management of unintended and abnormal pregnancy

COMPREHENSIVE ABORTION CARE

Maureen Paul | E. Steve Lichtenberg | Lynn Borgatta
David A. Grimes | Phillip G. Stubblefield | Mitchell D. Creinin

Contents

List of Contributors

Foreword

Foreword

Preface

CHAPTER 1 Abortion and medicine: A sociopolitical history

- Introduction
- Abortion in the past
- New technologies, new organizational forms
- Abortion in sociopolitical context
- Conclusion

CHAPTER 2 Unsafe abortion: The global public health challenge

- Introduction
- Definitions and context
- Global and regional levels and trends of induced abortion
- Unsafe abortion trends by region
- Who is more likely to have an unsafe abortion?

Contraceptive use, unmet need for family planning, unplanned pregnancy, and unsafe abortion
Unsafe abortion-related mortality and morbidity
Legal context of abortion
The global discourse addressing unsafe abortion
Conclusion
Acknowledgment

CHAPTER 3 Unintended pregnancy and abortion in the USA: Epidemiology and public health impact

Introduction
Unintended pregnancy
Contraceptive use
Repeat abortion
Reasons for terminating a pregnancy
Abortion epidemiology
Gestational age and procedure
Accessibility of abortion services
Conclusion

CHAPTER 4 Abortion law and policy in the USA

Introduction

Overview and timeline of US constitutional protections and Supreme Court abortion jurisprudence
Specific areas of abortion regulation
Restrictions on which medical personnel may provide abortions
Laws protecting access to abortion
Conclusion
Acknowledgment

CHAPTER 5 Informed consent, patient education, and counseling

Introduction
Informed consent
Patient education related to abortion provision
Nonprocedural counseling
Assessing patients' preabortion emotional needs
Recommendations for preabortion care
Medical abortion
Postabortion counseling
Conclusion
References

CHAPTER 6 Clinical assessment and ultrasound in early pregnancy

Introduction
Clinical evaluation of early pregnancy

Human chorionic gonadotropin
Testing for human chorionic gonadotropin
Ultrasound evaluation of early pregnancy
Conclusion

CHAPTER 7 Medical evaluation and management

Introduction
Preabortion screening
Physiological changes of pregnancy
Management of selected medical conditions
Referral for abortion services
Conclusion

CHAPTER 8 Pain management

Introduction
Pain associated with abortion
Choice of pain control methods
Local anesthesia
Intravenous sedation and general anesthesia for abortion
Nonpharmacological aspects of pain management
Challenging clinical scenarios
Conclusion
Appendix

CHAPTER 9 Medical abortion in early pregnancy

Introduction
History of medical abortion
Modern era of medical abortion: Nonmifepristone regimens
Agents
Methotrexate
Misoprostol
Medical abortion regimens
Medical abortion practice
Side effects and complications
Acceptability
Conclusion

CHAPTER 10 First-trimester aspiration abortion

Introduction
Historical perspective
Safety—morbidity and mortality
Service settings
Aspiration versus medical abortion
Patient preparation
Setup and equipment
Dilators
Pain control
Principles of surgical technique
Vacuum aspiration procedure
Variations in technique
Very early abortion
Examining tissue

Postprocedure care
Conclusion

CHAPTER 11 Dilation and evacuation

Introduction
Historical perspective: Surgical innovation and evolution
Prevalence and safety
Procedure selection
Preprocedure preparation
Cervical preparation
Injections to cause fetal demise
D&E procedures
Postoperative care
Conclusion

CHAPTER 12 Medical methods to induce abortion in the second trimester

Introduction
History
Epidemiology
Preprocedure issues
Eligibility
Techniques for induction abortion
Adjunctive procedures
Management of problems and complications
Postprocedure care

Conclusion
Acknowledgment

CHAPTER 13 The challenging abortion
Introduction
Anatomically challenging abortions
Technical problems
Situational challenges
Emotionally challenging patients
Conclusion

CHAPTER 14 Contraception and surgical abortion aftercare
Introduction
Postprocedure care
Abortion follow-up
Contraceptive management
Strategies for successful use of contraceptive methods
Contraceptive management in women with medical problems
Conclusion

CHAPTER 15 Surgical complications: Prevention and management
Introduction
Mortality and morbidity
Misestimation and failure in induced abortion

Retained tissue
Hemorrhage
Infection
Uterine injury
Thrombosis and embolism
Other conditions
Conclusion

CHAPTER 16 Answering questions about long-term outcomes

Introduction
Abortion and future reproductive health
Abortion and cancer
Psychological sequelae
Conclusion

CHAPTER 17 Pregnancy loss

Introduction
Epidemiology
Diagnosis
Management of early pregnancy loss
Management of second-trimester pregnancy loss because of fetal demise
Septic abortion
Counseling, education, and consent for patients with pregnancy loss
Follow-up
Conclusion

CHAPTER 18 Ectopic pregnancy

- Introduction
- Background
- Clinical assessment
- Management of tubal pregnancy
- Rare types of ectopic pregnancy
- Conclusion

CHAPTER 19 Gestational trophoblastic disease

- Introduction
- Epidemiology of hydatidiform mole
- Genetics of hydatidiform moles
- Presentation of moles and their early identification
- Management of hydatidiform mole
- Persistent gestational trophoblastic neoplasia
- Conclusion

CHAPTER 20 Abortion for fetal abnormalities or maternal conditions

- Introduction
- Screening for fetal abnormalities
- Invasive prenatal diagnosis
- Teratogen exposure
- Maternal conditions
- The abortion procedure
- Conclusion

CHAPTER 21 Multifetal pregnancy reduction and selective termination

Introduction
Consequences of multifetal pregnancy
Multifetal pregnancy reduction
Selective termination
Societal issues
Conclusion

CHAPTER 22 Providing abortion in low-resource settings

Introduction
Factors affecting access and safety in low-resource settings
Clinical considerations
Systems considerations
Recommendations
Conclusion
Acknowledgments

CHAPTER 23 Ensuring quality care in abortion services

Introduction
Historical overview
Patient safety: A health care quality framework applied to abortion care [9]
Designing and implementing an evidence-based quality management program
Conclusion

Chapter 24

- Basic provisions for first-trimester aspiration abortion
- Second-trimester instruments and supplies
- Photographs of instruments used in abortion care
- Select list of suppliers of medical equipment, supplies, and medications used for abortion
- Organizational Resources
- Acknowledgment

Color plates

Index

This book is dedicated to family planning and abortion providers throughout the world whose expertise, courage, and commitment make such a difference in women's lives.

Management of Unintended and Abnormal Pregnancy

Comprehensive Abortion Care

Edited by

Maureen Paul, MD, MPH

E. Steve Lichtenberg, MD, MPH

Lynn Borgatta, MD, MPH

David A. Grimes, MD

Phillip G. Stubblefield, MD

Mitchell D. Creinin, MD

Illustrator: Lisa Peñalver, BA, AMI

A John Wiley & Sons, Ltd., Publication

This edition first published 2009, © 2009 by Blackwell Publishing Ltd

Blackwell Publishing was acquired by John Wiley & Sons in February 2007. Blackwell's publishing program has been merged with Wiley's global Scientific, Technical and Medical business to form Wiley-Blackwell.

Registered office: John Wiley & Sons Ltd, The Atrium, Southern Gate, Chichester, West
Sussex, PO19 8SQ, UK

Editorial offices: 9600 Garsington Road, Oxford, OX4 2DQ, UK
The Atrium, Southern Gate, Chichester, West Sussex, PO19 8SQ, UK
111 River Street, Hoboken, NJ 07030-5774, USA

For details of our global editorial offices, for customer services and for information about how to apply for permission to reuse the copyright material in this book, please see our website at www.wiley.com/wiley-blackwell.

The right of the author to be identified as the author of this work has been asserted in accordance with the Copyright, Designs and Patents Act 1988.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, except as permitted by the UK Copyright, Designs and Patents Act 1988, without the prior permission of the publisher.

Wiley also publishes its books in a variety of electronic formats. Some content that appears in print may not be available in electronic books.

Designations used by companies to distinguish their products are often claimed as trademarks. All brand names and product names used in this book are trade names,

service marks, trademarks or registered trademarks of their respective owners. The publisher is not associated with any product or vendor mentioned in this book. This publication is designed to provide accurate and authoritative information in regard to the subject matter covered. It is sold on the understanding that the publisher is not engaged in rendering professional services. If professional advice or other expert assistance is required, the services of a competent professional should be sought.

The contents of this work are intended to further general scientific research, understanding, and discussion only and are not intended and should not be relied upon as recommending or promoting a specific method, diagnosis, or treatment by physicians for any particular patient. The publisher and the author make no representations or warranties with respect to the accuracy or completeness of the contents of this work and specifically disclaim all warranties, including without limitation any implied warranties of fitness for a particular purpose. In view of ongoing research, equipment modifications, changes in governmental regulations, and the constant flow of information relating to the use of medicines, equipment, and devices, the reader is urged to review and evaluate the information provided in the package insert or instructions for each medicine, equipment, or device for, among other things, any changes in the instructions or indication of usage and for added warnings and precautions. Readers should consult with a specialist where appropriate. The fact that an organization or Website is referred to in this work as a citation and/or a potential source of further information does not mean that the author or the publisher endorses the information the organization or Website may provide or recommendations it may make. Further, readers should be aware that Internet Websites listed in this work may have changed or disappeared between when this work was

written and when it is read. No warranty may be created or extended by any promotional statements for this work. Neither the publisher nor the author shall be liable for any damages arising herefrom.

ISBN: 978-1-4051-7696-5

A catalogue record for this book is available from the British Library.

List of contributors

Elisabeth Åhman, MA
Department of Reproductive Health and Research
World Health Organization
Geneva, Switzerland

Anne Baker, MA
Director of Counseling
The Hope Clinic for Women, Ltd.
Granite City, IL USA

Kurt T. Barnhart, MD, MSCE
Associate Director
Penn Fertility Care
Director of Clinical Research for the Department of Obstetrics and Gynecology
Associate Professor of Obstetrics and Gynecology
University of Pennsylvania School of Medicine
Philadelphia, PA USA

Terry Beresford, BA
Consultant
Alexandria, VA USA

Paul D. Blumenthal, MD, MPH
Professor
Department of Obstetrics & Gynecology
Stanford University School of Medicine
Stanford, CA USA

Lori A. Boardman, MD, ScM
Professor of Obstetrics and Gynecology
College of Medicine
University of Central Florida
Orlando, FL USA

Lynn Borgatta, MD, MPH
Associate Professor

Department of Obstetrics and Gynecology
Boston University School of Medicine
Boston, MA USA
David W. Britt, PhD
Department Chair, Professor
Department of Health & Sport Sciences
University of Louisville
Louisville, KY USA
Daniela Carusi, MD, MSc
Instructor in Obstetrics, Gynecology and Reproductive Biology
Harvard Medical School
Brigham and Women’s Hospital
Boston, MA USA
Laura Castleman, MD, MPH, MBA
Medical Director
Ipas
Chapel Hill, NC USA
Adjunct Clinical Assistant Professor
Department of Obstetrics & Gynecology
University of Michigan School of Medicine
Ann Arbor, MI USA
Stephen T. Chasen, MD
Associate Professor of Obstetrics and Gynecology
Weill Medical College of Cornell University
New York, NY USA
Mitchell D. Creinin, MD
Professor
Department of Obstetrics, Gynecology & Reproductive Sciences
Division of Gynecologic Specialties
University of Pittsburgh School of Medicine
Professor of Epidemiology
University of Pittsburgh Graduate School of Public Health
Pittsburgh, PA USA

Jennifer Dalven, JD
Deputy Director
Reproductive Freedom Project
American Civil Liberties Union Foundation
New York, NY USA
Anne Davis, MD, MPH
Assistant Clinical Professor of Obstetrics and Gynecology
Columbia University College of Physicians and Surgeons
Columbia Presbyterian Medical Center
New York, NY USA
Jeffrey S. Dungan, MD
Associate Professor
Division of Reproductive Genetics
Department of Obstetrics and Gynecology
Northwestern University Feinberg School of Medicine
NMH/Prentice Women's Hospital
Chicago, IL USA
Thomas Easterling, MD
Professor MFM
Department of Obstetrics & Gynecology
University of Washington School of Medicine
Seattle, WA USA
Carla Eckhardt, CPHQ
Co-founder
bdi Consulting
Executive Director
Advancing New Standards in Reproductive Health (ANSIRH)
and Program on Reproductive Health and the
Environment (PRHE)
University of California, San Francisco
San Francisco, CA USA
Eve Espey, MD, MPH
Associate Professor
General Obstetrics & Gynecology

University of New Mexico School of Medicine
Albuquerque, NM USA
Mark I. Evans, MD
President
Fetal Medicine Foundation of America
Director
Comprehensive Genetics
Clinical Professor
Obstetrics, Gynecology and Reproductive Science
Mt. Sinai School of Medicine
New York, NY USA
Kristina Gemzell Danielsson, MD, PhD
Professor
Department of Obstetrics and Gynecology
Karolinska University Hospital
Karolinska Institutet
Stockholm, Sweden
Clifford Gevirtz, MD, MPH
Medical Director
Somnia Pain Management
Adjunct Associate Professor of Anesthesiology
Louisiana State University - New Orleans
New York, NY USA
Alisa B. Goldberg, MD, MPH
Director of Clinical Research and Training
Planned Parenthood League of Massachusetts, Inc.
Assistant Professor of Obstetrics, Gynecology and Reproductive Biology
Harvard Medical School
Director
Division of Family Planning
Brigham and Women’s Hospital
Boston, MA USA
Robert C. Goldstein, MD
Chief Medical Officer

Somnia, Inc.
New Rochelle, NY USA
Steven R. Goldstein, MD
Professor
Department of Obstetrics and Gynecology
New York University School of Medicine
New York, NY USA
David A. Grimes, MD
Clinical Professor
Department of Obstetrics & Gynecology
Division of Women’s Primary Healthcare
University of North Carolina School of Medicine
Chapel Hill, NC USA
Glenna Halvorson-Boyd, PhD, RN
Co-Director
Fairmount Center
Dallas, TX USA
Cassing Hammond, MD
Director
Section and Fellowship in Family Planning & Contraception
Associate Professor of Obstetrics and Gynecology
Northwestern University Feinberg School of Medicine
Chicago, IL USA
David Healow, MD
Associate Medical Director for Surgical Services
Intermountain Planned Parenthood
Billings, MT USA
Stanley K. Henshaw, PhD
Senior Fellow
Guttmacher Institute
New York, NY USA
Carol J. Rowland Hogue, PhD, MPH
Terry Professor of Maternal and Child Health
Director
Women’s and Children’s Center

Professor of Epidemiology
Rollins School of Public Health
Robert W. Woodruff Health Sciences Center
Emory University
Atlanta, GA USA

Carole Joffe, PhD
Professor
Department of Sociology
University of California, Davis
Davis, CA USA

Bonnie Scott Jones, JD
Deputy Director
U.S. Legal Program
Center for Reproductive Rights
New York, NY USA

Nathalie Kapp, MD, MPH
Medical Officer
Department of Reproductive Health and Research
World Health Organization
Geneva, Switzerland

Beth Kruse, MS, CNM, ARNP
Associate Director of Clinical Services
National Abortion Federation
Washington, DC USA

Jennifer L. Kulp, MD
Women’s Health Clinical Research Center
University of Pennsylvania Medical Center
Philadelphia, PA USA

E. Steve Lichtenberg, MD, MPH
Medical Director
Family Planning Associates Medical Group, Limited
Assistant Professor in Clinical Obstetrics and Gynecology
Northwestern University Feinberg School of Medicine
Chicago, IL USA

Laura MacIsaac, MD, MPH
Director
Division of Family Planning
Beth Israel Medical Center
Assistant Professor
Department of Obstetrics & Gynecology and Women's Health
Albert Einstein College of Medicine
New York, NY USA
Karen Meckstroth, MD, MPH
Associate Clinical Professor
Department of Obstetrics, Gynecology & Reproductive Sciences
Director
UCSF Family Planning at Mt. Zion
University of California, San Francisco
San Francisco, CA USA
Mark Nichols, MD
Professor
Department of Obstetrics and Gynecology
Oregon Health & Science University School of Medicine
Portland, OR USA
Maureen Paul, MD, MPH
Chief Medical Officer
Planned Parenthood of New York City
Associate Clinical Professor
Department of Obstetrics, Gynecology & Reproductive Science
Mt. Sinai School of Medicine
New York, NY USA
Matthew F. Reeves, MD, MPH
Assistant Professor
Department of Obstetrics, Gynecology & Reproductive Sciences

University of Pittsburgh School of Medicine
Pittsburgh, PA USA
Neil J. Sebire, MD
Consultant in Pediatric Pathology
Department of Histopathology
Great Ormond Street Hospital
Consultant Pathologist to the Trophoblastic Disease Unit,
Charing Cross Hospital
London, United Kingdom
Michael J. Seckl, MD, PhD
Professor of Molecular Cancer Medicine
Imperial College School of Medicine
Director
Gestational Trophoblastic Disease Centre
Department of Cancer Medicine
Charing Cross Hospital
London, United Kingdom
Iqbal H. Shah, PhD
Coordinator
Preventing Unsafe Abortion
UNDP/UNFPA/WHO/ World Bank Special Programme in Human
Reproduction
Department of Reproductive Health and Research
World Health Organization
Geneva, Switzerland
Lee P. Shulman, MD
Anna Ross Lapham Professor in Obstetrics and Gynecology
Chief
Division of Reproductive Genetics
Northwestern University Feinberg School of Medicine
Chicago, IL USA
Nada Stotland, MD, MPH
Professor
Department of Psychiatry

Rush Medical College of Rush University
Chicago, IL USA
Phillip G. Stubblefield, MD
Professor
Department of Obstetrics and Gynecology
Boston University School of Medicine
Boston, MA USA
Helena von Hertzen, MD, DDS
Medical Officer
Department of Reproductive Health and Research
World Health Organization
Geneva, Switzerland
Melissa Werner, MPH, MAT
Reproductive and Women's Health Consultant
Washington, DC USA
Carolyn Westhoff, MD
Columbia University Medical Center
New York, NY USA
Beverly Winikoff, MD, MPH
President
Gynuity Health Projects
New York, NY USA

Foreword

Allan Rosenfield MD

No topic engenders more heated controversy in the USA and elsewhere in the world than induced abortion, and this conflict is not likely to be resolved in the foreseeable future. Those who feel that life begins at fertilization or implantation, and that abortion at any stage of development is the equivalent of murder, will not compromise their strong views. Similarly, those who defend a woman's right to control her body and to decide whether to continue or terminate a pregnancy will notmoderate their strong views. Other than supporting better programs to prevent unwanted pregnancies (and even here, a subset of those opposed to abortion also objects to all modern forms of contraception), no real common ground exists between these opposing points of view, despite many attempts to search for some means of communication between the two.

Notwithstanding prevailing religious, moral, or cultural attitudes toward abortion, women who do not wish to be pregnant for whatever reason will attempt to terminate the pregnancy, regardless of the risks involved [1]. Worldwide, approximately 42 million abortions occur annually, and 20 million or more are performed under unsafe, usually illegal, circumstances [2]. Furthermore, theWorld Health Organization estimates that between 65,000 and 70,000 women die each year from unsafe abortion, and 5 million more suffer from complications of hazardous or botched abortions, most taking place in the developing world and primarily in those countries in which abortion is illegal [2].

In the USA in the late 1980s, data from the National Survey of Family Growth (NSFG) showed that nearly 60% of all pregnancies were unintended at the time of fertilization [3]. Thus, over 3 million pregnancies per year were

unintended and 45% of these pregnancies, or 1.4 million, ended in abortion. Approximately half of all unintended pregnancies in the USA still end in abortion, resulting in approximately 1.2 million induced abortions each year. Moreover, the most recent NSFG data from 2002 demonstrated a notable increase in the proportion of births to women who wanted no more children (approximately 14% as compared to 9% in the 1995 data) [4]. According to Finer and Henshaw, “between 1994 and 2001, the rate of unintended pregnancy declined among adolescents, college graduates, and the wealthiest women, but increased among poor and less educated women” [5]. Thus, women with the least resources bear a disproportionate burden of unintended pregnancy and its consequences. Although many assume that teenagers have the majority of abortions in the USA, they actually account for less than one-fifth of all abortions, the remainder taking place among women over age 20.

In close to half of those women experiencing an unintended pregnancy, the woman or her partner regularly used a contraceptive method, but for a variety of reasons, it was not used on that occasion or it failed. Similarly, approximately 54% of US women who had an abortion in 2000–2001 had been using a contraceptive method during the month they conceived [6]. Despite the relatively large number of highly effective reversible contraceptive methods on the market, none meets the needs of all couples. The most effective ones (intrauterine devices, injectables, and implants, which have failure rates essentially equal to a sterilization procedure) all have drawbacks or are associated with misperceptions that limit their use. Oral contraceptives, the most widely used reversible method of contraception, carry failure rates of 6 to 8% in actual practice. The advent of emergency contraception is an important advance,

providing an option for those women who have unexpected mid-cycle intercourse.

Clearly, a need for abortion services in the USA and worldwide will continue. Nonetheless, those who provide abortion care are subject to harassment and violence, as well as subtle condemnation from many of their medical colleagues. Since 1993 in North America seven people have been murdered in connection with their work at reproductive health clinics, and five more were shot and wounded, some in their homes.

Over the past decade, training of obstetrics and gynecology residents has increased due to various advocacy effects and to guidelines established in 1996 by the Accreditation Council for Graduate Medical Education (ACGME) that direct ob-gyn residency programs to include experience with induced abortion [7]. A recent survey, however, indicates that only about half of the obstetrics and gynecology residency programs in the USA offer abortion training as a routine component of their curricula. Compared to residents in programs that offer only optional training, those in programs with routine training are more likely to learn a variety of abortion techniques and to perform a greater number of procedures [8]. Given the “graying” of experienced abortion providers in the USA, continued efforts to enhance training opportunities for a range of practitioners will be crucial to ensuring that women have the means of exercising their right to safe abortion care.

Due to myriad factors, including the shortage of abortion providers and state and federal restrictions on abortion, many areas of the USA lack abortion services. As a result, many women travel considerable distances in order to obtain abortions. In some states, services are severely limited, and a few dedicated clinicians travel by plane to different clinic settings on a regular, repeating schedule. This situation is extraordinary in a country in which abortion