unknown	0.0% (0)	1.5% (39)
Posterior Access		
No Posterior Access	3.9% (32)	8.1% (210)
Midline	91.1% (740)	78.5% (2044)
Paramedian	3.9% (32)	9.2% (240)
Posterolateral	0.4% (3)	1.8% (46)
Percutaneous	1.0% (8)	2.1% (54)
Para-Coccygeal (AxialIF)	0.0% (0)	0.0% (0)
Other	0.1% (1)	0.5% (14)

Surgical Measures

Decompression

Characteristic	Sample Hospital	Spine Tango
Decompression		
None	8.4% (68)	18.2% (475)
Discectomy	3.7% (30)	6.3% (165)
Vertebrectomy Partial	5.3% (43)	9.9% (257)
Vertebrectomy Full	4.8% (39)	6.4% (167)
Osteotomy	1.2% (10)	0.8% (21)
Laminotomy	7.5% (61)	10.1% (264)
Hemi-Laminectomy	4.9% (40)	11.1% (290)
Laminectomy	65.6% (533)	45.2% (1176)
Facet Joint Resection Partial	8.6% (70)	8.9% (232)
Facet Joint Resection Full	13.7% (111)	4.9% (128)
Flavectomy	20.2% (164)	18.8% (490)
Foraminotomy	2.0% (16)	6.1% (160)
Sequestrectomy	0.7% (6)	0.8% (21)
Flavotomy	0.9% (7)	0.3% (7)
Uncoforaminotomy	0.1% (1)	0.0% (1)
Other	8.5% (69)	19.8% (516)
Unknown	0.0% (0)	0.8% (21)

Fusion

Characteristic	Sample Hospital	Spine Tango
Fusion Promoting Measures		
None	82.9% (673)	75.3% (1961)
Posterolateral Fusion	7.8% (63)	5.9% (153)
Posterior Fusion	3.7% (30)	8.2% (214)
Interbody Fusion (A-IF)	3.0% (24)	2.2% (56)
Interbody Fusion (PLIF)	1.6% (13)	0.4% (11)
Interbody Fusion (TLIF)	0.1% (1)	0.5% (13)
Interbody Fusion (XLIF)	0.0% (0)	0.2% (4)
Other Interbody Fusion	1.0% (8)	1.7% (43)
Ilio-Sacral Fusion	0.0% (0)	0.0% (1)
Other	1.7% (14)	8.2% (214)
Unknown	0.0% (0)	2.0% (51)

Stabilisation

Characteristic	Sample Hospital	Spine Tango
Rigid Stabilisation		
None	37.4% (304)	59.2% (1541)
Interbody Stabilisation With Cage	4.1% (33)	4.1% (107)
Interbody Stabilisation With Auto-/ Allograft	0.2% (2)	0.2% (6)
Vertebral Body Replacement By Cage	3.8% (31)	6.6% (172)
Plates	3.2% (26)	4.0% (103)
Pedicle Screws With Rod	38.8% (315)	26.9% (699)
Pedicle Screws With Plate	0.0% (0)	0.3% (9)
Facet Screws	0.2% (2)	0.5% (13)
Transarticular Screw	0.0% (0)	0.2% (4)
Transarticular Screw C1-C2	0.0% (0)	0.0% (1)
Laminar Hooks	0.1% (1)	0.6% (16)
Pedicle Hooks	0.4% (3)	0.8% (21)
Lateral Mass Screw	8.7% (71)	4.1% (106)
Odontoid Screws	0.0% (0)	0.0% (0)
Laminar Screws	0.7% (6)	0.3% (8)
Pedicle Screws Cemented	3.2% (26)	0.6% (15)
Pedicle Screws Uncemented	12.6% (102)	2.7% (71)
Other	2.6% (21)	2.8% (72)
Unknown	0.0% (0)	2.0% (52)
Motion Preserving Stabilisation		
None	99.1% (805)	97.1% (2528)
Disc Replacement	0.4% (3)	0.0% (0)
Dynamic Stabilization	0.1% (1)	0.1% (2)
Interspinous Spacer	0.0% (0)	0.0% (0)
Other	0.4% (3)	0.2% (5)
Unknown	0.0% (0)	2.6% (68)

Complications

General Complications

	Sample Hospital	Spine Tango
Intraoperative General Complications		
None	99.3% (806)	57.3% (1491)
Anaesthesiological	0.2% (2)	0.2% (4)
Cardiovascular	0.5% (4)	0.3% (7)
Pulmonary	0.0% (0)	0.1% (2)
Thromboembolism	0.0% (0)	0.1% (2)
Death	0.0% (0)	0.0% (0)
Not Documented	0.0% (0)	42.1% (1095)
Other	0.1% (1)	0.2% (6)
Postoperative General Complications		
None	95.0% (771)	51.9% (1350)
Cardiovascular	0.4% (3)	0.5% (13)
Pulmonary	1.5% (12)	1.7% (43)
Cerebral	0.2% (2)	0.5% (12)
Kidney / Urinary	0.6% (5)	1.5% (39)
Liver / Gi	0.4% (3)	0.5% (12)
Thromboembolism	0.1% (1)	0.2% (4)
Death	0.2% (2)	1.1% (28)
Not Documented	1.1% (9)	42.6% (1108)
Positioning-Related	0.0% (0)	0.0% (0)
Other	1.0% (8)	0.8% (22)

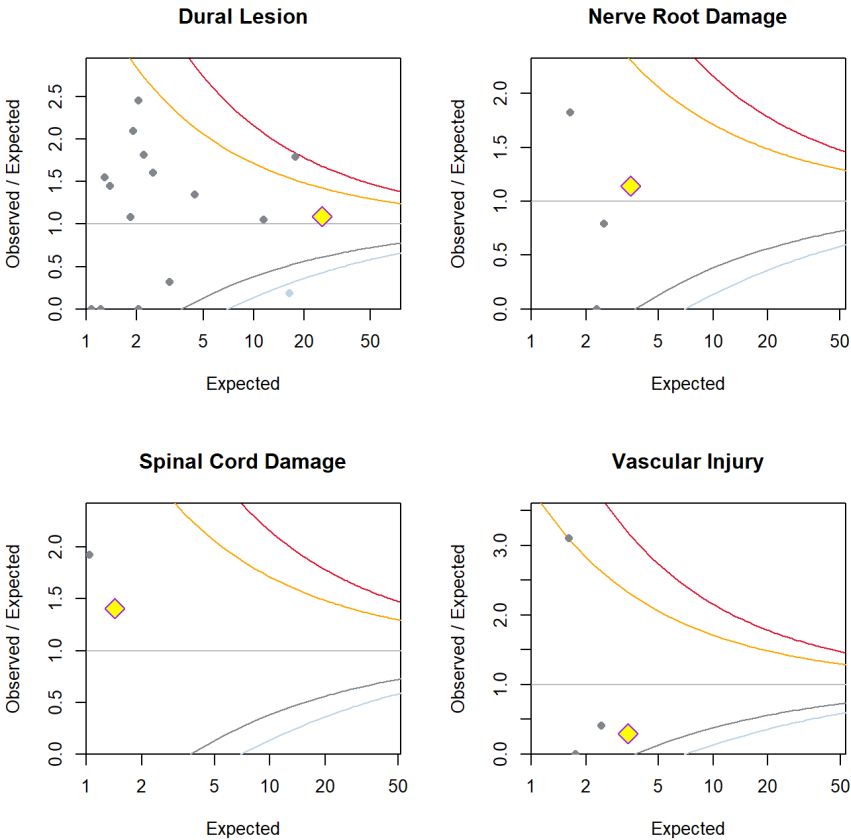
Surgical Complications

	Sample Hospital	Spine Tango
Intraoperative Surgical Complications		
None	94.3% (766)	53.6% (1396)
Nerve Root Damage	0.5% (4)	0.4% (11)
Spinal Cord Damage	0.2% (2)	0.2% (4)
Dural Lesion	3.4% (28)	3.1% (80)
Vascular Injury	0.1% (1)	0.5% (13)
Fracture Vertebral Structures	0.1% (1)	0.0% (1)
Not Documented	0.0% (0)	41.8% (1088)
Other	1.5% (12)	0.8% (22)
Postoperative Surgical Complications		
None	92.0% (747)	51.5% (1340)
Epidural Hematoma	0.2% (2)	0.5% (13)
Other Hematoma	0.0% (0)	0.2% (5)
Radiculopathy	0.0% (0)	0.2% (5)
CSF Leak / Pseudomeningocele	0.6% (5)	1.0% (26)
Motor Dysfunction	2.1% (17)	1.9% (50)
Sensory Dysfunction	0.7% (6)	1.4% (37)
Bowel / Bladder Dysfunction	1.0% (8)	0.7% (19)
Wound Infection Superficial	1.1% (9)	0.6% (15)
Wound Infection Deep	0.5% (4)	0.7% (18)
Implant Malposition	0.2% (2)	0.2% (6)
Implant Failure	0.4% (3)	0.2% (4)
Wrong Level	0.0% (0)	0.0% (0)
Not Documented	1.1% (9)	42.3% (1102)
Recurrent Nerve Paresis	0.0% (0)	0.0% (0)
Other	1.5% (12)	1.2% (32)

Adverse Events

Adverse Event	Sample Hospital	Spine Tango	Expected	p-value
Dural Lesion	3.4% (28)	3.1% (80)	3.2% (26)	0.62
Fracture Vertebral Structures	0.1% (1)	0.0% (1)	0.0% (0)	0.39
Nerve Root Damage	0.5% (4)	0.4% (11)	0.4% (4)	0.78
Spinal Cord Damage	0.2% (2)	0.2% (4)	0.2% (1)	0.66
Vascular Injury	0.1% (1)	0.5% (13)	0.4% (3)	0.28

Funnel Plots

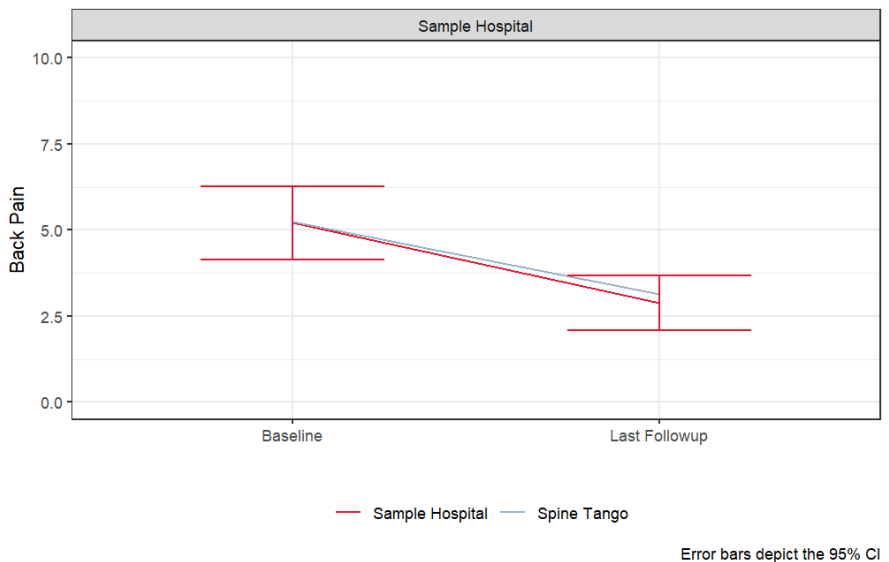


COMI Analysis - Back / Legs

Summary

Group	Patients	Baseline	<= 3 Months	<= 6 Months	<= 1 Year	<= 2 Years	> 2 Years	Mean (Years)	Range (Years)
Sample Hospital	325	64	172	140	53	148	117	0.92	0.01-7.80
Spine Tango	1142	799	570	289	386	517	405	1.29	0.00-10.35

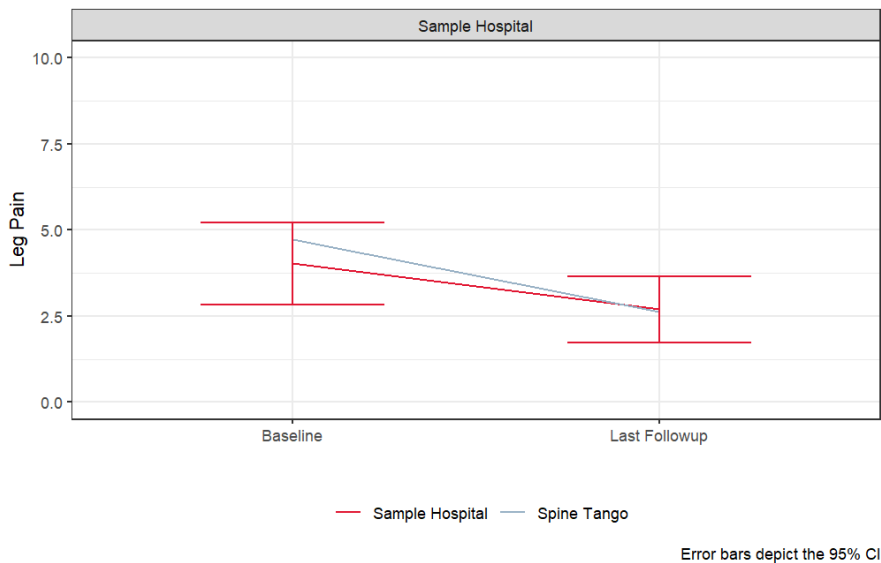
Back Pain Analysis



Group	Paired Observations	Baseline			Last Followup			p-value
		Mean	CI (95%)	SD	Mean	CI (95%)	SD	
Sample Hospital	39	5.21	4.13-6.28	3.42	2.87	2.08-3.66	2.53	< 0.001
Spine Tango	429	5.25	4.95-5.55	3.18	3.13	2.86-3.40	2.83	< 0.001

Note: p-values were calculated using a one-sided Wilcoxon test

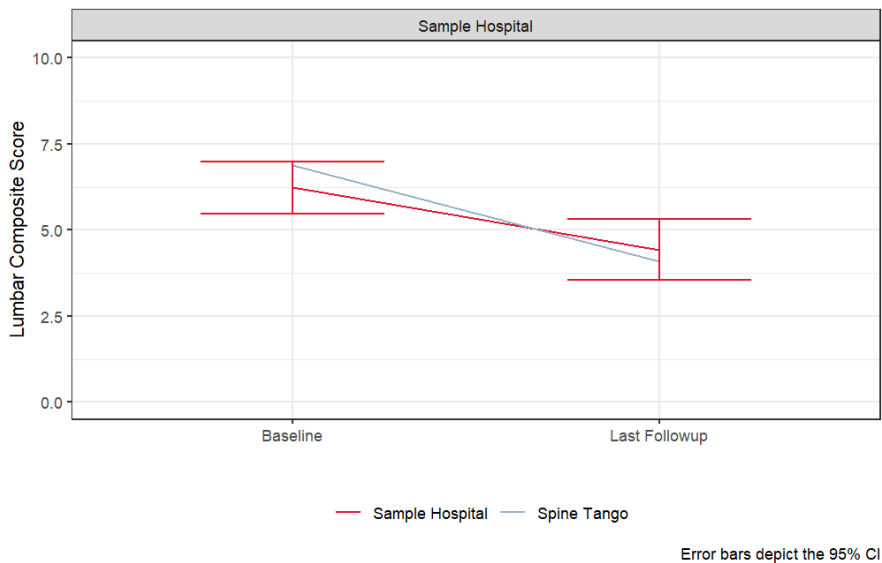
Leg Pain Analysis



Group	Paired Observations	Baseline			Last Followup			p-value
		Mean	CI (95%)	SD	Mean	CI (95%)	SD	
Sample Hospital	39	4.03	2.84-5.21	3.78	2.69	1.73-3.66	3.07	< 0.05
Spine Tango	429	4.72	4.38-5.05	3.53	2.63	2.34-2.91	3.03	< 0.001

Note: p-values were calculated using a one-sided Wilcoxon test

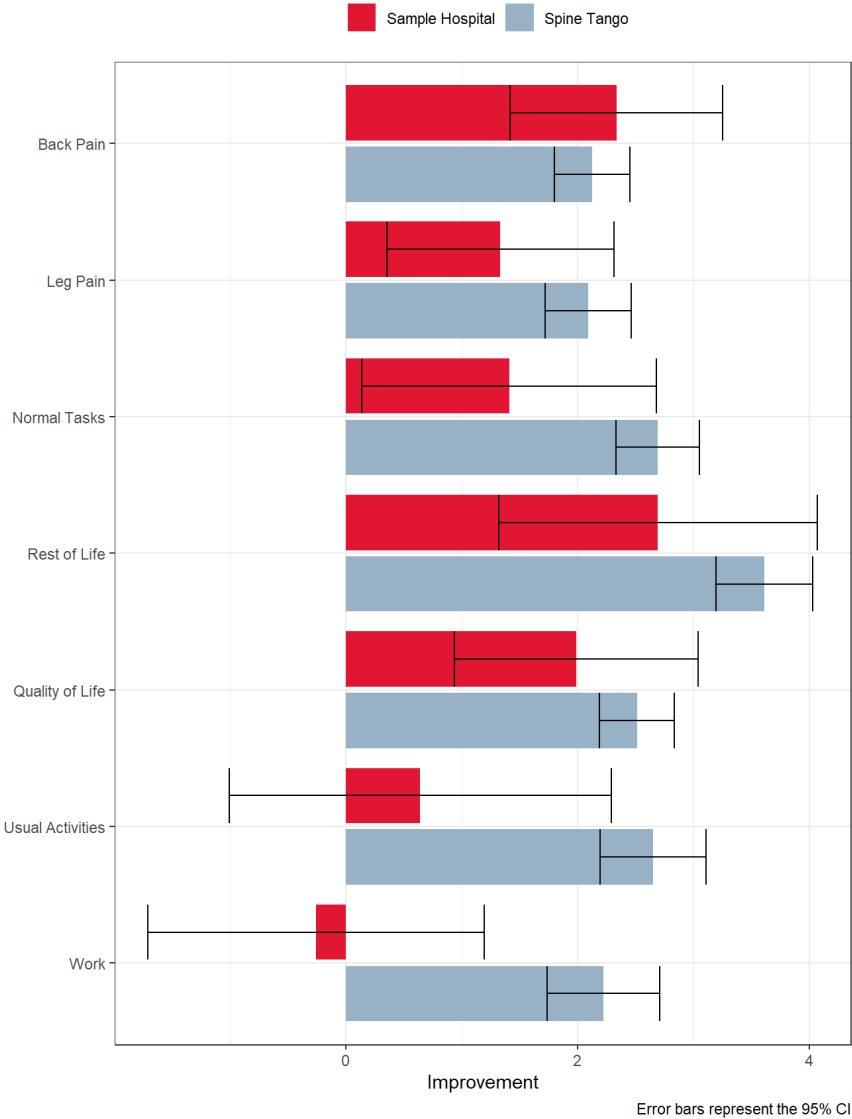
Composite Score Analysis



Group	Paired Observations	Baseline			Last Followup			p-value
		Mean	CI (95%)	SD	Mean	CI (95%)	SD	
Sample Hospital	39	6.24	5.48-6.99	2.40	4.43	3.55-5.31	2.81	< 0.05
Spine Tango	429	6.88	6.65-7.11	2.45	4.08	3.80-4.36	2.96	< 0.001

Note: p-values were calculated using a one-sided Wilcoxon test

Domain Analysis

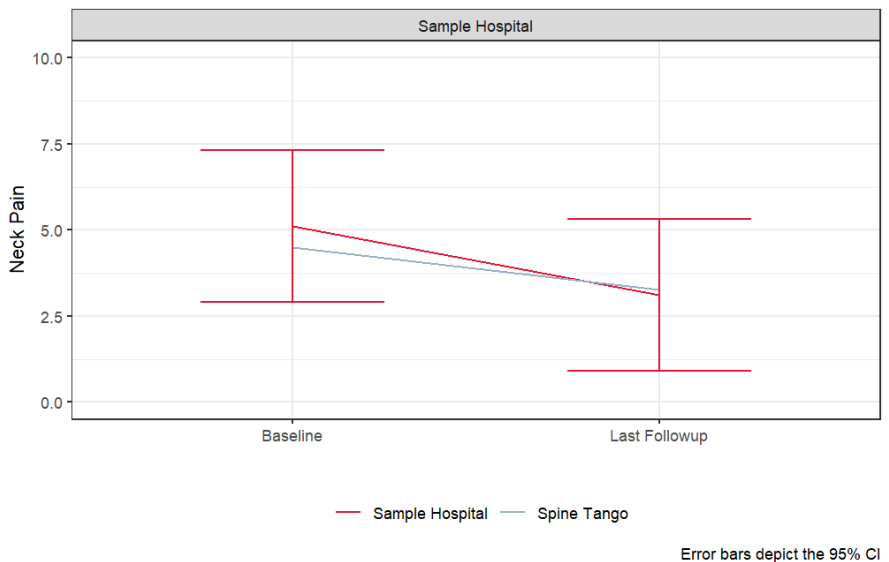


COMI Analysis - Neck / Arms

Summary

Group	Patients	Baseline	<= 3 Months	<= 6 Months	<= 1 Year	<= 2 Years	> 2 Years	Mean (Years)	Range (Years)
Sample Hospital	74	23	36	30	12	34	24	0.89	0.02-5.60
Spine Tango	306	221	151	91	88	165	143	1.42	0.00-9.20

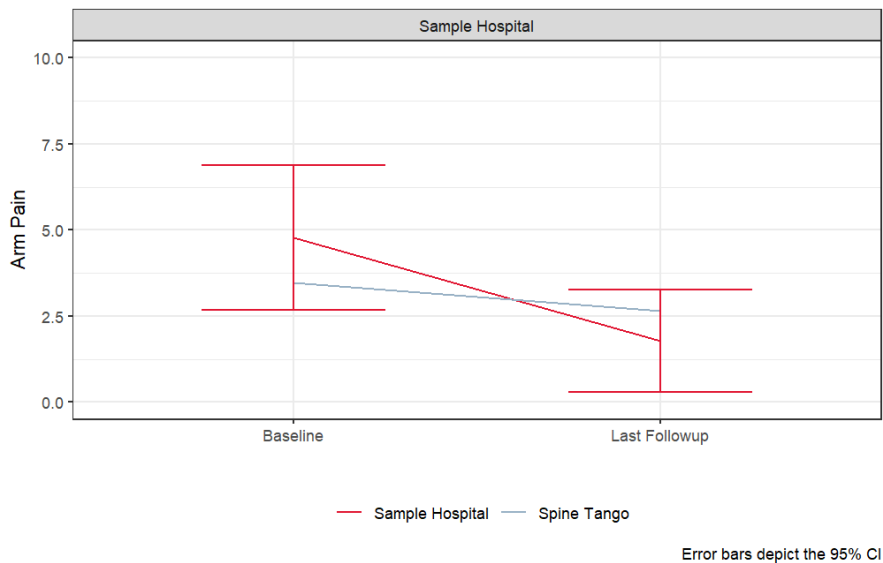
Neck Pain Analysis



Group	Paired Observations	Baseline			Last Followup			p-value
		Mean	CI (95%)	SD	Mean	CI (95%)	SD	
Sample Hospital	9	5.11	2.91-7.31	3.37	3.11	0.91-5.31	3.37	0.16
Spine Tango	131	4.50	3.93-5.06	3.29	3.27	2.75-3.79	3.05	< 0.05

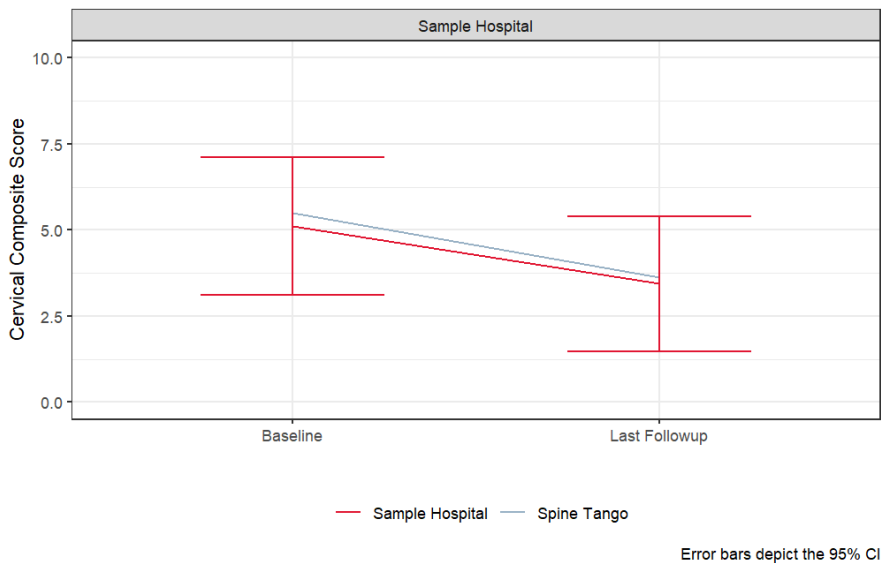
Note: p-values were calculated using a one-sided Wilcoxon test

Arm Pain Analysis



Note: p-values were calculated using a one-sided Wilcoxon test

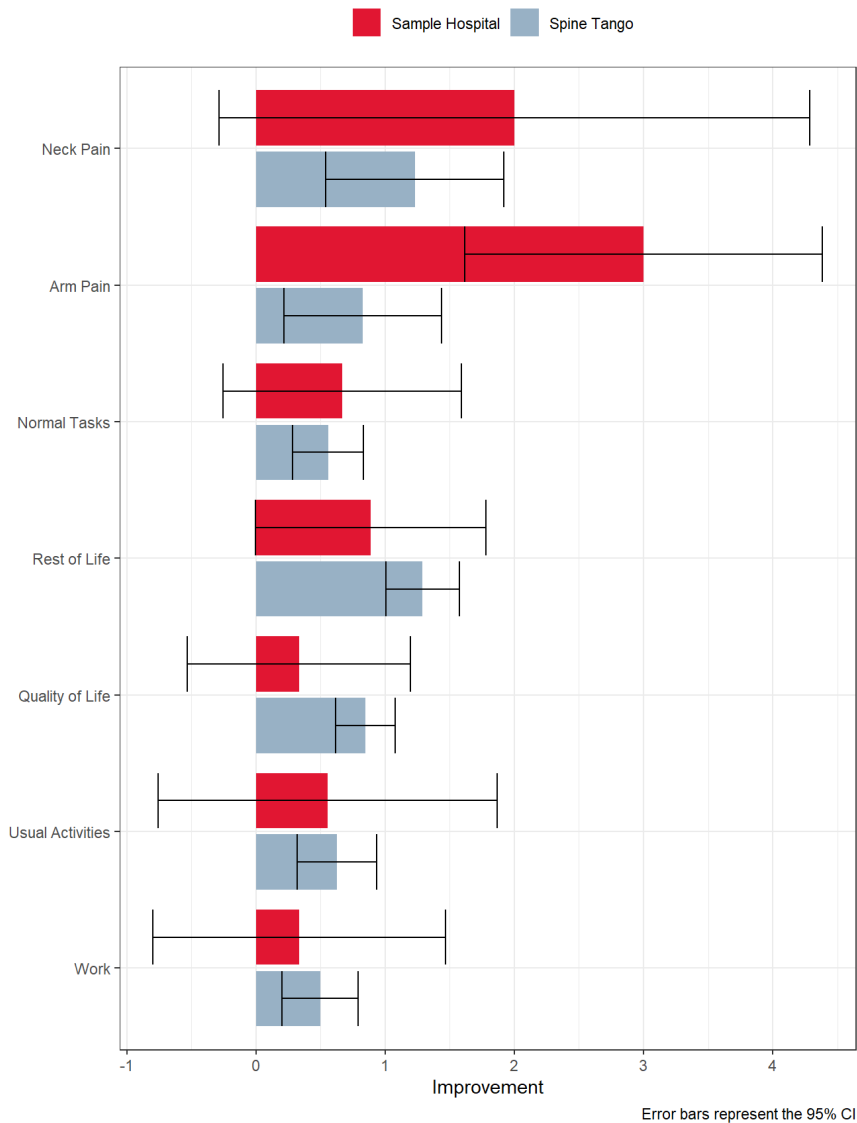
Composite Score Analysis



Group	Paired Observations	Baseline			Last Followup			p-value
		Mean	CI (95%)	SD	Mean	CI (95%)	SD	
Sample Hospital	9	5.11	3.10-7.12	3.08	3.43	1.48-5.39	2.99	0.20
Spine Tango	131	5.51	5.02-6.01	2.89	3.62	3.12-4.13	2.93	< 0.001

Note: p-values were calculated using a one-sided Wilcoxon test

Domain Analysis

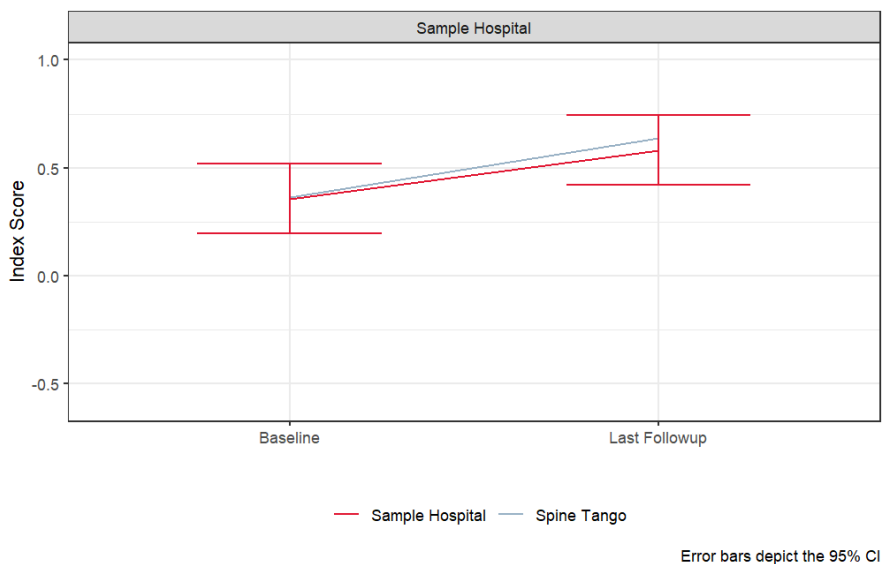


EQ-5D-3L Analysis

Summary

Group	Patients	Baseline	<= 3 Months	<= 6 Months	<= 1 Year	<= 2 Years	> 2 Years	Mean (Years)	Range (Years)
Sample Hospital	301	40	153	117	53	147	132	1.01	0.01-7.80
Spine Tango	217	197	80	46	46	63	50	1.08	0.00-8.37

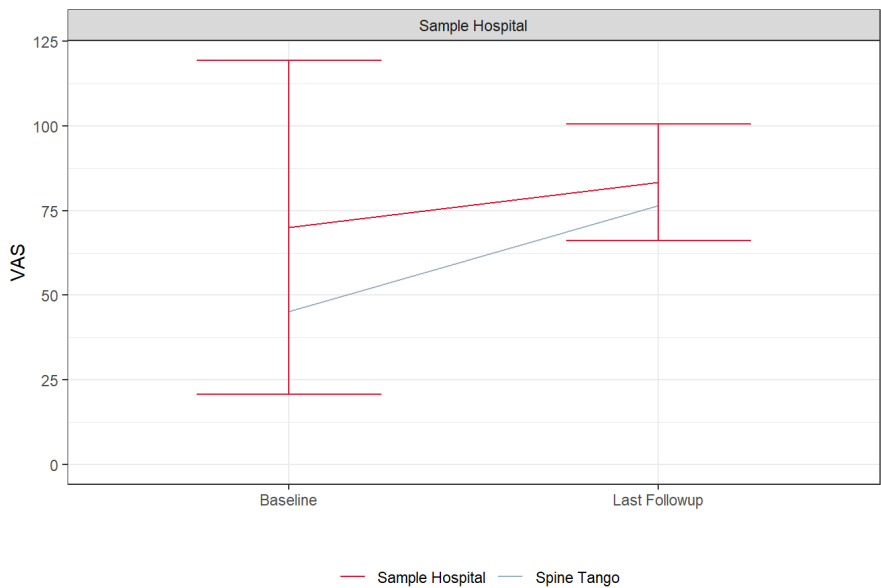
Index Score Analysis



Group	Paired Observations	Baseline			Last Followup			p-value
		Mean	CI (95%)	SD	Mean	CI (95%)	SD	
Sample Hospital	26	0.36	0.20-0.52	0.42	0.58	0.42-0.74	0.42	< 0.05
Spine Tango	97	0.36	0.28-0.44	0.40	0.64	0.57-0.70	0.34	< 0.001

Note: p-values were calculated using a one-sided Wilcoxon test

VAS Analysis

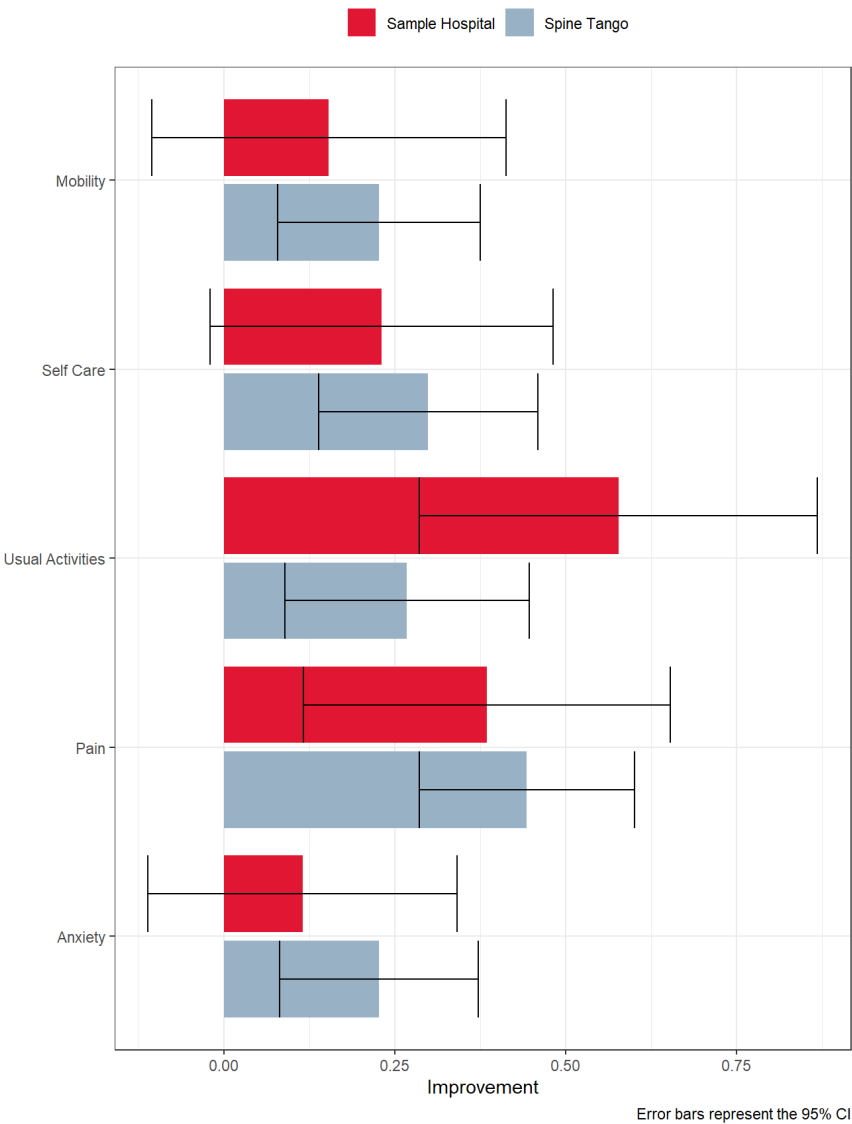


Error bars depict the 95% CI

Group	Paired Observations	Baseline			Last Followup			p-value
		Mean	CI (95%)	SD	Mean	CI (95%)	SD	
Sample Hospital	3	70.00	20.68-119.32	43.59	83.33	66.05-100.62	15.28	0.75
Spine Tango	4	45.25	22.12-68.38	23.60	76.50	49.32-103.68	27.73	0.25

Note: p-values were calculated using a one-sided Wilcoxon test

Domain Analysis



Surgery Follow-up

Summary

Group	Patients	6 Weeks	3 Months	6 Months	1 Year	2 Years	Other	Mean	Range
Sample Hospital	2463	1026	657	817	369	131	933	0.47	0.04-3.54
Spine Tango	51723	35118	20162	9456	12437	4230	6535	0.84	0.02-11.33

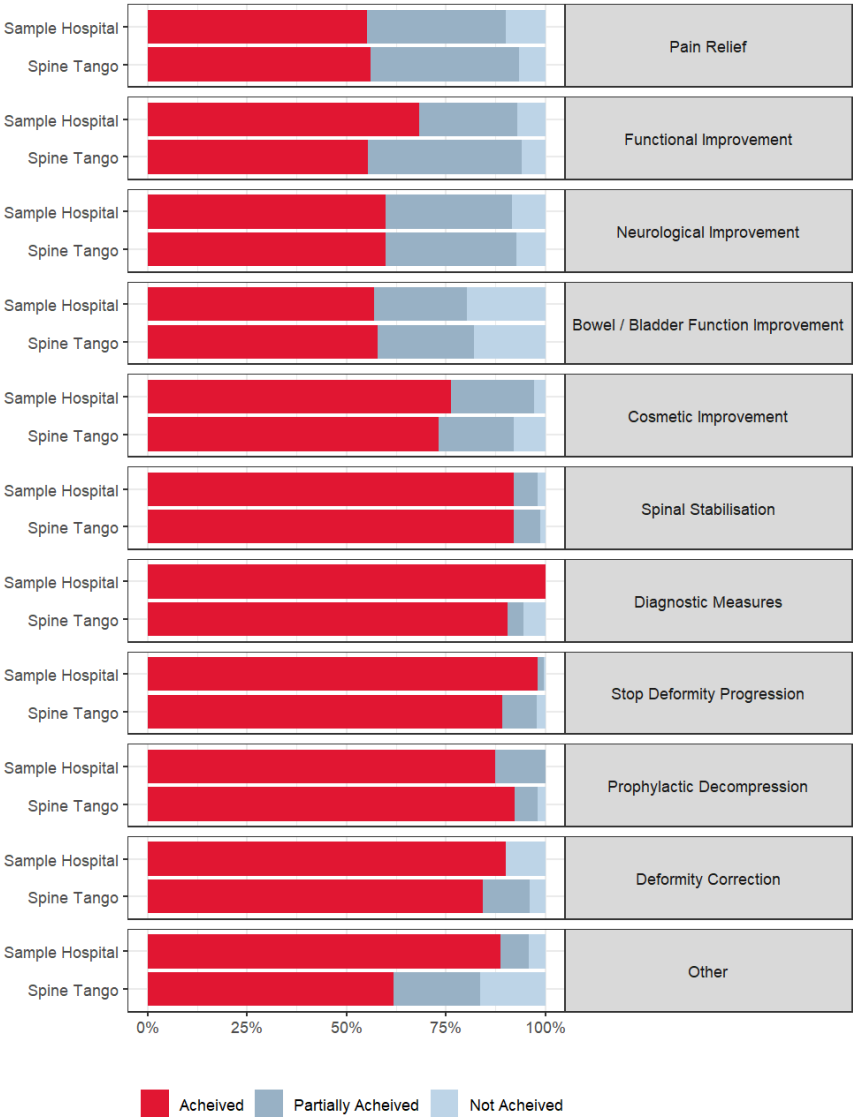
Outcome

Outcome	Sample Hospital	Spine Tango
Excellent	42.2% (1658)	29.8% (26248)
Good	35.9% (1411)	49.5% (43529)
Fair	13.7% (537)	15.2% (13400)
Poor	8.2% (322)	4.8% (4262)
Not Applicable	0.1% (5)	0.6% (494)
Unknown	0.0% (0)	0.0% (5)

Work Status

Work Status	Sample Hospital	Spine Tango
Not at work since OP	25.4% (999)	27.3% (24021)
Started partially, same job	3.9% (154)	7.2% (6343)
Fully reintegrated	15.9% (626)	15.3% (13430)
Resumed work, but quit again	0.6% (24)	0.5% (430)
Resumed work, different job	0.6% (22)	0.8% (680)
Has been dismissed	1.4% (54)	0.7% (619)
Retired since OP	1.5% (60)	1.1% (1000)
Retired before OP	38.7% (1521)	37.2% (32741)
Housewife/man	3.0% (118)	5.3% (4668)
Child/student	7.2% (282)	1.0% (923)
Other	1.9% (73)	3.5% (3083)

Therapeutic Goals



Postoperative Complications

Complications?	Sample Hospital	Spine Tango
No	86.2% (3389)	91.4% (80378)
Yes	13.8% (544)	8.6% (7560)
Complication Type	Sample Hospital	Spine Tango
Sensory dysfunction	2.3% (91)	1.3% (1158)
Motor dysfunction	1.5% (59)	1.0% (850)
Bowel/ bladder dysfunction	0.5% (21)	0.2% (198)
Non-union	0.8% (30)	0.4% (344)
Implant failure	1.0% (39)	0.6% (562)
Instability	0.3% (12)	0.3% (250)
CSF leak/ pseudomeningocele	0.9% (37)	0.3% (299)
Wound infection superficial	0.7% (29)	0.8% (730)
Wound infection deep	1.0% (41)	0.4% (338)
Spondylitis	0.0% (1)	0.0% (26)
Discitis	0.1% (2)	0.1% (45)
Epidural hematoma	0.7% (26)	0.1% (105)
Extravertebral hematoma	0.2% (7)	0.1% (62)
Wrong level	0.1% (4)	0.0% (5)
Implant malposition	0.3% (12)	0.2% (182)
Recurrence of symptoms	2.3% (90)	1.3% (1164)
Graft complication	0.3% (10)	0.1% (68)
Internal medicine	0.2% (6)	0.1% (96)
Sequelae anaesthesia	0.1% (3)	0.0% (18)
Adjac. segment pathology	0.5% (21)	0.7% (587)
Recurrent tumor	0.0% (0)	0.0% (8)
Decompensation of spine	0.1% (3)	0.1% (90)
Cardiovascular	0.1% (2)	0.1% (56)
Gastrointestinal	0.1% (5)	0.1% (44)
Central nervous system	0.1% (5)	0.0% (30)
Fracture vertebral structures	0.2% (6)	0.4% (317)
Thromboembolism	0.1% (3)	0.1% (65)
Other	3.5% (139)	1.9% (1632)
None	86.2% (3389)	91.4% (80378)

Complication Time

