EXAM PREPARATION

Preparing for the FRCA – Fellow of The Royal College of Anaesthetists Part 1

T Lowes

Introduction

According to a MORI poll, 35% of the population believe that you don't have to be a doctor to be an Anaesthetist. Unfortunately the FRCA examination does not reflect this. The syllabus includes every topic ever covered at medical school, with perhaps the exception of embryology. Now, suitably concerned, one should be slightly reassured by the fact that Tri-Service trainees generally have a high success rate in this examination. However, in order to avoid being an exception to this rule, it is necessary to do a considerable amount of bookwork. This review is intended to provide some idea of what is to be expected, as well as a few suggestions regarding preparation and some necessary technical information.

The Format

As from 1 August 1996, the FRCA, or more correctly, 'The Diploma of Fellow of The Royal College of Anaesthetists', reverted to being a 2 part examination, having been a 3 part examination for several years. These 2 parts are now known as the *Primary* and *Final* examinations. Each part comprises both written and viva examinations, with the Primary also including an 'OSCE' (Objective Structured Clinical Examination). Details of the primary examination are given below, the final examination will be the subject of a further article in this series.

FRCA – Primary Exam Structure of the Exam

The Primary exam is divided into four parts: MCQ, OSCE and two vivas.

MCQ

This consists of ninety 5-part multiple choice questions in 3 hours (450 questions in all) with 30 questions in each area of:

- pharmacology
- physiology and biochemistry
- physics and clinical measurement

The MCQ section is negatively marked, one mark for each correct answer, one mark deducted for each incorrect answer. (No mark for unanswered/don't know). Depending on their final score, each candidate is given a mark:

2+	Outstanding performance
2	Pass
1+	Fail
1	Poor Fail

The mark is calculated by comparison with previous papers, using a number of 'marker' questions to decide whether the examination is generally easier, harder or similar to earlier MCQ's.

The first hurdle

Any candidate who scores a '1' will automatically fail the whole exam. Roughly 20% of candidates will fail at this first hurdle. A '1+' allows one to move onto the next stage of the exam, but with no lifelines left in the event of further unsatisfactory performance in one of the vivas. It should be noted that a candidate's performance in each of the three subsections is taken into consideration when calculating the overall mark for the MCQ. Candidates who perform very poorly in one or more subjects cannot obtain an overall pass mark in the MCQ. i.e. the best you can get is a '1+'.

It is very easy to allocate a disproportionate amount of one's revision to Physiology and Pharmacology, forgetting that one third of the questions will be on Physics and Clinical Measurement. The vast majority of these questions can be answered by revising Parbrook's *Basic Physics and Measurement in Anaesthesia*. However, simply reading through it once will not equate to one third of one's revision time, and will not be enough to produce a good score on the physics section.

Vivas and OSCE

Those scoring '1+' or better are notified by post of the date of their OSCE and vivas. Unlike the MCQ which is held simultaneously in five centres (London, Manchester, Scotland, Belfast, Bristol/Cardiff), this stage of the examination is only held in London. The 2-3 week wait for the letter is particularly frustrating since it is important to keep revising despite not knowing the result. It is worth knowing that it is possible to indicate a preference for the day of one's vivas/OSCE by filling out a request sheet at the end of the MCQ exam. It is, therefore, possible to avoid having to go on a Friday with the added pressure of knowing that one's colleagues have already

passed. (At the end of each day, usually at 6pm, a list of those candidates who have been successful is put on a notice board in the College, so those earlier in the week will already know their fate).

The start of each 30 minute viva and the OSCE can be anytime from 0900 to 1630, so a lot of pacing around the park in Russell Square can be expected in between. There may even be time between vivas for a visit to a museum if so inclined - the British Museum is just around the corner!

OSCE

This takes the form of 16 stations in approximately 1 hour 40 minutes. The stations include: resuscitation, technical skills, anatomy (general procedure), anatomy (local block), history-taking, physical examination, communication skills, anaesthetic equipment, monitoring equipment, measuring equipment, anaesthetic hazards, statistics and interpretation of: ECG, X-ray, biochemistry, haematology, photographs and charts. All stations are marked out of 20 points. The pass mark for each station is 13 points.

The overall score for the OSCE is as follows:

16 stations passed	2+
12 – 15 stations passed	2
8 – 11 stations passed	1+
1 – 7 stations passed	1

Once again, a mark of 1 is an outright fail for the whole examination. Candidates who score a mark of 6 or less on 2 or more stations cannot be awarded an overall OSCE mark of more than 1+.

The OSCE is, relatively speaking, a gift. The stations are based on everyday clinical practice. The aim in this section must be at least a 2. Revision for the OSCEs should include: nerve blocks, informal examination about the anaesthetic machine when in theatre and a visit to your Resuscitation Training Officer for up to date ALS/PALS guidelines and practice scenarios. Attention must also be paid to brushing up on ECG, CXR and blood gas interpretation. Occasionally there may be a station that will catch candidates out, especially if they have not read the syllabus thoroughly (for example coeliac plexus block), but even then a basic knowledge should get the 13 marks required to pass. A book like *'The Anaesthesia OSCE'* published by Greenwich Medical Media will assist revision.

Vivas

There are two structured vivas:

Viva 1 (30 minutes) comprising 15 minutes in pharmacology and 15 minutes in physiology and biochemistry.

Viva 2 (30 minutes) comprising 15 minutes in physics, clinical measurement,

equipment and safety and 15 minutes on clinical topics (including a critical incident).

There will be 2 examiners at each viva (and sometimes an 'observer' who plays no part in the marking). One examiner will viva for 15 minutes before handing over to his colleague. This time is roughly divided into three 5 minute question areas; for example 5 minutes renal physiology, 5 minutes on Krebs's cycle then 5 minutes maternal physiology. The examiners will have quite structured questions given to them, hopefully avoiding the situation where an examiner asks about the minutiae of his or her latest research project.

Once again, the marks for each viva are given as: 1, 1+, 2 and 2+. The score depends on the examiners' overall opinion of how a candidate answered their questions. There are certain points that apply to all vivas, such as how to dress, sit and speak to the examiners. There is also a requirement to be able to present one's knowledge in a logical and clear way when answering a question. Learning to structure answers and having plenty of viva practice with consultants or registrars beforehand is invaluable. A few rules may be helpful:

- Start basic – if they want complex information, they will ask for it.
- If you don't know, say so.
- If the examiners' expressions suggest that the answer is wrong, ask to retract what has been said as a mistake.
- It may be helpful on occasion to say that although you've never seen/done a..., from what you've read, you understand that...

Pass/Fail

To pass the Primary examination, a candidate must score in the four sections; 2, 2, 2, 1+ or better. Scoring '1' in any part is an overall Fail; a 2+ does not cancel out a 1, although in the unlikely event of a candidate scoring 2+, 2+, 2+, 1, there would undoubtedly be a review of the reason for the candidates poor performance in just one part of the exam.

Those who are fortunate enough to see their candidate number posted on the College noticeboard will be invited to climb the stairs and share a glass of white wine (red is not permitted for fear of staining the carpet!) with the examiners. Alternatively, the stark realisation that one's number is not one of the favoured is likely to lead to a visit to a nearby hostelry.

Candidates who are unfortunate enough to fail twice have to attend a 'guidance' interview before the next attempt. It should be remembered that the Postgraduate Dean will only refund one examination fee, and the rules state four strikes and you're out.

Prizes

The Nuffield Prize is awarded at the discretion of the examiners for an outstanding performance in the Primary exam. The candidate must have scored 2+ in *all* sections of the exam.

Eligibility

To be eligible for the examination, one must be registered with the College as a postgraduate trainee in anaesthesia and have completed **one year** of training in post(s) in the UK (or in the Republic of Ireland) approved by the Royal College of Anaesthetists. This may include three months of intensive care training and a period of maternity or sick leave up to a maximum of one month per year. The one year period includes the time up until the published date of the start of the OSCE and viva week.

Taking the exam early means that it can be got out of the way as well as giving the option of a few chances to retake it without delaying one's application for an SpR training number. Conversely, sitting it later means that candidates have more experience of the subjects that are likely to come up in the examination, significantly increasing confidence in the clinical sections. In addition, the vast majority of the Primary syllabus is included in the Final exam and one's memory of physiology or pharmacology, for example, will not be quite so distant a memory when it comes to beginning revision for part two.

Entering the Exam

There are now 3 sittings per year of the Primary exam, (September/October, January/February and May/June). The exact dates of these are usually available almost a year in advance either by contacting the Examinations Directorate at the College or from the College website. An application form can also be downloaded from the website. The application form must be countersigned by the hospital College Tutor and then returned along with a cheque for the appropriate amount (currently £460) before the closing date.

Syllabus

An up to date syllabus can be obtained from the College. It is very comprehensive and depressingly large. It cannot, however, be ignored. It should be kept to hand when revising as a check list of revised material and more importantly read through at least a week before the vivas in order to ensure that nothing has been completely missed out.

Studying

Clearly everyone has their own technique and some need more time than others.

However, as a general rule one should acquaint oneself with the syllabus and start dipping into the textbooks about 6 months in advance. The intensity of revision should gradually increase; study during the week and most weekends off from 3 months before the examination date. A final "push" with a month to go is usually necessary. During the last week or two, it is best to concentrate on doing as many MCQ's as possible, focusing revision only in those areas which produce poor scores in testing.

Arranging with the Defence Advisor in Anaesthetics to do one's two month posting to the Duke of Connaught Unit so that it falls approximately 4-8 months before the examination is helpful. It is a perfect time to get plenty of studying done without busy on-calls and family or social distractions to cope with. Some jobs are clearly busier than others and a little bit of forward planning when deciding when to sit the exam may avoid unnecessary additional pressures from heavy rota commitments.

Courses

Most hospitals will have arranged 2-3 hours of Primary teaching for SHOs every week. In addition, particularly for those at Frimley Park, it may be possible to use regular study leave to go on a day release course each week, for example at St Thomas's Hospital in London. Southampton has a Primary course divided into 3 weeks spread throughout the year and many other centres have Primary preparation courses lasting between one and two weeks which are usually held about 8 weeks before the next exam. Some of these (for example Bristol) are very good at specific examination preparation, whereas the College course held in London over 2 weeks tends to be more of a pure lecture course with all the latest teaching from experts in their field. Again, opinions vary and courses do change from year to year so it is worth asking colleagues who have sat the exam recently what they recommend.

Books

(see recommended reading)

Recent editions of textbooks in Physiology and Pharmacology (drugs and some things in Physiology *do* change) along with a Physics and Clinical Measurement book, are well worth buying as they will also be needed for the Final part of the examination. Comprehensive textbooks of Anaesthesia exist which cover all of these subjects within their pages, but obviously not in as much depth. (*Textbook of Anaesthesia* by Aitkenhead & Smith and *Fundamentals of Anaesthesia* by Pinnock *et al* are the most popular examples). They are, however, good starting points and there is certainly enough information in them to

pass the examination if the contents are thoroughly mastered. Most people tend to buy or borrow a separate Physiology and Pharmacology book as well. A standard Physiology textbook from medical school (for example Ganong) is perfect if recent enough. A Pharmacology text with a specific theme of anaesthesia is really needed. Calvey & Williams was always popular although expensive (and some pharmacokinetic terms are not strictly correct), however, there are newer and cheaper books which are probably better, including *Pharmacology for Anaesthesia and Intensive Care* by Peck & Williams. *Drugs in Anaesthesia & Intensive Care* by Sasada & Smith is a particularly handy pocketbook and quick reference for those facts and figures about various drugs that tend to come up in MCQs. As mentioned earlier, Parbrook covers all the physics and measurement, however, it is also worth borrowing an Anaesthetic equipment textbook such as Ward or the more colourful (and smaller) book by Al-Shaikh.

Anatomy, fortunately, does not change so expenditure can be reduced by resurrecting an undergraduate textbook (for example Snell). The technique of performing various 'blocks' can be learnt from textbooks such as Aitkenhead, but there is no substitute for actually doing them under supervision at work.

There are numerous MCQ books; the two Q Base books include CD-ROM questions which can be revised whilst playing on the computer. Greenwich Medical Media also publish two viva books (which are also useful for the Basic Science viva in the Final), and an OSCE book. There are plenty of MCQ and OSCE books to choose from, but these are best borrowed from someone who has already passed; hopefully they will only be needed once.

Conclusion

The syllabus for Primary FRCA is huge and this is not an examination to be taken lightly but one which requires intensive and structured revision. Nevertheless, it is clearly not an insurmountable challenge, as the overall 'pass' rate is roughly 40% each time. However, the more times one sits it, statistically, the less likely one is to pass. There is undoubtedly an element of luck, particularly when it comes to viva questions, but as with most things, one's chance of being lucky is greater if one is well prepared. Working for the exam with a friend or in a group makes it more bearable than suffering alone. The reward for passing is a double edged sword; you have now achieved the main requirement for entering the Final FRCA exam - something else to look forward to!

Useful Textbooks for the Primary FRCA

Title	Author	Publisher	Edition (Year)
Anaesthesia & Intensive Care A to Z	S.M. Yentis <i>et al</i>	Butterworth Heinemann	2nd (1999)
Textbook of Anaesthesia	A.R. Aitkenhead G. Smith, D. Rowbotham	Churchill Livingstone	4th (2001)
Fundamentals of Anaesthesia	Pinnock <i>et al</i>	Greenwich Medical Media	1st (1999)
Review of Medical Physiology	W.L. Ganong	McGraw-Hill	(2001)
Principles and Practice of Pharmacology for Anaesthetists	T.N. Calvey, N.E. Williams	Blackwell Science	3rd (1996)
Pharmacology for Anaesthesia & Intensive Care	T. Peck, Williams	Greenwich Medical Media	1st (2000)
Drugs in Anaesthesia & Intensive Care	M. Sasada, S. Smith	Oxford University Press	2nd (1997)
Basic Physics & Measurement in Anaesthesia	P.D. Davis, G.D. Parbrook	Butterworth Heinemann	4th (1997)
Ward's Anaesthetic Equipment	A.J. Davey	W.B. Saunders	4th
Essentials of Anaesthetic Equipment	B. Al-Shaikh	Churchill Livingstone	2nd (2001)
Clinical Anatomy for Medical Students	R.S. Snell	Lippincott Williams	6th
Qbase Anaesthesia 1: MCQs for the Anaesthesia Primary	E. Hammond	Greenwich Medical Media	1st (1997)
The Anaesthesia OSCE	K. Eggers, J. Everatt, G. Arthurs	Greenwich Medical Media	1st (1997)
The Anaesthesia Viva: Volume 1 (Physiology, Pharmacology, Stats)	J. Urquhart, M. Blunt	Greenwich Medical Media	1st (1997)
The Anaesthesia Viva: Volume 2 (Physics, Clinical, Anatomy)	M. Blunt, J. Urquhart	Greenwich Medical Media	1st (1997)

Useful Websites for the Primary FRCA

www.FRCA.co.uk
 www.4um.com/gas/
 www.dundee.ac.uk/anaesthesia/mcqintro.html

Exam Results for Primary FRCA (Average of the three papers sat in 2000)

Number of Candidates entered (Jan/May/Sep)	244/326/232
Failed the MCQ	20%
Attended OSCEs/Vivas and passed	51%
Overall Pass Rate	41%

For up to date information on the Primary FRCA contact:

Examinations Directorate
 The Royal College of Anaesthetists
 48-49 Russell Square
 LONDON
 WC1B 4JY
 E-mail: www.rcoa.ac.uk or Tel: 0207 9087 314/313/312

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