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## **Motion preservation in cervical prosthesis surgery: Implications for adjacent segment degeneration**

Yang, X.

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## CURRICULUM VITAE

Xiaoyu Yang was born on February 21<sup>st</sup>, 1990 in Chifeng, P.R. China. After graduating from high school, he started medical school in 2008 at Henan University of Science & Technology in Luoyang, P.R. China.

In 2013, Xiaoyu graduated from medical school and obtained the bachelor's degree of Clinical Medicine (M.D.). He was then selected to participate in a special program for medical students organized by Jilin University and the First Hospital of Jilin University in Changchun, P.R. China. This program enabled him to combine a master's degree of Clinical Medicine with the surgery residency program. During this program, he received his initial academic training in clinical research as well as surgical training focused on neurosurgery. In 2014, he was certified and registered as a surgeon in P.R. China. He was awarded the Graduate Scholarship for the whole three academic years. In 2016, he successfully obtained the master's degree of Clinical Medicine (M.Sc.) and accomplished his surgical residency training.

Subsequently, he started the research described in this thesis in the department of Neurosurgery at Leiden University Medical Centre (supervisors: Prof. dr. W.C. Peul and Dr. C.L.A. Vleggeert-Lankamp) with a Ph.D. scholarship awarded by China Scholarship Council. In the winter of 2017, he participated in the International Physician Observer Program in Cleveland Clinic in Cleveland, USA (supervisor: Prof. Edward Benzel). In the summer of 2018, he was awarded the Erasmus grant from the European Union, to study in the department of Neurosurgery at Sheffield Teaching Hospitals in Sheffield, UK (supervisor: Dr. Marcel Ivanov). In December 2018, with the Leiden University Fund, he presented his research during Cervical Spine Research Society 46<sup>th</sup> Annual Meeting in Arizona, USA. In March 2019, he attended Cervical Spine Research Society Asia Pacific section 10<sup>th</sup> Annual Meeting in Yokohama, Japan and presented his research during the conference. In May 2019, he was granted the Mario Boni Award during the Cervical Spine Research Society Europe 35<sup>th</sup> Annual Meeting in Rome, Italy. In June 2019, he was granted Cultural Foundation Grant from Prins Bernhard Cultural Foundation to support his further research in the University of Cambridge in the UK.



## LIST OF PUBLICATIONS

### **This thesis**

**Yang X**, Janssen T, Arts MP, Peul WC, Vleggeert-Lankamp CLA. Radiological follow-up after implanting cervical disc prosthesis in anterior discectomy: a systematic review.

**The Spine Journal** 2018 Sep;18(9):1678-1693. PMID: 29751126

**Yang X**, Donk R, Art MP, Vleggeert-Lankamp CLA. Are Modic vertebral end-plate signal changes associated with degeneration or clinical outcomes in the cervical spine?

**World Neurosurgery** 2019 Sep;129:e881-e889. PMID: 31226457

**Yang X**, Bartels RHMA, Donk R, Arts MP, Goedmakers CGM, Vleggeert-Lankamp CLA. The association of cervical sagittal alignment with adjacent segment degeneration.

**European Spine Journal** 2019 Oct 12. PMID: 31606815

**Yang X**, Bartels RHMA, Donk R, Depreitere B, Walraevens J, Zhai Z, Vleggeert-Lankamp CLA. Does heterotopic ossification in cervical arthroplasty affect clinical outcome?

**World Neurosurgery** 2019 Nov;131:e408-e414. PMID: 31376560

**Yang X**, Karis DSA, Vleggeert-Lankamp CLA. Association between Modic changes, disc degeneration and clinical condition in the cervical spine: a systematic review of literature.

**The Spine Journal** 2019 Nov 12. PMID: 31731008

**Yang X**, Donk R, Art MP, Arnts H, Walraevens J, Zhai Z, Depreitere B, Bartels RHMA, Vleggeert-Lankamp CLA. Maintaining range of motion after cervical discectomy does not prevent adjacent segment degeneration.

**The Spine Journal** 2019 Nov;19(11):1816-1823. PMID: 31326630

**Yang X**, Donk R, Bartels RHMA, Arts MP, Vleggeert-Lankamp CLA. Prosthesis in anterior cervical herniated disc approach does not prevent adjacent segment degeneration.

**Spine** 2020 Feb 25. PMID: 32106179

**Yang X**, Arts MP, Vleggeert-Lankamp CLA. The size of cervical disc herniation on MRI does not correlate to clinical condition.

Submitted

**Yang X**, Donk R, Bartels RHMA, Arts MP, Depreitere B, Vleggeert-Lankamp CLA. Comparing heterotopic ossification in two cervical disc prostheses.

Submitted

### **Other publications in peer-reviewed journals**

Djuric N, **Yang X**, el Barzouhi A, Ostelo RWJG, van Duinen SG, Nijeholt GJL, Vleggeert-Lankamp CLA. Gadolinium enhancement is not associated with disc inflammation in patients with sciatica.

**Spine** 2019 Jun 15;44(12): E742-E748. PMID: 30817739

Goedmakers CMW, Janssen T, **Yang X**, Arts MP, Bartels RHMA, Vleggeert-Lankamp CLA. Cervical radiculopathy: is a prosthesis preferred over fusion surgery? A systematic review.

**European Spine Journal** 2019 Oct 12. PMID: 31641906

Djuric N, **Yang X**, Ostelo RWJG, van Duinen SG, Nijeholt GJ, van der Kallen BFW, Peul WC, Vleggeert-Lankamp CLA. Disc inflammation and Modic changes show an interaction effect on recovery after surgery for lumbar disc herniation.

**European Spine Journal** 2019 Nov;28(11):2579-2587. PMID: 31440895

Djuric N, **Yang X**, el Barzouhi A, Ostelo RWJG, van Duinen SG, Nijeholt GJL, Vleggeert-Lankamp CLA. Lumbar disc extrusions reduce faster than bulging disc due to an active role of macrophages in sciatica.

**Acta Neurochirurgica** 2019 Dec 4. PMID: 31802274