



Universiteit
Leiden
The Netherlands

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

Yang, X.

Citation

Yang, X. (2020, June 16). *Motion preservation in cervical prosthesis surgery: Implications for adjacent segment degeneration*. Retrieved from <https://hdl.handle.net/1887/116773>

Version: Publisher's Version

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/116773>

Note: To cite this publication please use the final published version (if applicable).

Cover Page



Universiteit Leiden



The handle <http://hdl.handle.net/1887/116773> holds various files of this Leiden University dissertation.

Author: Yang, X.

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

Issue Date: 2020-06-16

MOTION PRESERVATION IN CERVICAL PROSTHESIS SURGERY
Implications for Adjacent Segment Degeneration

Xiaoyu Yang

ISBN: 978-94-6361-420-7

Cover design by Optima Grafische Communicatie, Xiaoyu Yang.

Design and lay-out of thesis by Optima Grafische Communicatie, Xiaoyu Yang.

Printed by Optima Grafische Communicatie.

The study presented in this thesis was performed at the department of Neurosurgery of Leiden University Medical Centre and the department of Neurosurgery of Radboud University Medical Centre.

The study was funded by a grant from China Scholarship Council, P.R. China, and the department of Neurosurgery of Leiden University Medical Centre, the Netherlands.

© 2020 Xiaoyu Yang. All rights reserved. No part of this thesis may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission from the copyright owner.

MOTION PRESERVATION IN CERVICAL PROSTHESIS SURGERY
Implications for Adjacent Segment Degeneration

Proefschrift

ter verkrijging van
de graad van Doctor aan de Universiteit Leiden,
op gezag van Rector Magnificus prof.dr. C.J.J.M. Stolker,
volgens besluit van het College voor Promoties
te verdedigen op dinsdag 16 juni 2020
klokke 13.45 uur

door

Xiaoyu Yang
geboren te Chifeng, P.R. China
in 1990

Promotor: Prof.dr. W.C. Peul
Co-promotor: Dr. C.L.A. Vleggeert-Lankamp
Leden promotiecommissie: Prof.dr. F.W. Jansen
Prof.dr. R.H.M.A. Bartels (Radboud University)
Prof.dr. H. van Santbrink (Maastricht University)
Dr. A. MacDowall (Uppsala University)

Dedicated to my parents

For their endless love, support and encouragement

CONTENTS

Chapter 1	Introduction and Outline of the thesis	9
Chapter 2	Radiological follow-up after implanting cervical disc prosthesis in anterior discectomy: a systematic review The Spine Journal 2018 Sep;18(9):1678-1693	17
Chapter 3	The size of cervical disc herniation on MRI does not correlate to clinical condition Submitted	49
Chapter 4	Prosthesis in anterior cervical herniated disc approach does not prevent radiologic adjacent segment degeneration Spine 2020 Feb 25	61
Chapter 5	Maintaining range of motion after cervical discectomy does not prevent adjacent segment degeneration The Spine Journal 2019 Nov;19(11):1816-1823	73
Chapter 6	The association of cervical sagittal alignment with adjacent segment degeneration European Spine Journal 2019 Oct 12	89
Chapter 7	Association between Modic changes, disc degeneration, and neck pain in the cervical spine: a systematic review of literature The Spine Journal 2019 Nov 12	105
Chapter 8	Are Modic vertebral end-plate signal changes associated with degeneration or clinical outcomes in the cervical spine? World Neurosurgery 2019 Sep;129:e881-e889	123
Chapter 9	Does heterotopic ossification in cervical arthroplasty affect clinical outcome? World Neurosurgery 2019 Nov;131:e408-e414	141

Chapter 10	Comparing heterotopic ossification in two cervical disc prostheses	153
	Submitted	
Chapter 11	Discussion & Conclusions	165
Chapter 12	Summary	179
	Nederlandse samenvatting	185
	Curriculum Vitae	189
	List of Publications	191

