APSS Medtronic Spine Fellowship

Duration: 1st April 2018- 29th June 2018

Fellow:
Kiran Gurung, MBBS, MD/MS (Ortho)
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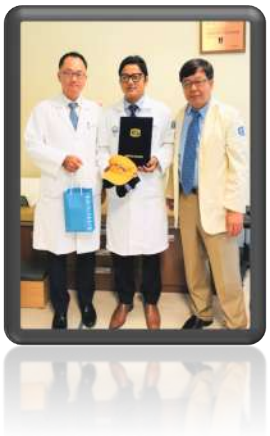
Nepalganj, Nepal

APSS-Medtronic Fellowship Host Institute:
The Catholic University of Korea, Seoul St. Mary's Hospital
Department of Orthopedics Surgery, Spine Section
Seoul, South Korea.

Spine Unit, Department of Orthopedics
Prof. Kee Yong Ha, HoD, Spine Deformity and Degenerative Spine Surgery (My Supervisor)
Prof. Yong Hoon Kim
Clinical Prof. Ki Ho Na
Clinical Assistant Prof. Sang IL Kim
Fellow:
Dr. Hyung Youl Park
Dr. Hyung Ki Min



Background:

This report details my experience of **2018 APSS-Medtronic Spine fellowship** visit to The Catholic University of Korea, Seoul St. Mary's Hospital, Seoul, South Korea as a Visiting Spine Fellow. The Seoul St. Mary's hospital is one of the largest and busiest tertiary referral university hospitals in Seoul. The Spine Unit comprises 4 Consultant Spine Surgeons, 2 clinical fellows. Although all aspects of Spinal surgery are covered, but the most common being Adult Spine Deformity and Degenerative Diseases.

I arrived in Seoul on 1st April 2018, accommodation was arranged inside campus in Sungeoi Building Guest house for fellowship period. Since it was Sunday my Spine fellowship journey started a day after on 2nd April 2018, Miss Eunhwa Park welcomed me and guided to the hospital. Though it was scheduled an Operation theatre visit unfortunately operation was cancelled so I was taken to the orthopedic ward tour where I met Dr. Mohammad, a Spine Fellow from Saudi Arabia (Professor Ha, 2nd International Spine Fellow), he later guided me to OR and gave brief information about schedule he followed. I met Professor Ha few days later after his return from conference abroad in his Clinic who welcomed me whole heartedly and then was introduced to Dr. Park, Spine Fellow, who handed me the revised weekly schedule (since two International fellows). Initially I attended 3 days (Monday, Wednesday and Friday) in a week to observe and assist spine surgeries in the operating theatre. Later I attended (Wednesday and Friday) and followed Professor Ha operation and his weekly schedule. Every Monday or Thursday, once a week I attended the out-patient spine clinic of Professor Ha. I would also attend the grand conference of orthopedic department every Tuesday. I got opportunity to present the technique I use to treat traumatic thoracolumbar fracture titled "Percutaneous Short Segment Pedicle Screw Fixation in Thoracolumbar Fractures with The Use of Conventional Instruments: Technique and Outcomes of over 4 years" during weekly spine conference.

Coming from a practice where my exposure was mostly traumatic spine injury (cervical and thoracolumbar) and sometimes degenerative diseases. My time at Seoul St. Mary's Hospital was extremely rewarding, having obtained exposure to wide variety of Spine cases. I have had the privilege to learn from a group of dynamic, highly skilled and motivated Spine surgeons. I am

especially very grateful and feel fortunate to have Professor Kee Yong Ha as my supervisor as I will be the last visiting International Spine fellow under him before his retirement. He not only presented himself as a Teacher but also as a father figure which meant a lot to me during my time at Seoul. He taught me tips and tricks, dos and don'ts that's going to have a long-lasting impact as a spine surgeon in my career. Surgical skills and techniques, and confidence to a particular case develops over period of time and with number of cases performed. But I believe such knowledge that he shared and imparted can be attained only from scholar like him who has seen ups and downs during his 30 years of career as spine surgeon. He not only taught me the approach and principles of spine fixation but also gave words of encouragements given the status of spine surgery evolution in Nepal. During the fellowship period, I got the opportunity to observe and assist quite a number of spinal cases. Of particular note I gained knowledge and experience in the techniques of staged DLIF, PLIF, 360 Fusion, Iliac Screws Fixation, Lumbar Kyphoscoliosis Correction, Posterior Column Osteotomy (SPO and Ponte), Pedicle Subtraction osteotomy, Opening-Closing Osteotomy, open as well as microscopic tumor resection, Dynamic correction of Scoliosis, In-situ Correction and fixation of instrumentation, Multi-level percutaneous pedicle screw fixations and also the need to understand the basic principle of global Spinal Balance and Spino-pelvic alignment. Besides, I also got the opportunity to see the Global Spine Fixation System, custom developed by Professor Ha.

However, in regards to the cases I commonly encounter in my day to day practice I wish I could get to see more of posterior instrumentation (pedicle or lateral mass screw fixation) of cervical spine. Perhaps, there were less cervical spine casualties. Nevertheless, I enjoyed every case and tried to grab as much as I can that's new to me and less common in our practice. I also attended 3 Meetings and 1 symposium and 1 course: The 62nd Spring Congress of the Korean Orthopedic Association, 19th -21st April, 2018, EXCO, Daegu; The 2018 Catholic Orthopedic Symposium I, 22nd April 2018, Seoul; The 35th Spring Congress Korean Society of Spine Surgery,1st -2nd June, 2018, Inter-Burgo, Daegu; The Neuropathic Low Back Pain Summit, 5th-6th June, 2018, Grand Hyatt, Seoul and the 9th Konkuk University Foot and Ankle Course 2018, Konkuk University, Seoul.

Of course, it was not all surgery and hospital although at times it seemed like it! During this period in Seoul, I made some new friends from India, Indonesia, Philippines and Saudi Arabia and had a great time. We also socialized at times Professor Ha would host dinner and gatherings often. Aside from academics, I also experienced the Seoul Panaromic View Ride, Cherry Blossoms, the Han River Bank Park festival, visited Gyeongbokgung Palace, War Memorial of Korea, the famous Gangnam Style themed spot. I managed to visit Bell Museum at jin cheon and hike up the Jin Cheon Water Reservoir and Besides also got opportunity to know Korean culture and taste local Cuisine.

Acknowledgements

It is impossible to overstate the invaluable nature of the intuition I have been privileged to experience through the aid of **APSS-Medtronic** Fellowship Committee. The financial support granted through my fellowship and all its subsequent benefits will remain a lasting legacy throughout my career and hopefully prove a boon to others in my immediate community. I would like to acknowledge the constructive commitment and encouragement of the APOA-APSS, which has shown positive support for its members like me from Nepal and other countries from Asia to explore opportunities, observe and experience, and sharpen their clinical and surgical knowledge based on their subspecialty to remain on the leading edge of an ever-evolving medical science at various host center across Asia. It's a once in a life time opportunity to a young Spine Surgeon to be like me but an encouragement to all the Spine surgery aspirant across Asia.

Just thanking will be less for **Professor Kee Yong Ha**, his vision, humor and encouragement will always be vital for me to develop as Spine Surgeon. I will always be indebted to him. Also, my sincere gratitude to Professor Yong Hoon Kim, Professor Yang-il Kim, Professor Ko Hi Na for all their support and guidance during rounds and OR visit, Miss Jenny Wong, Secretariat, APSS and Mr. Kaelyn Liew, Executive, APSS, Miss. Eunhwa Park, International Fellow Coordinator, St. Mary's Hospital, Seoul, for all their official support and help. Nevertheless, I must thank Dr. Hyung Youl Park and Dr. Hyung Ki Min Spine Fellows, Residents Dr. Kang Ki Ho, Dr. Yang who always showed their generosity and provided helping hand during my stay in Seoul, South Korea.

Most importantly this fellowship would not have been possible without the love, support and encouragement from my entire family and my HOD, Professor Dr. Vinod Kumar Thapa (Western hospital, Nepal).

Farewell!!! Thanksgiving hosted by: Prof. Ha

Conclusions

All in all, I am content with what I have experienced and achieved. Though short, with the exposure I had, I am lucky to take these experiences and skills back to Nepal and very hopeful it to be the beneficial to me and my patients in near future.

APSS Medtronic Spine Fellowship 2018

The Catholic University Of Korea
Seoul St. Mary's Hospital
Seoul, South Korea

Case Log Book

1st April 2018 - 29th June 2018

Department Of Orthopedic Surgery
Spine Unit

Spine Fellow
Kiran Gurung

Supervisor

Professor Kee Yong Ha
Head of Department
Spine Unit

SN	Sex	Age	Date	Remarks	Diagnosis	Procedure
1	F	67	4/4/18	Assistant	Spinal stenosis, L1-S1 SPLT, L4 on L5, L5 on S1 (DLIF state)	PLIF, L1-S1-iliac
2	M	41	4/4/18	Assistant	Malignant melanoma, L4-5, Rt. (PLIF state)	DLIF, L4-5
3	M	63	4/6/18	Assistant	ASP, L2-4, L5-S1 (L4-5 fusion state)	DLIF, L2-4
4	F	71	4/6/18	Assistant	ASP, L2-4, L5-S1 (L4-5 fusion state)	DLIF, L2-4
5	F	43	4/6/18	Assistant	Spinal stenosis, L2-S1	DLIF, L2-5
6	F	74	4/9/18	Assistant	Cervical Spondylotic myelopathy	ACDF, C4-6 & Corpectomy, C5
7	F	71	4/11/18	Assistant	ASP, L2-4 (L4-5 fusion state)	Removal of hardware, L4-5 P/I & PLF, L2-S1
8	M	66	4/11/18	Assistant	Spinal stenosis, L2-S1 (DLIF state)	P/I & PLF, L1-S1
9	F	43	4/11/18	Assistant	Spinal stenosis, L2-S1 (DLIF state)	P/I & PLF, L2-S1
10	M	63	4/13/18	Assistant	ASP (L4-5 fusion state) Wound dehiscence, 1st toe, foot, Rt.	Removal of hardware, L4-5 (U&I system) P/I & PLF c iliac screw, L2-S1 Wound closure, foot, Rt.
11	F	65	4/13/18	Assistant	Spinal stenosis, L2-S1	DLIF, L2-4
12	F	65	4/18/18	Assistant	Spinal stenosis, L2-S1 (DLIF state)	P/I & PLF, L2-S1
13	F	69	4/18/18	Assistant	Spinal stenosis, L4-S1	Laminectomy, L5-S1
14	F	43	4/18/18	Assistant	Spinal stenosis, L5-S1	PLIF, L5-S1
15	F	78	4/20/18	Assistant	Postoperative sagittal imbalance (L3-S1 fused state)	Removal of hardware, L3-S1 PSO, L3 P/I & PLIF, L3-S1-iliac
16	M	70	4/25/18	Assistant	Kummell's disease, L1 Camptocormia	Corpectomy, L1 ALIF c AIBG, D12-L2 P/I, D12-L2
17	F	63	4/25/18	Assistant	DLS, L4-5 (T/L, L4-5 state) Spinal stenosis, L3-5	DLIF, L3-5 P/I, L3-5
18	F	77	4/27/18	Assistant	Spinal stenosis L3-S1	DLIF, L3-S1
19	F	60	4/27/18	Assistant	ASP, L4-S1 (L5-S1 fused state)	Revision PLIF, L4-S1
20	F	77	5/2/18	Assistant	Spinal stenosis, L3-S1 (DLIF state)	PSO, L4 P/I & PLF, L3-S1
21	M	77	5/2/18	Assistant	Cervical myelopathy, C3-7	Laminoplasty, C3-7
22	M	62	5/4/18	Assistant	Spinal stenosis, L3-5	Decompressive T/L, L4-5

23	F	71	5/4/18	Assistant	Spinal stenosis, L3-S1	DLIF, L2-5
24	M	58	5/8/18	Assistant	Spinal stenosis, L5-S1	PLIF, L5-S1
25	F	79	5/8/18	Assistant	ASP, L1-2 (L3-S1 fused state)	Revision PLIF, L1-2
26	F	71	5/23/18	Assistant	Spinal stenosis, L3-S1 (DLIF state)	PLIF, L5-S1 P/I, L3-S1
27	F	64	5/23/18	Assistant	Spinal stenosis, L2-S1	PLIF, L3-S1
28	F	51	5/23/18	Assistant	Spinal stenosis, L1-S1	DLIF, L2-5
29	F	75	5/25/18	Assistant	Lumbar degenerative kyphosis	DLIF, L2-3,3-4
30	F	69	5/25/18	Assistant	Spinal stenosis, L1-L5	DLIF, L2-5
31	F	51	5/28/18	Assistant	Spinal stenosis, L1-S1	PLIF, D10-S1 c iliac screw
32	F	75	5/30/18	Assistant	Lumbar degenerative kyphosis	PSO, L4 P/I, D10-ilium
33	F	69	5/30/18	Assistant	Spinal stenosis, L1-L5	PSF, D10-ilium
34	F	78	6/20/18	Assistant	Spinal stenosis, L4-L5	Decompression, T/L L4-L5
35	F	47	6/20/18	Assistant	Degenerative Spondylolisthesis L3 on L4,	DLIF L3-L4, PLIF L4-5,L5-S1
36	F	62	6/20/18	Assistant	Spinal stenosis, L5-S1, Segmental Kyphosis L5-S1	PLIF, P/I L5-S1
37	M	60	6/22/18	Assistant	Spinal stenosis, L2-5	DLIF, L2-5
38	M	70	6/22/18	Assistant	L3-L4 Non-union, (L3-L4-L5 PLF state)	Titanium Cage Removal, AIF, L3-4, PEEK, Allograft, DBM
39	M	73	6/25/18	Assistant	Spinal stenosis, L2-5	PLIF, L3-5
40	F	60	6/25/18	Assistant	Spinal stenosis, L4-S1	PLIF, L4-S1
41	F	74	6/26/18	Assistant	Ruptured HNP, C6-7	ACDF C6-7
42	F	79	6/26/18	Assistant	Lumbar degenerative kyphosis	DLIF, L2-3,3-4
43	M	60	6/27/18	Assistant	Spinal stenosis, L2-5 DLIF state L2-3-4-5	PLIF, P/I L1-S1, Iliac Screws

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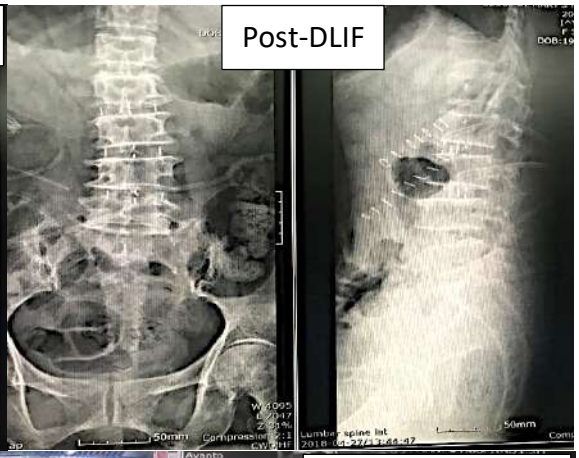
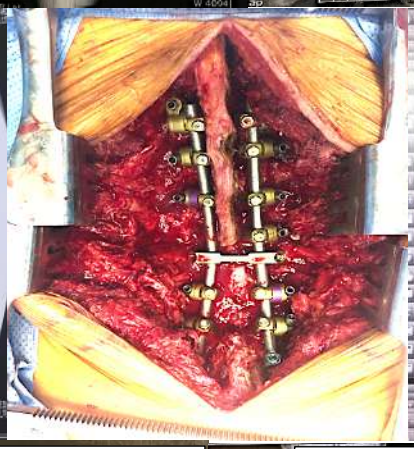
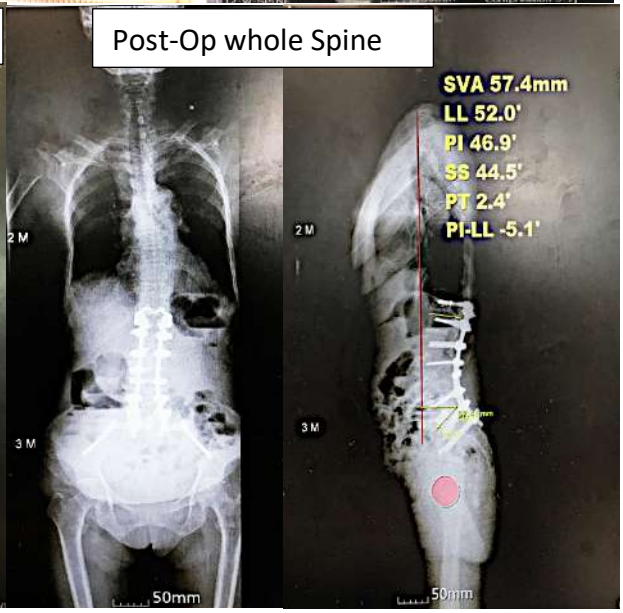
Case Sample

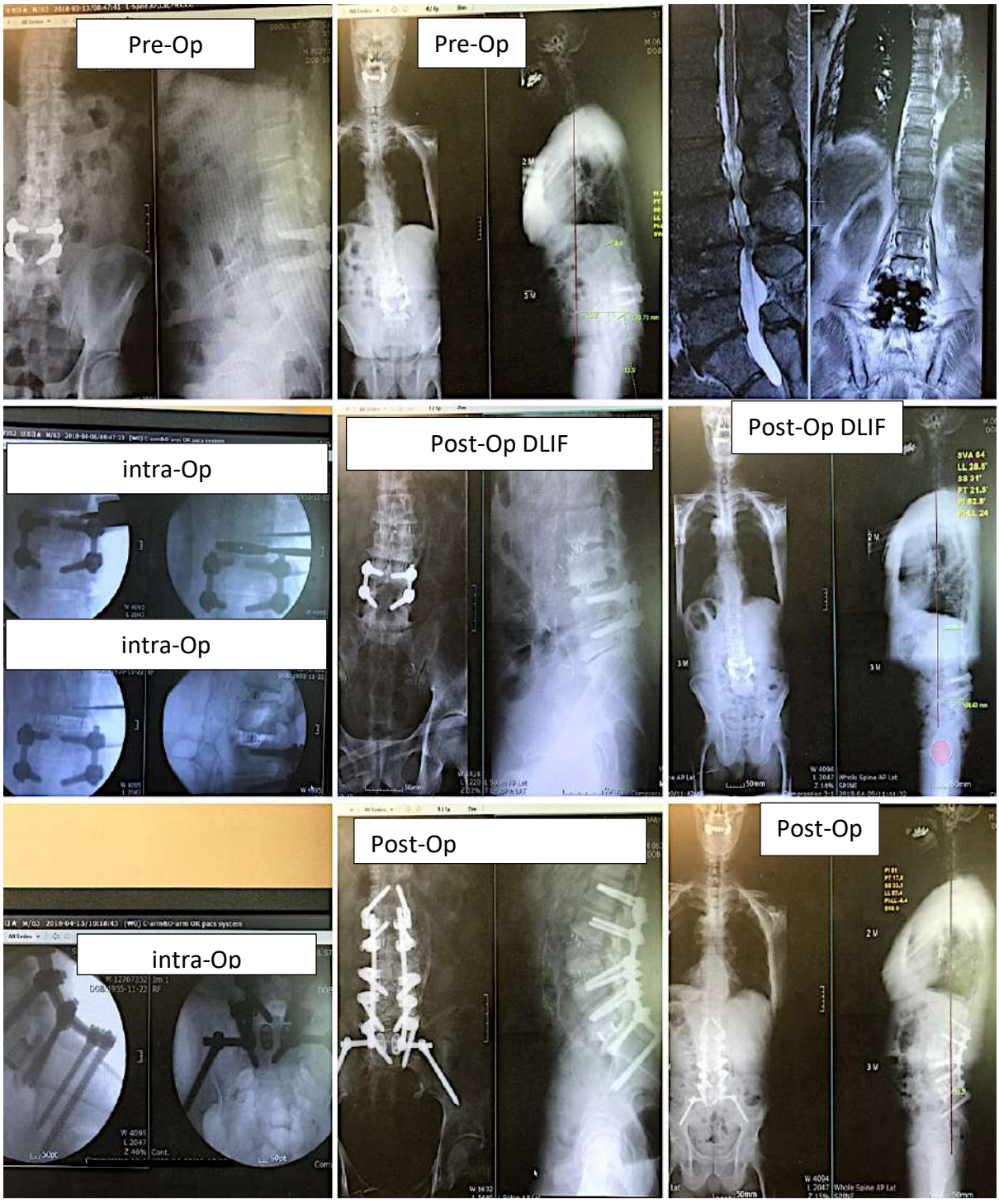
77/F, Degenerative Lumbar Kyphoscoliosis, Spinal stenosis L2-S1
Staged Operation
DLIF L2-L3, L3-L4, L4-L5
Deformity Correction with Pedicle Subtraction Osteotomy L4
Posterior Instrumentation with TSRH System with Legacy Iliac Screws D12-S1-Ilium
Decompression Total Laminectomy L3-L4-L5-S1
Posterolateral Fusion with resected ABG and Allograft
PLIF L5-S1



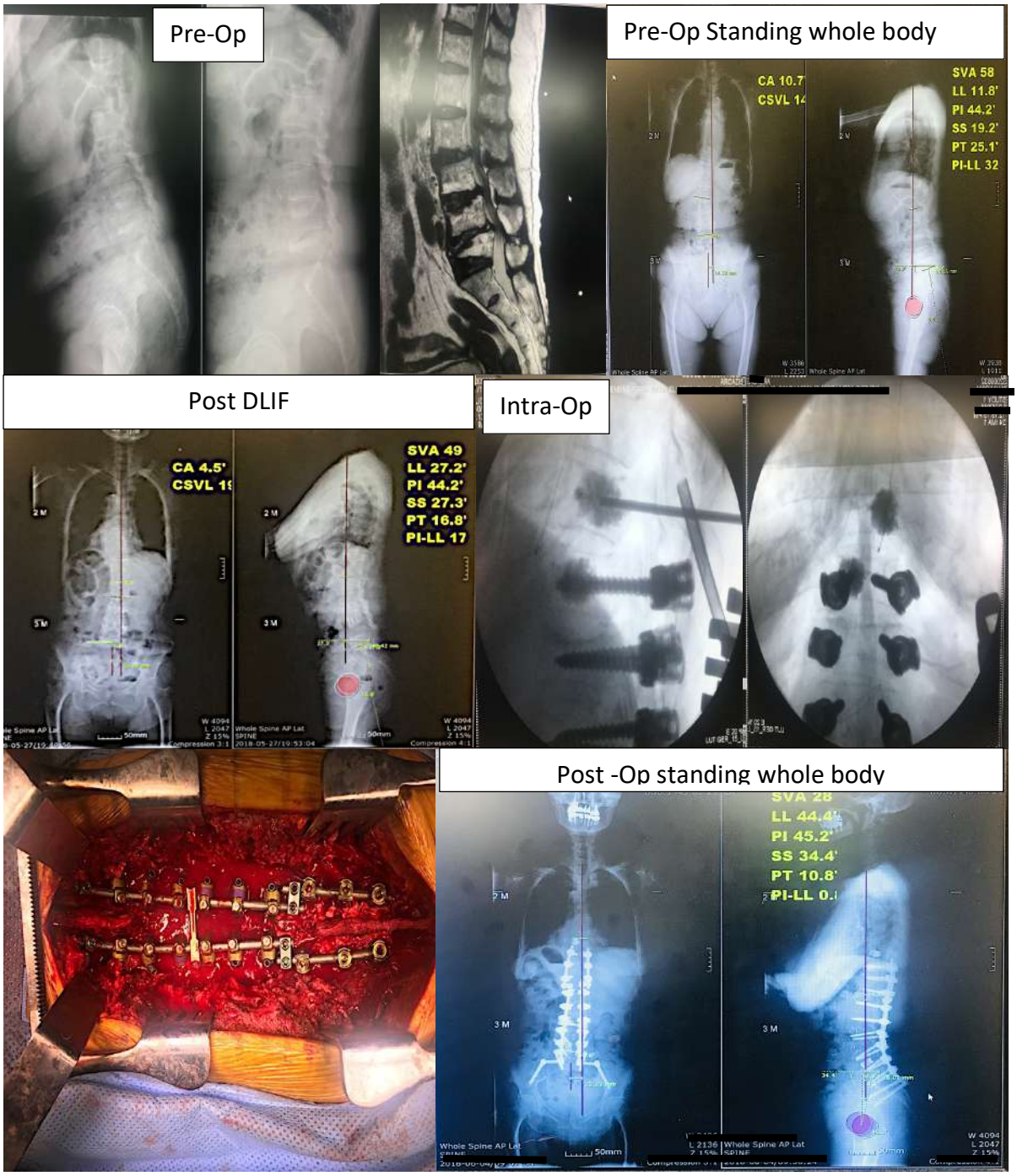




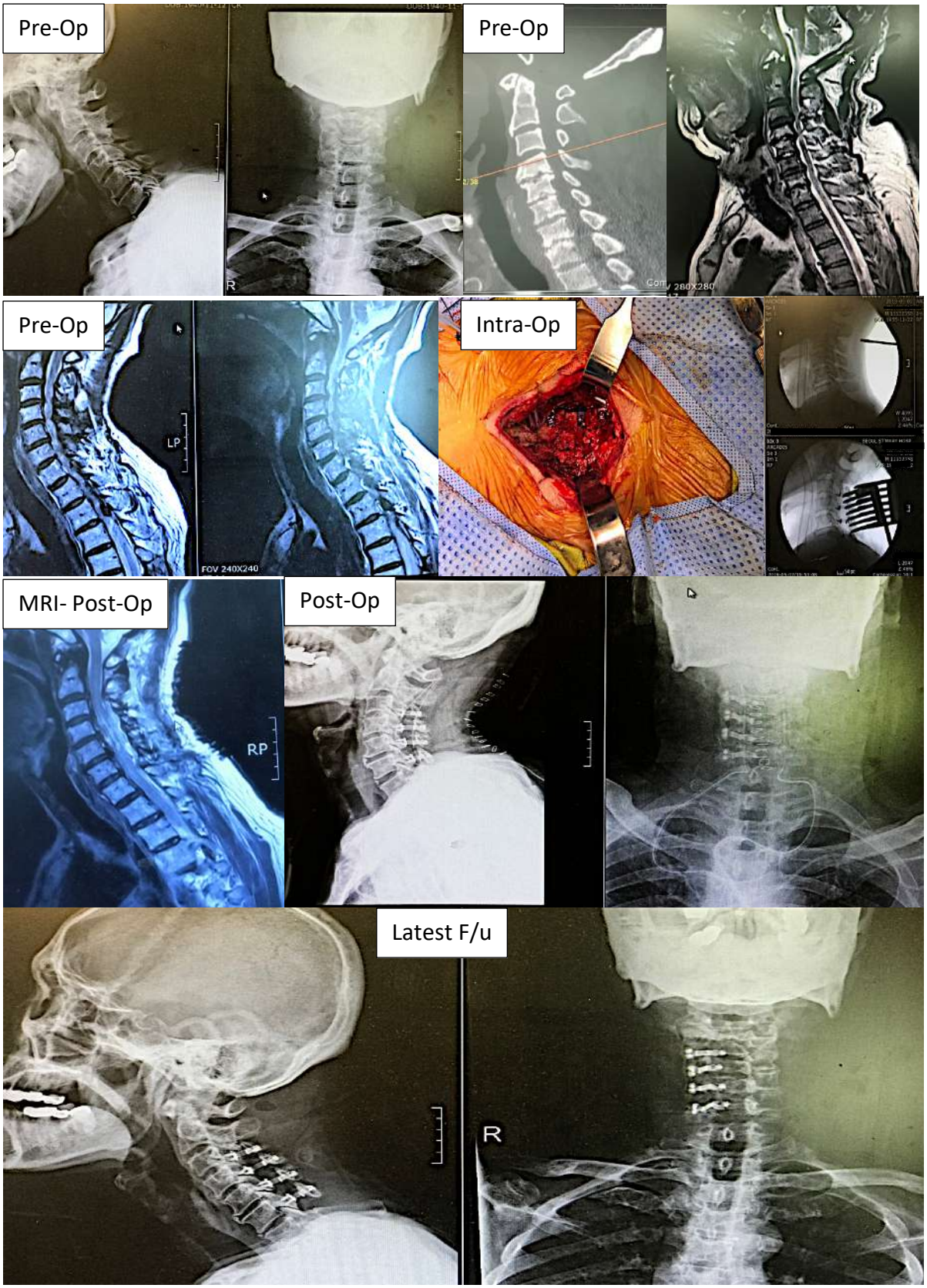
63/M, L4-L5 Fusion State
Adjacent Segment Degeneration L2-L3-L4, Foraminal Stenosis L5-S1, HNP L2-L3-L4
Staged Operation
Direct Lateral Decompression followed by DLIF L2-L3, L3-L4
Decompressive Laminectomy and Flavectectomy L2-L3, L3-L4
Deformity Correction with Pedicle Subtraction Osteotomy L3
Posterior Instrumentation with TSRH System and Posterolateral Fusion L2-L5 with resected ABG and Allograft
PLIF L5-S1



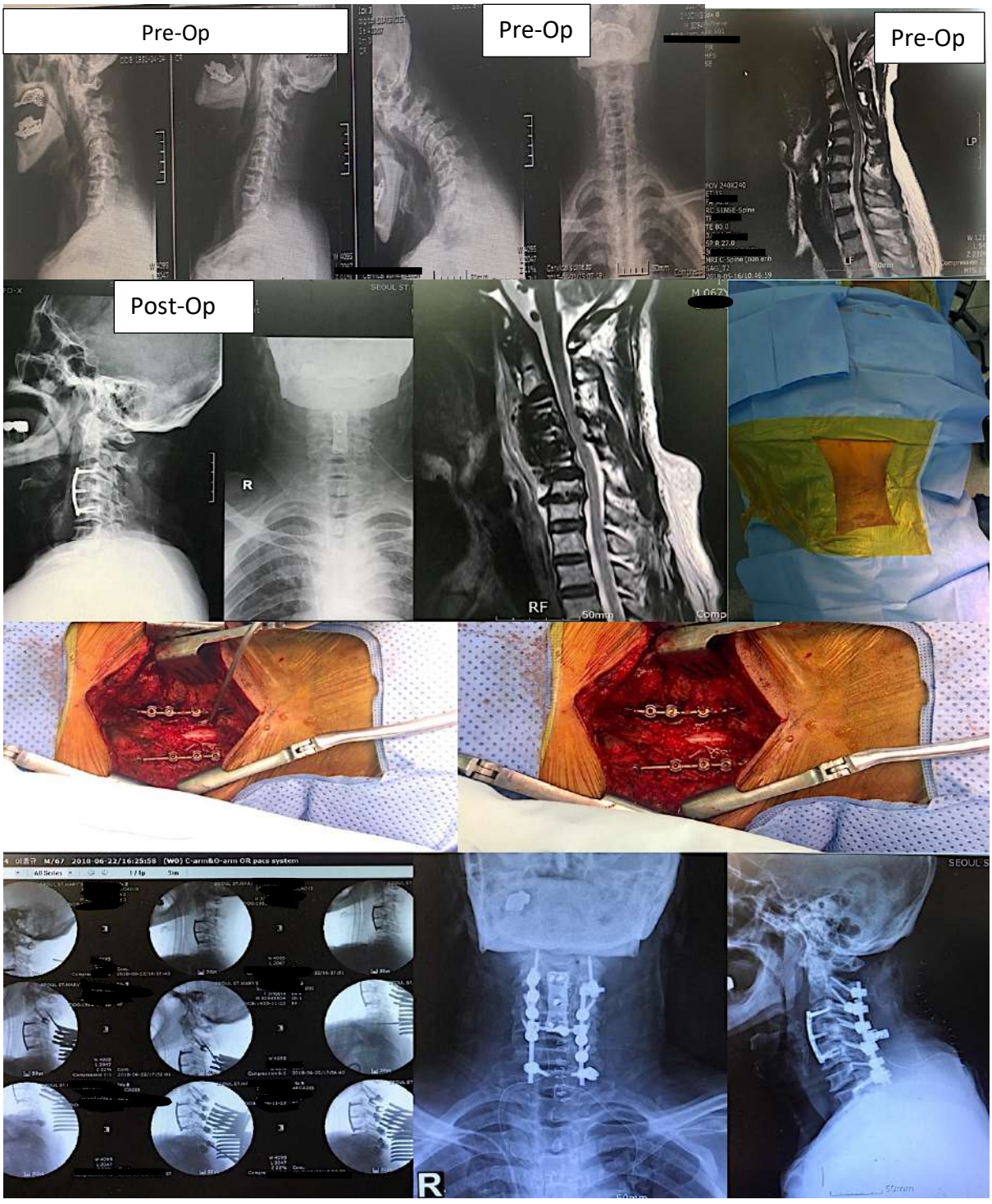
75/F, Osteoporotic # D9, D10, Lumbar Degenerative Kyphosis, Spinal stenosis, Compression #L5
Staged Operation.
Direct Lateral Decompression followed by DLIF L2-L3, L3-L4
Deformity Correction with PCO, Ponte Osteotomy L4-L5
Decompression Total Laminectomy L4-L5, Mild Resection of L5 Vertebral Body(posterior Aspect)
Posterior Instrumentation with TSRH System and Posterolateral Fusion D10-S1 with resected ABG and Allograft, **Augmentation** with cement D9, D10
PLIF L4-L5



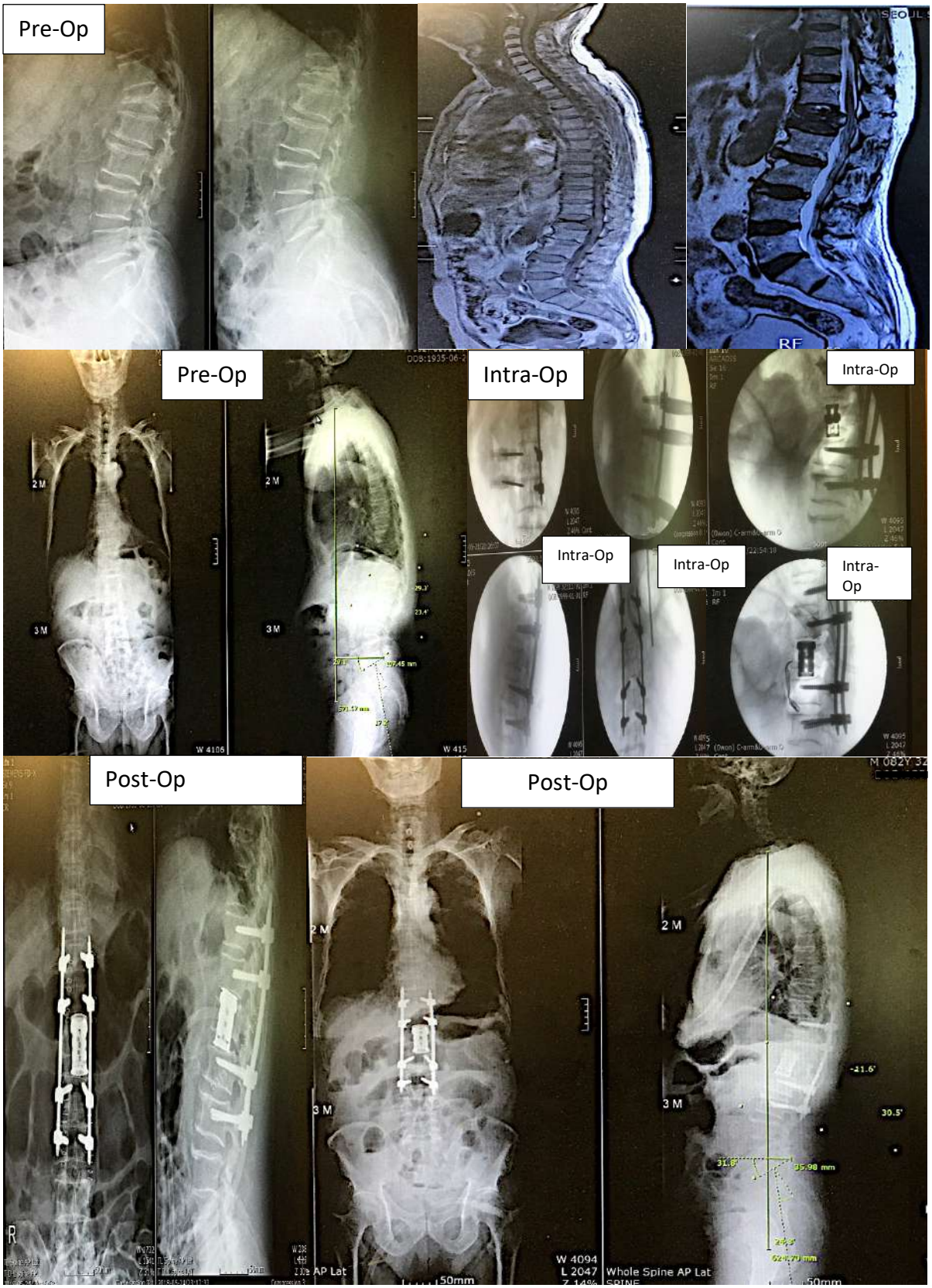
77/M, Cervical Myelopathy with OPLL, C4-C7(Previous Laminoplasty state C4-C6 non-instrumental)
Operation: Revisional Open Door Laminoplasty Using centerpiece Plate C3-C6



67/M, Cervical Spondylotic Myelopathy, Kyphotic Deformity, HNP, OPLL C4-C5-C6
Operation: Staged ACCF snd Posterior Instrumentation Pedicle and Lateral Mass Screw C2-C7, C4 Corpectomy, ACCF with Ilicac Strut Bone Graft and fixation with Zephir Plate C3-C4-C5.



82/M, Kummel's Diseases, L1
Operation: Corpectomy L1, Percutaneous Posterior Instrumentation D11-L3
Anterior Interbody Fusion with VLIFT Cage D12-L2



74/F, Cervical Spondylotic Myelopathy, HNP, OPLL C4-C5-C6
Operation: C5 Corpectomy, ACCF with Ilicac Strut Bone Graft and fixation with Zephir Plate C4-C5-C6.