



Universiteit
Leiden

The Netherlands

Diagnostic tools in the follow-up and monitoring of congenital heart disease and pulmonary hypertension

Meijer, F.M.M.

Citation

Meijer, F. M. M. (2023, May 17). *Diagnostic tools in the follow-up and monitoring of congenital heart disease and pulmonary hypertension*.

Retrieved from <https://hdl.handle.net/1887/3618360>

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/1887/3618360>

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



**DIAGNOSTIC
TOOLS IN THE
FOLLOW-UP
AND
MONITORING
OF CONGENITAL
HEART DISEASE
AND
PULMONARY
HYPERTENSION**

Fleur M.M. Meijer

Colofon

Cover: Liselotte Meijer

Layout: Liselotte Meijer

Printing: Gildeprint

ISBN: 978-94-6419-789-1

Financial support by the Dutch Heart Foundation for the publication of this thesis is gratefully acknowledged.

Copyright © by F.M.M. Meijer. All rights reserved. Any unauthorized reprint or use of this material is prohibited. No part of this thesis may be reproduced, stored or transmitted in any form or by any means, without permission of the author, or when appropriate, of the publishers of the publications.



Proefschrift

ter verkrijging van
de graad doctor aan de Universiteit Leiden,
op gezag van rector magnificus prof.dr.ir. H. Bijl,
volgens besluit van het college voor promoties
te verdedigen op woensdag 17 Mei 2023

klokke 13:45 uur

door

Fleur Mathilde Margaux Meijer

geboren te Amsterdam

in 1988

PROMOTIECOMMISSIE

Promotor

Prof. Dr. M.J. SchaliJ

Copromotoren

Dr. H.W. Vliegen

Dr. P. Kiès

Overige leden

Prof. Dr. M.V. Huisman

Prof. Dr. A. Vonk Noordegraaf
(*Amsterdam UMC*)

Prof. Dr. B.J.M. Mulder
(*Amsterdam UMC*)

Prof. Dr. H.J. Lamb

Dr. J. K. de Vries-Bouwstra



TABLE OF CONTENTS

PART I: Follow-up and diagnosis with the ventricular gradient

CHAPTER 1 Introduction and outline of this Thesis

Page 10

CHAPTER 2 ECG derived ventricular gradient exceeds echocardiography in the early detection of pulmonary hypertension in scleroderma patients

Page 30

CHAPTER 3 Lack of diagnostic utility of the ECG-derived ventricular gradient in patients with suspected acute pulmonary embolism

Page 42

CHAPTER 4

The prognostic value of ECG-derived ventricular gradient in early adverse events in acute pulmonary embolism patients

Page 58

PART II: Follow-up and diagnosis in patients with congenital heart disease

CHAPTER 5

The significance of symptoms before and after surgery for anomalous aortic origin of coronary arteries in adolescents and adults

Page 74

CHAPTER 6

Computed tomography derived coronary triangulated orifice area – deduction of a new parameter for follow-up after surgical correction of anomalous aortic origin of coronary arteries and call for validation

Page 92

CHAPTER 7

Excellent durability of homografts in pulmonary position analysed in a predefined adult group with tetralogy of Fallot

Page 118



CHAPTER 8

Summary, Conclusions and Future perspectives

Page 130

CHAPTER 9

Nederlandse samenvatting en Discussie

Page 136

APPENDICES

Dankwoord
Curriculum vitae

Page 142

