

Primary FRCA: OSCEs in Anaesthesia





Primary FRCA: OSCEs in Anaesthesia

William Simpson

Specialist Registrar in Anaesthesia, North Western Deanery, Manchester, UK

Peter Frank

Specialist Registrar in Anaesthesia, North Western Deanery, Manchester, UK

Andrew Davies

Specialist Registrar in Anaesthesia, North Western Deanery, Manchester, UK

Simon Maguire

Consultant Anaesthetist, University Hospital of South Manchester, UK





CAMBRIDGEUNIVERSITY PRESS

University Printing House, Cambridge CB2 8BS, United Kingdom

Cambridge University Press is part of the University of Cambridge.

It furthers the Universitys mission by disseminating knowledge in the pursuit of education, learning and research at the highest international levels of excellence.

www.cambridge.org Information on this title: www.cambridge.org/9781107652231

© Cambridge University Press 2013

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.

First published 2013 Reprinted 2015

Printed in the United Kingdom by Clays, St Ives plc

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

Library of Congress Cataloguing in Publication data Simpson, William, 1983–

Primary FRCA: OSCEs in anaesthesia / William Simpson, trainee anaesthetist, North Western Deanery, Manchester, UK, Peter Frank, trainee anaesthetist, North Western Deanery, Manchester, UK, Andrew Davies, University Hospital of South Manchester, Simon Maquire, consultant anaesthetist, North Western Deanery, Manchester, UK.

pages cm
Includes bibliographical references and index.
ISBN 978-1-107-65223-1 (pbk.)
1. Anesthesiology – Examinations, questions, etc. I. Title.
RD82.3.S485 2013
617.9'6-dc23

2012040703

ISBN 978-1-107-65223-1 Paperback

Cambridge University Press 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, which 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.



Contents

Preface Acknowledgements	page ix xi		
Section 1. Anator	my	Section 3. Communicatio	 n
1. Trachea	1	Introduction	63
2. Brachial plexus	3	Scenarios	65
3. Great veins of the no	eck 7	1. Sickle cell test	65
4. Antecubital fossa	9	2. Rapid sequence induction	67
5. Ankle block	11	3. Suxamethonium apnoea	68
6. Circle of Willis	15	4. Cancelled surgery	70
7. Coronary circulation	17	5. Tooth damage	71
8. Base of skull	21	6. Jehovah's Witness	72
9. Diaphragm	23	Caction A Equipment	
0. Spinal cord	25	Section 4. Equipment	
1. Wrist	29	1. Diathermy	75
12. Larynx	31	2. Defibrillators	77
Section 2. History	y taking	3. Laryngoscopes4. Endotracheal tubes	79 89
Introduction	35	5. Breathing circuits	95
1. TURP surgery	43	6. Airways	99
2. Laparoscopic cholecy	ystectomy 45	7. Vaporisers	103
3. Thyroid surgery	47	8. Scavenging	107
4. Shoulder replaceme	nt 51	9. Medical gases	109
5. Caesarean section	55	10. Filters	113
6. ENT surgery	59	11. Ventilators	115

	Section 5. Anaesthetic		5. Displaced tracheostomy	183
	hazards		6. Paediatric emergency	187
1.	Electricity	119	7. Intraoperative desaturation	191
2.	Lasers	123	8. Tachyarrhythmia	195
3.	Positioning	127	9. Anaphylaxis	197
4.	Blood transfusion	131	10. Obstetric haemorrhage	199
	Section 6. Radiology		Section 9. Procedures	
1.	Chest X-ray	135	1. Lumbar puncture	203
2.	Chest X-ray	137	2. Chest drain	207
3.	CT head	139	3. Epidural	210
4.	Cervical spine	141	4. Surgical airway	215
5.	Angiogram	145	5. Central venous cannulation	217
	Section 7. Physical examina	ation	6. Intraosseous access	221
1	Cardiovascular examination	147	7. Anaesthesia of the eye	223
	Respiratory examination	151	8. Rapid sequence induction	225
	Cranial nerve examination	155	Section 10. Monitoring a	ınd
4.	Obstetric preoperative		measurement	
	assessment	159	1. Capnography	231
5.	Peripheral circulation examination	163	2. Central venous pressure trace	235
6.	Airway examination	167	3. ECG 1	239
	Section 8. Resuscitation an	ıd	4. ECG 2	241
	simulation		5. Humidity	245
1.	Bradyarrhythmia	171	6. Invasive blood pressure	249
2.	Collapsed obstetric patient	173	7. Respiratory 1	253
	Malignant hyperthermia	175	8. Respiratory 2	257
	Failed intubation	179	9. Noninvasive blood pressure	261

vi

10. Oxygen measurement 1	265	15. Rotameters	281
11. Oxygen measurement 2	267	16. Temperature	285
12. Pulmonary artery catheter	269		
13. Nerve stimulators	273		
14. Pulse oximetry	277	Index	290

vii





Preface

The Primary FRCA is a formidable examination and not all trainees will leave the Royal College with the sweet taste of success. The syllabus is wide and deep while the three examination areas and techniques are also varied:

- A multiple choice questions (MCQ) paper incorporating 60 multiple true/false (MTF) as well as 30 single-best answer (SBA) questions
- The Structural Oral Examination (SOE). This is divided into two parts:
 - SOE 1 concerned with physiology and pharmacology SOE 2 examines knowledge of clinical anaesthesia, physics, clinical measurement, equipment and safety
- The Objective Structured Clinical Examination (OSCE)

The aim of the OSCE examination is to test procedural and cognitive skills, which are underpinned by knowledge. The OSCE is composed of up to 18 stations, of which 16 are live and marked for the purposes of that sitting of the examination. The other stations are on trial and both examiners and examinees are unaware of which they are.

The stations have general themes, which are:

- Resuscitation
- Technical skills
- Anatomy
- History taking
- Communication skills
- Anaesthetic hazards
- Interpretation of X-rays
- Simulation (usually a critical incident)
- Equipment (anaesthetic, monitoring, measurement)
- Physical examination

Each station is marked out of 20 but the pass mark for each station may be different and is assigned by the Angoff method by the examiners. The pass mark for the OSCE examination is the sum of the pass marks for the individual stations.

The MCQ must be tackled and passed before applying for the SOE/OSCE. These must be taken together at the first attempt. If one section is failed, then that section only needs to be retaken. There has been a general feeling among trainees that the SOE was the 'difficult' section while the OSCE would generally sort itself out with the knowledge gained from studying for the MCQ and SOE. It has become increasingly clear over the last few years that the OSCE section demands more respect and consideration. There are many trainees who have been successful in both the MCQ and SOE sections but failed the OSCE by some margin.

iх

The OSCE provides most trainees/departments/regions with a logistical headache. Organising a course for MCQ revision or SOE practice requires time, personnel, determination and planning. Any OSCE course demands all of that plus equipment and therefore revision for, or exposure to, a realistic OSCE environment prior to the real examination can be difficult and patchy.

This book is aimed at providing trainees with a more structured approach to revision for the OSCE. It has been written by three trainees in the North Western Deanery who have passed their examinations in recent years and, therefore, their knowledge is fresh and up-to-date. It includes questions that have appeared in the RCOA examination. It covers all the main components with sample questions and answers to each. It also provides suggestions about how to approach some of the sections, such as history taking.

It will not provide you with the experience of a timed, noisy, bell-ringing OSCE and we would counsel you to try and supplement this book with that experience.

The book will be used as a revision guide by individuals but would also be beneficial for groups of trainees who are revising together for the OSCE examination.

We wish you the very best of luck and to quote Benjamin Franklin:

'Diligence is the mother of good luck'.

WS

AD

PF

SM



Acknowledgements

Many thanks to Dr. Andreas Erdmann for permitting the reproduction of the anatomy images taken from his *Concise Anatomy for Anaesthesia*. Without his help and support, the task of constructing the anatomy section would have been almost impossible. We would also like to thank Dr. James Howard, Radiology Registrar, North Western Deanery, for his help with the X-ray films and Dr. James Mitchell, Cardiology Registrar, North Western Deanery, for his help with the ECGs.

αi