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**Keeping an eye on the brain of perinatally HIV-infected children**

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## V - APPENDICES

## ABOUT THE AUTHOR





Charlotte Blokhuis (Hilversum, 1987) graduated from Comenius College in Hilversum in 2005, and started studying medicine at the VU University Medical Center Amsterdam in the same year. With an avid passion for pediatrics, she followed her research internship and senior clinical elective at the pediatric ward of the Slotervaart Hospital in Amsterdam. Her final year of rotations included a Tropical Medicine elective in Cameroon, where she worked at the Apostolic Hospital Banga Bakundu, and was recruited for several outreach missions in the surrounding area. She obtained her medical degree in 2012.

For the following two years, Charlotte worked as a house officer at the pediatric departments of the Slotervaart Hospital in Amsterdam and the Flevo Hospital in Almere. Having developed a keen interest in pediatric infectious diseases and a curiosity for research, she started as a PhD candidate at the Emma Children's Hospital in Amsterdam in 2015. Under supervision of dr. Dasja Pajkrt, prof. dr. Taco Kuijpers, and prof. dr. Peter Reiss, she studied the microstructural and biochemical aspects of cognitive and cerebral deficits in perinatally HIV-infected children. As of 2016, she resumed part-time clinical duties at the pediatric department of the Flevo Hospital alongside her research work.

Charlotte resides in Hilversum, where she has been an active member in the Worship and Creative Arts team of Thousand Hills International Church for over a decade. Her free time is typically infused with creative endeavors, including music, graphic/web design, drawing, and photography. She aims to commence training to become a pediatrician in the near future.



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## AUTHOR CONTRIBUTIONS

## CHAPTER 2

CB drafted the manuscript and illustrated figures 1 and 2. NAK, MWAC, and DP revised the manuscript.

## CHAPTER 3

YwvD analyzed the data including statistical analysis, interpreted the results, and drafted the manuscript. CB analyzed the data including statistical analysis, interpreted the results, and drafted the manuscript. SC recruited patients and controls, coordinated study visits, performed MRI scans, collected blood and CSF samples, and revised the manuscript. JAtS performed neuropsychological assessments and revised the manuscript. CET performed biomarker analysis and revised the manuscript. JK performed biomarker analysis and revised the manuscript. NAK conceptualized the laboratory protocol and revised the manuscript. HJS recruited patients, supervised study design, and revised the manuscript. TWK supervised study design and revised the manuscript. PR supervised study design and revised the manuscript. CBLMM conceptualized the imaging protocol, supervised MRI scanning procedure and revised the manuscript. MWAC designed the study, conceptualized the imaging protocol, supervised MRI scanning procedure and data analysis, interpreted the results and revised the manuscript. DP designed the study, supervised study visits, interpreted the results, and revised the manuscript.

## CHAPTER 4

CB analyzed the data including statistical analysis, interpreted the results, and drafted the manuscript. HJMMM performed MRI postprocessing, interpreted the results, and revised the manuscript. SC recruited patients and controls, coordinated study visits, performed MRI scans, and revised the

manuscript. HJS recruited patients, supervised study design, and revised the manuscript. MWAC designed the study, conceptualized the imaging protocol, supervised MRI scanning, and revised the manuscript. CBLMM conceptualized the imaging protocol, supervised MRI scanning, and revised the manuscript. TWK and PR supervised study design and revised the manuscript. FWNMW advised on statistical analysis and revised the manuscript. DP designed the study, supervised study visits, interpreted results, and revised the manuscript.

## CHAPTER 5

CB analyzed the data including statistical analysis, interpreted the results, and drafted the manuscript. ND performed optical coherence tomography scans, interpreted the results, and drafted the manuscript. SC recruited patients and controls, coordinated study visits, performed MRI scans, and revised the manuscript. FWNMW advised on statistical analysis and revised the manuscript. MDA contributed to the ophthalmological study protocol and revised the manuscript. HJS recruited patients, supervised study design, and revised the manuscript. TWK and PR supervised study design and revised the manuscript. MWAC conceptualized the imaging protocol, supervised MRI scanning, and revised the manuscript. CBLMM conceptualized the imaging protocol, supervised MRI scanning, and revised the manuscript. FD conceptualized the ophthalmological study protocol, supervised OCT scanning, and revised the manuscript. DP designed the study, supervised study visits, interpreted results, and revised the manuscript.

## CHAPTER 6

CB and CFWP analyzed the data including statistical analysis and interpreted the results; CB drafted

and CFWP revised the manuscript. SC recruited patients and controls, coordinated study visits, collected blood and CSF samples, and revised the manuscript. HJS recruited patients, supervised study design, and revised the manuscript. NAK conceptualized the laboratory protocol, performed biomarker analysis, and revised the manuscript. TWK and PR supervised study design and revised the manuscript. CET conceptualized the laboratory protocol, performed biomarker analysis, interpreted results, and revised the manuscript. DP designed the study, supervised study visits, interpreted results, and revised the manuscript.

patients, supervised study design, and revised the manuscript. FWNMW advised on statistical analysis and revised the manuscript. MCMP performed liquid chromatography-mass spectrometry analysis and revised the manuscript. NAK and CET conceptualized the laboratory protocol and revised the manuscript. RAAM supervised liquid chromatography-mass spectrometry analysis, interpreted results, and revised the manuscript. DP designed the study, supervised study visits, interpreted results, and revised the manuscript.

## CHAPTER 7

CB and SD analyzed the data including statistical analysis, interpreted the results, and drafted the manuscript. SC recruited patients and controls, coordinated study visits, collected blood and CSF samples, and revised the manuscript. ND performed optical coherence tomography scans and revised the manuscript. HJS recruited patients, supervised study design, and revised the manuscript. NAK and CET conceptualized the laboratory protocol, performed biomarker analysis, and revised the manuscript. JK performed biomarker analysis and revised the manuscript. FD conceptualized the ophthalmological study protocol, supervised OCT scanning, and revised the manuscript. DP designed the study, supervised study visits, interpreted results, and revised the manuscript.

## CHAPTER 8

MvdH and CB analyzed the data including statistical analysis, interpreted the results, and drafted the manuscript. SC recruited patients and controls, coordinated study visits, collected blood and CSF samples, and revised the manuscript. HJS recruited



# PHD PORTFOLIO





**Name:** Charlotte Blokhuis  
**PhD period:** January 2015 – September 2017  
**Promotores:** Prof. dr. T.W. Kuijpers; Prof. dr. P. Reiss  
**Copromotor:** Dr. D. Pajkrt  
**Department:** Pediatric Hematology, Immunology, and Infectious Diseases

## PHD TRAINING

	COURSES	ECTS
2015	AMC World of Science	0.7
2015	Practical Biostatistics	1.1
2015	Unix	0.6
2015	Scientific Writing in English	1.5
2016	Basic Legislation in Science	0.9
2016	Project Management	0.6
	SEMINARS, WORKSHOPS, MASTERCLASSES	
2015	<b>AMC Ruysch Masterclass by prof. dr. J. Ananworanich</b> <i>Amsterdam, The Netherlands</i>	0.2
2015	<b>AMC Ruysch Lecture by prof. dr. J. Ananworanich</b> <i>Amsterdam, The Netherlands</i>	0.1
2015-16	<b>AMC HIV Journal Club (monthly)</b> <i>Amsterdam, The Netherlands</i>	1.0
2015-16	<b>AMC Laboratory for Viral Immune Pathogenesis research meetings (weekly)</b> <i>Amsterdam, The Netherlands</i>	2.0
2015-17	<b>AMC Pediatric Hematology, Immunology and Infectious Diseases research meeting (monthly)</b> <i>Amsterdam, The Netherlands</i>	1.0
2015	<b>Spinoza Centre for Neuroimaging user meetings (weekly)</b> <i>Amsterdam, The Netherlands</i>	1.0
	ORAL PRESENTATIONS AT SCIENTIFIC CONFERENCES	
2015	<b>Netherlands HIV Treatment Association (NVHB) biannual meeting</b> <i>Utrecht, The Netherlands</i>	0.5
2016	<b>Amsterdam Kindersymposium</b> <i>Amsterdam, The Netherlands</i>	0.5
2017	<b>European Society for Pediatric Infectious Diseases Annual Meeting</b> <i>Madrid, Spain</i>	0.5

POSTER PRESENTATIONS AT SCIENTIFIC CONFERENCES		ECTS
2015	<b>European AIDS Clinical Society Conference</b> <i>Barcelona, Spain</i>	0.5
2016	<b>Netherlands Conference on HIV Pathogenesis, Treatment and Prevention</b> <i>Amsterdam, The Netherlands</i>	0.5
2017	<b>Conference on Retroviruses and Opportunistic Infections</b> <i>Seattle, United States</i>	0.5
2017	<b>European Society for Pediatric Infectious Diseases Annual Meeting</b> <i>Madrid, Spain</i>	0.5
(INTER)NATIONAL CONFERENCES		
2015	<b>Amsterdam Kindersymposium</b> <i>Amsterdam, The Netherlands</i>	0.25
2015	<b>European AIDS Clinical Society Conference</b> <i>Barcelona, Spain</i>	1.0
2015	<b>Netherlands Conference on HIV Pathogenesis, Treatment and Prevention</b> <i>Amsterdam, The Netherlands</i>	0.25
2016	<b>Conference on Retroviruses and Opportunistic Infections</b> <i>Boston, United States</i>	1.0
2016	<b>Amsterdam Kindersymposium</b> <i>Amsterdam, The Netherlands</i>	0.25
2016	<b>Netherlands Conference on HIV Pathogenesis, Treatment and Prevention</b> <i>Amsterdam, The Netherlands</i>	0.25
2017	<b>Conference on Retroviruses and Opportunistic Infections</b> <i>Seattle, United States</i>	1.0
2017	<b>European Society for Pediatric Infectious Diseases Annual Meeting</b> <i>Madrid, Spain</i>	0.75

## TEACHING

	LECTURING	ECTS
2016	Guest lecture at International Federation of Medical Students Association "House MD" seminar Amsterdam, The Netherlands	0.2
	TUTORING, MENTORING, SUPERVISING	
2015	<b>Y.W. van Dalen, BSc</b> <i>Master thesis</i>	2.0
2016	<b>P.N.D. Elders</b> <i>Bachelor thesis</i>	2.0
2016	<b>A.M. Dasler, BSc</b> <i>Extracurricular project</i>	1.0
2016	<b>S. Doeleman</b> <i>Bachelor thesis</i>	2.0
2016	<b>M. van Zanten, MD</b> <i>Extracurricular project</i>	1.0
2017	<b>M. Klein Haneveld</b> <i>Bachelor thesis</i>	0.7
2017	<b>A.M. Weijnsfeld</b> <i>Master thesis</i>	1.0

## PARAMETERS OF ESTEEM

2016	AMC PhD Poster Award (2nd prize)
2017	Amsterdam Infection & Immunity Travel Award
2017	European Society for Pediatric Infectious Diseases Annual Meeting Travel Award



## PUBLICATIONS

# INTERNATIONAL PUBLICATIONS

## THIS THESIS

### **Higher subcortical and white matter cerebral blood flow in perinatally HIV-infected children**

C. Blokhuis, H.J.M.M. Mutsaerts, S. Cohen, H.J. Scherpbier, M.W.A. Caan, C.B.L.M. Majoie, T.W. Kuijpers, P. Reiss, F.W.N.M. Wit, D. Pajkrt  
*Medicine (Baltimore)*. 2017 Feb;96(7):e5891

### **The Eye as a Window to the Brain: Neuroretinal Thickness Is Associated With Microstructural White Matter Injury in HIV-Infected Children**

C. Blokhuis\*, N. Demirkaya\*, S. Cohen, F.W.N.M. Wit, H.J. Scherpbier, P. Reiss, M.D. Abramoff, M.W.A. Caan, C.B.L.M. Majoie, F.D. Verbraak, D. Pajkrt.  
*Invest Ophthalmol Vis Sci*. 2016 Jul 1;57(8):3864-71

### **Neurometabolite Alterations Associated With Cognitive Performance in Perinatally HIV-Infected Children**

Y.W. Van Dalen\*, C. Blokhuis\*, S. Cohen, J.A. Ter Stege, C.E. Teunissen, J. Kuhle, N.A. Kootstra, H.J. Scherpbier, T.W. Kuijpers, P. Reiss, C.B.L.M. Majoie, M.W.A. Caan, D. Pajkrt.  
*Medicine (Baltimore)*. 2016 Mar;95(12):e3093

### **Neurodevelopmental delay in pediatric HIV/AIDS: current perspectives**

C. Blokhuis, N.A. Kootstra, M.W.A. Caan, D. Pajkrt.  
*Neurobehav HIV Med*. 2016 Jan;7(1):1-13.

\* denotes equal contributors

## OTHER

### **Virological and Social Outcomes of HIV-Infected Adolescents and Young Adults in The Netherlands Before and After Transition to Adult Care**

A.M. Weijnsfeld, C. Smit, S. Cohen, F.W.N.M. Wit, M. Mutschelknauss, L.C. van der Knaap, L.M. van Zonneveld, B.J. Zomer, N. Nauta, J.C. Patist, M.H.J. Kuipers-Jansen, E.P. Smit, C. Blokhuis, D. Pajkrt, for the Dutch HIV Adolescents and Young Adults (AYA) Study Group.

*Clin Infect Dis.* 2016 Oct 15;63(8):1105-12

### **Intermittent fasting during Ramadan causes a transient increase in total, LDL, and HDL cholesterol and hs-CRP in ethnic obese adolescents**

N.N.E. Radhakishun, C. Blokhuis, M. van Vliet, I.A. von Rosenstiel, O. Weijer, M.W. Heymans, J.H. Beijnen, D.P. Brandjes, M. Diamant.

*Eur J Pediatr.* 2014 Aug;173(8):1103-6





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*“Gratitude bestows reverence, allowing us to encounter everyday epiphanies, those transcendent moments of awe that change forever how we experience life and the world.”*

*— John Milton*

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## COMMITTEE

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## THOUSAND HILLS INTERNATIONAL CHURCH

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