Cambridge University Press & Assessment 978-1-108-71411-2 — Part 1 MRCOG Synoptic Revision Guide Edited by Asma Khalil , Anthony Griffiths Frontmatter More Information

# Part 1 MRCOG Synoptic Revision Guide

Cambridge University Press & Assessment 978-1-108-71411-2 — Part 1 MRCOG Synoptic Revision Guide Edited by Asma Khalil , Anthony Griffiths Frontmatter <u>More Information</u> Cambridge University Press & Assessment 978-1-108-71411-2 — Part 1 MRCOG Synoptic Revision Guide Edited by Asma Khalil , Anthony Griffiths Frontmatter More Information

# Part 1 MRCOG Synoptic Revision Guide

Edited by

Asma Khalil St George's, University of London Anthony Griffiths

University Hospital of Wales



Cambridge University Press & Assessment 978-1-108-71411-2 — Part 1 MRCOG Synoptic Revision Guide Edited by Asma Khalil , Anthony Griffiths Frontmatter More Information



Shaftesbury Road, Cambridge CB2 8EA, United Kingdom

One Liberty Plaza, 20th Floor, New York, NY 10006, USA

477 Williamstown Road, Port Melbourne, VIC 3207, Australia

314-321, 3rd Floor, Plot 3, Splendor Forum, Jasola District Centre, New Delhi - 110025, India

103 Penang Road, #05-06/07, Visioncrest Commercial, Singapore 238467

Cambridge University Press is part of Cambridge University Press & Assessment, a department of the University of Cambridge.

We share the University's mission to contribute to society through the pursuit of education, learning and research at the highest international levels of excellence.

www.cambridge.org Information on this title: www.cambridge.org/9781108714112

DOI: 10.1017/9781108644464

© Cambridge University Press 2023

This publication is in copyright. Subject to statutory exception and to the provisions of relevant collective licensing agreements, no reproduction of any part may take place without the written permission of Cambridge University Press and Assessment.

First published 2023

Printed in the United Kingdom by TJ Books Limited, Padstow Cornwall

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

Library of Congress Cataloging-in-Publication Data Names: Khalil, Asma, editor. | Griffiths, Anthony (Anthony N.), editor. Title: Part 1 MRCOG synoptic revision guide / edited by Asma Khalil, Anthony Griffiths. Description: Cambridge, United Kingdom ; New York, NY : Cambridge University Press, 2021. | Includes bibliographical references and index. Identifiers: LCCN 2021024868 (print) | LCCN 2021024869 (ebook) | ISBN 9781108714112 (paperback) | ISBN 9781108644464 (ebook) Subjects: MESH: Obstetrics – methods | Gynecology – methods | Reproductive Medicine – methods | Study Guide | BISAC: MEDICAL / Gynecology & Obstetrics Classification: LCC RG101 (print) | LCC RG101 (ebook) | NLM WQ 18.2 | DDC 618.1–dc23 LC record available at https://lccn.loc.gov/2021024869

ISBN 978-1-108-71411-2 Paperback

Cambridge University Press & Assessment has no responsibility for the persistence or accuracy of URLs for external or third-party internet websites referred to in this publication and does not guarantee that any content on such websites is, or will remain, accurate or appropriate.

Every effort has been made in preparing this book to provide accurate and up-to-date information that is in accord with accepted standards and practice at the time of publication. Although case histories are drawn from actual cases, every effort has been made to disguise the identities of the individuals involved. Nevertheless, the authors, editors, and publishers can make no warranties that the information contained herein is totally free from error, not least because clinical standards are constantly changing through research and regulation. The authors, editors, and publishers therefore disclaim all liability for direct or consequential damages resulting from the use of material contained in this book. Readers are strongly advised to pay careful attention to information provided by the manufacturer of any drugs or equipment that they plan to use.

Cambridge University Press & Assessment 978-1-108-71411-2 — Part 1 MRCOG Synoptic Revision Guide Edited by Asma Khalil , Anthony Griffiths Frontmatter More Information

# Contents

List of Contributors vii

- 1 **Physiology of Pregnancy and Labour** 1 Asma Khalil
- 2 **Fetal Physiology** 12 Helen Perry and Asma Khalil
- 3 Acid-Base Balance 21 Kelvin F. Gomez
- 4 **Female Reproductive Physiology** 28 Ayona Wijemanne
- 5 **Male Reproductive Physiology** 35 Ayona Wijemanne
- 6 **The Pituitary, Adrenal, Thyroid and Pancreas** 43 Erum A. Khan
- 7 **Congenital Infections** 53 Philip Rice
- 8 **Data Interpretation in Obstetrics** 65 Rosemary Townsend and Asma Khalil
- 9 **Clinical Management in Obstetrics** 77 Rosemary Townsend and Asma Khalil
- 10 Concise Anatomy of the Urinary, Intestinal and Reproductive Tracts within the Pelvic Cavity 87 Paul Carter
- 11 Concise Anatomy of the Pelvic Floor and Perineum 96Paul Carter
- 12 **Concise Anatomy of the Pelvic Girdle** 100 Paul Carter
- 13 Concise Anatomy of the Abdominal Walls 104 Paul Carter
- 14 **Early Embryonic Development** 109 Laura C. Mongan

- 15 Development of the Gastrointestinal and Urogenital Tracts 114 Laura C. Mongan
- 16 **Problems in Early Pregnancy** 120 Jemma Johns, Archana Vasireddy and Kugajeevan Vigneswaran
- Human Immunodeficiency Virus and Other Sexually Transmitted Infections 139 Taslima Rashid and Michael Rayment
- Pharmacokinetics, Pharmacodynamics and Teratogenesis 169 Kevin Hayes
- 19 Non-hormonal Therapy in Obstetrics and Gynaecology 179 Kevin Hayes
- 20 **Drugs in Gynaecology and Contraception** 186 Alastair Graham
- 21 **Surgical Site Surveillance** 210 Balpreet Attilia
- 22 **Data Interpretation in Gynaecology** 215 Andrew Sizer
- 23 **Clinical Management in Gynaecology 223** Amy Shacaluga
- 24 **Carbohydrate Metabolism 238** Mary Board
- 25 **Fat Metabolism 248** Mary Board
- 26 **Steroid Hormones and Prostaglandins 259** Anthony E. Michael
- 27 **Calcium Homeostasis and Bone Health** 269 Sadie Jones
- 28 **Cell Structure and Function** 272 Neil Chapman

Cambridge University Press & Assessment 978-1-108-71411-2 — Part 1 MRCOG Synoptic Revision Guide Edited by Asma Khalil , Anthony Griffiths Frontmatter More Information

#### Contents

- 29 **Cellular Responses in Disease** 285 Raji Ganesan and Josefa E. O. Vella
- 30 Pathology of Non-neoplastic and Neoplastic Gynaecological Diseases 293
  Raji Ganesan and Josefa E. O. Vella
- Implantation and Placental Structure and Function 303
  Karin Leslie
- 32 **Basic and Reproductive Immunology** 310 Karin Leslie
- 33 Molecular Biology 318 Sadie Jones
- 34 Single-Gene and ChromosomeAbnormalities 324Sahar Mansour

- 35 Genetic Screening and Diagnosis 337 Tessa Homfray
- 36 **Biophysics 350** Neil Pugh and Nazar Amso
- 37 **Statistics 372** Anthony N. Griffiths
- 38 Clinical Trials, Audit and Meta-analysis 382Anthony N. Griffiths

Appendix: Answers to SBA Questions 388 Index 392

Cambridge University Press & Assessment 978-1-108-71411-2 — Part 1 MRCOG Synoptic Revision Guide Edited by Asma Khalil , Anthony Griffiths Frontmatter More Information

# Contributors

#### Nazar N. J. Amso FRCOG FHEA PhD

Emeritus Professor and Consultant, Obstetrics and Gynaecology, School of Medicine, Cardiff University, Cardiff

#### Balpreet Attilia BSc MRCOG

Consultant Obstetrician and Gynaecologist, Musgrove Park Hospital, Taunton

#### Mary Board MA DPhil

Lecturer in Biochemistry, St Hilda's College, University of Oxford, Oxford

#### Paul Carter BSc MD FRCS FRCOG

Head of Anatomical Sciences and Consultant Obstetrician and Gynaecologist, St George's University of London, London

#### Neil Chapman PhD SFHEA

Senior University Teacher (Reproductive Medicine), Academic Unit of Reproductive and Developmental Medicine, University of Sheffield, Sheffield

#### Raji Ganesan MD FRCPath CertMedEd

Consultant Gynaecological Pathologist, Birmingham Women's Hospital, Birmingham

Kelvin F. Gomez MD FRCSEd MFSTEd Clinical Director for Surgery, Aneurin Bevan University Health Board, Newport

#### Alastair Graham BPharm

Clinical Pharmacist, Gloucestershire Royal Hospital, Gloucester

## Anthony N. Griffiths MRCOG FHEA DFFP DipMedEd PGDipMAS

Consultant Gynaecologist, University Hospital of Wales, Cardiff

#### Kevin Hayes FRCOG

Reader and Consultant Obstetrician and Gynaecologist, St George's University of London, London

#### Tessa Homfray FRCP

Consultant Medical Geneticist, St George's University of London and Harris Birthright Unit, King's College Hospital, London

#### Jemma Johns MD FRCOG

Consultant Obstetrician and Gynaecologist, Early Pregnancy and Gynaecology Assessment Unit, King's College Hospital, London

#### Sadie Jones MRCOG PhD

Obstetrics and Gynaecology Clinical Lecturer, University of Cardiff School of Medicine, Cardiff

#### Asma Khalil MD MRCOG MSc

Consultant and Reader in Obstetrics and Maternal-Fetal Medicine, Fetal Medicine Unit, St George's University of London, London

#### Erum A. Khan DFFP MRCOG PGCertClinEd

Consultant Obstetrician and Gynaecologist, Department of Obstetrics and Gynaecology, Milton Keynes University Hospital, Milton Keynes

#### Karin Leslie MRCOG

Lecturer in Maternal-Fetal Medicine, Fetal Medicine Unit, St George's University of London, London

#### Sahar Mansour FRCP

Consultant and Honorary Professor in Clinical Genetics, St George's University of London, London

#### Anthony E. Michael PhD

Dean for Education, Faculty of Science and Engineering, Queen Mary University of London, London

Cambridge University Press & Assessment 978-1-108-71411-2 — Part 1 MRCOG Synoptic Revision Guide Edited by Asma Khalil , Anthony Griffiths Frontmatter <u>More Information</u>

#### List of Contributors

#### Laura C. Mongan PhD SFHEA

Senior Lecturer in Medical Education, University of York

#### Helen Perry MRCOG

Clinical Research Fellow in Obstetrics and Gynaecology, Fetal Medicine Unit, St George's University of London, London

#### Neil Pugh MSc PhD FInstP CPhys

Consultant Medical Physicist and Head of Ultrasound Physics, University of Cardiff School of Medicine, Cardiff

#### Taslima Rashid MRCP DipGU-M

Specialty Registrar in Genitourinary Medicine and HIV, 10 Hammersmith Broadway, Chelsea and Westminster Hospital, London

#### Michael Rayment MA MRCP DipGUM DipHIV

Consultant in Sexual Health and HIV Medicine, 10 Hammersmith Broadway, Chelsea and Westminster Hospital, London

#### Philip Rice BSc FRCPath

Consultant Virologist, Department of Medical Microbiology, Norfolk and Norwich University Hospital, Norwich

#### Amy Shacaluga MRCOG

Specialist Registrar in Obstetrics and Gynaecology, University Hospital of Wales, Cardiff

#### Andrew Sizer BSc MPH MD PhD FRCOG FHEA

Consultant in Reproductive Medicine and Surgery, Royal Shrewsbury Hospital, Shrewsbury and Senior Lecturer, Keele University School of Medicine

#### Rosemary Townsend MRCOG

Specialist Registrar in Obstetrics and Gynaecology, St George's University of London, London

#### Archana Vasireddy MRCOG

Clinical Fellow, Early Pregnancy and Gynaecology Assessment Unit, King's College Hospital, London

#### Josefa E. O. Vella MSc FRCPath

Consultant Gynaecological Pathologist, Birmingham Women's Hospital, Birmingham

#### Kugajeevan Vigneswaran MRCOG

Specialist Registrar in Obstetrics and Gynaecology, King's College Hospital, London

#### Ayona Wijemanne BMedSci MRCOG MSc DCRM

Consultant in Obstetrics and Maternal Medicine, St George's Hospital, London