

A Comprehensive Textbook of
**POSTPARTUM
HEMORRHAGE**

*An Essential Clinical Reference
for Effective Management*

2nd Edition

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HEMORRHAGE**

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Abigail Bloomer, 1970–2001

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loving memory of their daughter ABIGAIL BLOOMER, who worked alongside them in medical publishing for a number of years and who sadly died at the early age of 31 from breast cancer in December 2001. Abigail was especially involved in publishing on women's health issues. She is greatly missed.

Whilst this book is being made available via the normal publishing channels in the Western World, it will be supplied free to selected physicians in less-resourced countries. It is also being made available universally free, and in full, on the website of **The Global Library of Women's Medicine** (www.glowm.com).

A wall chart on this topic, designed to inform and support birth assistants, is also being made available.

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chapters of the book at the both manuscript and proofing stages; his contribution has been a notable one.

In addition to this printed edition, this book is also available *free* online on the website of *The Global Library of Women's Medicine* (www.glowm.com) – and in this version it also incorporates a number of video clips that serve to illustrate and amplify certain elements of the text.

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FOREWORD: a FIGO Perspective

The second edition of *A Comprehensive Textbook of Postpartum Hemorrhage* will be launched during the International Federation of Gynecology and Obstetrics (FIGO) World Congress in Rome, Italy in October 2012. For FIGO, this marks another important step in the battle to improve maternal health and to decrease maternal mortality.

The international efforts spearheaded by FIGO and UN agencies to reduce maternal mortality have shown positive results in recent years. Studies in 2010, 2011 and 2012 have reported important decreases in maternal mortality worldwide. However, as these estimates are based on mathematical models and many countries still have poor programs related to vital statistics, these reductions must be appraised cautiously.

In spite of the uncertainty regarding exact numbers, no controversy exists about the need for prevention and treatment of postpartum hemorrhage (PPH). Although recent evidence suggests there is a decline in maternal mortality worldwide, a simultaneous increase in the proportion of maternal deaths due to PPH in Latin America, Africa and South East Asia has been noted. Whereas many countries have made progress, others have stagnated, and a few actually show an increase in maternal mortality. In some countries, maternal mortality is the cause of over 50% of maternal deaths, with Guatemala and Afghanistan serving as prime examples.

The original chapters in this book continue to address issues of vital statistic definitions, accurate measurements of blood loss, hospital management and use of new medications to stem the tremendous burden of PPH. In the revised and new chapters, discussion on the increase in incidence of PPH and maternal mortality due to placenta previa and placenta accreta, most probably due to the higher numbers of cesarean sections in the past 5–10 years worldwide is presented.

The balloon internal uterine tamponade, both as a diagnostic test and as a treatment, is expanded in a number of chapters. Because it would be difficult if not unethical to conduct a randomized control trial on tamponade use or many other therapies for PPH,

clinical practice and a registry would go a long way towards establishing this as a true advance in the treatment of severe PPH.

The update on the Prevention of PPH Initiative (POPPHI) project has shown the positive impact of active management of the third stage of labor, so much so that both FIGO and WHO now recommend this as a routine for all women birthing throughout the world. Further presentations are provided on the use of misoprostol for either prevention or treatment in the absence of other available uterotonic medications. Coagulation disorders are discussed, as well as the use of recombinant factor VIIa and the use of carbetocin for the prevention of PPH at cesarean section.

Many chapters discuss the importance of timing in the diagnosis and early treatment of PPH from the community to the referral level. Examples include discussion on misoprostol use by traditional birth attendants under supervision of a trained birth attendant and the non-pneumatic anti-shock garment (NASG). This technique appears to be lifesaving and it continues to be utilized and clinically evaluated throughout the world where women are suffering massive PPH, are in shock and where immediate treatment is not available.

In several chapters the relatively recent recognition that the ratio of fibrinogen : red blood cells : plasma and the timing of their administration has an important effect on enhancing survival is discussed. This information, obtained from military and trauma surgical registers, will be new to many readers, as will the need to use protocols when massive blood transfusion is being administered.

FIGO began its PPH prevention and treatment campaign in 2003. We have made significant progress, but are still faced with serious challenges in order for health care professionals to be trained under one system with available medications at all times and with a system of referral from the community to the first referral hospital. It is not only important to have training programs in place, but also the implementation of training is now the challenge facing health care professionals and birth attendants throughout the

world. Countries which have been successful are those countries with a system in place that ensures that medication is available at all times in all birthing units.

PPH continues to threaten women's lives in low and high resource countries and is the most important cause of maternal mortality in low resource countries. The majority of cases of PPH are due to uterine atony where the treatment is well known but needs to be institutionalized all over the world. It is not well understood that in high-risk situations we can reduce risk significantly by having a continuous training evaluation of near misses and maternal deaths and by using simple low-cost technology such as tamponade or the NASG garment.

FIGO and International Confederation of Midwives (ICM) have supported the training and implementation of active management of the third stage of labor. Now is the time for all countries to embrace the FIGO and WHO guidelines on PPH and make these

guidelines available in all of the birthing units in our respective countries. We have proposed wall charts for all birthing units in the PPH guideline chapter. Until we systematically address this issue, PPH will continue to be a death threat to many women in the world.

In closing, we would like to thank Mr David Bloomer and his wife Paula who, as publishers of this volume and *The Global Library of Women's Medicine* (GLOWM), provide unconditional support to make this book available throughout the world in many languages.

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Editors' Preface

The first edition of *A Textbook of Postpartum Hemorrhage* was launched with fanfare on October 11, 2006 by HRH the Princess Royal at Chandos House, The Royal Society of Medicine, London. The four editors and Mr David Bloomer, the book's publisher who, along with his wife Paula supported its publication, could not have anticipated its enthusiastic reception by the medical profession throughout the world. In all, more than 15,000 copies of this volume were distributed free of charge to doctors practicing obstetrics and gynecology in the most diverse locations and under the most varied circumstances. In addition, the book was widely accessed, and individual chapters downloaded, via the website of *The Global Library of Women's Medicine* (www.glowm.com). Of equal importance, when the editors embarked on a series of postgraduate courses in the UK, Egypt, Ukraine, India, Malaysia and China, among others, practitioners invariably voiced their thankfulness for having the book in their hands, noting over and over how their use of it has saved a patient's life.

Of course, it had been our hope and fervent desire that the efforts that we made to prepare the first edition would do just that, i.e. save women's lives and reduce the scandalous loss of maternal life due to postpartum hemorrhage (PPH). In this regard, we were more than compensated for our efforts, but it soon became obvious that a second edition was necessary. Many things had changed since 2005 when we began planning the first edition, not least of which was an important re-evaluation of the most useful methodology to provide massive transfusion and a far clearer understanding of the uterine anatomy as it pertains to the blood vessels of that organ. This latter subject was under-represented in the first edition, and the former was unknown at the time of its writing.

As was the case in the first edition, the complete book is universally available entirely free on the website of *The Global Library of Women's Medicine*. Once again, neither authors nor editors have received compensation for their time and contribution. Many of the original chapters have been revised and updated,

whilst new chapters cover a range of additional topics including the uterine anatomy, the recent changes in transfusion practices, difficulties presented by adherent placentas, intrauterine balloon therapy and the active management of the third stage of labor. Where appropriate, links to video clips are provided.

The editors wish to thank Professor Sir Subaratnam Arulkumaran for joining the editorial team in the position of Senior Editor and for his many insights into the global perspectives of PPH at a time when he is about to become President Elect of FIGO. They also wish to thank Professor Louis Keith for his careful editorial expertise in reviewing each chapter at both the manuscript and the page proof stages. Thanks also are extended to Dorothy Walmsley who served as desk editor for the publication and to Julia Tissington who acted as project manager. Finally, but by no means last in terms of the importance of their contributions, immense gratitude is due to Paula and David Bloomer, founders of *The Global Library of Women's Medicine* (and also of Sapiens Publishing). As was the case with the first edition, this book is produced in grateful and loving memory of their daughter, Abigail Bloomer, who sadly died at the early age of 31 from that other scourge of women, breast cancer, in December 2001.

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