

University of Groningen

## Colorectal Anastomoses

Bakker, IIsalien

**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:*

2016

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

*Citation for published version (APA):*

Bakker, I. (2016). Colorectal Anastomoses: Surgical outcome and prevention of anastomotic leakage [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).

**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.

# **COLORECTAL ANASTOMOSES**

SURGICAL OUTCOME AND PREVENTION OF ANASTOMOTIC LEAKAGE

ILSE SALINE BAKKER

Bakker, I.S.

Colorectal Anastomoses: surgical outcome and prevention of anastomotic leakage

Thesis, University of Groningen, the Netherlands

ISBN: 978-94-6299-290-0

The printing of this thesis was financially supported by:

Ethereal Investments BV

Sofat Investments BV

Treant Zorggroep

Noord Negentig

Chipsoft BV

GUIDE

© Copyright 2016 Ilsalien Bakker, the Netherlands

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

Cover: StudioLIN, Ridderprint BV

Lay out: I.S. Bakker, Ridderprint BV

Printed by: Ridderprint BV



rijksuniversiteit  
 groningen

## **COLORECTAL ANASTOMOSES**

SURGICAL OUTCOME AND PREVENTION OF ANASTOMOTIC LEAKAGE

### **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 23 MAART 2016 OM 14:30 UUR

DOOR

**ILSE SALINE BAKKER**

GEBOREN OP 16 MAART 1986  
 TE NOORDOOSTPOLDER

**PROMOTOR**

PROF. DR. T. WIGGERS

**COPROMOTOR**

DR. K. HAVENGA

**BEOORDELINGSCOMMISSIE**

PROF. DR. G.M. VAN DAM

PROF. DR. G.H. DE BOCK

PROF. DR. J.F. LANGE

**PARANIMFEN**  
F.L. KOMDEUR  
S. DAMUDE



## CONTENTS

CHAPTER 1	GENERAL INTRODUCTION AND OUTLINE OF THESIS	9
<b>PART I</b>	<b>SURGICAL OUTCOME OF COLORECTAL CANCER RESECTION IN THE NETHERLANDS</b>	
CHAPTER 2	RISK FACTORS FOR ANASTOMOTIC LEAKAGE AND LEAK-RELATED MORTALITY AFTER COLONIC CANCER SURGERY IN A NATIONWIDE AUDIT	21
CHAPTER 3	HIGH MORTALITY RATES AFTER NON-ELECTIVE COLON CANCER RESECTION: RESULTS OF A NATIONAL AUDIT	41
CHAPTER 4	HIGH COMPLICATION RATE AFTER LOW ANTERIOR RESECTION FOR MID AND HIGH RECTAL CANCER; RESULTS OF A POPULATION-BASED STUDY	59
CHAPTER 5	HIGH ONE-YEAR COMPLICATION RATE AFTER LOW ANTERIOR RESECTION FOR RECTAL CANCER	73
<b>PART II</b>	<b>PREVENTION OF ANASTOMOTIC LEAKAGE IN COLORECTAL SURGERY</b>	
CHAPTER 6	THE C-SEAL TRIAL: COLORECTAL ANASTOMOSIS PROTECTED BY A BIODEGRADABLE DRAIN FIXED TO THE ANASTOMOSIS BY A CIRCULAR STAPLER, A MULTI-CENTER RANDOMIZED CONTROLLED TRIAL	91
CHAPTER 7	THE C-SEAL TRIAL: COLORECTAL ANASTOMOSIS COVERED BY A SOFT SHEATH DRAIN FIXED TO THE ANASTOMOSIS BY A CIRCULAR STAPLER. RESULTS OF A MULTI-CENTER RANDOMIZED CONTROLLED TRIAL	101
CHAPTER 8	INFLUENCE OF SURGICAL TECHNIQUES ON CLINICAL ANASTOMOTIC LEAKAGE IN CIRCULAR STAPLED COLORECTAL ANASTOMOSES: A PLEA FOR A STANDARDIZED PROCEDURE	119
CHAPTER 9	SUMMARY	135
CHAPTER 10	NEDERLANDSE SAMENVATTING	143
CHAPTER 11	FUTURE PERSPECTIVES	151
	AUTHORS AND AFFILIATIONS	163
	COLLABORATIVE C-SEAL STUDY GROUP	169
	C-SEAL STUDENTENTEAM	175
	PUBLICATIES	179
	DANKWOORD	185
	OVER DE AUTEUR	195



