

APSS Medtronic Fellowship 2024

1st of April 2024 – 30th of June 2024

Fellow:

Zikrina Abyanti Lanodiyu

Orthopaedic spine surgeon

Spine division, Department of Orthopaedic and Traumatology RSUP Dr Sardjito / Faculty of
Medicine, Universitas Gadjah Mada, Yogyakarta, Indonesia

Host

Prof. Hiroshi Yamada

Professor and Chairman

Department of Orthopaedic Surgery

Wakayama Medical University

Prof Munehito Yoshida

Hospital Director

Department of Orthopaedic Surgery

Sumiya Orthopaedic Hospital

Main hospital visited

1. Wakayama Medical University Hospital



Other branch Hospital

1. Sumiya Orthopaedic Hospital



2. Seisekai Wakayama Hospital



3. Kihoku Branch Hospital, Wakayama Medical University



First and foremost, I would like to thank the Asia Pacific Spine Society (APSS) for selecting me to participate in this travelling fellowship at Wakayama Medical University Hospital from April 1 to June 30, 2024. This experience was truly delightful, and I had the opportunity to observe a spine center that was steeped in history. I arrived at Wakayama on March 31, 2024, and stayed at a hotel near the station. Dr. Ishimoto, one of the spine surgeons, picked me up on my first day, and I began doing the fellowship on April 1, 2024, started with morning conference. During the morning session, I met with Professor Yamada and the entire orthopedic team at Wakayama Medical University Hospital. Dr. Nagata, Dr. Ishimoto, and Dr. Teraguchi became attached to me from the first day. They toured me around the hospital and the faculty offices. On the second day (Tuesday), I visited Sumiya Orthopaedic Hospital. There, I met Prof. Yoshida and the other members of the spine team. During my stay here, I attended two international meetings and two workshops led by the local spine team. In April 2024, I traveled to Yokohama for JSRR 2024, followed by JOA in Fukuoka in May of the same year. The opportunity to interact with numerous spine specialists was a delightful experience. I also had an amazing time immersing myself in the culture and breathtaking landscapes of Japan.

Weekly Fellowship Schedule

Day	Time	Program	Venue
Monday	07.30	Morning clinical conference	Wakayama Medical University Hospital
	12.00	OT	Saiseikai Wakayama Hospital
Tuesday	09.00	OT	Sumiya Orthopaedic Hospital
Wednesday	07.30	Morning clinical conference	Wakayama Medical University Hospital
- Friday	09.00	OT	

Besides the above schedule, I also have the opportunity to go to Kihoku Branch Hospital, Wakayama Medical University. I met dr Nakagawa and had the experience to learn from his spine team.

Daily Fellowship Record

These are the list of cases that I encountered during my fellowship:

No	Date	Hospital	Identity	Diagnosis	Procedure	Surgeon
1	02-Apr-24	Sumiya Orthopaedic Hospital	M, 65 y.o	CSM, degenerative lumbar stenosis	MEL flavectomy cervical+lumbar (double surgery)	Prof Yoshida
2	02-Apr-24	Sumiya Orthopaedic Hospital	F, 52 y.o	Degenerative lumbar stenosis	Microendoscopic Flavectomy + discectomy	dr Okada
3	02-Apr-24	Sumiya Orthopaedic Hospital	F, 70 y.o	Degenerative lumbar stenosis	Microendoscopic Flavectomy	dr Okada
4	03-Apr-24	Wakayama Medical University Hospital	F, 64 y.o	Adult spinal deformity, scoliosis de novo	Deformity correction, XLIF L2/3, L3/4, L4/5, PLIF L5/S1, posterior stabilization T9-S2A1	dr Nagata
5	03-Apr-24	Wakayama Medical University Hospital	F, 42 y.o	Disc herniation L5-S1	LMED	dr Takami
6	03-Apr-24	Wakayama Medical University Hospital	M, 52 y.o	CSM	Laminoplasty C3-C6	dr Masa
7	04-Apr-24	Wakayama Medical University Hospital	M, 34 y.o	Fr cervical C5	ACCF	dr Masa
8	05-Apr-24	Wakayama Medical University Hospital	M, 24 y.o	GCT	Total enbloc spondylectomy	dr Nagata
9	05-Apr-24	Wakayama Medical University Hospital	M, 51 y.o	CSM	laminoplasty	dr Ishimoto
10	08-Apr-24	Seiseikai Wakayama Hospital	M, 65 y.o	Degenerative lumbar stenosis L3/4 L4/5	MEL flavectomy L3/4, L4/5	Prof Yamada
11	09-Apr-24	Sumiya Orthopaedic Hospital	M, 54 y.o	CSM	Microendoscopic Flavectomy	Prof Yoshida
12	09-Apr-24	Sumiya Orthopaedic Hospital	F, 52 y.o	Degenerative lumbar stenosis	Microendoscopic Flavectomy + discectomy	Prof Yoshida
13	10 - 11 April 2024 --> EID Al Fitr Holiday					
14	15-Apr-24	Seiseikai Wakayama Hospital	M, 55 y.o	Degenerative lumbar stenosis L4/L5	MEL flavectomy	Prof Yamada
15	16-Apr-24	Sumiya Orthopaedic Hospital	F, 52 y.o	Foraminal stenosis L4/5	TMEL	Prof Yoshida
16	16-Apr-24	Sumiya Orthopaedic Hospital	M, 54 y.o	CSM	Microendoscopic Flavectomy	Prof Yoshida
17	16-Apr-24	Sumiya Orthopaedic Hospital	F, 72 y.o	Degenerative lumbar stenosis L3/4, L4/5	MEL L3/4, Re-MEL L4/5	Prof Yoshida

18	17-Apr-24	Wakayama Medical University Hospital	M, 48 y.o	Disc herniation L4/5	LMED	dr Nagata
19	18 - 20 April 2024 --> JSSR Meeting in Yokohama					
20	22-Apr-24	Wakayama Medical University Hospital	F, 52 y.o	C6 cervical radiculopathy	C6 nerve root block	dr Ishimoto
21	22-Apr-24	Seiseikai Wakayama Hospital	M, 41 y.o	Degenerative canal stenosis L3/4, L4/5	MEL flavevtomy	Prof Yamada
22	23-Apr-24	Sumiya Orthopaedic Hospital	F, 72 y.o	CSM C5/6	MEL flavectomy	Prof Yoshida
23	23-Apr-24	Sumiya Orthopaedic Hospital	F, 42 y.o	Disc herniation L4-L5	MED	Prof Yoshida
24	24-Apr-24	Wakayama Medical University Hospital	M, 72 y.o	Syringomyelia C5- C7	Syringomyelia shunting	dr Masa
25	24-Apr-24	Wakayama Medical University Hospital	F, 61 y.o	Metastasis bone tumor T4 due to Ca uteri	Total enblock spondylectomy	dr Tsutsui
26	24-Apr-24	Wakayama Medical University Hospital	M, 61 y.o	CSM C6/7	ACDF	dr Nagata
27	24-Apr-24	Wakayama Medical University Hospital	M, 61 y.o	CSM C3/4/5/6/7	Laminoplasty	dr Ishimoto
28	26-Apr-24	Wakayama Medical University Hospital	M, 72 y.o	Degenerative canal stenosis L4/5	LMEL	dr Yuyu
29	26-Apr-24	Wakayama Medical University Hospital	M, 62 y.0	Foraminal stenosis L5/S1	TMEL	dr Takami
30	26-Apr-24	Wakayama Medical University Hospital	F, 52 y.o	CSM C5/6	microdiscectomy ACDF	dr Masa
31	26-Apr-24	Wakayama Medical University Hospital	F, 61 y.o	canal stenosis L3/4	MELIF and posterior stabilization	dr Masa
32	30-Apr-24	Sumiya Orthopaedic Hospital	M, 65 y.o	Degenerative lumbal stenosis L3/4 L4/5	MEL flavectomy L3/4, L4/5	Prof Yamada
33	30-Apr-24	Sumiya Orthopaedic Hospital	M, 54 y.0	CSM	Microendoscopic Flavectomy	Prof Yoshida
34	01-May-24	Wakayama Medical University Hospital	F, 48 y.o	CSM C6/7	Microdiscectomy and ACDF	dr. Nagata
35	01-May-24	Wakayama Medical University Hospital	M, 88 y.o	Retroodontoid Psuedotumor (C1 stenosis)	Posterior microdecompression	Prof yamada
36	01-May-24	Wakayama Medical University Hospital	M, 49 y.o	Disc herniation L5-S1	LMED	dr Masa
37	01-May-24	Wakayama Medical University Hospital	F, 58 y.o	CSM C3-C7	PPS and decompression	dr. Ishimoto
38	3 - 7 May 2024 --> Golden week, national Japan Holiday					

39	08-May-24	Wakayama Medical University Hospital	F, 72 y.o	Degenerative canal stenosis L4/L5	MED	dr. Ishimoto
40	08-May-24	Wakayama Medical University Hospital	F, 62 y.o	C1 instability	Occipitocervical Fusion	dr. Tsutsui
41	08-May-24	Wakayama Medical University Hospital	F, 45 y.o	CSM C5/6	Microdiscectomy and ACDF	Prof Yamada
42	08-May-24	Wakayama Medical University Hospital	M, 66 y.o	Degenerative canal stenosis	Laminotomy L3/4/5	dr. Masa
43	10-May-24	Wakayama Medical University Hospital	F, 67 y.o	CSM C4/5	Microdiscectomy and ACDF	dr Masa
44	10-May-24	Wakayama Medical University Hospital	M, 62 y.o	Degenerative canal stenosis L3/L4	LMELF	dr. Tsutsui
45	10-May-24	Wakayama Medical University Hospital	F, 69 y.o	Degenerative canal stenosis L4/L5/S1	LMEL	dr. Ishimoto
46	10-May-24	Wakayama Medical University Hospital	M, 42 y.o	Non fusion L4 with instability	XLIF L2/3, L3/4, Partial vertebrectomy L4, Posterios fusion	dr. Ishimoto
47	13-May-24	Kihoku Wakayama Medical University Hospital	M, 51 y.o	OPLL C3-C5	Posterior decompression and fusion	dr.Nakagawa
48	13-May-24	Kihoku Wakayama Medical University Hospital	M, 72 y.o	Spondylodiscitis T12/L1	Full endoscopy transforaminal + PPS	dr. Nakagawa
49	13-May-24	Kihoku Wakayama Medical University Hospital	F, 69 y.o	Degenerative canal stenosis L4/5	MEL L4/5	dr. Nakagawa
50	14-May-24	Sumiya Orthopaedic Hospital	M, 75 y.o	CSM C3 - C6	Laminoplasty C3-C6	dr. Okada
51	14-May-24	Sumiya Orthopaedic Hospital	F, 62 y.o	Degenerative canal stenosis L3/4, L4/5	MEL L3/4, L/4	Prof Yoshida
52	14-May-24	Sumiya Orthopaedic Hospital	F, 68 y.o	Transforaminal stenosis L4/5	MELF L4/5	Prof Yoshida
53	16-May-24	Wakayama Medical University Hospital	F, 78 y.o	Lumbar stenosis L3-S1	Posterior decompression	dr. Masa
54	16-May-24	Wakayama Medical University Hospital	M, 65 y.o	Degenerative canal stenosis L3/4	MED L3/4	Prof Yamada
55	16-May-24	Wakayama Medical University Hospital	F, 61 y.o	Pondylolisthesis L5-S1	PLIF and posterior fusion	dr. Nagata
56	17-May-24	Wakayama Medical University Hospital	M, 47 y.o	C2 stress fr in patient post posterior	Occipitocervicalthoracic stabilization	dr Takami

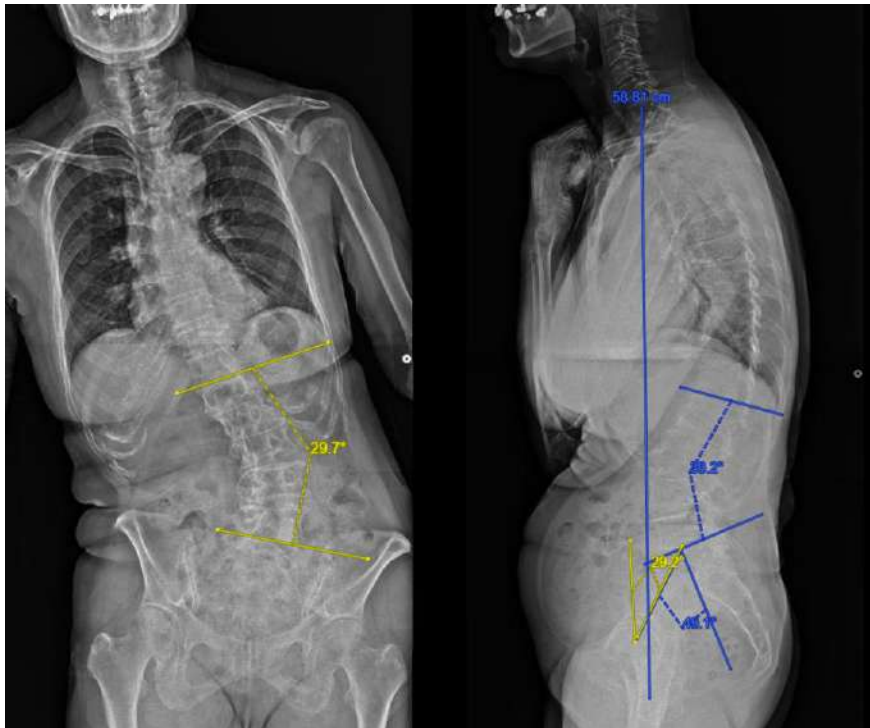
				decompression and fusion		
57	17-May-24	Wakayama Medical University Hospital	M, 78 y.o	Transforaminal stenosis L4/5	MELF	dr Hashizume
58	20-May-24	Seisekai Wakayama Hospital	M, 68 y.o	Degenerative canal stenosis L5-S1	MELF	Prof Yamada
59	21-May-24	Sumiya Orthopaedic Hospital	F, 69 y.o	Degenerative canal stenosis L2 - S1	MEL L2/3, L3/4, L4/5	Prof Yoshida
60	21-May-24	Sumiya Orthopaedic Hospital	F, 74 y.o	Degenerative canal stenosis L2-S1	MEL L2/3, L3/4, L5/1	Prof Yoshida
61	21-May-24	Sumiya Orthopaedic Hospital	F, 56 y.o	Degenerative canal stenosis L4/5	MELD L4/L5	Prof Yoshida
62	21-May-24	Sumiya Orthopaedic Hospital	F, 42 y.o	Disc herniation L5 S1	MED L5/S1	Prof Yoshida
63	22nd - 26th May 2024 --> JOA meeting					
64	29-May-24	Wakayama Medical University Hospital	M, 68 y.o.	OPLL C3-C6	Cervical posterior fusion C3-C7 and laminoplasty	dr. Nagata
65	29-May-24	Wakayama Medical University Hospital	M, 77 y.o	Spondylolisthesis L4/5	MELIF	dr Iwasaki
66	29-May-24	Wakayama Medical University Hospital	F, 41 y.o	Disc herniation L5/1	MELD	dr. Takami
67	31-May-24	Wakayama Medical University Hospital	F, 74 y.o	osteoportic fracture T12	Kiphoplasty and posterior fusion	dr Takami
68	31-May-24	Wakayama Medical University Hospital	M, 51 y.o	CSM C5/6	microdiscectomy and ACDF	dr. Iwasaki
69	04-Jun-24	Sumiya Orthopaedic Hospital	F, 59 y.o	Spondylolisthesis L4/5	MELIF and posterior stabilization	Prof Yoshida
70	04-Jun-24	Sumiya Orthopaedic Hospital	F, 46 y.o	Disc herniation L4/5	MED L4/5	Prof Yoshida
71	04-Jun-24	Sumiya Orthopaedic Hospital	M, 75 y.o	Degenerative canal stenosis	MEL L3/4/5	Prof Yoshida
72	05-Jun-24	Wakayama Medical University Hospital	F, 49 y.o	CSM	Cervical MEL	dr. Ishimoto
73	05-Jun-24	Wakayama Medical University Hospital	M, 74 y.o	Degenerative canal stenosis	LMEL	dr. Ishimoto
74	05-Jun-24	Wakayama Medical University Hospital	M, 41 y.o	Disc herniation L5/6	MED	dr Teraguchi
75	05-Jun-24	Wakayama Medical University Hospital	M, 51 y.o	Degenerative canal stenosis	LMEL	dr Teraguchi

76	05-Jun-24	Wakayama Medical University Hospital	F, 66 y.o	Non union T12 with spinal malalignment	Deformity correction, Xcore T12, PLIF L5/S1, EXLIF L1/2/3/4/5, posterior stabilization T9/S2	dr. Takami
77	10-Jun-24	Seisekai Wakayama Hospital	M, 55 y.o	Degenerative lumbar stenosis L4/L5	MEL flavectomy	Prof Yamada
78	11-Jun-24	Sumiya Orthopaedic Hospital	F, 52 y.o	Foraminal stenosis L4/5	TMEL	Prof Yoshida
79	11-Jun-24	Sumiya Orthopaedic Hospital	M, 54 y.o	CSM	Microendoscopic Flavectomy	Prof Yoshida
80	11-Jun-24	Sumiya Orthopaedic Hospital	F, 72 y.o	Degenerative lumbar stenosis L3/4, L4/5	MEL L3/4, Re-MEL L4/5	Prof Yoshida
81	12-Jun-24	Wakayama Medical University Hospital	F, 67 y.o	Degenerative canal stenosis L4/5/S1	MEL	dr Takami
82	12-Jun-24	Wakayama Medical University Hospital	M, 61 y.o	Degenerative canal stenosis L3/4/5	MEL	dr Ishimoto
83	12-Jun-24	Wakayama Medical University Hospital	M, 41 y.o	Disc herniation L5/S1	MED	dr. Nagata
84	12-Jun-24	Wakayama Medical University Hospital	M, 25 y.o	Disc herniation L4/5	MED	Prof Yamada
85	14-Jun-24	Wakayama Medical University Hospital	M, 62 y.o	CSM	CMEL	dr Ishimoto
86	14-Jun-24	Wakayama Medical University Hospital	F, 71 y.o	ASD	Deformity correction, EXLIF L2/3/4/5, posterior stabilization T10 - S2	dr. Iwasaki
87	14-Jun-24	Wakayama Medical University Hospital	M, 73 y.o	Ossification yellow ligament +OPLL	posterior stabilization T2-T12	dr Tsutsui
88	18-Jun-24	Sumiya Orthopaedic Hospital	M, 66 y.o	Spondylolisthesis L3/4, with degenerative canal stenosis L2-L5	Melif L2/3/4/5, Stabilization L2-L5	Prof Yoshida
89	18-Jun-24	Sumiya Orthopaedic Hospital	F, 34 y.o	Disc herniation L5-S1	MED	dr. Okada
90	19-Jun-24	Wakayama Medical University Hospital	M, 55 y.o	OPLL	Laminoplasty C2- C6	dr. Teraguchi
91	19-Jun-24	Wakayama Medical University Hospital	M, 52 y.o	Spondylolisthesis L4-L5 with canal stenosis	MED	dr. Teraguchi
92	19-Jun-24	Wakayama Medical University Hospital	M, 47 y.o	CSM C4/5	ACDF	dr. Nagata

93	19-Jun-24	Wakayama Medical University Hospital	F, 81 y.o	canal stenosis L3/4/5	MEL	dr. Takami
94	19-Jun-24	Wakayama Medical University Hospital	M, 77 y.o	canal stenosis L4/5	MEL	dr. Nagata
95	21-Jun-24	Wakayama Medical University Hospital	F, 65 y.o	canal stenosis L3/4	MEL	Prof Yamada
96	21-Jun-24	Wakayama Medical University Hospital	F, 41 y.o	disc herniation L4/5	MED	dr. Hashizume
97	21-Jun-24	Wakayama Medical University Hospital	F, 61 y.o	CSM C5/6	ACDF	dr. Hashizume
98	21-Jun-24	Wakayama Medical University Hospital	F, 66 y.o	Post operative kiphosis	PSO L1, stabilization T9- S2	dr. Teraguchi
99	24-Jun-24	Seiseikai Wakayama Hospital	M, 59 y.o	Degenerative canal stenosis L4-S1	MED L4/5, L5/S1	Prof Yamada
100	25-Jun-24	Sumiya Orthopaedic Hospital	M, 55 y.o	Degenerative canal stenosis with spondylolisthesis	TLIF L2/3,L3/4, L4/5, posterior stabilization L2-5	Prof Yoshida
101	25-Jun-24	Sumiya Orthopaedic Hospital	F, 77 y.o	canal stenosis L4/5	MEL	Prof Yoshida
102	26-Jun-24	Wakayama Medical University Hospital	F, 76 y.o	Adult spinal deformity, scoliosis de novo	EXLIF and posterior stabilization	dr. Nagata
103	26-Jun-24	Wakayama Medical University Hospital	F, 44 y.o	disc herniation L5/S1	MED	dr. Ishimoto

I was very interested in correction deformity surgery in adult spinal deformity cases done by the Wakayama medical university hospital spine team. These are the case example:

Female, 71 y.o with chief complaints of back pain and imbalance. After the examination, there was coronal imbalance with scoliosis de novo. The patient was planned to have correction deformity surgery to relief her pain and achieve balance. The patient was placed in the left lateral decubitus position for the first approach. The lateral approach was made over at the disc space of L3/4. XLIF procedure was used at L2/3, L3/4, and L4/5. The 2nd approach was done in prone position, followed by posterior spine approach, and insertion of pedicle screw from T10 to S2AI. PLIF procedure with grade 2 osteotomy at L5/S was done. The bending rod for both sides was applied. The postoperative result was good with the balance is achieved.

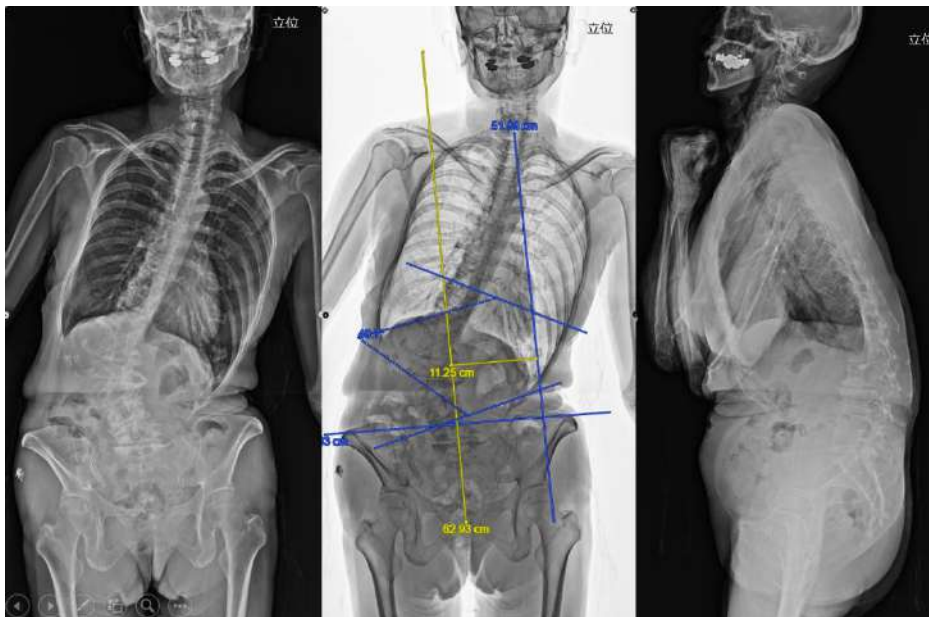


- Cobb 30°
- LL 38°
- PI 55°
- PT 29°
- SVA 58mm

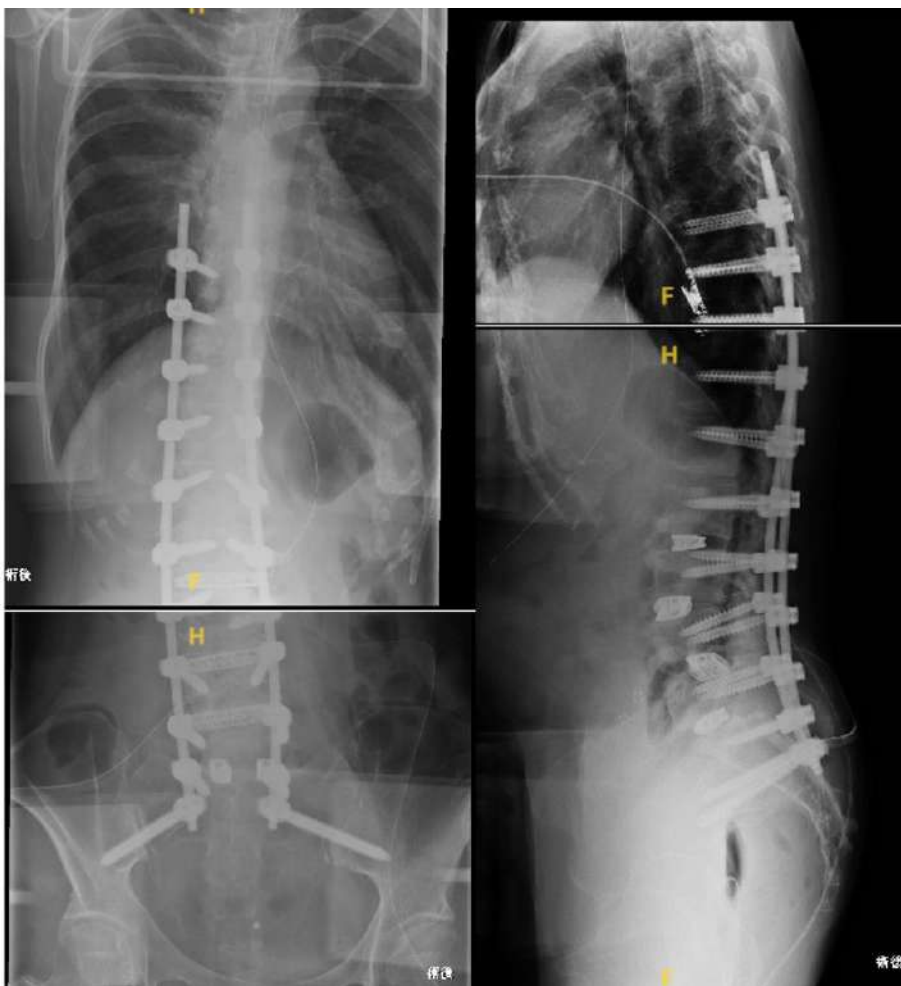


Another case example of adult spinal deformity is a female, 61 y.o with chief complaint of back pain with sagittal and coronal imbalance. A correction deformity was performed. The patient was placed in the left lateral decubitus position. A lateral spine approach was done. XLIF procedure was used at L2/3, L3/4, and L4/5. Then, the patient was turned to prone position. Pedicle screws were inserted from T9 to S2AI. After putting the screws, the PLIF procedure with grade 2 osteotomy was performed at the level of L5/S1.

Applied the bending Rod for both sides. The postoperative evaluation was good with achieved balance.

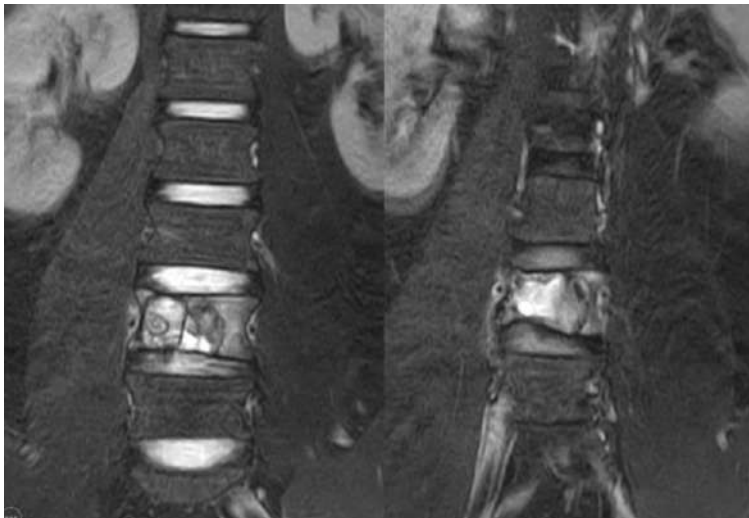


TK	4
LL	5
PI	64
PI-LL	59
SS	24
PT	40



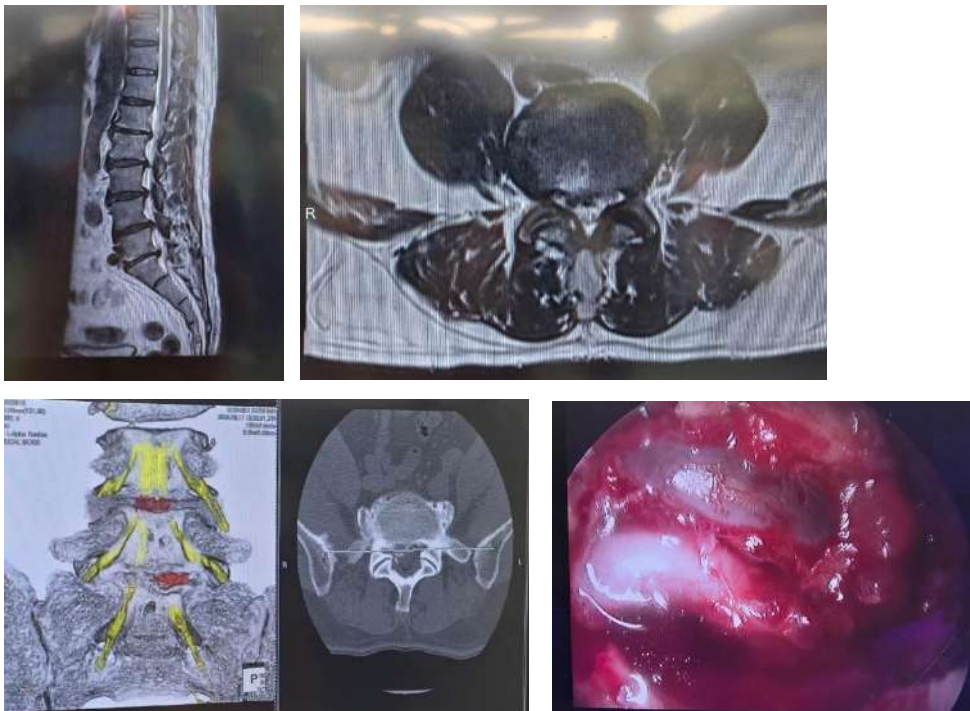
Total Enblock Spondylectomy

Male, 24 years old, with a primary bone tumor of the 4th lumbar spine due to GCT. The presenting complaint was back pain without neurological disturbances. On the MRI, a hyperintense lesion was found in L4 level only. Patient was treated with total enblock spondylectomy with triple approach. The surgery was started in prone position. Posterior approach of spine was performed from L2 – S1. Pedicle screw was used in bilateral side of L2, L3, L5, and S1. The resection of L3 inferior articular process, L4 posterior component resection (up to pedicle), and L5 superior articular process were performed. Second and 3rd approach were done in left followed with right lateral decubitus position. Lateral spine approach was used to do the disc level curettage and vertebral body side detachment. Spondylectomy of L4 was done followed with Xcore placement. The post-operative evaluation was satisfactory.



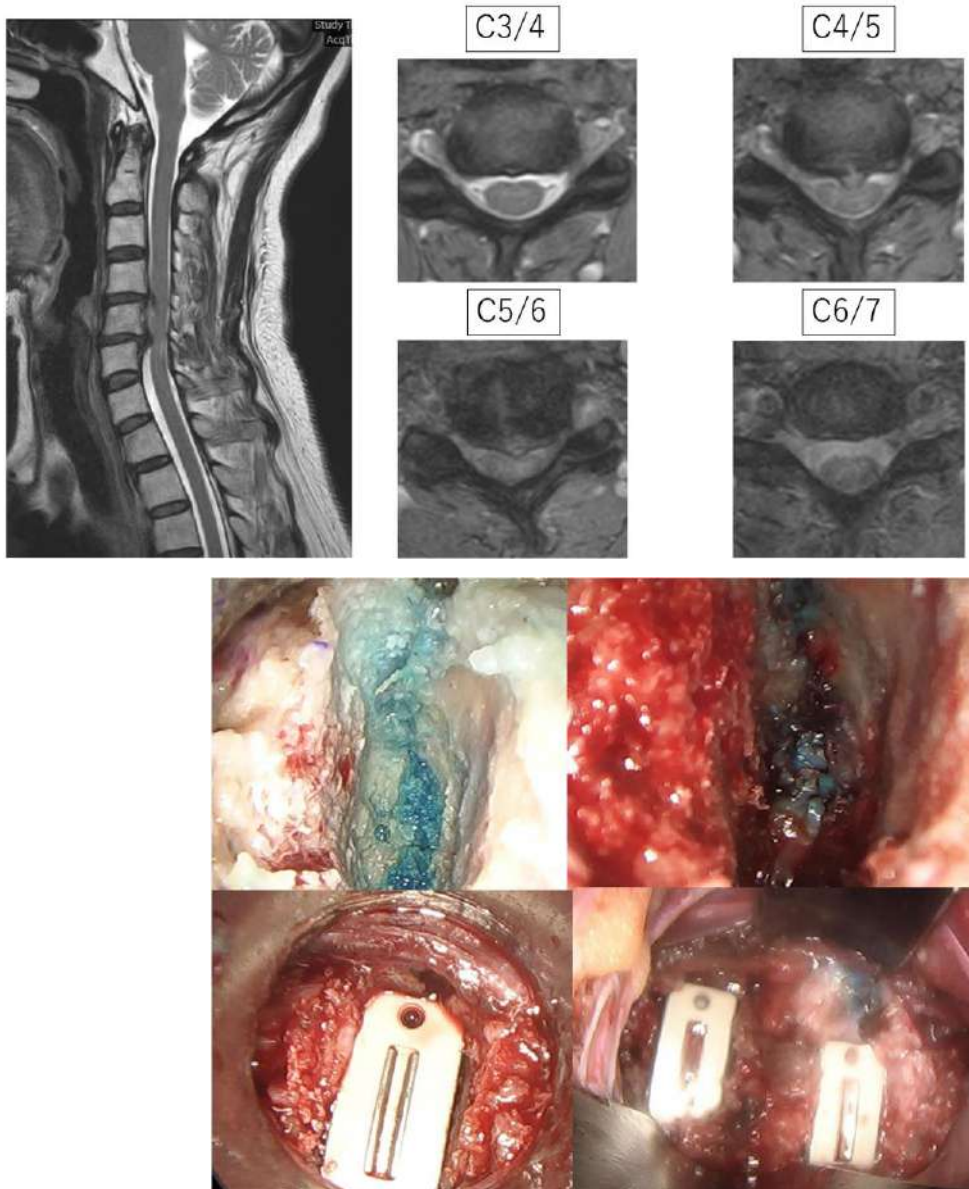


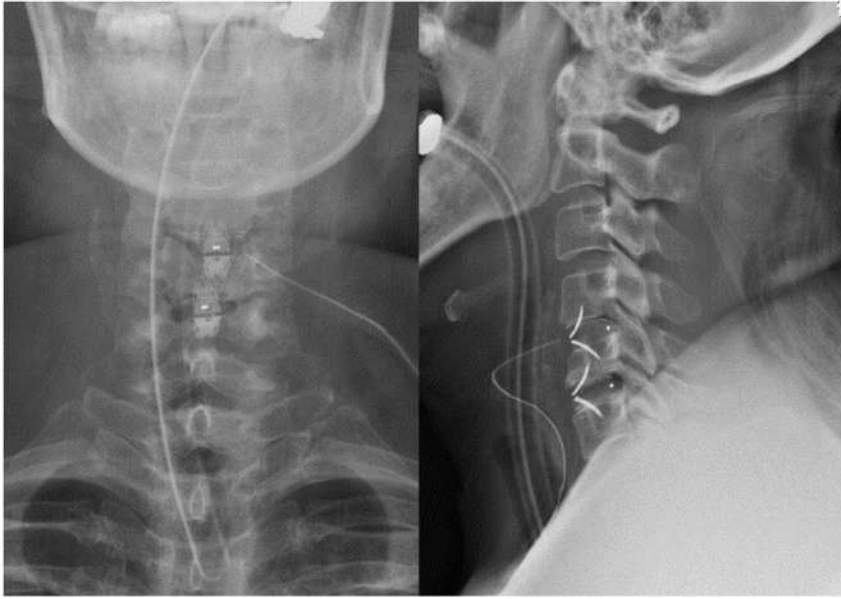
Next case, is a Male 66 y.o with a degenerative spine problem. The patient had canal stenosis with ossification of the posterior of the disc at the level of L5-S1. Microendoscopic laminotomy, flavectomy and discectomy were performed. Post-operative evaluation showed good results.



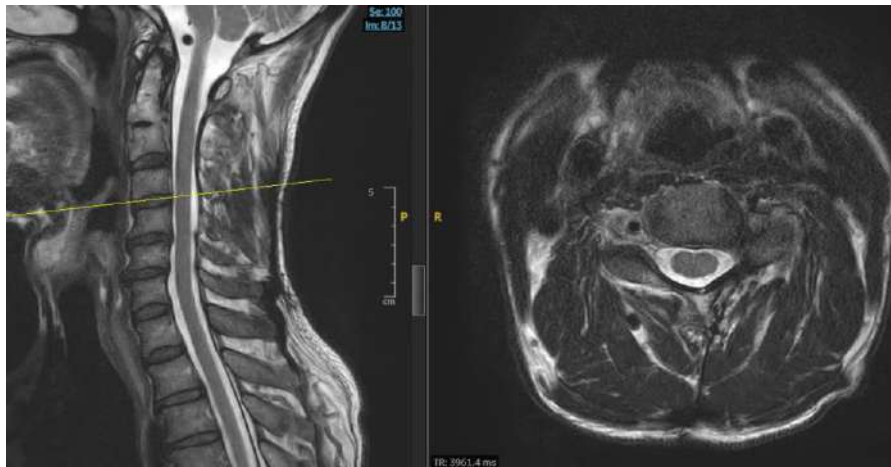
For cervical cases, there are the case example managed with 2 different approaches, anterior and posterior approach. First case is male, 70 years old suffered from neck pain which radiates to his bilateral shoulders. After nonoperative management, the symptoms were relieved. However, in the last 6 months, numbness in both upper limbs and stiff shoulders appeared. Because there was no improvement, surgery planning was carried out. The patient

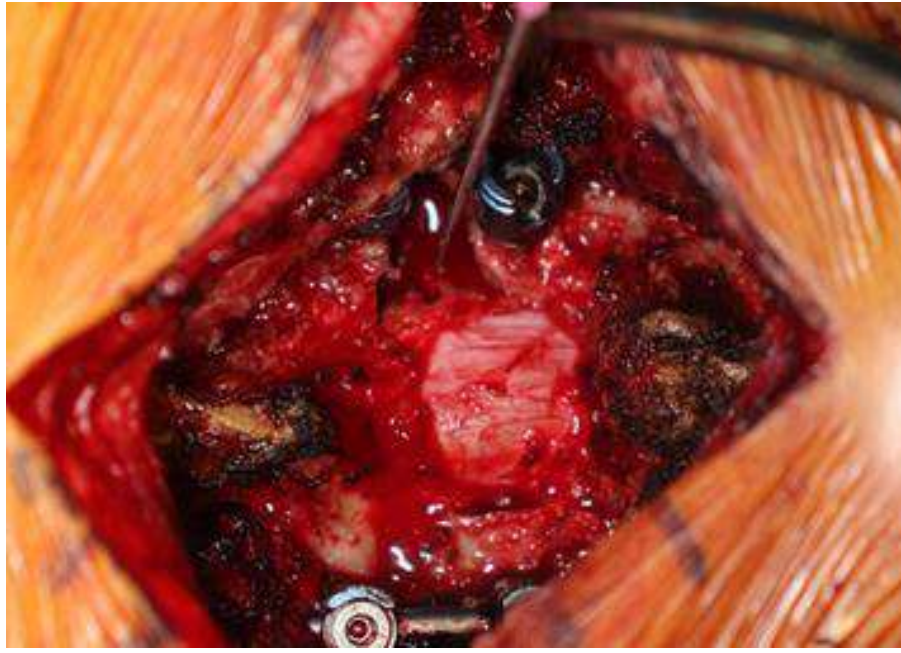
in the supine position and microendoscopic cervical anterior fusion was done. The post operative evaluation was good.



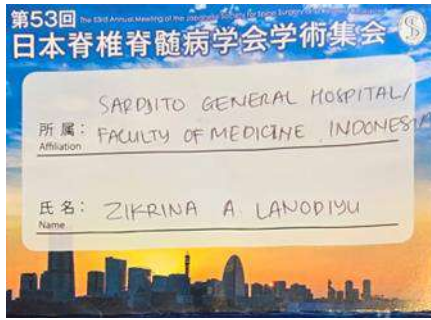


The 2nd case is male, 66 years old with cervical spondylotic myelopathy treated with posterior pedicle screw fixation and decompression. The patient was in a prone position. The posterior approach of the cervical spine was made followed by pedicle screw insertion in the C4 and C5 levels. Decompression was then performed using high-speed burr. The post-operative evaluation was uneventful.





During my three-month stay in Japan, I got the opportunity to attend two international conferences. In April, I attended the Japanese Society for Spine Surgery and Related Research (JSSR 2024) meeting in Yokohama. It was an excellent opportunity to learn and socialize with four thousand JSSR members and many foreign invited speakers from around the world. This event aimed to develop treatment strategies through ongoing research in both the scientific and clinical aspects.



The second international conference was to attend the Japanese Orthopaedic Association Meeting 2024 at Hakata, Fukuoka. During my stay in Hakata, Fukuoka, I had a terrific time socializing, making new friends, and creating memories. It was a wonderful city with plenty of delicious Japanese food.



The spine team at Wakayama Medical University Hospital was among the best in the world, drawing several well-known spine doctors to the facility. It has been a privilege to meet many great spine surgeons from all around the world. I have the opportunity to learn many intriguing spine cases with their expertise while simultaneously enjoying the beauty of Japan. The entire spine crew was extremely friendly. The chairman, Prof. Yamada, is very warm-hearted and kind. He invited me to his home for meals and introduced me to his lovely wife. Having that experience was quite comforting. Subordinates adore him for his exceptional leadership abilities. I would want to express my gratitude to all of the patients on the spine team, particularly to Dr. Keiji Nagata, Dr. Yuyu Ishimoto, and Dr. Masatoshi Teraguchi, who are not only compassionate but also pleasant. Thank you for your hospitality and willingness to share your knowledge. The case discussion that ensued was always intelligent and engaging. The clinical experience was incredible. I am genuinely hoping to continue our collaboration in the future.



Acknowledgment

I thank the Asia Pacific Spine Society for these 3 months of traveling fellowship training opportunities. I am very grateful to Prof Yamada and Prof Yoshida as the official hosts for this fellowship. Thank you for your kind hospitality and valuable learning experience in spine surgery. Thank you to all the members of the spine division at Wakayama Medical University Hospital, Sumiya Orthopaedic Hospital, Seisekai Wakayama Hospital, and Kihoku Branch Hospital Wakayama Medical University. Special thanks to Prof Yamada's friendly secretary, Maya and my spine fellow friend from Showa University, dr Hayakawa. Thank you for making my 3 months fellowship become more enjoyable.

