

University of Groningen

Accessory device fixation for voice rehabilitation in laryngectomised patients

Hallers, Egbert Jan Olivier ten

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version

Publisher's PDF, also known as Version of record

Publication date:

2006

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Hallers, E. J. O. T. (2006). Accessory device fixation for voice rehabilitation in laryngectomised patients s.n.

Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

Accessory Device Fixation for Voice Rehabilitation in Laryngectomised Patients

E.J.O. ten Hallers

Copyright © 2006 E.J.O. ten Hallers, Nijmegen
Accessory Device Fixation for Voice Rehabilitation in Laryngectomised Patients
Egbert Jan Olivier ten Hallers
PhD thesis University Medical Center Groningen, University of Groningen,
Groningen,
the Netherlands

Printed by Graficolor Nijmegen

ISBN-10: 90-9021027-x
ISBN-13: 978-90-9021027-8

Cover: Scanning Electron Microscopy of the titanium fiber mesh by I. Stokroos and
digitally enhanced and processed by E.J.O. ten Hallers.

Rijksuniversiteit Groningen



Accessory device fixation for voice rehabilitation in laryngectomised patients

Proefschrift

ter verkrijging van het doctoraat in de
Medische Wetenschappen
aan de Rijksuniversiteit Groningen
op gezag van de
Rector Magnificus, dr. F. Zwarts,
in het openbaar te verdedigen op
woensdag 1 november 2006
om 16.15 uur

door

Egbert Jan Olivier ten Hallers

geboren op 25 mei 1976
te Wageningen

Promotores: Prof. dr. ir G.J. Verkerke
Prof. dr. ir H.J. Busscher
Prof. dr. H.A.M. Marres
Prof. dr. J.A. Jansen

Copromotor: Dr. G. Rakhorst

Manuscriptcommissie: Prof. dr. F.W.J. Albers
Prof. dr. D.W. Grijpma
Mw. Prof. dr. W.M. Molenaar

Paranimfen:
Drs. M.J. van Herwaarden
Drs. B.J. van Wely

This research is supported by Eureka Grant 2416.

Financial support for publication of this thesis by the following organizations is gratefully acknowledged:



Altana Pharma, Atos Medical, Baxter Healthcare, Bayer, Biomet Nederland BV, Café St. Anneke, Eureka, GlaxoSmithKline, HAL Allergy, Intra-Vasc.NL BV, Kuijkhoven Adviesgroep, Marned BV - Huizen, MEDIN Instrumenten Groningen, Merck BV, Patiëntenvereniging voor stembandlozen NSvG - St. Michel Keyzerfonds, Research Institute for Biomedical engineering, Materials Science and Application (BMSA), Schoonenberg Hoorcomfort, Tandarts Van den Heuvel: *voor gelijke tandheelkunde*, een andere tandartspraktijk, Tefa-Portanje en Tuinburo Ten Hallers - Ede.

Contents

Chapter 1	General introduction	9
Chapter 2	Difficulties in the fixation of prostheses for voice rehabilitation after laryngectomy E. J. O. ten Hallers, H. A. M. Marres, G. Rakhorst, R. Hagen, A. Staffieri, B. F. A. M. van der Laan, E. B. van der Houwen, and G. J. Verkerke. <i>Acta Otolaryngologica</i> 125 (8):804-813, 2005.	21
Chapter 3	Animal Models for tracheal research E. J. O. ten Hallers, G. Rakhorst, H. A. M. Marres, J. A. Jansen, T. G. van Kooten, H. K. Schutte, J. P. van Loon, E. B. van der Houwen, and G. J. Verkerke. <i>Biomaterials</i> 25 (9):1533-1543, 2004.	39
Chapter 4	In vivo experiments with tracheostoma tissue connector prototypes E. J. O. ten Hallers, E. B. van der Houwen, H. A. M. Marres, G. Rakhorst, J. A. Jansen, H. K. Schutte, T. G van Kooten, J.-P. van Loon, and G. J. Verkerke. <i>Journal of Biomedical Materials Research. Part A. Accepted</i> 2006.	63
Chapter 5	Experimental results of the tracheo-esophageal tissue connector for improved fixation of shunt valves in laryngectomized patients E. J. O. ten Hallers, H. A. M. Marres, E. B. van der Houwen, J. A. Jansen, H. K. Schutte, T. G. van Kooten, J.-P. van Loon, and G. J. Verkerke. <i>Head and Neck</i> , in press, 2006.	85
Chapter 6	Histological assessment of titanium and polypropylene fiber mesh with and without fibrin tissue glue E. J. O. ten Hallers, J. A. Jansen, H. A. M. Marres, G. Rakhorst, and G. J. Verkerke. <i>Journal of Biomedical Materials Research. Part A.</i> In press, 2006.	103
Chapter 7	The Saanen goat as an animal model for post-laryngectomy research: Practical implications E. J. O. ten Hallers, H. A. M. Marres, G. Rakhorst, J. A. Jansen, M. G. Sommers, E. B. van der Houwen, H. K. Schutte, T. G van Kooten, J.-P. van Loon, and G. J. Verkerke. <i>Laboratory Animals. Accepted. 2006.</i>	121
Chapter 8	Future perspectives	145
Chapter 9	Summary and Conclusions	151
Chapter 10	Samenvatting en Conclusies	159
	Acknowledgements	167
	Curriculum vitae	171

