European Society of Anaesthesiology ESA

**EUROPEAN DIPLOMA IN ANAESTHESIOLOGY AND INTENSIVE CARE**

**PART II EXAMINATION**

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**PART II GUIDE**

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## Introduction

The EDA Part II is an oral examination. Not all candidates are familiar with this type of examination and these notes are intended to provide some guidance with regard both to preparation and to performance on the day.

As explained in the Diploma Guide, the examination of each candidate is held in a single day during which there are four 25-minute oral examinations - (or vivas, as they are known) - two in the morning and two in the afternoon. In each of these, the candidate is examined by a pair of examiners, thereby meeting eight examiners in all. As far as possible, candidates are not examined by examiners from their own training hospital.

The two morning vivas concentrate on applied basic sciences and the afternoon vivas relate to clinical topics. Usually, but not invariably, each pair of examiners comprise one whose mother tongue is that of the language in which the candidate has elected to be examined and the other who has a good working knowledge of the language. It is accepted that candidates may not be using their mother tongue and some allowance for linguistic difficulties is made.

In the vivas, the examiners use "Guided Questions" (GQ's) which have been set in advance by the Examinations Committee. Each GQ opens with a brief scenario. Approximately ten minutes before the viva, the scenario is handed to the candidate. It is written in his/her chosen language. This gives the candidate time to collect his/her thoughts and prepare to answer questions on the topic presented. These opening questions are then followed by questions on the other topics listed in the examiner's GQ. The first examiner asks questions for the first 12.5 minutes after which a bell rings and the second examiner takes over.

Note that, whereas the EDA Part I basic science MCQ's are designed to test factual recall of relevant basic science knowledge, the EDA Part II basic science vivas are designed to test that the candidate understands the relevance of basic science knowledge applied to the practice of anaesthesia and critical care. Thus pharmacology, physiology, anatomy and relevant clinical measurement and instrumentation will always be tested. Similarly, the EDA Part I clinical MCQ papers are mainly concerned with testing the candidate's factual clinical knowledge whereas the EDA Part II clinical vivas are concerned with testing the understanding and application of that knowledge.

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# Current format of the EDA Part II Examination

The GQ's with which the examiners are supplied, list topics to be discussed with indications as to the detail required. The general format of the exam is as set out below.

## Morning

### *Viva 1 (Applied Basic Science)*

This will start with the scenario the candidate was given 10 minutes before the start of the viva and will include applied cardiovascular and/or respiratory physiology. It will then move on to applied pharmacology, applied anatomy, physiology and physiology/pharmacology combined.

### *Viva 2 (Applied Basic Science)*

This will start with the scenario the candidate was given 10 minutes before the start of the viva and will include applied pharmacology. It will then move on to applied cardiovascular and/or respiratory physiology, clinical measurement, and applied pharmacology/physiology combined.

## Afternoon

### *Viva 3 (Clinical - Critical care subject)*

This will start with questions on the intensive care or emergency medicine scenario the candidate was given 10 minutes before the start of the viva. Questions on the scenario will be followed by further questions on topics such as clinical management, X-ray interpretation, anaesthetic specialties and general questions.

### *Viva 4 (Clinical - Management of anaesthetic problem)*

This will start with questions on the anaesthetic problem scenario the candidate was given 10 minutes before the start of the viva. Questions on the scenario will be followed by questions on an internal medicine topic - possibly related to the scenario. There will also be questions on ECG interpretation, local or regional anaesthesia and some general questions.

**At the end of each viva, the examiners compare the mark that each has awarded and judge whether the candidate:**

**a) has been tested in the required minimum number of topics as set by the Examinations Committee.**
**b) has displayed an adequate knowledge and understanding of the principles and practice of anaesthesia & critical care.**

The standard expected is that of a specialist anaesthesiologist who has completed his/her training. Examiners are looking as much to the candidate's approach to problems, based upon experience and understanding, as well as factual knowledge. Although this judgement will inevitably have a subjective element to it, long experience has shown that examiners, who come from completely different traditions of anaesthesia, seldom if ever have any difficulty in agreeing that a candidate has or has not reached the required standard.

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## Marking

Each pair of examiners can award one of three marks, which indicate respectively:

Pass. There will be a wide range of excellence in this group and the examiners may indicate that a candidate is of outstanding merit.

Narrow fail. The candidate has not quite reached the required standard in that viva. Provided the candidate obtains a pass in the other three vivas, he/she will pass the examination as a whole, but a second narrow fail means he/she will fail.

Bad fail. The candidate has been found so deficient in one or more important subjects examined in this viva that even if he/she is outstanding in the other three vivas, it is the opinion of the examiners that he/she requires a period of further study or training, before presenting themselves for a future examination.

Thus it can be seen that, at the meeting of examiners at the end of the day, in the majority of cases there need be no further discussion of individual candidates. If however a candidate has obtained a solitary "bad fail" and has otherwise reached an adequate standard in the other vivas, the examiners concerned would be asked to justify the mark.

**NB. Some reasons for candidates failing include:**

**a) Inability to apply knowledge and/or basic science to clinical situations**
**b) Inability to organise and express thoughts clearly**
**c) Unsound judgement in decision-making and problem-solving**
**d) Lack of knowledge and/or factual recall.**

In essence the examiners ask themselves the following questions:

a) Does the candidate have a good foundation of knowledge? Can the candidate apply that knowledge and understand its relevance to the practice of anaesthesia and intensive care?

b) How does the candidate approach a problem? Is the approach logical and well thought out?

c) Have alternative options been explored and understood? Is the candidate dangerous?

The Part II examination may be taken after the candidate has completed his/her training for specialist accreditation in their respective country or during the last year of the specialist training if the candidate is specialising in Europe (see Diploma Guide). A wide general knowledge in anaesthesia, intensive care and subjects allied to anaesthesia is therefore expected.

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# Background Reading

Which books shall I read? How much detail is required? These are common questions. There is no simple answer particularly since the EDA is an international, multi-lingual examination, and the examiners and candidates come from different backgrounds. A basis for reading is a standard text book(s) of anaesthesia favoured in your country. Familiarity with current topics from international and national journals is also expected. Access to journals may vary in different departments but the Internet now provides a wealth of new opportunities. In addition, a recommended reading list may be downloaded from the website: www.euroanaesthesia.org

The following points may be of assistance:

## Applied Basic Science

### Physiology:

It is obvious that the physiology of the cardiovascular and respiratory systems will be examined in some detail. A good knowledge of neuro, renal and hepatic physiology as applied to anaesthesia and intensive care will also be expected. Other areas relevant to anaesthesia will also be covered but great detail is not expected.

### Pharmacology:

The principles of pharmacokinetics and pharmacodynamics will be examined in some detail. An intimate knowledge of the pharmacology and toxicology of drugs used in anaesthesia is expected as well as many of the drugs in common use in intensive care. An informed anaesthetist who reads journals must have some understanding of research protocols and the relevance of statistical methods employed, in order to judge the value of articles.

### Applied Anatomy:

It is expected that anaesthetists will know the essential anatomy of areas into which they may insert needles, cannulae and/or endotracheal and endobronchial tubes. Applied anatomy of the heart and lung is also examined.

### Physics and Clinical Measurement:

Anaesthetists monitor and measure numerous clinical parameters and take action on the information displayed. It is expected therefore that they should understand the principle of action, limitations, accuracy, and sources of error in these monitors. Some of the basic physics of gases and vapours, and principles of electrical safety are essential knowledge for the informed anaesthetist. The principle of action and causes of failure in anaesthetic machines and ventilators is also essential knowledge.

## Clinical Anaesthesia & Intensive Care

### Clinical Anaesthesia

As candidates will either have completed their specialist training or be in the last year of their specialist training, they should have experience in all types of anaesthesia and intensive care. Candidates will be examined in the principles and practice of subspecialties of anaesthesia such as the treatment of chronic pain, paediatric, neuro, cardiac and obstetric anaesthesia but extensive experience in these disciplines is not expected.

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## Examination Technique

Sound knowledge and comprehensive training are the main pre-requisites for success in the EDA Part II but many candidates do not do themselves justice by having a poor exam technique. *"Demonstrate a logical structure in the presentation and management of a theoretical problem".* The examiners do not have direct experience of how you would deal with an anaesthetic problem. They therefore have to make a judgement based upon your performance in the oral examination. The examiner cannot assume you would have carried out a procedure or checked a clinical or electronic monitor. You must mention it.

Clinical scenario

An example of the clinical scenario given in advance to a candidate would be as follows: *A 67-year-old man weighing 100kg, 1.67m in height is scheduled for an elective repair of a 10cm abdominal aortic aneurysm. He had myocardial infarction 6 months previously and has been a non-insulin dependent diabetic for over 10 years. Discuss your anaesthetic management of this case.*

The initial discussion on this sort of opening scenario will reveal much about the candidate's approach to the problem and his/her awareness of the potential dangers. Remember that the anaesthetic management starts in the ward!

- Definition of problems:

Clearly, the primary problem is the presenting aneurysm and its repair. What will it involve? Secondly the patient is obese, has as yet unquantified cardiovascular problems and diabetes.

This would lead to a full medical history with emphasis on the above with appropriate examination and investigation of potential complications. The anaesthetic management would involve choice of technique, appropriate monitoring, management of complications and postoperative pain relief.

A candidate who presents a logical well structured answer, explaining the reasons behind the proposed course of action, is more likely to find that the examiner says very little and does not have to interrupt continually. **It cannot be emphasised enough that practice in presentation is essential and candidates should practice this skill with their trainers or fellow trainees. This is even more important in candidates not using their mother tongue.** This topic alone, could take up most of the allotted time and so examiners may suddenly curtail discussion on a given subject and move on to something else. This is a necessary part of the examination process and does not indicate displeasure with the answers given.

Candidates should appreciate that the intention of the examiners is to enter into a dialogue with them regarding whatever topic is under discussion. The intention is not simply to find the candidate's areas of ignorance although, inevitably, these may become apparent - if they exist. Bearing this in mind, the candidate should try to discuss the topic knowledgeably and should not be afraid to say when the topic is completely outside his/her experience. The EDA being an international exam and not a collection of national exams, means inevitably, that a wide range of views will be held both by the candidates and examiners.

It is assumed that candidates have been trained in standard mainstream anaesthetic techniques. They would be wise therefore to base their answers on methods with which they are familiar and which would be normal in their institution, rather than straying into unfamiliar territory in the mistaken belief that this might be the answer the examiners require.

Examiners will sometimes query an answer to see whether the candidate is confident in his/her answer or can be swayed from his/her proposed course of action. There will often be no right or wrong answer to a question and examiners will accept an answer or opinion that is based on sound evidence and that justifies the proposed course of action.

Systematic Review of ECG and X-rays

### ECG's

Candidates are expected to have a system for reading ECG's and to be able to describe their system to the examiner as well as recognising major abnormalities of morphology and of rhythm.

### X-rays

These are mostly radiographs of the thorax. Candidates are expected to have a systematic and logical approach to reading X-rays and should be able to describe their system to the examiner. A typical system would be:

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| Markings: | Look at writing on the film: name/age of the patient and projection of the radiograph. |
| Film Quality: | Penetration, rotation & inspiration (on a chest film). |
| Review Areas: | Lungs, diaphragm, pleura, upper abdomen, heart & mediastinum, bones of thoracic cage & soft tissues. |
| Artifacts: | Note the presence of any equipment placed in the chest by anaesthetists or surgeons! |

Recognition of Critical Incidents and taking prompt and appropriate action

**One common cause for failure in the exam is a haphazard approach to dealing with critical situations that are posed, and not following Advanced Life Support protocols.** Airway, Breathing and Circulation should be the foundation of all resuscitation.

Diagrams & Graphs

Use of diagrams, graphs and other material to present answers. Pencils and paper are provided at all times during the Part II vivas. Candidates can use them to advantage in making presentations and explaining points. A typical scenario given in advance in the applied basic science exam might be: *Discuss the factors that influence carriage of oxygen in the blood.* A diagram of oxy-haemoglobin dissociation curves with some relevant values would create a good impression at the commencement of the exam and help the candidate settle into a structured answer. In pharmacology, the value of diagrams and graphs in explaining the principles of pharmacodynamics or pharmacokinetics is obvious.

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## Frequently Asked Questions

### *What happens if I do not pass?*

At present, possession of the EDA is not a necessary qualification for career progress in many countries. Nevertheless, you have had the courage to submit yourself to a comprehensive examination and you may have not quite reached the required standard. It must be understood that acquiring the EDA is only one step in a lifetime of learning and lack of success in the exam should serve as an encouragement to further study and/or training. While this may not be readily appreciated by unsuccessful candidates at the time, when they subsequently pass the exam, they will readily admit to the benefits of further study.

**Unsuccessful Part II candidates do not need to repeat their EDA Part I examination – the "pass" result of the Part I examination remains valid. Unsuccessful Part II candidates can take the EDA Part II examination as many times as required to pass, without any time limit between each attempt.**

### *Where can I get training for the exam?*

Although there are at present no specific training courses for the EDA examination, other courses of preparation for basic science and clinical examinations, which are based on vivas, will probably be perfectly appropriate. After all, the content of the EDA is based upon basic science and clinical practice applied to anaesthesia and intensive care, which does not vary greatly between different countries in Europe. Comprehensive practical experience of anaesthesia supported by wide background reading is the best preparation for the exam. More specifically, practice the presentation and discussion of cases with your tutors, colleagues and mentors.