

EXAMINING THE EXAMINER!

R Barnes

Moderator: K Allopi



School of Clinical Medicine
Discipline of Anaesthesiology and Critical Care

CONTENTS

INTRODUCTION	3
AIM	5
TEACHING IN THE OPERATING THEATRE	5
What is expected of the learner?.....	5
What is expected of the teacher?.....	6
The best way to learn in the operating theatre?	7
EXAMINATIONS	8
What factors determine a good test⁷?	8
The Multiple Choice Questionnaire.....	8
Objective Structured Clinical Examination (OSCE)	9
Oral/Clinical Examinations.....	10
COMMON EXAMINATION ERRORS & HINTS/TIPS	12
General tips/hints and errors.....	12
The written examination.....	13
The Clinical Case	13
The Orals	14
CONCLUSION.....	15
REFERENCES	15

EXAMINING THE EXAMINER!

INTRODUCTION

Over the years many doctors have been trained and taught the art of Anaesthesia, with the ultimate end goal of progressing to a Consultant Anaesthesiologist. But, many have warned myself and my colleagues of the tough training period that awaits us as we make our way to the final examination, the FCA Part II.

We are not the first, and most certainly not the last to enter this period of 'anaesthesia gloom', and those that have walked this path already are all around us. We work with these individuals on a daily basis and the fact that they have 'been there, done that' is, in a way, comforting. The opportunity awaits everyday for us to learn from, ask questions or even just watch in awe as these Specialists perform the art of Anaesthesia. In the words of Dr Oz, 'if the trainees I am training are not better than me by the time they are done, then I've failed'. These words are in fact the crux of the matter, revealing that a large part of our training is from our senior colleagues and the opportunity should not be wasted.

Some will tell you to 'learn in a way to pass the examination' and 'master your examination technique as that is what it is all about'. These are important points and the ultimate goal is to pass the examination, but, there is a lot more to becoming a Specialist Anaesthesiologist than just passing an examination.

It is disappointing that the comments mentioned above are partly true, and that examination technique plays a big role in passing an examination. Is this going to make me an excellent anaesthetist? There are important factors that are tested and are crucial in this process, but by no means are the tests completely accurate or sufficient.

Unfortunately, as mentioned above, there are no completely accurate ways, or tests, to determine whether a candidate is 'Consultant ready', and a large part of this needs to come from a candidates self development. Candidates need to realise their weaknesses and focus on perfecting these aspects so that by the time the examination comes and goes, we can be Specialists in our field and not just examination technique guru's.

Consider this before reading further.....

Consider Anaesthesia as a career if:

- You are a good communicator
- You are sociable and like people
- You do not mind working in isolation at times
- You do not mind not being seen as a leader - anaesthesia is a service specialty, and anaesthetists tend to respond to circumstances rather than initiate care, but this is not the same as being subservient
- You have an interest in gadgets
- You enjoy clinical pharmacology and physiology
- You have flexibility in thought and action
- You respond well and can think clearly under pressure
- You have an innovative, research orientated mind

Do not consider anaesthesia if:

- You do not deal well with stress
- It is your second or third choice of specialty
- You want to be in the limelight
- You do not agree with most of the above reasons to join
- You like regular meals
- You think you'll be sitting around in the coffee room all day

[David J Wilkinson, You could argue that the spectacular advance of surgery in fact represents the spectacular advance of anaesthesia. David Wilkinson discusses this wide ranging specialty, BMJ 1999; 318:S2-7187]

AIM

The aim of this booklet is to provide an idea of what exactly is expected of us as we approach the FCA II examination. If we understand what needs to be examined and how this will be done, then we can direct our learning in this regard. There will be focus on some of the specific testing methods; reasoning behind these and the aims of the tests. I have also gained interesting input from some of the Part II examiners who have highlighted some common examination errors.

If we can eliminate the common examination errors by highlighting them and dealing with them before the examination, then hopefully we can all be successfully accepted into the FCA fraternity one day.

TEACHING IN THE OPERATING THEATRE

Most teaching, and hence learning, of anaesthesia should be taking place within the operating theatre. This may be by active discussion around cases or topics, or passively as the cases are performed and certain problems and challenges are resolved and discussed. If a gap is noticed in your anaesthetic knowledge, which is normal in training, then deal with it at that moment by discussion about it and learn something, anything to put something in the gap. There are 'learner factors' as well as 'teacher factors' that can improve this learning experience and make it more effective. These factors cannot be guaranteed by every individual, but if you maximise your input into the situation then something has to be learnt. Some of these 'factors' will be further discussed.

What is expected of the learner?

It is expected that the learner drives and directs his/her own learning. This is essential as every learner will be at different stages within the learning program, and every learner will have different and unique problems or questions for the teachers.

The principles below were found to be most important in optimising the learning experience for the learner².

1. Autonomous motivation

This refers to the learner's motivation to learn as coming from a point where the learner feels that the work is truly important to know and will benefit the learner on a personal level. The opposite to autonomous motivation is controlled motivation. Controlled motivation refers to motivation that is driven by other forces which may be either external or internal. External forces may include pressure from teachers about knowing a certain topic or the fact that a specific topic may be core knowledge and is needed to pass an examination. Internal forces, on the other hand, relate to motivation due to stress about failing an examination or concerns about coming across as 'stupid' if a topic is not known.

It would therefore be important to create a learning environment that is not controlling, but structured at nurturing autonomous motivation and helping the learner to realise the importance of certain work and the role it can play in the learner's career and profession.

2. Learning is Self-directed

This goes hand-in-hand with autonomous motivation.

3. Learning is Goal-oriented

This goes hand-in-hand with autonomous motivation. The teacher or educational body may provide these goals, but the understanding of why they are required sometimes needs explaining.

4. Topics and theory are Relevant

Autonomous motivation can be improved if the relevance is explained and highlighted.

5. Learning is Practical

Discussion of topics around practical skills and the incorporation of the relevant theory at this time.

6. Learning occurs in a Respectful manner

What is expected of the teacher?

The teacher's role is to oversee that the learning process occurs in a structured manner, and at the level that is acceptable for that specific learner. Focusing on crucial and relevant topics is essential to keep the learner focused and enthusiastic during the learning process. As a teacher, not only are you a source of knowledge and advice, but you become a role model for your junior colleagues and it is important to realise this and act in such a manner. If we want the Anaesthetic Speciality to remain academically and professionally good, then we rely on good teachers to ingrain this into the learners. Other important roles that have been identified are mentioned below^{3,4,5}.

1. Demonstration of clinical excellence

The FCA II is not only about theoretical knowledge, but about testing whether candidates are ready to take on a consultant position and therefore competent in all aspects. One of these aspects is clinical excellence and it comes from teachers being strict in this regard, not only on their own clinical performance, but on teaching learners to be good clinically and the importance of keeping standards high.

2. Active engagement of learners

It is easier if this comes from the teacher in the theatre, it also signifies who is superior in the theatre and who will be driving the teaching process. 'Breaking the ice', would be the first step in this process.

3. Positive attitude towards teaching

4. Ability to create a positive overall environment

5. Role model of professionalism

6. Overall concern for the learner

A discussion between the teacher and learner should ideally occur the day prior to the list where a plan can be agreed upon with regards to the learning the following day. Luigi et al¹³, describes a number of principles that can be used in this planning:

1. Ask the learner for suggested teaching topics.
2. Provide adequate supervision and accessibility.
3. Provide meaningful and prompt feedback.
4. Show genuine concern for the learner's progress toward independent practice.

The best way to learn in the operating theatre?

With consideration of both the learner factors as well as the teacher factors and incorporation of these with the points below, teaching in the operating room should be optimal. The teacher would need to coordinate this process and use the following principles as an overall teaching structure⁶.

1. Asking specific medical knowledge questions

This does not only act as a guide to review the learners understanding of the topic, but it creates an excellent oral/viva scenario. These are good opportunities to practice presenting topics in a systematic way, perfecting your body language as you present and learning the skill of directing the answer of a question towards a topic that you are comfortable with.

2. Using case scenarios

Imagining a specific scenario or case involving a topic makes it easier to talk about that topic. Using actual cases and discussing topics relating to that case will enhance the learning of that topic.

3. Using psychomotor skill exercises

Perfecting and fine-tuning psychomotor skills comes from practice.

4. Incorporating System-based considerations

Learning to see the bigger picture than just the case itself is something that needs to be discussed and mastered if you are to become a consultant.

5. Initiating Problem-based learning discussions

This forces learners to take the problem at hand, assess it, and come up with a systematic and structured plan on how to deal with it.

EXAMINATIONS

What factors determine a good test⁷?

There has been much discussion with regards to the determination of an adequate test and the factors that need to be considered in this regard. Turnbull et al, describes eight important factors that need to be included when assessing programs that involve in-training evaluation.

Reliability: can results be reproduced?

Validity: do the tests measure what they ought to?

Flexibility: can a test be used in different situations?

Comprehensiveness: does the test give a global assessment?

Feasibility: can the test be used elsewhere and repeated?

Timeliness: can the test be performed real-time?

Accountability: can the efficacy of the test be defended?

Relevance: to the examiner and examinee?

Unfortunately there is no perfect test and it is for this reason that number of different testing methods are used in the overall assessment of candidates.

The Multiple Choice Questionnaire

The MCQ as an examination test is focused at assessing medical knowledge. Although medical knowledge is an important part in patient care, it does not give the examiner an idea of the patient-centred skills which would be an important aspect of being a specialist. The other downfall to MCQ testing is that although it may give an idea of medical knowledge, it reveals nothing about the use and integration of this information into a clinical scenario. Simple true and false questions would be the most inferior form of assessment. The use of Single Best Answer (SBA) questions have also been questioned owing to the fact that in real life scenario's there are often no prompts, whereas in SBA questions a list of answers are presented, acting as prompts, and the best answer is selected⁸.

If we place ourselves in the examiners position and understand how SBA questions are constructed, then we can get a better idea about how to approach the questions. Firstly, the main topic or concept that needs to be tested is highlighted. This is often a common, serious or life threatening concept and not purely a 'recall' answer. Secondly, a question is generated so that a specific answer can be obtained. Thirdly, the stem is constructed which incorporates all the facts needed to answer the question. The specific question, which may have some added facts, is then constructed. Lastly, the answer as well as some other options are produced.

The best way, therefore, to answer the SBA questions is to deconstruct the question as you read it and try get a better understanding of what important topic, or concept, the examiner is trying to test. This forces you to start thinking around that topic as you go on reading. At this point you should hide the proposed option answers and read the question. Consolidate all the facts presented and come up with your own answer. You then look for that exact answer from the options presented and pick that one. Its important that the other options don't get you confused as this can easily happen⁹.

Hint: Although not always the case, some questions can be structured in a way that presents a hint towards the correct/incorrect answer.

Example:

If 'never / always' is used, this answer would usually be false.

If 'sometimes / may be / possibly' is used, this answer is usually true.

More often than not the longest answer is the correct answer (as qualifiers are needed to make it true)

Objective Structured Clinical Examination (OSCE)

This exam is set to be introduced into the FCA II next year.

Designed and proposed in 1975 by Haden and Gleeson as a means to assess medical students¹⁰. They described it as 'a timed examination in which medical students interact with a series of simulated patients in stations that may involve history-taking, physical examination, counselling or patient management'¹⁰. It involves the movement of students through a number of stations with each station testing a particular skill. The OSCE is now used as a form of assessment in both undergraduate as well as postgraduate medical students. The scope that can be covered has also grown remarkably these days to include data interpretation, special investigation analysis and equipment identification.

Its benefits are that it can measure patient care skills, hands-on factors related to anaesthesiology, decision making, problem solving, patient management and an assessment can be made from a near-real scenario. Research that has been carried out on the OSCE examination has proved its validity, reliability and found it to be objective¹¹. It has also shown reliability in assessing communication skills between the doctor and the patient.

One of the main flaws with OSCE examinations is the use of unreal subjects as opposed to the real patient with pathology. It can be distracting and difficult for some candidates to appreciate the role-playing associated with the OSCE. The other negative with this sort of examination is that it requires a lot more organisation, time and human resources to coordinate the examination and make it function adequately.

Some common mistakes made during OSCE examinations:

- Not reading the instructions carefully
- Asking too many questions
- Misinterpreting the instructions
- Using too many directed questions
- Not listening to patients
- Not explaining what you are doing in physical examination stations
- Not providing enough direction in management stations
- Missing the urgency of a patient problem
- Talking too much
- Giving generic information

Oral/Clinical Examinations

The clinical and oral examinations are used as tools for the assessment of clinical knowledge integration, understanding, professionalism, lateral thinking, problem solving and an overall assessment of the candidate for acceptance as a Specialist in Anaesthesia.

A clinical case is presented and the candidate does a full clinical assessment of the patient. The findings are collaborated and a focused summary presented to the examiners for further questioning.

It has been debated whether your success in an examination be determined by the case you get and also the examination panel. The fact that there may be different clinical cases for different groups as well as different examiners means there is an element of inconsistency. These days, the examinations have become more standardised and hence consistent.

The scenario presented should be clear and uncomplicated.

Questions asked during an oral examination should be clear and unambiguous. They should be standardised and have a mapped out path of the direction of candidates answers.

The table below highlights the main principles to be examined, the components of each principle as well as common errors made by candidates¹².

Area tested	Components	Common deficiencies in candidates
Evaluation of clinical situation	Collection of appropriate historical, physical examination and laboratory information	Incomplete data collection
Choice of therapy and strategy, including alternatives	Ability to choose a logical plan while displaying knowledge of other available options	Lack of consideration of viable options
Rationale for selection of a given technique	Knowledge of advantages, disadvantages and complications of a given technique	Deficiencies in knowledge about a chosen technique, or choice of a technique or plan which would result in a dangerous situation
Ability to deal with emergency situations	Rapid, assertive response to immediate care and prioritising therapy	Reluctance to react to a situation with adequate urgency or failure to consider all of the problems present in the situation
Decision-making ability	Ability to make a rapid assertive response	Management plan developed with incomplete consideration of available data, inability to incorporate new data, or excessive hesitancy in choosing a plan; prioritise appropriately
Communication skills	Ability to provide a lucid, complete response	Continuous prompting required by examiner
Consultant skills	Ability to provide advice to a colleague or patient	Failure to provide adequate information or an appropriate breadth of options

The table below is the marking sheet used for the paper case and clinical examinations. Becoming familiar with the factors that the examiners are focusing on will assist you in answering the questions accordingly, and not wasting time on irrelevant information.

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Categories	Extremely poor			Poor			Border-line		Just acceptable	Above average		Excellent		Outstanding		
Safety Competencies	Extremely dangerous Gross incompetency in all areas			Unsafe No competencies Puts patient at significant risk			Questionable practices in parts. Some competencies		Safe in basic. Needs redirection/ prompting. Competent	Safe in all basic aspects. May battle with more complex decisions. Some added competencies.		Always safe. Able to manage some complex situations or decisions. Additional competencies.		Always safe. Manages all complex decisions. Many competencies. Well above norm.		
Knowledge Facts	No knowledge of core topics			Very basic knowledge of core. Significant gaps in basic issues. Not enough to practice			Just about adequate knowledge. Some gaps noted.		Adequate knowledge of core. Nil additional.	Good knowledge in core areas. Some gaps in additional information.		Superior knowledge in core areas. Some additional information		Outstanding knowledge in all areas. Evidence of independent self directed learning. Knowledge of research/journals.		
Insight Sees overall picture Makes links Patient-centred care	None			Minimal to absent. Unable to see issues despite frequent prompting			Unable to see issues. Handling sub-optimal.		Just sees issues. Poor handling Not unsafe Cannot put together well provides care	Sees the issues and provides appropriate care. May need some prompting for deeper issues.		Good insight and provides additional care		Immediately recognizes deeper issues. Provides outstanding care. Able to direct care and knowledge specifically.		
Controversies Decision Making Aware of pros & cons	Totally unaware			Unaware unless prompted Then unable to manage No decision making			Minimal awareness Needs prompting		Some awareness Not able to make decisions clearly in anything more than basic areas. Prompting	Aware of pro and con Good core decisions but may need some help at higher level		Aware of pro and con Well managed Methodical Clear decisions		Argues evidence in clear way Always makes well thought out insightful decisions		
Structure Coherence	Chaotic			Very poor. Disorganized			Poor structure		Some structure. Often needs redirection .Not fluent throughout	Structured but may need some direction. Does not always flow		Well structured. Moves fluently.		Very logical 'executive summary'. Able to pick correct content. Takes control of session.		
OVERALL ASSESSMENT	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

COMMON EXAMINATION ERRORS & HINTS/TIPS

General tips/hints and errors

1. You will never feel completely ready to write this examination, so prepare and do it. The FCA II examination tests a vast amount of work, but remember that common things occur commonly.
2. Focus on the basics and know these really well. You will not fail for not knowing something rare, but you may if you don't know the basics and the most important things well.
2. Don't use too many resources, find a good review article or refresher and focus on it. Start collecting these early so that by the time you start learning properly and revising, its not too much.
3. Attend as many tutorials, lectures as you can because 'passive' learning can be really helpful. Make the most of these times and make sure you learn something.
4. Use the time in theatre to question the consultants on different topics
If you think of a question, write it down so that you don't forget it, and then ask it. This may be a question that comes up in the exam.
5. Prepare properly for part II tutorials, use them as a time for revision and problems. Practice your viva skills as the consultants present questions to you.
6. Avoid using trade names of drugs
A good way to get out of this habit is to always refer to and write down the pharmacological names as opposed to the trade names.
7. Mention the most common/likely differential first and leave the 'canaries' for last.
These are the answers that the examiners want, so don't waste time with 'canaries'.
9. Only attempt the Part II examination when you are emotionally and mentally prepared to become a consultant. It is a huge step and responsibility becoming a consultant.
10. Familiarise yourself with the most important trials and research only, don't let this distract you from knowing and spending time learning the core aspects of anaesthesia.
11. Start summarising work as early as possible, make it concise.
You will appreciate this when you start revising.
12. If asked to explain your method in performing a certain block or procedure, and have not performed it, rather be honest to the examiner. Explain that you have not done it, but explain the overall concept. Do not guess, as if you say something that is unsafe then you may fail that question. Alternatively, if you have no idea then be honest and say you would look it up and familiarise yourself with it, or get a senior member to assist you. Rather be safe, as you would in the real life scenario.
13. If you forget a drug dosage or means of administration, rather be honest and say you will have to use a reliable reference to confirm it.

14. Be aware that awake fibre-optic intubations need not be done nasally, but can be done orally. This also avoids epistaxis.
15. If you mention the use of 100mcg of Fentanyl at induction, be sure to have an explanation to substantiate its use.
16. Thoracic epidurals need not only be done by midline approach in the seated position, but can be done by lateral para-median approach.

The written examination

1. Do not answer questions excessively when it is not requested of you (writing an essay when asked to list things). This can waste a lot of time. Example: When asked to list antiplatelet options after cardiac stenting writes an essay instead of listing: Aspirin, Clopidogrel, Abiciximab etc.
1. Be sure to label graphs correctly.
Example: When asked to draw a graph representing the oxygen haemoglobin curve, it ends up being a S-shaped squiggle in the middle of the page. Importantly you should incorporate axes (with labels), put scales on axes, draw the appropriate curve, label relevant points such as the P50.
2. Start practising past papers as early as possible. They can be a great guide in terms of important topics and concepts. It will also improve your answering skills and speed.
3. Write legibly, practise this during your past papers
6. The answer length should be tailored to the mark allocation.
7. Do not write in an informal /non-medical manner
You want to create a good overall impression, even in the written.
8. Do not use excessive abbreviations
Being able to write out the entire abbreviation may be part of the mark allocation.

The Clinical Case

1. Often too much time is spent writing down everything the patient has said instead of using the time to synthesise what was said and what was found on the examination.
2. Making use of a mind-map to synthesise the case and come up with a good, comprehensive summary of the patients' issues. Poor time management during the patient examination time- don't give themselves time to consolidate findings for a coherent summary and plan
3. Make use of daily premeds and cases to practise presenting cases to your consultants so that it becomes the 'norm' for you, and you become comfortable doing it. 3-4 times a year is not enough to gain the confidence you need and the skills that are required.

4. Make use of premeds as a time to practise your clinical skills.
5. The opening summary should be short, concise and to the point. Example: Mr X a 53 year old male with the problem of * caused by * complicated by * and controlled on *. My perioperative concerns include: *
6. Mention the positive findings and only the important negatives relevant to the case
7. Pre-empt questions and present it in a way that the examiners can believe you've covered it. Example: If you have an endocrine patient, simply state: there were no features of MEN syndrome and no signs or symptoms of any other endocrinopathies.
8. Do not guess clinical signs. Rather mention that you would have expected a certain sign to be present, but you did not find it or it was negative.
9. Do not ignore clinical findings that don't fit into the differential diagnosis. Do not "adjust" the findings to fit into your case.
10. With regards to investigations - present these in a structured manner and interpret them with respect to this specific patient.

The Orals

1. Be confident in answering questions, but don't come across as overly assertive (avoid the words 'obviously' and 'basically')
2. Answer the questions in a systematic way, don't just mention random things as this reveals disorganisation and confusion
3. Listen carefully to the questions and confirm the question if necessary before answering. Answer the question directly.
4. Practise reviewing and discussing CXR's and ECG's. Be able to look at them and give a quick summary of what can be seen. Reading them systematically is a given, you need to present the abnormalities.
6. Do not repeat the question after it has been asked, unless clarification is being requested.
7. Always have a structure when answering questions. Lack of structure can waste time.
8. Body language and eye contact often indicates candidates knowledge of a topic.

CONCLUSION

So often we become so focused on the finish line that we fail to enjoy the journey.

Dieter F. Uchtdorf

This is going to be a tough and trying period in our lives, but remember we're privileged to be in this excellent teaching environment with seniors that are dedicated and are willing to give up their time to make this FCA II a success!!

Remember: It's all about the BALANCE!

Exercise, study, work, relax, sleep & eat nutritiously: all in moderation. Nothing must override the other and enjoy the adventure!!

REFERENCES

1. David J Wilkinson, You could argue that the spectacular advance of surgery in fact represents the spectacular advance of anaesthesia. David Wilkinson discusses this wide ranging specialty, *BMJ* 1999;318:S2-7187
2. Sobral DT. What kind of motivation drives medical students' learning questions? *Med Educ.* 2004;38:950–957
3. Lyon P. A model of teaching and learning in the operating theatre. *Med Educ.* 2004;38:1278–1287.
4. Lyon PM. Making the most of learning in the operating theatre: student strategies and curriculum initiatives. *Med Educ.* 2003;37:680–688.
5. Paget NS, Lambert TF. Tutor-student interaction in the operating theatre. *Anaesth Intensive Care.* 1976;4:301–303
6. How to Teach Anesthesia in the Operating Room Luigi Viola, MD, FAAP David A. Young, MD, MEd, MBA, FAAP
7. Turnbull J, Gray J, MacFadyen J: Improving in-training evaluation programs. *J Gen Int Med* 1998; 13:317–23
8. Vander Vleuten CPM: Validity of final examinations in undergraduate medical training. *BMJ* 2000; 321:1217–9
9. Featherstone, C., and Hurst, Y. (2014), adapted from Case, S. M and Swanson, D. B. (2001) *Constructing Written Test Questions for the Basic Clinical Sciences*, NBME: Philadelphia.
10. Harden RM, Gleeson FA. Assessment of clinical competence using an objective structured clinical examination (OSCE). *Med Educ* 1979. Jan;13(1):41-54
10.1111/j.1365-2923.1979.tb00918.x
11. Barman A. Critiques on the Objective Structured Clinical Examination. *Ann Acad Med Singapore* 2005 Sep;34(8):478-482.
12. Eagle et al. Oral Examinations
How to Teach Anesthesia in the Operating Room Luigi Viola, MD, FAAP
David A. Young, MD, MEd,
13. MBA, FAAP