

## 2016 APOA-SICOT Spine Fellowship

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Host: Professor Cody Büngrer from the Department of Orthopedics E, Århus University Hospital, Aarhus, Denmark

Attachment period: September 25 to October 21 2016

I thank the Asia Pacific Orthopaedic Association (APOA) and SICOT for selecting me to go on this fellowship to Aarhus, Denmark from 25<sup>th</sup> September to 21<sup>st</sup> October 2016. It was a great opportunity to spend some time overseas and to experience how other spine centers practice. Not only was it a chance to learn tips and tricks but also to establish friendships and possible collaborative work.

My trip did not begin directly at Denmark but at the Scoliosis Research Society Meeting in Prague, Czech Republic. I was already able to present at the meeting but it was also the stage for my meeting with Professor Cody Büngrer prior to my fellowship. I had the chance to speak to him about the fellowship and it gave me a glimpse of what to expect from their center.

Straight after Prague, I flew into Aarhus on the night of September 25<sup>th</sup> and proceeded with my attachment the day after. It was an exciting and interesting experience visiting their establishment. I was particularly impressed with the amount of teamwork from top down and bottom up for daily patient care and surgery. I attended every morning meeting where a conference was held with surgeons, nurses and students present and a thorough discussion of each inpatient and surgical case took place. The healthcare system in Denmark is a very efficient machine with appropriate gateways to prevent overburdening the hospital with inpatients but still able to provide patients with rehabilitation possibilities. With the fail-safe of the daily conferences, the junior colleagues are given much responsibilities with patient care. There were also many case conferences where residents presented difficult cases and the senior members discussed the plan of management. These were excellent opportunities for me to contribute and to learn about their theories.



*Daily morning conference*



*My own locker*

The Aarhus University Hospital is a relatively small hospital with on average 6-7 inpatients but has a large range of surgical cases and abundance of surgical lists. Two theaters are available everyday which allowed a good mixture of acute cases like fractures and metastatic cord compressions with elective adult and pediatric deformity.

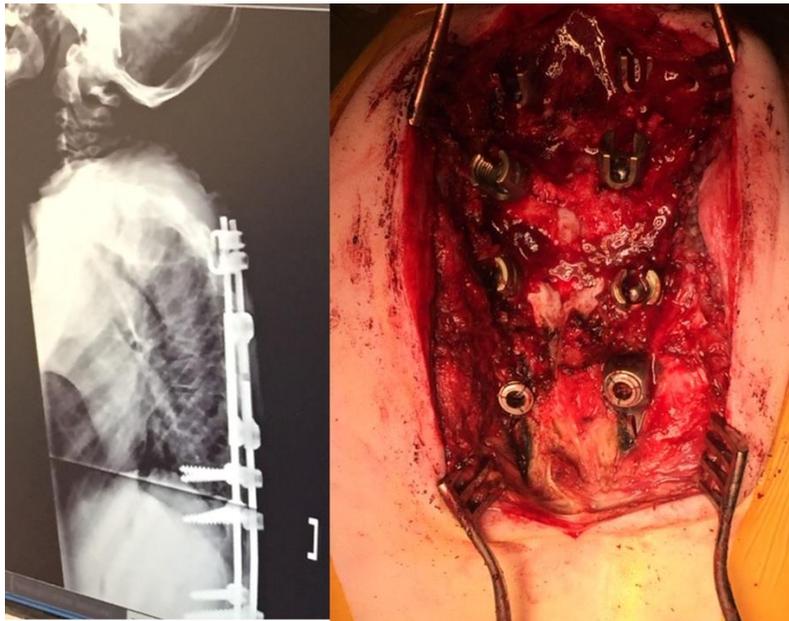
I had a packed schedule during my stay at Aarhus. There were scrubbing opportunities daily assisting on some interesting cases ranging from simpler lumbar spinal stenosis cases to more complex revision deformity cases. I managed to assist all the consultants from their unit: Peter Helmig, Li HaiSheng, Ebbe Stender Hansen, Kristian Hoy and of course Professor Cody Bunger. I found all of them to have different approaches to cases and it was a delight to learn surgical tips from them all. Some interesting tips include positioning the patient for posterior cervical surgery and using an arm traction device for pull-shoulder radiographs.



*Arm traction in prone position to allow pull-shoulder view*



*Revision cervical fusion*



*Revision anchors for pullout proximal anchors in a pediatric patient managed with traditional growing rods*

## Surgery log

Date	Surgery	Role	Surgeon
<b>Aarhus</b>			
26/9/2016	Lumbar spinal stenosis for fenestration and decompression	Assistant	Peter Helmig
27/9/2016	Magnetically controlled growing rod distraction (syndromal)	Observe	Cody Bunger
27/9/2016	Magnetically controlled growing rod distraction (neuromuscular)	Observe	Cody Bunger
27/9/2016	Revision osteosacroma excision and anterior spinal fusion	Assistant	Cody Bunger, Li HaiSheng
28/9/2016	L4/5 spondylolisthesis with decompression and posterior spinal fusion	Assistant	Ebbe Stender Hansen
29/9/2016	Cervical myelopathy with C4/5 anterior cervical discectomy and fusion	Assistant	Kristian Hoy
29/9/2016	Revision decompression + extension of fusion (previously had C4-7 posterior spinal fusion with loosened C4 screws)	Assistant	Kristian Hoy
30/9/2016	L5/S1 high grade isthmic spondylolisthesis with posterior spinal fusion of L4-S1	Assistant	Li HaiSheng, Kestutis Valancias
3/10/2016	Revision extension degenerative scoliosis (proximal junctional failure)	Assistant	Ebbe Stender Hansen
3/10/2016	Prostate Cancer with bone metastasis and L4-S1 decompression	Assistant	Ebbe Stender Hansen
4/10/2016	Lymphoma, open biopsy, posterior spinal fusion and decompression of T7-L1	Assistant	Cody Bunger
6/10/2016	Traditional growing rod with proximal junctional failure and upper thoracic 2-level Ponte osteotomy and extension to T2 (neuromuscular scoliosis)	Assistant	Li Hai Sheng
7/10/2016	Previous anterior spinal fusion C4-6 with C6/7 myelopathy and posterior C6/7 laminectomy and fusion	Assistant	Cody Bunger
10/10/2016	Fracture dislocation thoracic spine with posterior spinal fusion	Assistant	Cody Bunger
12/10/2016	Spinal stenosis after degenerative scoliosis correction, exploration of wound	Assistant	Cody Bunger
14/10/2016	Adolescent idiopathic scoliosis with selective thoracic fusion	Assistant	Kristian Hoy
<b>Copenhagen</b>			
17/10/2016	Revision posterior spinal fusion of degenerative scoliosis with T3-sacrum fusion and L4 pedicle subtraction osteotomy	Assistant	Lars Hansen
18/10/2016	Adolescent idiopathic scoliosis with posterior spinal fusion T8-L3	Surgeon	Benny Dahl

Of specific interest was seeing Professor Bunger distract his magnetically controlled growing rods. He performed these procedures in the operating theater under direct vision of the image intensifier to confirm that distractions occurred. This is different from our practice in Hong Kong of doing distractions in the outpatient setting. We had enlightening discussions about the differences in practice and it was interesting to hear his thoughts about our work.



*Prof. Bunger performing magnetically controlled growing rod distraction*

I also took part in Professor Bunger's weekly research meeting. Here I was given opportunities to present to their unit my own research, pick their brains for suggestions and comments, as well as establish some collaborative work. Of particular interest was comparing our results with growing rod surgery. Discussions are underway for collaborative work. I was impressed with their research team and facilities. They have an in-house 3D printer that is used clinically and Professor Bunger has a strong research team with many students and assistants to carry out impactful studies. The method of managing the team has given me new insight into how to run my research in Hong Kong.



*Research Laboratory*

Due to the public holidays during my last week of planned fellowship, I only spent three weeks at Aarhus but I took this opportunity to arrange a visit to Copenhagen and with Professor Benny Dahl to see the other Danish university hospital. There I also had opportunities to operate and it was a blessing to see two hospitals during my fellowship.

This was an excellent fellowship and having spent a few weeks in a single center allowed me to fully assimilate into the daily routine and participate in their patient management. I had many opportunities to observe how other surgeons dealt with difficult cases and complications and hopefully I can incorporate some of the new knowledge into my daily practice. I must thank Professor Cody Bunger for his excellent hospitality and teaching. Special gratitude to Kestutis for arranging my daily routine, surgeries and the fantastic tours. I hope that our collaborative work will materialize in the future and I have made great friendships with their department. Last but not least, I must thank Jenny and APOA/SICOT for helping me arrange all the trip logistics. Everything was smooth and I cannot ask for any better arrangement or accommodation.



*With Professor Cody Bunger*



*Pics with the team (clockwise from top left): Li HaiSheng, Kristian Hoy, Morten Mogaard, Wang Miao, Li Fang, Kestutis Valancius*