Mastering Emergency Medicine
A practical guide
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A practical guide

Edited by

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It is an absolute pleasure to welcome this new book and to congratulate the editors on providing an excellent addition to the emergency medicine library.

The College of Emergency Medicine (CEM) examinations, both membership and fellowship, are rigorous and demanding. This is absolutely essential to ensure that the doctors who successfully pass these examinations are of a high calibre who will then deliver the highest standard of care to their patients. Setting the bar at this very high level also allows the quality and safety agenda to be comprehensively addressed by specialists in emergency medicine.

From the candidates’ perspective, the examinations can appear somewhat daunting, even for the most talented and well prepared. The editors have assembled an outstanding group of contributors, who provide comprehensive coverage of the CEM syllabus. This book has been written by trainees who have successfully negotiated all the hurdles and crossed the finishing line, and as such they have a huge insight into the knowledge and approach required to be successful in the examinations.

The main focus of the book is the OSCE component of the CEM examinations. This is, of course, a great opportunity for candidates to demonstrate their clinical skills and competencies, which will subsequently be provided for patients in their care. The assessments in the OSCEs are therefore very realistic and relevant to day-to-day patient care.

This important link to everyday patient care means that the content of this book is also useful in a non-examination setting, as it discusses optimal approaches to a wide range of emergency department clinical scenarios appropriate for trainees in emergency medicine and adjacent specialties.

Many congratulations to the editors and contributors of this book, which will have an invaluable role for all emergency medicine trainees preparing for their CEM examinations.

Good luck!

John Heyworth
President, College of Emergency Medicine
The great challenge of emergency medicine is in the immense breadth of knowledge and clinical skills required for competent practice: knowledge and skills that overlap and incorporate aspects of virtually every medical specialty adapted for the emergency room environment.

In 2003, the newly formed College of Emergency Medicine (CEM) launched its own membership examination, the Membership of the College of Emergency Medicine (MCEM). This examination tests candidates’ knowledge of basic sciences in Part A, clinical data interpretation in Part B, and clinical skills using Objective Structured Clinical Examinations (OSCEs) in Part C. Since its inception, the new MCEM examination has set a high standard and the gruelling OSCE circuit in particular has proved to be a real challenge for many aspiring emergency medicine trainees.

Unlike other postgraduate examinations, there are few resources for the emergency medicine trainee sitting the OSCE component of the CEM examinations. This book aims to fill that void by providing a comprehensive yet practical approach to the Part C examination, and in addition contains useful content for the OSCE component of the FCEM examination. We have included a breakdown of the CEM curriculum into core topics and examples of past OSCE stations, with the text guiding the reader through over a 100 practice OSCEs and providing essential background information, suggested approaches, revision checklists and sample score sheets. As such, this is a unique and essential revision aid to the MCEM Part C examination and beyond. Trainees in other acute medical specialties will also find this a useful hands-on guide for managing patients in the emergency department.

In putting this book together we have drawn on the experience of a wide range of contributors from the field of emergency medicine whose remit was to write each chapter with a strong focus on the attitudes, knowledge and clinical skills expected of a higher trainee in emergency medicine.

We hope that you will find this book useful both in revising for the MCEM and FCEM exams, but also as a useful resource to improve and consolidate your clinical skills in emergency medicine.

CT, MH, AP
The objective structured clinical examination (OSCE) has become the standard form of assessment for the majority of undergraduate and postgraduate examinations. Many candidates find the prospect of performing simulated scenarios under the pressures of time and examination conditions quite stressful.

The aim of this book is to give the prospective candidate a structured approach to the OSCE component of the College of Emergency Medicine (CEM) examinations. The content of the book is based on the CEM syllabus, and the sample OSCE scenarios are representative of the core skills that can be examined at both Membership and Fellowship levels.

The CEM OSCE has been described as ‘a bad day at the office’, and this is a pretty accurate description, since the scenarios typify cases that the candidate is likely to come across on a daily basis. The only difference is the pressure of time and the added stress of examination conditions.

**PREPARATION TIPS**

The importance of preparation cannot be overstated, and, unlike written examinations, cramming is not a realistic option for the OSCE assessment. Ideally, you should leave aside at least three months to prepare for the examination, of which the first month should involve developing an OSCE study group.

Unlike other types of examinations, preparation for which is usually self-directed, OSCEs should be tackled using a team approach. Setting up an OSCE study group is an essential part of the revision process and should be done early, since it often takes a few weeks for the team to gel together. The emergency department provides round-the-clock access to potential revision scenarios, and you should try to allocate as much time as you can spare around each shift to practise your clinical examination and history-taking skills.

You should take every opportunity to be observed by senior colleagues when you examine a patient, and should try to utilize other members of the emergency department team, who can provide constructive criticism on your verbal and non-verbal communication skills.

The vast majority of practical skills can be perfected within the emergency department, although it is often useful to practise in the skill laboratory or the resuscitation-training centre.

It is essential that you be familiar with the latest resuscitation guidelines, since you are almost certain to be faced with an OSCE based on the latest advanced life support (ALS), advanced trauma life support (ATLS) or advanced paediatric life support (APLS) guidelines.
Over the last few years, there has been an increase in the number of dedicated OSCE revision courses that allow the candidate to practise realistic OSCE scenarios under the scrutiny of the examiners. However, they are usually oversubscribed and often quite expensive, and so you should organize your study leave and budget as soon as you can.

**THE OSCE EXAMINATION**

At present, the MCEM OSCE assessment consists of 18 stations and a number of rest stations. There are no sudden-death stations and you have to pass 15/18 stations to pass the examination. Each station is 7 minutes in duration and you will be directed through the OSCE circuit.

As the format of the examination may undergo modification, you should visit the CEM website for up-to-date information on the structure of the OSCE assessment. The site also provides sample OSCE mark schemes and advice on all components of the CEM examination.

**THE TEN GOLDEN OSCE RULES**

1. Dress appropriately and be presentable – first impressions do count! It is acceptable to wear scrubs or smart attire. However, it is not acceptable to wear polo shirts and trousers in the examination.
2. **READ THE INSTRUCTIONS.** This cannot be overstressed, since many candidates will either misread or misinterpret the instructions. The marks are fixed and you can only score marks for what you are asked to do. If you are asked to examine the cardiovascular system, you will not get any marks for taking a cardiac history and you will waste valuable time.
3. If you are unsure about the instructions, ask the examiner to clarify them. If in doubt, reread the instructions.
4. Introduce yourself appropriately and confidently. Be yourself and pretend that this is just another patient in the emergency department. Always remember to decontaminate your hands with alcohol gel on entering and leaving each station.
5. Keep calm and collected at all times. You may be faced with an aggressive or difficult colleague or patient. The actors will have been primed to respond to your body language. You should not get aggressive or defensive and you should remain courteous at all times.
6. Talk through what you are doing unless the examiner asks you to present at the end of the OSCE. This also gives you the opportunity to talk through things that you would do in a real-life situation.
7. Engage your patient and develop a rapport with them. Ensuring their comfort and explaining what you are going to do before you do it will go a long way to enhancing your global score. A patient who is in pain should be offered analgesia.
8. There are no sudden-death stations. However, some candidates have a tendency to panic when things do not go to plan. This is very dangerous, since there is real risk of meltdown if you take your perceived poor performance and frustration from one station to the next. Do not assume failure, since it is very difficult to predict your performance for any given station; remember that you can fail three of the stations and still pass the examination.
9. Always conclude your station by ensuring that your patient has either follow-up or a management plan (if appropriate for the scenario).
10. Do not try to memorize mark sheets that you may have seen in books or courses. These are for revision purposes only and are likely to differ from the actual mark sheet.

**THE ‘TRIP’ AND ‘FALL’ PRINCIPLES IN THE OSCE**

Experience has led us to believe that success in the OSCE is not wholly related to clinical knowledge or the ability to perform clinical skills. The ability to respond to both verbal and non-verbal cues is often underrated by many candidates. The use of technical jargon, mannerisms, poor eye contact, and lack of empathy or rapport with the patient often results in the candidate not communicating effectively, and we have coined the term TRIP to exemplify this:
Technical jargon
Reduced rapport with the patient
Incoherency in communication
Patronizing

This term represents potential factors that may impair success in a history-taking or communication skill station.

Alternatively, the candidate may also FALL:
Failure to recognize non-verbal cues from the patient
Assuming failure
Lack of clinical knowledge
Lack of empathy with the patient

TRIP and FALL are important factors resulting in the candidate failing the OSCE station.

NON-VERBAL COMMUNICATION

It is important that you listen carefully to your patient and ask open questions. Some patients may have hidden concerns that may not be obvious at first but that you should try to explore. Pay attention to the patient’s body language as well as your own. If a patient is aggressive, there is usually a good reason, and you should pick up on their verbal and non-verbal cues.

USEFUL RESOURCES

Recently, there has been an increase in the amount of Internet resources available for those sitting the MCEM/FCEM examination. The CEM website has some sample OSCE scenarios. In addition, there are web resources that give advice and useful revision tips. Examples of OSCE scenarios that have appeared before are listed at the end of this chapter. They should be used purely as a guide and not as an exhaustive list of OSCEs.

OSCE TYPES

The OSCE scenarios can be divided into five broad categories; this list is likely to grow as examiners try to create more sophisticated OSCE scenarios.

The clinical examination OSCE

This type of OSCE requires a well-rehearsed examination of a system, and it is essential that you practise examining all of the major systems. As this is a Membership examination, you should have a slick and systematic approach to your clinical examination. You should present your findings as you proceed and remember to leave enough time in your routine to summarize your findings as well outline your differential diagnosis, investigations and management. You should pay close attention to the instructions to ensure that you are performing the correct examination as opposed to what you have revised. Most of the clinical examinations will be on either actors or patients; therefore be courteous and watchful of their dignity, try not to cause any pain or discomfort while examining them, and ensure that you have decontaminated your hands before and after the examination. You will not be expected to perform an intimate examination on a real patient, but it is essential that you address the actor linked with the model as if they were the patient. Ask for a chaperone where appropriate and get consent to examine a child. These points may seem obvious, but they can significantly influence your global score.

The skills OSCE

This type of OSCE involves performing a practical procedure in a very short time frame in what may seem to be a very artificial and surreal scenario. Nowhere else would you be expected to suture a wound or place a chest drain in
less than 7 minutes. It is therefore crucial that you not only practise the common skills but also get into the habit of talking through a skill as you are performing it. Although the majority of the marks are for performing the skill, do not forget to interact with the actor or manikin as if they were the patient, since there will also be marks for obtaining consent and outlining follow-up. Some candidates find this type of station difficult because very little time is allowed. The CEM syllabus lists the practical procedures that you need to be aware of; we have summarized these in Chapter 31.

The teaching OSCE

The CEM examinations test not only your clinical skills as an emergency physician but also your ability to teach students or junior colleagues. This may seem a daunting prospect, since you not only have to know the subject matter but also have to pass on this knowledge in a constructive, non-judgemental and educationally approved manner. Whether you are asked to teach a medical student how to examine the ear or teach a patient how to use an inhaler, the principles are more or less the same. It is important that you appreciate that this type of OSCE is not just about how much you know of the subject matter but also about how you impart that knowledge; Table 1.1 outlines a generic approach to this type of OSCE.

**Table 1.1** A generic approach to the teaching OSCE

<table>
<thead>
<tr>
<th>Teaching a junior colleague</th>
<th>Teaching a patient</th>
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<tr>
<td>Find out how much they know about the particular skill</td>
<td>Review what the patient knows or has been told about their condition</td>
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<tr>
<td>Set the objectives for the teaching session clearly</td>
<td>Set the learning objectives</td>
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<tr>
<td>Demonstrate the skill in stages</td>
<td>Demonstrate and explain the skill, bearing in mind that you may be teaching a layperson</td>
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<tr>
<td>Stop after each stage and review that the student has understood what you have told them</td>
<td>Check that the patient has understood</td>
</tr>
<tr>
<td>If there is any misunderstanding, review the previous steps</td>
<td>Repeat steps for clarification</td>
</tr>
<tr>
<td>Ask the student to perform the skill</td>
<td>Ask the patient to perform the skill</td>
</tr>
<tr>
<td>Review the skill and provide feedback</td>
<td>Review and provide feedback</td>
</tr>
<tr>
<td>Encourage questions</td>
<td>Encourage questions</td>
</tr>
<tr>
<td>After dealing with any queries, plan for the next session</td>
<td>Arrange follow-up for the patient</td>
</tr>
<tr>
<td>Try to give pointers for resources that the student can use to prepare for the next session</td>
<td>Give an advice leaflet or written instructions</td>
</tr>
<tr>
<td>It is important that you are not judgemental or patronizing and that you do not spend your valuable minutes quizzing or berating the student</td>
<td>It is important that you are not judgemental or patronizing and that the patient is happy with your management</td>
</tr>
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</table>
The communication skills OSCE

Good communication skills are essential in emergency medicine, and several stations in the CEM will be specifically designed to test your ability to communicate with a patient, colleague or other members of the multidisciplinary team. In addition, these stations also test your negotiation and diplomacy skills.

- Break bad news to a patient or family member.
- Explain a proposed treatment or condition.
- Make a difficult referral.
- Deal with a complaint.
- Deal with a failing colleague.
- Negotiate a management plan with a patient.
- Deal with a confidentiality/consent issue.

It is difficult to learn communication skills from a book, and the easiest way is to get a colleague to observe you and provide feedback. You should pay particular attention to your body language, since this is an important form of non-verbal communication. Silence is also an effective means of communication, and it is important that you give the patient ample opportunity to talk without interruption. Try to summarize what the patient has said to you back to them to ensure that your facts are accurate.

The history-taking OSCE

Taking a concise and accurate medical history is integral to success in the CEM examinations. As there is pressure of time in the examination, your questioning should be focused while not appearing to be an inquisition for the patient. Remember that, in addition to marks for asking clinical questions, there will also be marks from the patient/role player for your communication skills.

HOW TO USE THIS BOOK

As with all examination preparation texts, this book is only a guide to the type of OSCEs that may appear in the CEM examinations. Although it is primarily aimed at those sitting the MCEM examination, it should be also be a useful base for those preparing for the FCEM, since there is a significant overlap in the type of OSCEs. The CEM syllabus is extremely diverse and is continually remodelled, and so it is essential that you be aware of any additions or amendments.

It is also important to point out that this book does not prepare you with the core clinical knowledge required to pass the examination and is specifically aimed at providing the candidate with a number of mock OSCE scenarios to practice. Useful facts and guidelines have been included where possible, but, given the breadth of knowledge covered in the syllabus, it is impossible to provide essential facts for every topic or to cover every scenario. There are several core texts in emergency medicine, which should be used in conjunction with this OSCE-based revision guide.

The scope of this book is to give the candidate a broad overview of the potential OSCE scenarios that may be tested in the examination and a guide on how to approach these OSCEs. Do not make the mistake of rote-learning the mark sheets, since they are only guides and not validated mark sheets.

Marks are given for specific points/areas that you address appropriately. In addition, the actor/patient/student can give a score, usually out of 5, and the examiner can give a global score out of 5.

The scoring for each section of the mark sheet is as follows:
0 = inadequate/not done
1 = adequate
2 = good

It is crucial to appreciate that this is an arbitrary marking system that is a rough guide to your performance.
and does not in any way represent the official college score sheets. You should use the marks to see how your performance progresses as you step up your revision.

The key is to use this book as a template on which to base your revision and not as a substitute for seeing as many patients as possible in the emergency department.

PAST OSCE SCENARIOS

Chapter 2: Resuscitation

• Airway management
• Advanced life support (ALS) management – patient in systole
• ALS management – 34-week pregnant patient, involved in a motor vehicle collision
• ALS management – defibrillation technique and safety
• ALS management – pulseless electrical activity (PEA)
• ALS management – postresuscitation care
• ALS management – pulseless ventricular tachycardia (VT)
• ALS management – tricyclic antidepressant overdose and ventricular fibrillation
• ALS management – ventricular fibrillation
• Basic and advanced airway management (including endotracheal intubation)
• Transfer a patient with a head injury and reduced consciousness for a CT scan

Chapter 4: Wound management

• Suturing a laceration wound using the ‘no-touch’ technique
• Handwashing scenario

Chapter 5: Major trauma

• Advanced trauma life support (ATLS) scenario
• Clinical examination of an immobilized patient with a potential cervical spine injury
• Demonstrate a log-roll and spinal examination in a trauma scenario
• Manage a patient with a haemothorax following a motor vehicle collision
• Place and suture a chest drain

Chapter 6: Musculoskeletal emergencies

• Focused upper limb examination to assess nerves, vascular supply and tendons following a laceration injury
• Hand examination (neurovascular plus tendons)
• History, examination and management of a shoulder injury
• Knee joint examination and management
• Plaster cast application for a Colles fracture

Chapter 8: Abdominal emergencies

• Focused gastrointestinal history and general systems enquiry
• Focused history and management of a rectal bleed
• Traveller’s diarrhoea – history and advice
• Cirrhosis of liver – history and management

Chapter 9: Genitourinary system

• Genitourinary history, clinical diagnosis and management
• Haematuria assessment
Chapter 10: Ophthalmology
- Acute red eye assessment and management
- Perform fundoscopy and make a clinical diagnosis
- Teaching a medical student to use an ophthalmoscope
- Examine a patient with an ocular injury

Chapter 11: ENT conditions
- Perform otoscopy and make a clinical diagnosis in a child or adult

Chapter 12: Maxillofacial emergencies
- Assault with facial injuries – examination
- Facial fractures examination

Chapter 13: Obstetrics and gynaecology
- 15-year-old girl requesting ‘morning-after’ emergency contraceptive pill
- Bimanual pelvic examination in female patient
- Management of a lost/split condom in a female
- Pelvic inflammatory disease history (sexual history)

Chapter 14: Respiratory emergencies
- Haemoptysis – take a history
- Mild asthma management and demonstration of inhaler technique
- Respiratory system examination and management of a patient with chronic obstructive pulmonary disease (COPD)

Chapter 15: Cardiological emergencies
- Assessment and management of chest pain (history consistent with acute myocardial infarction)
- Cardiovascular examination
- Interpretation of an ECG
- Teach a student how to interpret an ECG
- Full cardiovascular examination and clinical diagnosis

Chapter 16: Neurological emergencies
- Acute onset of severe headache
- Cranial nerve examination for new-onset left-sided weakness
- Assessment of a patient presenting with foot drop
- History and management of subarachnoid haemorrhage
- Perform a mental state examination
- Patient presenting with sciatica – examination of lower back and appropriate neurological testing
- Traumatic neck pain – examine peripheral neurology and give management plan

Chapter 18: Toxicological emergencies
- History and management of a patient with acute confusion (recreational drugs)
- Management of deliberate overdose of paracetamol