# Peri-operative and peri-partum anaemia management

Submitted by

Bernd Froessler

MD, FANZCA, MClinSc

A thesis submitted in total fulfilment of the requirements for the degree of

**Doctor of Philosophy** 

The Joanna Briggs Institute, School of Translational Health Science,

Faculty of Health Sciences

The University of Adelaide

January 2016

Statement of Declaration

This work contains no material which has been accepted for the award of any

other degree or diploma in any university or other tertiary institution to Bernd

Froessler and, to the best of my knowledge and belief, contains no material

previously published or written by another person, except where due reference

has been made in the text.

I give consent to this copy of my thesis, when deposited in the University

Library, being made available for loan and photocopying, subject to the

provisions of the Copyright Act 1968.

I also give permission for the digital version of my thesis to be made available

on the web, via the University's digital research repository, the Library

catalogue, the Australasian Digital Theses Program (ADTP) and also through

web search engines, unless permission has been granted by the University to

restrict access for a period of time.

Signature

Date: 28/01/2016

# **Acknowledgements**

I wish to sincerely thank Prof Alan Pearson AM for many years of supervision and tireless support.

I wish to thank Prof James Isbister for agreeing to be my associate supervisor, for his tremendous input and for reviewing this thesis.

Both my supervisors were amazing communicators and mentors along the way.

# **Table of Contents**

Statement of Declaration	0
Acknowledgements	1
List of figures	3
Introduction to the program of study	4 6 7
Program of study reported in this thesis1	6
Publication 1:	9
Froessler B, Collingwood J, Hodyl NA, Dekker G. Intravenous ferric carboxymaltose for anaemia in pregnancy. BMC Pregnancy Childbirth. 2014;14:115	9
Publication 2:	5
Froessler B, Dekker G, McAuliffe G. To the rescue: the role of intravenous iron in the management of severe anaemia in the peri-partum setting. Blood Transfus. 2015 Jan;13(1):150-2.	
Publication 3:	9
Froessler B, Weber I, Hodyl NA, et al. Dynamic changes in clot formation determined using thromboelastometry after reinfusion of unwashed anticoagulated cell-salvaged whole blood in total hip arthroplasty. <i>Blood Transfus</i> 2015; 13:448-454	d
Publication 4:	7
Froessler B, Palm P, Weber I, Hodyl NA, Singh R, Murphy EM. The Important Role for Intravenous Iron in Perioperative Patient Blood Management in Major Abdominal Surgery: A Randomized Controlled Trial. Ann Surg. 2016 Jan 27. PubMed PMID: 26817624. Epub 2016/01/29. Eng.	
Conclusion	4
Appendix:	
References5	8

# **List of figures**

## Figure 1:

The evolution of Iron Deficiency

#### Figure 2:

Distribution and cost for fresh blood products and plasma and recombinant products in Australia (2013-14)

## Figure 3:

The pillars of patient blood management.

#### Figure 4:

The three pillars of patient blood management: From decision making to clinical outcomes.