

## **Report for APSS-Depuy-Synthes Clinical Fellowship 2013**

**Centre: Kyung Hee University Spine Centre  
Kyung Hee University Hospital at Gang Dong  
Seoul, South Korea**

**Supervisor: Prof Kim Ki-Tack**

**Fellow: Dr Tony Setiobudi  
Alexandra Hospital  
Singapore**

**Duration: 18 Nov – 6 Dec 2013**

I have been practicing spine surgery for 2 years prior to this clinical fellowship with Prof KT Kim. A big bulk of my practice was on adult degenerative lumbar and cervical spine. I had fair experience on deformity mainly on adolescent idiopathic scoliosis during my fellowship. I had very minimal exposure on the treatment of adult kyphotic deformity especially with spine osteotomy.

I was very excited when I was offered the clinical fellowship with Prof Kim by APSS. I believe Prof Kim is one of the most experienced surgeons in adult kyphotic deformity after seeing his case presentation and live surgery in APSS Operative Course in Kuching, Malaysia in August 2013.

I arrived in Seoul, South Korea on Sunday, 17 Nov 2013 in a very cold winter. I was welcomed by Dr Huh Dae-Seok (Prof Kim's Spinal fellow) at Incheon Airport. He brought me to Kyung Hee University Hospital at Gang Dong and introduced me to the Orthopaedic residents doing spine rotation. We had sumptuous lunch together before Dr Huh sent me to my hotel. Dr Huh prepared a lot of information about the public transport in Seoul and how to get to the hospital from my hotel by subway and taxi.

On 18 Nov 2013 (First day of my fellowship), I arrived at Kyung Hee University Hospital and met Prof Kim for the second time (I met Prof Kim at the APSS operative Course in Kuching, Malaysia for the first time). Prof Kim introduced me to the Spine Centre.

The weekly schedule include whole day spine clinic on every Monday and Thursday and whole operating theatre lists on every Tuesday and Wednesday. In the clinic I sat together with Dr Huh in the consulting room. The consultation was done in Korean. Prof Kim and Dr Huh regularly explained to me the patient's conditions and the treatment plans in English.

Prof Kim lined up five kyphotic deformity cases (three spine osteotomy and two other non-osteotomy) especially for my clinical fellowship. Spine osteotomy cases that I observed were Pedicle Substraction Osteotomy (PSO) for ankylosing spondylitis, Partial Pedicle subtraction osteotomy(PPSO) for post-traumatic kyphosis and Posterior Vertebral Column Resection (PVCR) for ankylosing spondylitis with severe kyphotic deformity. Prof Kim has a lot of experience in adult kyphotic deformity correction. It was enjoyable to observe how he did the osteotomy effortlessly. I learned this technique and the tricks how to do it safely. I also observed lateral interbody cages insertion using anterior-to-psoas approach to correct sagittal and coronal imbalance.

Apart from attending the clinic and operating theatre, Dr Huh, Dr Kim (the other spine fellow), the residents also introduced me to delicious Korean food and drinks. My stay in Seoul was very enjoyable because Prof Kim and his staff really ensured that I was well taken care of. In the last week of this fellowship, we had a sumptuous traditional Korean dinner with Prof Kang-Il Kim (the chairman of Orthopaedic Department) and other Professors. I learned Korean custom how to drink Soju to appreciate the teachers and the seniors.

From this fellowship, I had learned about thoracolumbar spine osteotomy to correct sagittal deformity. More importantly, I developed relationship with spine surgeons from Korea so that we can continue to learn together in the future. Since I came back from this fellowship, I saw a number of sagittal deformity cases more than usual. I have been discussing the cases with Prof Kim and the fellows. I really appreciate their valuable input for my learning.

#### Daily rosters:

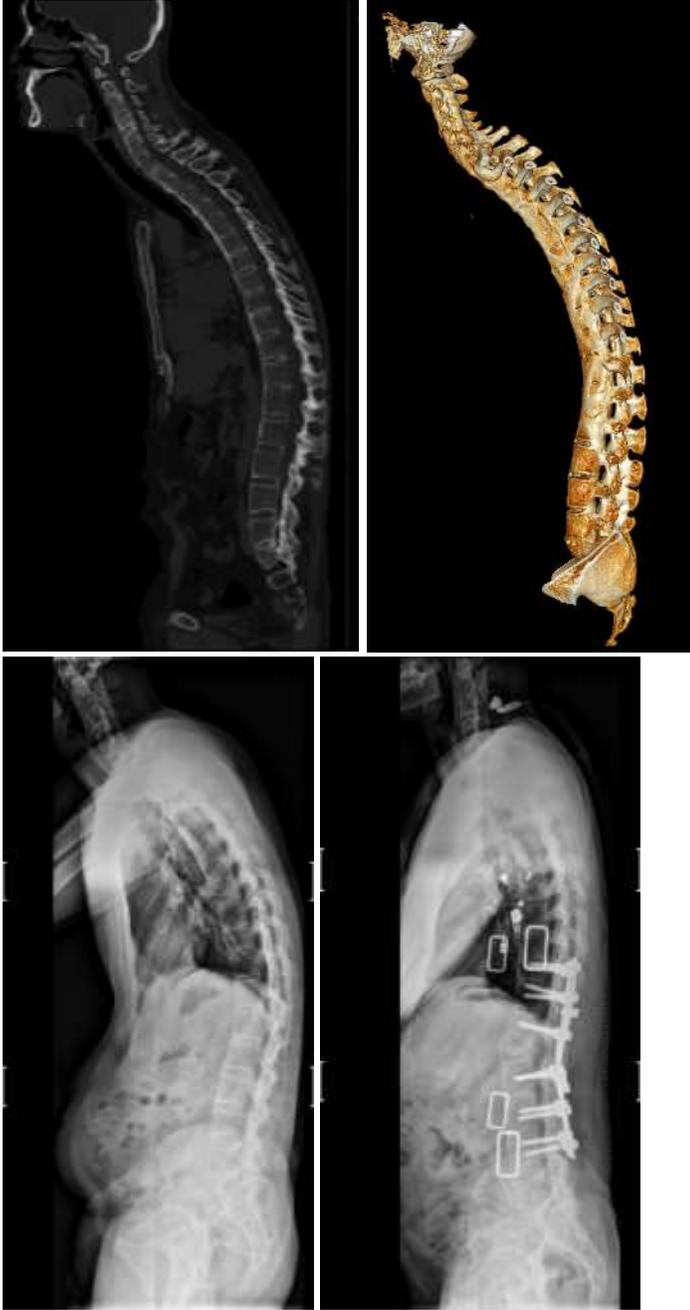
Monday	Spine clinic with Prof KT Kim	9am - 12:30pm
	Lunch	12:30 - 1:30pm
Tuesday	Spine clinic with Prof KT Kim	1:30 - 5:00pm
	Operating theatre	8am – 5pm
Wednesday	Ortho department teaching	7am - 8am
	Operating theatre	8am – 5pm
Thursday	Ortho department teaching	7am - 8am
	Spine clinic with Prof KT Kim	9am - 12:30pm
	Lunch	12:30 - 1:30pm
Friday	Spine clinic with Prof KT Kim	1:30 - 5:00pm
	Admin	

**OPERATIVE LOG BOOK - KOREA APSS CLINICAL FELLOWSHIP 2013**

Date	Name	Gender	Age	Diagnosis	Name of operation
19/11/2013	Son Y.J.	M	34	Ankylosing spondylitis	PBO L1 & post instrumentation T10-L4
	Oh S.J.	F	67	HNP L4-5 Rt	Open discectomy L4-5 Rt
	Lee Y.G.	M	43	HCD C6-7 Rt	ACDF C6-7
20/11/2013	Kim W.H.	M	66	Post-traumatic kyphosis T12	Boache osteotomy T12 c post instrumentation T9-L2
	Jang O.E.	F	55	Spondylolisthesis L4-5 c foraminal stenosis L4-5 Rt	PLF L4-5
	Eun S.G.	M	69	Isthmic Spondylolisthesis L4-5 c post decom & PLF L4-5 c ASD L3-4 state	Revision PLF L2-3-4
26/11/2013	Lee S.R.	M	42	HCD C6-6-7	ACDF C6-6-7
	Son Y.B.	F	67	Spinal stenosis L4-5	Posterior decompression L4-5
	Kim K.O.	F	65	Spinal stenosis L4-5	Posterior decompression L4-5
27/11/2013	Yoo W.O.	M	64	Failed back surgery syndrome c L5-S1 nonunion state	DLP L2-5 c posterior release
	Park H.G.	M	46	Spinal stenosis L4-5	Post decompression & discectomy L4-5
	Kim Y.M.	F	76	Kummell's disease L2	Kyphoplasty L2
	Yoo J.K.	M	72	Spinal stenosis L4-5 c Spondylolisthesis L4 on S & HNP L3-4 Lt	PLF L4-5 & discectomy L3-4 Lt
	Kim K.A.	F	38	HNP L4-5 Lt	Open discectomy L4-5 Lt
03/12/2013	Jun K.S.	F	72	Degenerative flatback syndrome	Posterior release
	Yoo W.O.	M	64	Failed back surgery syndrome c DLP L2-5 state	Posterior release & posterior instrumentation L2-S1
	Bae H.W.	M	61	HNP L2-3 Rt	Open discectomy L2-3 Rt
	Um B.H.	M	55	HNP L2-3 Lt	Open discectomy L2-3 Lt
	Cha J.H.	M	36	Spondylolisthesis L4 on L5 c DDD	PLF L4-5
	Chun P.Y.	F	65	Spinal stenosis L3-5	Posterior decompression L3-5
04/12/2013	Kim C.W.	M	60	Ankylosing spondylitis	PVCR L1 c Post instrumentation T9-L4
	Park Y.D.	M	60	HNP L4-5 Rt	Open discectomy L4-5

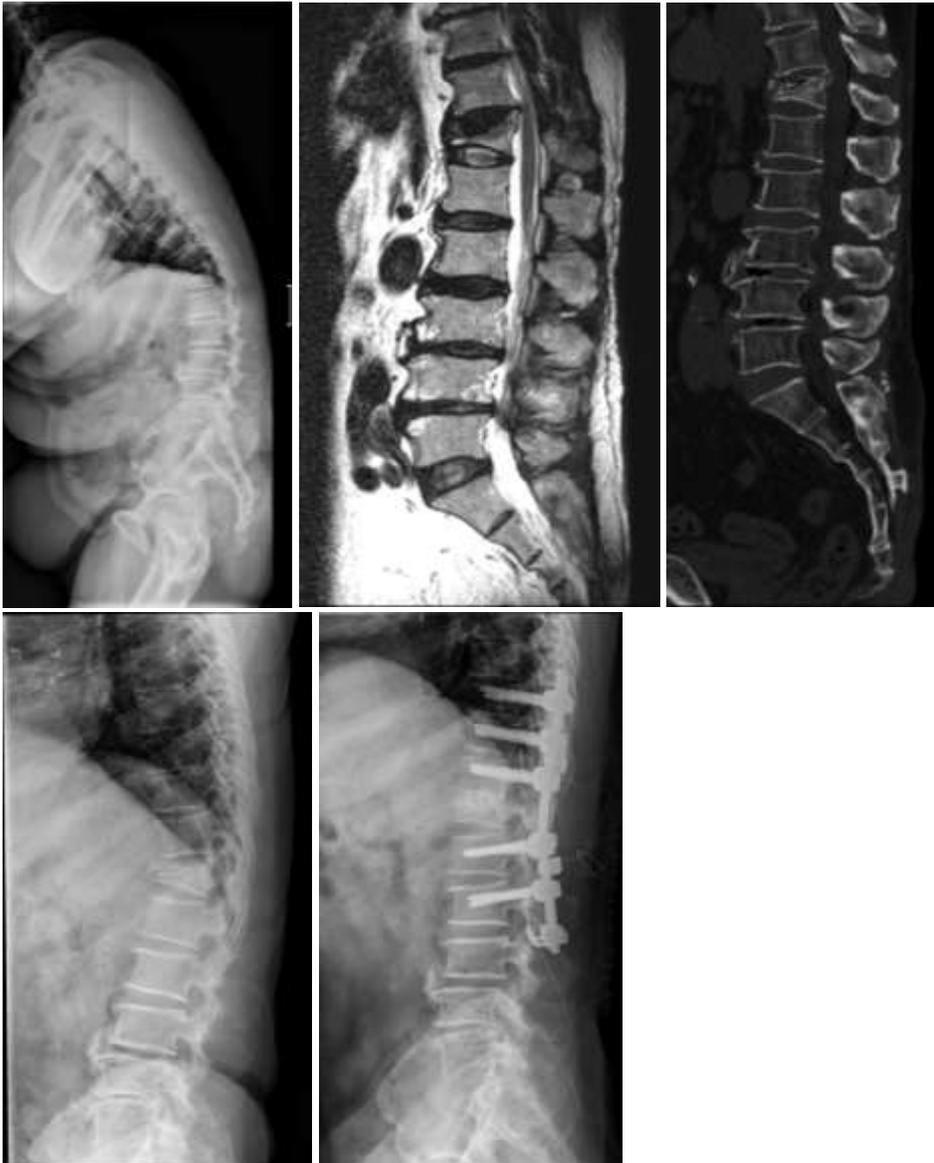
**Interesting cases:**

1. 34 year old gentleman with sagittal deformity secondary to ankylosing spondylitis.



The sagittal deformity was corrected with pedicle subtraction osteotomy. In my hospital, we usually break the table to accommodate the deformity. The table is gradually extended after the osteotomy to correct the deformity. In Korea, I learned how to perform sagittal deformity correction without breaking the table using Jackson table.

2. Post-traumatic kyphosis at T12 in 68 year old gentleman.



The kyphotic deformity at T12 was corrected 2 years after the initial injury. The superior end plate of T12 was fractured. The inferior endplate was intact. Partial pedicle subtraction osteotomy (PPSO) was performed. This is the modification of PSO which was developed by Prof KT Kim. With PPSO, the inferior part of the pedicle was left alone. The superior half of the pedicle and the corresponding vertebral body was decancelated. The T11/12 intervertebral disc was also removed. An interbody cage and cancellous bone graft was inserted to fill the space. Lamina hooks were used at the lower end of the construct to preserve motion segment in non-ankylosed spine.

3. Adjacent segment degeneration in 69 year old male many years after L4/L5 TLIF



L3/4 and L2/3 adjacent segment degeneration developed many years after the initial L4/5 TLIF. The patients complained of back pain and claudication from spinal stenosis. He underwent lateral interbody fusion of L2/3 and L3/4. Anterior to psoas approach was used to expose the intervertebral discs. Posterior instrumentation and decompression was done as the second stage in the same sitting. In my practice, I usually use transpsoas approach. Anterior to psoas approach is very useful especially when we need to do multiple level of lateral interbody fusion to preserve the psoas muscle.

4. Failed back syndrome in a 64 year old gentleman a few years after L5/S1 posterior decompression and fusion.



L2/3, L3/4 and L4/5 lateral interbody fusion, L5/S1 TLIF and posterior decompression and instrumentation were performed in this case. The lateral interbody fusion was done using anterior to psoas approach. The operation was divided into 2 stages with 6 day interval.

5. Vertebral column resection in a 60 year old gentleman with ankylosing spondylitis and severe kyphotic deformity



The kyphotic deformity in this case was severe. PSO alone may not be able to do adequate correction. Posterior vertebral column resection was performed at L1. The bone is usually osteoporotic in patients with ankylosing spondylitis.



I want to thank:

1. Prof KT Kim for his teaching in spine osteotomy
2. APSS for giving me the sponsorship and this valuable opportunity to learn from master surgeon.