

BIOGRAPHICAL SKETCH

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NAME Richard Keijzer	POSITION TITLE Pediatric Surgeon/Scientist, Department of Surgery, Division of Pediatric Surgery, University of Manitoba and the Children's Hospital Research Institute of Manitoba		
eRA COMMONS USER NAME (credential, e.g., agency login)			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
Erasmus University, Rotterdam	Medical Doctor Degree (Cum Laude)	1997	Medicine
Pediatric Surgery and Cell Biology & Genetics, Erasmus MC, Rotterdam	MSc	2004	Molecular Medicine
Pediatric Surgery and Cell Biology & Genetics, Erasmus MC, Rotterdam	PhD	1998-2001	Medicine
The Children's Hospital of Alabama, Birmingham, Alabama	Fellowship	2009-2010	Pediatric Endoscopic Surgery

A. Personal Statement

My clinical interest concentrates on minimal invasive Pediatric Surgery and my research focuses on congenital anomalies in general and congenital diaphragmatic hernia and pulmonary hypoplasia in particular. I have expertise in mechanisms of normal and abnormal lung development associated with congenital diaphragmatic hernia (CDH). Currently, my laboratory focuses on the role of two microRNAs: miR-10a and miR-200b in lung development and CDH. In the near future I want to explore methods for prenatal therapeutic intervention to modulate the natural course of pulmonary hypoplasia and CDH to improve the outcome of babies born with this anomaly.

B. Positions and Honors

Positions and Employment

- 11/1993-2/1994: Research student department of Pediatric Surgery and Pediatric Endocrinology, Sophia Children's Hospital, Erasmus University Rotterdam (EUR)
- 5/1994-9/1995: Research student department of Anatomy & Embryology, Academic Medical Centre, University of Amsterdam
- 1/1998-12/1998: Research fellow department of Lung Biology Research, Hospital for Sick Children, Toronto, Ontario, Canada
- 1/1999-12/2000: PhD-thesis department of Pediatric Surgery and Cell Biology & Genetics, EUR
- 1/2001-12/2004: Surgical Resident Reinier de Graaf Groep, Delft
- 1/2005-8/2006: Surgical Resident Erasmus MC, Rotterdam
- 1/2006-8/2006: Differentiation endocrine and pancreas surgery
- 9/2006-12/2006: Differentiation pediatric surgery
- 1/2007-12/2007: Postdoctoral fellowship Physiology & Experimental Medicine, Hospital for Sick Children, Toronto, Ontario, Canada
- 1/2008-6/2009: Surgeon in training for pediatric surgery, Pediatric Surgery, Erasmus MC-Sophia, Rotterdam

- 7/2009-6/2010: Fellowship Pediatric Endoscopic Surgery, The Children's Hospital of Alabama, Birmingham, Alabama
- 2010-present: Pediatric Surgeon/Scientist, Department of Surgery, Division of Pediatric Surgery, University of Manitoba and the Children's Hospital Research Institute of Manitoba

Memberships

- 1991-1993: Student-assistant, department of Anatomy & Embryology, EUR
- 1992-1993: President, Medical Students Faculty Association Rotterdam (MFVR)
- 1992-1996: Member student team, department of Thoracic surgery, A.Z.R. Dijkzigt
- 2002-2005: Member board, National Association of Residents
- 2005-2006: Resident member, Regional Education Committee Rotterdam
- 2005-2009: Member, multi-organ donation team Erasmus MC
- 2007-2009: Cofounder of the TULIPS program: Training Upcoming Leaders in Pediatric health and Science, clinician-scientist program
- 2007-present: Member Editorial Board International Journal of Surgery
- 2010-present: Chair, Department of Surgery Research committee
- 2011-present: Representative for the Department of Surgery on the Research Advisory committee of the Associate Dean of Research
- 2011: Co-organizer Annual Bowman Symposium
- 2011-2013: Organizing committee, Research Day Manitoba Institute of Child Health
- 2011-present: Chair, Organizing committee Research Day Department of Surgery
- 2012-present: Member, Faculty of Medicine Committee for Graduate Studies
- 2012-present: Member, Bannatyne Campus Graduate Chair Committee
- 2013-present: Member, Program Committee Annual meeting of the Canadian Association of Paediatric Surgeons
- 2013-present: Member, Research Committee Canadian Association of Paediatric Surgeons
- 2013 Search committee Assistant Professor position Physiology/MICH
- 2013-2015 Member, Clinician Investigator Program (CIP) Residency Program Committee
- 2013: Member, Committee for the Medical Physiology Course Outline Development

Other Memberships

- 2001-present Dutch Society of Surgery
- 2006-present Dutch Society of Pediatric Surgery
- 2008-present European Pediatric Surgical Association
- 2008-present Editorial Board International Journal of Surgery
- 2010-present Society for Pediatric Research
- 2011-present Canadian Association of Paediatric Surgeons
- 2011-present Editorial Board Pediatric Surgery International
- 2014-present Fellow American College of Surgeons

Honors/Awards

- 2011 Rudy Falk clinician scientist award (3 years of \$70,000 annual salary support) *DECLINED*
- 2012 Career Development Award Canadian Child Health Clinician Scientist Program (4 years of \$70,000 annual salary support)
- 2013 New Investigator Salary Award – CIHR / Manitoba Lung Association / Manitoba Institute of Child Health, salary award for five years (\$300,000)

C. Selected Peer-reviewed Publications

1. R. Keijzer, J. Liu, J.F. Deimling, D. Tibboel, M. Post. (2000) Dual-hit hypothesis explains pulmonary hypoplasia in the Nitrofen model of congenital diaphragmatic hernia. *Am. J. Path.* **156**:1299-1306.

2. R. Keijzer, W.G. van Tuyl, C. Meijers, M. Post, D. Tibboel, F. Grosveld, M. Koutsourakis. (2001) The transcription factor GATA-6 is essential for branching morphogenesis and epithelial cell differentiation during fetal pulmonary development. *Development* **128**:503-11.
3. M. Koutsourakis, R. Keijzer, M. Post, D. Tibboel, F. Grosveld. (2001) Branching and differentiation defects in pulmonary epithelium with elevated GATA6 expression. *Mechanisms of Development* **105**:105-14.
4. P. Rajatapiti, R. Keijzer, P.E. Blommaart, W.H. Lamers, T.J. Visser, D. Tibboel, R. Rottier. (2006) Expression of glucocorticoid, retinoid and thyroid hormone receptors in lungs of congenital diaphragmatic hernia: human and experimental data. *Pediatr. Res.* **60**(6):693-8.
5. J. Deimling, K. Thompson, I. Tseu, J. Wang, R. Keijzer, A.K. Tanswell, M. Post (2007) Mesenchymal maintenance of distal epithelial cell phenotype during late fetal lung development. *Am. J. Physiol. Lung. Cell. Mol. Physiol.* **292**(3):L725-41.
6. R. Keijzer, P.E. Blommaart, W.T. Labruyère, J.L.M. Vermeulen, B. Zandieh Doulabi, O. Bakker, D. Tibboel, W.H. Lamers (2007) Expression of thyroid hormone receptors A and B in developing rat tissues; evidence for extensive posttranscriptional regulation. *J. Mol. Endocrinol.* **38**(5):523-35.
7. M. Bueno-de-Mesquita, S.C. Linn, R. Keijzer, J. Wesseling, D.S.A. Nuyten, C. van Krimpen, C. Meijers, P.W. de Graaf, M.M.E.M. Bos, A.A.M. Hart, E.J.T. Rutgers, J.L. Peterse, H. Halfwerk, R. de Groot, A. Pronk, A.N. Floore, A.M. Glas, L.J. van 't Veer, M.J. van de Vijver (2008) Validation of 70-gene prognosis signature in node-negative breast cancer. *Breast Cancer Res. Treat.* **117**(3):483-95.
8. R.B. van Loenhout, D. Tibboel, M. Post, R. Keijzer (2009) Congenital diaphragmatic hernia: a comparison of animal models. *Neonatology* **96**(3):137-149.
9. R. Keijzer, D. Tibboel (2010) Guest Editors: The Developmental and Biological Basis of Pediatric Surgery. *Semin. Pediatr. Surg.* **19**(3):169-170.
10. R. Keijzer, P. Puri (2010) Congenital diaphragmatic hernia. *Semin. Pediatr. Surg.* **19**(3):180-5.
11. R. van Loenhout, I. Tseu, E. Fox, Z. Huang, D. Tibboel, M. Post, R. Keijzer (2012) The pulmonary mesenchymal cell layer is defective in congenital diaphragmatic hernia. *Am. J. Path.* **180**(1):48-60.
12. R.B. van Loenhout, R.R. de Krijger, C.P. van de Ven, D. Tibboel, R. Keijzer (2013) Postmortem minimally invasive lung biopsy as an alternative to autopsy in newborns with congenital lung anomalies. *Neonatology* **103**(3):213-217.
13. K. Wittmeier, C. Holland, K. Hobbs-Murison, E. Crawford, C. Beauchamp, B. Milne, M. Morris, R. Keijzer (2014) Analysis of a parent initiated social media campaign for Hirschsprung's disease. *J. Med. Internet Res.* **16**(12):e288.
14. D. Johar, V. Siragam, T.H. Mahood, R. Keijzer (2015) New insights into lung development and diseases: the role of microRNAs. *Biochem. Cell. Biol.* **93**(2):139-48.
15. P. Pereira-Terra, J. A. Deprest, R. Kholdebarin, N. Khoshgoo, P. De Koninck, A. A. Boerema-De Munck, J. Wang, F. Zhu, R. Rottier, B. M. Iwasow, J. Correia-Pinto, D. Tibboel, M. Post, R. Keijzer (2015) Unique tracheal fluid microRNA signature predicts response to FETO in patients with congenital diaphragmatic hernia. *Ann. Surg.* Jan 5 [Epub ahead of print].

D. Research Support

2016	CIHR Project Grant: <i>miRacles for abnormal lung development in congenital diaphragmatic hernia; defining the role of miR-200b</i> (\$642,180 for 4 years)
2015	Manitoba Research Cluster Grant – Co-applicant (\$2,500,000.=)
2015	Operating Grant Children's Hospital Research Institute of Manitoba (\$40,000)
2015	Manitoba Research Cluster Grant – Co-applicant (\$2,500,000)
2014	Biology of Breathing Catalyst Grant for one year (\$15,000) Co-PI
2014	Establishment Grant Manitoba Health Research Council for three years (\$100,000)
2013	Manitoba Health Research Council, operating grant for two years (\$160,000)
2013	Manitoba Institute of Child Health, small grant (\$5,000)