

University of Groningen

Prediction and monitoring of chronic kidney disease

Schutte, Elise

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version

Publisher's PDF, also known as Version of record

Publication date:

2017

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Schutte, E. (2017). *Prediction and monitoring of chronic kidney disease*. [Thesis fully internal (DIV), University of Groningen]. Rijksuniversiteit Groningen.

Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: <https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment>.

Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

Prediction and monitoring of chronic kidney disease

Elise Schutte

Prediction and monitoring of chronic kidney disease
© 2017 E. Schutte

ISBN: 978-94-028-0676-2

Cover illustration: Bert Hoevenberg Grafisch ontwerp & Webdesign
Layout: Legatron Electronic Publishing, Rotterdam
Printed by: Ipskamp Drukkers, Enschede

Financial support by Bayer, the Dutch Kidney Foundation, Graduate School of Medical Sciences, University Medical Center Groningen and the University of Groningen is gratefully acknowledged.

No part of this thesis may be reproduced, stored in a retrieval system or transmitted in any form or by any means without permission from the author or, when appropriate, from the publishers of the publications.



rijksuniversiteit
 groningen

Prediction and monitoring of chronic kidney disease

Proefschrift

ter verkrijging van de graad van doctor aan de
 Rijksuniversiteit Groningen
 op gezag van de
 rector magnificus prof. dr. E. Sterken
 en volgens besluit van het College voor Promoties.

De openbare verdediging zal plaatsvinden op

woensdag 7 juni 2017 om 11.00 uur

door

Elise Schutte

geboren op 7 augustus 1988
 te Vriezenveen

Promotores

Prof. dr. R.T. Gansevoort

Prof. dr. B.H.R. Wolffenbuttel

Prof. dr. H.J. Lambers Heerspink

Copromotor

Dr. H.L. Lutgers

Beoordelingscommissie

Prof. dr. H.A.H. Kaasjager

Prof. dr. P.M. ter Wee

Prof. dr. J.L. Hillege

Contents

Chapter 1	Introduction	7
Chapter 2	Serum bicarbonate and kidney and cardiovascular outcomes in patients with diabetic nephropathy; A post hoc analysis of the RENAAL (Reduction in End Points in Non-Insulin-dependent diabetes with the Angiotensin II Antagonist Losartan) and IDNT (Irbesartan Diabetic Nephropathy Trial) trials	17
Chapter 3	The association of skin autofluorescence levels with kidney function decline in patients with peripheral artery disease	41
Chapter 4	Will the future lie in multitude? A critical appraisal of biomarker panel studies on prediction of diabetic kidney disease progression	57
Chapter 5	Creatinine for monitoring of kidney function over time: a comparison of routine versus single run measurement and Jaffe versus enzymatic assays	75
Chapter 6	Creatinine and Cystatin C- based eGFR slopes for monitoring change in kidney function over time	89
Chapter 7	Estimating GFR using creatinine, cystatin C, beta-2-microglobulin or beta-trace protein to assess change in kidney function over time	105
Chapter 8	Measured GFR: not a gold, but a gold plated standard	131
Chapter 9	Summary and future perspectives	141
Chapter 10	Samenvatting voor de geïnteresseerde niet-medicus	155
Chapter 11	Dankwoord	173
Chapter 12	Publications	177

