



Universiteit
Leiden
The Netherlands

Advances in diagnostics of respiratory viruses and insight in clinical implications of rhinovirus infections

Rijn-Klink, A.L. van

Citation

Rijn-Klink, A. L. van. (2020, June 9). *Advances in diagnostics of respiratory viruses and insight in clinical implications of rhinovirus infections*. Retrieved from <https://hdl.handle.net/1887/97596>

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/1887/97596>

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

Cover Page



Universiteit Leiden



The handle <http://hdl.handle.net/1887/97596> holds various files of this Leiden University dissertation.

Author: Rijn-Klink, A.L. van

Title: Advances in diagnostics of respiratory viruses and insight in clinical implications of rhinovirus infections

Issue Date: 2020-06-09

**Advances in diagnostics of respiratory viruses
and insight in clinical implications of rhinovirus infections**

Anneloes Liesbeth van Rijn-Klink

Colophon

Cover design by Lodewijk van Rijn Consultancy

Advances in diagnostics of respiratory viruses and insight in clinical implications of rhinovirus infections.

PhD thesis, University of Leiden, The Netherlands

ISBN: 978-94-6380-795-1

Print by ProefschriftMaken, www.proefschriftmaken.nl

© Anneloes L. van Rijn-Klink, Leiden University Medical Center, 2020

All rights reserved. No part of this thesis may be reproduced or transmitted in any form or by any means without prior permission of the author, or when appropriate, of the publishers of the publications.

**Advances in diagnostics of respiratory viruses
and insight in clinical implications of rhinovirus infections**

Proefschrift
ter verkrijging van
de graad van Doctor aan de Universiteit Leiden,
op gezag van Rector Magnificus prof. mr. C.J.J.M. Stolker,
volgens besluit van het College voor Promoties
te verdedigen op dinsdag 9 juni 2020
klokke 16:15 uur
door

Anneloes Liesbeth van Rijn-Klink

Geboren 7 maart 1984
te Lelystad

Promotor

Prof. dr. A.C.M. Kroes

Co-promotoren

Dr. J.J.C. de Vries

Dr. E.C.J. Claas

Leden Promotiecommissie

Prof. dr. N. Fischer (University Medical Center Hamburg-Eppendorf)

Prof. dr. P.S. Hiemstra

Prof. dr. H.G.M. Niesters (Universitair Medisch Centrum Groningen)

Dr. P.L.A. Fraaij (Erasmus Medisch Centrum)

Table of contents

Chapter 1	General introduction	09
------------------	----------------------	-----------

PART I

APPLICATION AND ADDED VALUE OF ADVANCED RESPIRATORY VIRAL DIAGNOSTIC METHODS

Chapter 2	Retrospective validation of a metagenomic sequencing protocol for combined detection of RNA and DNA viruses using respiratory samples from paediatric patients <i>Journal of molecular diagnostics 2020 22 (2): 196-207</i>	25
Chapter 3	The respiratory virome and exacerbations in patients with chronic obstructive pulmonary disease <i>PloS One 2019 14 (10)</i>	53
Chapter 4	Clinical implications of rapid ePlex® respiratory pathogen panel testing compared to laboratory developed real-time PCR <i>Eur J Clin Microbiol Infect Dis 2018 37 (3): 571-577</i>	73

PART II

CLINICAL IMPLICATIONS OF RHINOVIRUS

Chapter 5.1	The impact of rhinovirus infections in paediatric cardiac surgery (Risk): study protocol for a prospective cohort study <i>J Clin Trials 2015 5:246</i>	89
Chapter 5.1	Rhinovirus detection in the nasopharynx of children undergoing cardiac surgery is not associated with longer PICU length of stay; results of the RISK study <i>Submitted</i>	109
Chapter 6	Rhinovirus viremia in adult patients with high viral load in bronchoalveolar lavages <i>J Clin Virol 2017 96:105-109</i>	137
Chapter 7	Molecular epidemiology and clinical impact of rhinovirus infections in adults in Europe <i>Submitted</i>	151
Chapter 8	Discussion	209
	Samenvatting/ Summary in Dutch	217
	List of publications	223
	Curriculum vitae	227
	Dankwoord	231