



Universiteit
Leiden

The Netherlands

Bridging the gaps: prevention, management, and future perspectives in hemolytic disease of the fetus and newborn

Oever, R.M. van 't

Citation

Oever, R. M. van 't. (2026, April 23). *Bridging the gaps: prevention, management, and future perspectives in hemolytic disease of the fetus and newborn*. Retrieved from <https://hdl.handle.net/1887/4303355>

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/1887/4303355>

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

Bridging the Gaps: Prevention, Management, and Future Perspectives in Hemolytic Disease of the Fetus and Newborn

Renske van 't Oever

Bridging the Gaps: Prevention, Management, and Future Perspectives in Hemolytic Disease of the Fetus and Newborn

© **Renske van 't Oever, Leiden University Medical Center, Leiden, the Netherlands.**

All rights reserved. No part of this thesis may be reproduced, stored or transmitted in any form or by any means, without permission of the copyright owner.

The research described in this thesis was performed at the Department of Obstetrics of the Leiden University Medical Center, the Netherlands and the Department of Immunohematology and Diagnostics, Sanquin, Amsterdam, the Netherlands.

ISBN: 978-94-6537-280-8

Cover art: Nicoline Frederique, Atelier Ink Amsterdam
www.ink-amsterdam.nl

Layout and printing: Ridderprint | www.ridderprint.nl

The printing of this thesis was financially supported by: Stichting Oranjekliniek , Department of Obstetrics of the Leiden University Medical Center, Walaeus University Library, Sanquin Blood Supply, RIVM | Centre for Population Screening | Antenatal Screening Programme for infectious diseases and erythrocyte immunization, Stichting Intrauteriene Diagnostiek en Behandeling (IDB), Canon Medical Systems Nederland and ChipSoft.

Bridging the Gaps: Prevention, Management, and Future Perspectives in Hemolytic Disease of the Fetus and Newborn

Proefschrift

ter verkrijging van
de graad van doctor aan de Universiteit Leiden,
op gezag van rector magnificus prof.dr. S. de Rijcke,
volgens besluit van het college voor promoties
te verdedigen op donderdag 23 april 2026
klokke 16.00 uur

door

Renske Marijke van 't Oever

geboren te Heerenveen
in 1995

(Co-)Promotores en Promotiecommissie

Promotores: Prof. dr. M. de Haas

Prof. dr. E. Lopriore

Copromotor: Dr. E.J.T. Verweij

Leden promotiecommissie: Prof. dr. J.J. Zwaginga

Prof. dr. B.J. Cohlen

Dr. C.J. Bax, Amsterdam University Medical Center

Dr. P.G. Scheffer, University Medical Center Utrecht

TABLE OF CONTENTS

PART 1: OVERVIEW

General introduction	9
Chapter 1 Identification and management of fetal anemia due to hemolytic disease	21

PART 2: HOW TO IMPROVE A SCREENING PLATFORM

Chapter 2 Routine use of a spike-in DNA control as process control for foetal RHD typing: real life performance of this canary	49
Chapter 3 Creating an inclusive platform in a multi-ethnic population for fetal RHD genotyping to target Rhlg immunoprophylaxis	81
Chapter 4 How I use noninvasive prenatal testing for red blood cell and platelet antigens	107

PART 3: HOW TO OPTIMIZE ANTENATAL TREATMENT

Chapter 5 Comparison of intrauterine transfusion techniques in hemolytic disease of the fetus and newborn	129
Chapter 6 Severity of haemolytic disease of the fetus and newborn in patients with a history of intrauterine transfusions in a previous pregnancy: A nationwide retrospective cohort study	147
Chapter 7 Histopathology of the placenta in mild to severe cases of HDFN with and without IUTs – the influence of donor blood	163

PART 4: HOW TO MOVE FROM EVIDENCE TO GUIDELINE

Chapter 8 Management of alloimmunization in pregnancy: screening, monitoring, and 201 treatment; the Dutch Quality Standard	179
--	-----

Summary and general discussion	203
---------------------------------------	-----

Nederlandse samenvatting	219
---------------------------------	-----

Portfolio Chapter	229
--------------------------	-----

Overview

CRedit Table

Dissemination Table

Overview of completed courses and other training

Dissemination, acknowledgement, esteem and other relevant scientific activities

Appendices	239
-------------------	-----

Curriculum Vitae

Dankwoord