Section 1 The FRCS (Tr & Orth) examination

Chapter 1

General guidance

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The FRCS (Tr & Orth) is the major obstacle in higher surgical training. It is regarded as a fair but very probing examination. Passing depends on knowledge, performance on the day and a bit of luck. However, as with all exams, preparation is the key to success. That preparation should encompass not only reading to accumulate facts, but should include clinical experience, history taking, clinical examination and, most of all, practice.

The exam constantly evolves and opinions and views continually move forward and change. We hope the chapter acts as an introduction to the current format of the FRCS (Tr & Orth) exam and serves to provide prospective candidates with some useful preparation tips and tricks.

Examination format

The current FRCS (Tr & Orth) encompasses two sections. Section 1 is the written test and section 2 is the clinical exam.

The Joint Committee on Intercollegiate Examinations (JCIE) published regulations in 2012 that govern the current FRCS (Tr & Orth) examination. Candidates have 7 years to complete the examination process. For section 1, candidates will have a 2-year period from their first attempt, with a maximum of four attempts with no re-entry. If successful, they can then proceed to section 2, where candidates have a maximum of four attempts and up to one further exceptional attempt.

For further details and to ensure no further changes have been made following this publication, we suggest all candidates carefully review the JCIE website[a].

Section 1: The written test

The written section of the exam covers the 'theory' of trauma and orthopaedics and is comprised of two separate computerized papers sat back to back on the same day. Paper 1 is a two-hour long Single Best Answer (SBA) paper whereas paper 2 is made up of Extended Matching Items (EMIs) over 2.5 hours.

The statistical analysis of an orthopaedic paper that was previously part of paper 1 is no longer a part of the exam. Candidates will still be expected to know about statistics and methodology and this will be tested in either the paper 1 SBA or the paper 2 EMI section. We are unsure why it was scrapped, perhaps it was more difficult to standardize from exam to exam and/or it did not prove to be a good differentiator of candidates. Possibly it may have been too time consuming to construct a separate statistical section for each diet of exams with the time better invested in building up a more substantial SBA/EMI bank.

This section is delivered via computer-based testing at Pearson VUE Test Centres throughout the UK and Ireland. This environment can be unsettling, with people taking their driving theory test either side of you, although once absorbed in the exam this shouldn't be a concern. It is possible to finish this exam before the time ends and you can leave once you are happy you have completed it.

These papers may probe any part of the vast T&O syllabus. A solid knowledge of the theory is required, but exam technique is also essential for this part, which can only be developed through practice questions. Preparation for section 2 is very different and requires a change in revision strategy, but the basic knowledge learned from section 1 is extremely important and should not be underestimated.

Section 2: Clinicals and orals (vivas)

This section comprises clinical cases and structured oral interviews (also known as 'vivas' – The terms being interchangeable for the purpose of this book but referred to officially as orals by the Intercollegiate Specialty Board). This section is held usually at a hospital for the clinical component on day 1 and a nearby hotel or conference venue for the oral component.

The clinical component is broken down into three upper and three lower limb short cases, each of 5 minutes' duration (30 minutes in total) and two intermediate cases of 15 minutes each (which can be upper limb, lower limb or spine).

The oral component, comprises four, 30-minute orals in:

- Adult elective orthopaedics, including spine
- Trauma, including spine
- Paediatric orthopaedics/hand and upper limb
- Applied basic sciences related to orthopaedics, including anatomy and surgical approaches, pathology, biomechanics, audit, methodology and outcome-based medicine

[a] https://www.JCIE.org.uk

The current exam format has now had time to bed in and provides a fairer and more structured assessment than previous iterations. Candidates should feel confident that the process is predictable and can focus on displaying their knowledge rather than being caught out.

In the past, the spot diagnosis was a significant part of the clinical component. Some candidates could move through numerous cases if they made quick diagnoses whilst others would only see a few cases. The current format of short cases ensures that 5 minutes is spent with each of the six cases. For example, in a case of Dupuytren's contracture you may state the diagnosis within seconds, but you will still be expected to examine the hand, discuss issues such as indications for surgery and consent, as you will not move on until the 5 minutes is up.

Marking

Many candidates waste valuable time fretting over the complexities of the marking system for the FRCS exam. It is important to note that the scoring systems used are devised by statisticians and educationalists and standardized by the examiners, with the intention of making the marking as reproducible and as fair as possible. Rather than worrying, your time is better spent reading, practicing your examination technique and your ability to deliver succinct answers in a viva situation.

There is no set percentage pass rate; the examiners meet the evening before to set the standard and establish a cut-point for passing or failing candidates. This is a standardized method for marking examinations and if you are interested in the theory behind this, please refer to references at the end of the chapter.

That said, nervous curiosity among candidates would naturally lead to speculation about how their performance is graded. We, therefore, offer the following advice.

Section 1

A combined pass mark between paper 1 and paper 2 is necessary to progress to the next stage of the exam. We understand that the examination board raised the pass mark for section 1 in 2013 to make it more likely that candidates progressing to section 2 will pass. The reason for this is that section 2 is difficult to organize and doubly difficult to organize well. The clinical cases need to be of a uniform high standard that will stretch candidates. There is no point in organizing these complex examinations and allowing candidates to sit them if they have very little chance of passing. There is a world of difference between passing an MCQ paper and examining a patient with a difficult knee condition.

We know from the JCIE that a process of 'standard setting' is performed, where a group of experienced and trained examiners sit the exact same examination, and subsequently set a pass mark for each paper. A question may be excluded if considered too ambiguous or unclear by the examiners following this process so try not to ponder too much over what you have submitted. Remember, a good second paper can compensate for a nervous performance on the first, thus, paving the way for section 2.

It has been suggested that up to 20% of questions are discarded along the journey from being developed by the Examination Board. Questions can still be rejected after being used in the real exam paper following item analysis and trainee feedback. The main point stressed by examiners involved in writing the MCQ paper is that a question will be discarded if it is deemed ambiguous.

Section 2

The scoring in this section is less straightforward, and little information is publicly available. The following is our own interpretation of the marking system (Figure 1.1). It makes a few assumptions, but we believe it to be fairly representative.

Each clinical case and viva question is marked from 4 to 8, equating to the following:

- 8 (exceptional pass)
- 7 (good pass)
- 6 (pass)
- 5 (fail)
- 4 (poor/complete fail)

In more detail:

- 8 – Gold medal standard. Difficult for the average standard candidate to achieve. At ease with higher order thinking.

  Flawless knowledge

Excellent understanding/knowledge/management/prioritisation of complex issues. Demonstrates excellent command of the literature. Able to apply the literature to justify management decisions. Instils confidence. Patient rapport very good.

Well-rehearsed keeps talking without prompting but discussion still relevant and pertinent to topic. Not fazed by questions, able to deal with them consummately. Able to intuitively know where the questions are going. Well-trained all round performance.

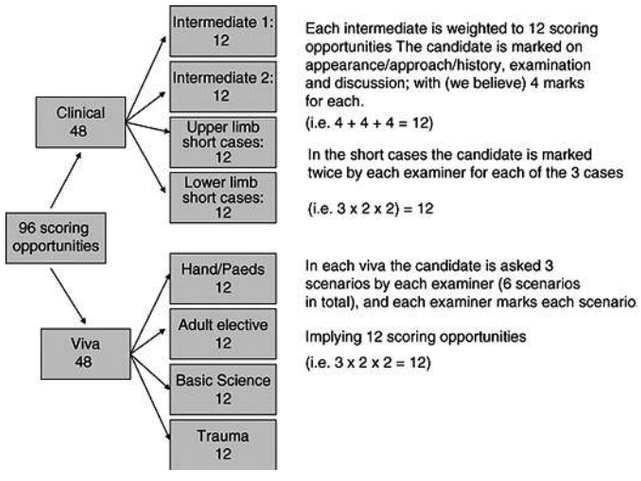

Figure 1.1 Marking system for the FRCS (Tr & Orth) examination

- 7 – Good pass. Very good answer, no hesitation or gaps in knowledge. Able to demonstrate good command of the literature to the examiners. Polished and articulate answers. Quotes from the literature

Able to prioritize. Goes beyond the competency questions. Gives patient confidence quickly. Good awareness of patient's reaction.

Not as thoroughly conversant with the literature as an 8 candidate, some gaps. Not able to fully grasp the viva opportunity presented requiring some prompting as to where the topic is going.

- 6 – Satisfactory pass. Good working knowledge of the subject. Covers the basics well. Copes with competence questions. Important points mentioned. No major errors. Treats all patients appropriately. Observes patient expression

Cannot get to the next level, draws blanks with the more difficult probing viva questions.

- 5 – Some hesitation, not answering the point of the question. Waffling a bit. Surface knowledge and not able to go beyond the basics. Has rote learnt rather than understood the topic. This mark gives a candidate a reasonable chance to recover. Demonstrates a lack of understanding. Confused and disorganized answers. Hesitant and indecisive answers. Lack of an organized structure to the answer. No introduction to patient. Does not listen to patient
- 4 – Unsafe. A miserable failure. Difficult to salvage. Poor knowledge with gaps. Gross basic mistakes. Not knowing a topic expected for this level of senior exam (calcium metabolism, anatomy). Not able to get past the basic viva question asked. Difficult to pull it back

Abrupt, brusque manner with patients. Arrogant and rude. Inappropriate attitude. Rough handling of patients. Poor basic knowledge and judgement. Unpersuadable – Prompts do not work. Did not get beyond default questions. Lacks insight.

'96 opportunities to score'

There are 96 scoring opportunities for each candidate in section 2 – 48 in the clinical and 48 in the viva, and the total mark attainable is 768, with a pass mark of 576. This is implied from the fact that a 6 at each scoring opportunity indicates a pass, and the pass mark is 576 ($6 \times 96 = 576$). Note that there is no deliberation in these marks. If you get 575 you will fail! This has happened to candidates in the past.

The reason for the high number of scoring opportunities is that if there is an issue with a particular examiner or section the effect on the candidates overall score will be diluted by the large number of other examination marks. There are equal marks available for the orals and clinicals.

Orals

There are two examiners marking at each of the four viva stations, although there can be lay observers, examiner assessors or trainee examiners also present. There are at least six questions in each viva; three from each examiner. Each examiner marks each scenario meaning there are 12 scoring opportunities ($6 \times 2 = 12$) at each station. In 2 hours (120 minutes) 8 examiners can independently assess each candidate on a total of 24 topics, with each topic represented by a clinical scenario, and generate 48 test scores, which should provide a valid and reliable measure of a candidate's ability in terms of professionalism, patient care, knowledge and judgement and quality of response.

Clinical

The scoring here is a little less clear; however, the short and intermediate cases are weighted equally, implying 24 scoring opportunities for each section.

The scoring system is open to considerable speculation and interpretation. Whatever way you look at the scoring system there is a concern amongst examiners that some candidates may be getting the wrong advice regarding examination tactics. It appears that candidates at various courses have been instructed to aim for a steady 6 where, in fact, they should be aiming for a 7. In our opinion, candidates should aim high so that even if their performance drops, the candidate should still achieve a safe pass. It is extremely easy for a candidate to drop down to a 5 at one viva question or clinical examination case so you need to score some 7s along the way to counter balance this. A steady 6 all along the way in the exam with a couple of 5s will mean you fail the exam.

The examiners also stress that the oral examination is about the principles of orthopaedic practice and management and not about stalling for time or evading the answer. For example, if a scenario of polytrauma is presented by the examiners of an open comminuted tibial fracture and coexisting pelvic fracture, the first comment should not be that you would send it to a trauma centre. This answer will just irritate the examiners – Far better to go through the principles of how you would actually manage this patient. The second comment should not be an attempt to stall and focus exclusively on ATLS® principles, especially if these have already been covered in an earlier question or the examiners mention the injury is a 'closed isolated fracture'.

Another point to make is that immediately after each intermediate case, shorts or viva, the marking sheet is collected. Hence, subsequent examiners do not know how you've performed previously. So if you think a case has gone badly, put it behind you and move on – You still have everything to play for!

Preparation advice

The aim of the exam is to assess whether you have the knowledge and understanding to practice safely as a Day 1 Consultant Orthopaedic Surgeon in a District General Hospital. This is the standard reference setting criteria to fall back on. However, the syllabus is vast that you can be asked almost anything! The following are some helpful tips in organizing your approach to the exam.

'Plan, prepare, practice, perform'

Plan

- It is important to start revising early. Although everyone has their own individual style of study, the general consensus is that a minimum of 6–12 months intense preparation is needed to talk with confidence to your examiners
- Consider the available exam dates and apply early for the one you need. The examination application process is structured and requires references. You don't want to add to the stress of the event by risking a late application!
- Avoid taking on time-consuming extra-curricular tasks (e.g. research/paper write-ups) in the 6 months prior to the exam in order to give yourself a clear run at it without extra unnecessary pressure
- Controversially, some candidates may be advised to take up a less busy registrar post in the 6 months or so prior to the exam to give themselves more time for study. This can work the opposite way in that a busy post may provide a lot of additional clinical experience that may prove useful in the exam. What probably isn't a good idea is to be travelling long distances to and from home each day in the 6 months before the exam. Even in this situation, previous candidates have still managed to use travelling time effectively by listening to orthopaedic discussion/tutorial type CDs in the car
- Plan your training if possible. Most training programs will be designed to expose you to the general breadth of trauma and orthopaedics; however, if you feel you have a weakness or deficit in a certain area, and have the opportunity to request a specific subspecialty, this is worthwhile considering
- Alternatively, if you are lacking in experience in a particular subspecialty, attend clinics in those areas and enrol on specific courses
- Book your study leave early and avoid the hassle and stress of late rota swaps to facilitate attending courses
- Plan your attack of the syllabus! It is so vast that you could literally spend years reading around it. Make realistic goals and set timetables
- Revision is a very personal issue. Most people have developed their own style of studying but it is important to pace yourself. You do not want to burn out. Make time for your family and maintain a social life (albeit a somewhat less busy one!) – At times you will need the support of your friends and family
- Maintain your momentum. It is important to sit section 2 of the exam as soon as possible after passing section 1. An anonymized questionnaire of 156 orthopaedic surgeons who passed the FRCS (Tr & Orth) exam showed a 90% first-time pass rate for those who took the second part at the earliest opportunity[b].

[b] http://postgraduateorthopaedics.com/books/pg-orthopaedics-second-edition/chapter-1/frcstrorth-risk-factors/. Additional material for exam preparation is contained on the Postgraduate Orthopaedic website.

Prepare

- Form a study group. If others are sitting the exam at the same time then team up (three is an ideal number). Choose like-minded individuals with whom you get on! A group will allow you to compare your progress and share your anxieties. It is also useful to focus your studying and bounce ideas off each other. When it comes to studying for section 2, your reading group can provide you with clinical and viva practice
- Don't worry, however, if you find yourself studying on your own. According to the questionnaire quoted above, candidates studying alone seem to do just as well as those who prepare in groups. (Group work does, however, definitely make the whole process less lonely!)
- The reading material you choose to utilize is down to individual preference. Some choose key textbooks while others prefer to use orthopaedic websites. Choose your 'poison' early and try to avoid swamping yourself with too many sources of information (more on this towards the end of this chapter)
- Source the latest versions of important national guidelines (in topics such as fractured neck of femur patients, open tibial fracture management and osteoporosis, for example) and KNOW these. This will easily convert a pass to a good pass and can act as a structure to help you build an answer if you are stuck
- Although it is not essential to quote specific papers from the literature, it is helpful to know a couple of key papers in each topic, especially in controversial areas
- It is probably fair to say that candidates focus the majority of their time preparing for the oral component (for example with this book). To ensure you pass and pass well, do not neglect the clinical component, which carries the same number of marks as the oral and in which a good performance on day 1 will set you well on track

Practice

- Make it known amongst your colleagues and the consultants at your unit that you are preparing for the exam. Try to avail of any interesting exam cases they know of and utilize any opportunity to be put in an 'exam scenario'
- Each time you see a patient try and deal with him/her as a short or intermediate case. Practise getting straight to the point in your history, as you only get five minutes for this in the intermediate cases, and become slick at doing a thorough examination. Have someone examine you, keeping to the allotted time; be it your consultant, educational supervisor or study group partner. Be confident in eliciting clinical signs without hurting the patient; this is a deadly sin and you will be failed. Always be courteous and respectful to the patient
- PRACTICE, PRACTICE, PRACTICE your clinical skills. On patients. On your study group. On your parents.

On your friends! It is essential to look slick in the clinical section. There is no time to pause to think of what comes next in a hip or knee examination. It needs to flow and look like you have done it a thousand times. Have a reproducible method for examining each system, but be aware that you may need to focus your examination or adapt it in the real thing according to the examiners' instructions

- If possible, arrange mock clinicals and vivas with consultants from each subspecialty. This is possibly one of the most useful things you can do to practice for the real thing. The exam is an expensive way to practice if you fail first time! There is no point in doing this too early, however, when your knowledge is still lacking. Best to leave it until the run up to section 2 when you are practicing 'polishing' your answers. If this is not possible, there are excellent clinical and viva courses for the FRCS (Tr & Orth) exam which candidates have found to be extremely beneficial
- Be confident at interpreting x-rays and scans. This will help improve your confidence in a viva situation
- Practice drawing pictures and diagrams to demonstrate your knowledge. It is not uncommon in the viva to be asked to illustrate certain concepts; for example, stress-strain curves/free body diagrams. A list of diagrams to consider familiarizing yourself with is provided in Table 1.1. This is by no means exhaustive but it has been compiled from suggestions by previous candidates and consultants alike
- The annual UK in Training Examination (UKITE) provides a 'mock' type experience in preparation for section 1. Although the questions are of a somewhat different style, it provides an opportunity to track your learning progress and allows practice with SBA format and exam timing

Perform

- Unlike section 1, where you could probably sit the written papers in your pyjamas, your appearance actually matters in the clinical and viva sections! This part of the exam is somewhat like an interview. You need to present a well-rounded, professional 'package' to your examiners, i.e. smartly dressed and polite with good communication skills – And this is even before you have answered any questions!
- Make the examiners job easier. It is like taking your driving test again. You need to make your assessment of the patient obvious to your examiners, such as checking for insoles in shoes or acknowledging the walking stick propped in the corner of the examination cubicle
- Never hurt the patient! Make it obvious that you are looking at the patient's face for a painful reaction as you examine, and ask them to say if you are causing discomfort
- Listen carefully to the examiner's instructions. For example, in the short cases, if an examiner says, 'I'd like

Table 1.1 Suggested potential diagrams for FRCS (Tr & Orth)

Basic science	• Stress/strain curves
	  . Including ligaments and tendons
	• S–n curve
	• Young's modulus curves for different materials
	• Scratch profiles
	• Viscoelasticity graphs
	  . Creep
	  . Stress relaxation
	  . Hysteresis loop
	• Screw anatomy
	• Collagen structure
	• Micro- and macro-structure
	  . Nerve
	  . Cartilage
	  . Ligament
	  . Tendon
	  . Bone
	  . Skeletal muscle
	• Proteoglycans
	• Cutting cone
	• Osteoclast
	• Menisci
	• Intervertebral disc
	• Action potential
	• Reflex arc
	• Gait cycle
	• Clotting cascade
	• Free body diagrams
	  . Hip ± stick
	  . Knee up/down stairs
	  . Elbow
	  . Ankle
	  . Spine
	• Prosthesis components
	• Statistics
	  . Sensitivity/specificity table
	  . Table of levels of evidence
	  . Survival curve

Anatomy	• Brachial plexus
	• Cross-sections
	  . Upper limb, inc. carpal tunnel and extensor compartments
	  . Lower limb, inc. compartments
	  . Spinal cord
	• Hands
	  . Flexor/extensor tendon zones
	  . Finger extensor apparatus
	  . Finger pulleys
	  . Incision for carpal tunnel decompression and associated landmarks
	• Blood supply
	  . Femoral head
	  . Talus
	  . Scaphoid
	  . Humeral head

Table 1.1 *(cont.)*

	• Attachments to the coracoid • Spaces posterior to shoulder and what passes through them • Relations to piriformis • Hip trabecular patterns • Femoral triangle
Paediatrics	• Physis and zones • Salter–Harris classification • Selenius graph
Genetics	• Pennett squares for inheritance patterns
Misc.	• Z-plasty • Tendon repair methods, e.g. Kessler • Traction types, e.g. Hamilton–Russell/ Thomas splint • External fixation • Tension-band principle

YOU to examine this patient's right great toe', don't start by taking a history and looking at the hands for signs of systemic disease. This will only waste vital time and irritate your examiner. If the examiner guides you by suggesting that you ignore your systemic assessment and concentrate on the big toe, listen to the advice!

- If the examiner asks 'Are you sure?' take the hint you may have answered wrongly – Why else would they say this?
- The short cases are exactly that – SHORT! The 5 minutes seem to last a blink of an eye, so don't delay in eliciting those important clinical signs and relay them to the examiner
- If permitted, narrate as you perform your examination. Most examiners don't seem to mind this technique and it makes it clear what you are trying to demonstrate. Don't waffle, however, try to keep what you say succinct
- In the intermediate cases you will have 5 minutes to take a history, 5 minutes to perform a focused examination and 5 minutes to discuss the case. Get off to a good start when presenting your findings for both the history and examination. For example: 'Mr Jones is a 45-year-old, right-hand dominant electrician who presents with a 6-month history of pain and weakness in his right shoulder which is now beginning to affect his work'. Already you will have delivered a succinct summary of vital points of information. It does not look slick if you have forgotten the patient's name or occupation when you come to relay the history you have just taken. Again, a polished delivery of your findings comes with practice
- Make sure that you answer the question that is asked of you
- Finally, it has been suggested that you should try to imagine the vivas and oral discussions as a conversation between consultant colleagues discussing a case. This can be extremely difficult under pressure, but remember that the examiners for the orals are no longer specialized within that subject

The event itself

Section 1

- Follow the instructions given to you by your designated examination centre
- Be sure you know how to get there on the day and allow time for traffic delays or unexpected problems
- Get a good night sleep the night before and try to get lunch between papers – The day is long and you will need all of your energy

Section 2

- Book yourself into a decent, comfortable hotel and ask for a quiet room. Day 1 of the exam is currently usually held on a Sunday
- Remember that you've already forked out near-enough £2K, so now isn't the time to start being cheap – You're worth it! Beware, however, that the nicest hotel is usually where the examiners stay. Get an early night and go easy on the coffee and alcohol, as you want to be at your best
- On the day give yourself plenty of time to get to the venue. Consider a 'trial run' the day before so that you know where you are going. The last thing you need is added stress if you get lost or stuck in traffic
- Dress conservatively and avoid outspoken ties or ostentatious suits. You want to look smart. Be aware that you may need to comply with local infection-control policies such as 'bare below the elbows'
- Watch what you eat before the exam – You don't want to stink of garlic or cigarettes – Nor do you want to reek of too much aftershave or perfume
- Once you get there you will soon realize that the exam is run with military precision. This in itself is confidence inspiring, as there can be a lot of candidates sitting the exam at any one time. Just listen to the instructions given and concentrate on delivering what you have practiced when it is your turn to show off your knowledge!
- Come prepared with any props you might need for examination purposes. You may not have the opportunity to use them, but if you have time, a quick demonstration of transillumination of a soft-tissue lump with a pocket torch, for example, can look pretty slick and add useful information to your examination. Other suggested props include a tape measure for leg length discrepancy, and coin and key for testing hand function. Again, however, be guided by the examiners and use your discretion. Don't waste time utilizing props just because you have them in your pocket, and it certainly doesn't look good if you cannot find your prop!

The short cases

Today's exam format means that you examine 6 short cases only (3 upper limb and 3 lower limb) and spend 5 minutes with each case. You may spot the diagnosis immediately and

can tell the examiners what it is but you will still spend 5 minutes examining and discussing the case regardless.

'Common conditions are common'. There are usually very few surprises in the clinical cases. Spend time talking to previous candidates about their experiences and obtain advice from senior consultants where possible.

The intermediate cases

With 15 minutes allocated for each of the two cases, these tend to feel a little less hectic. Take a slick but focused history and examination and deliver the relevant points succinctly to the examiner.

Again, there are unlikely to be any surprises in the intermediate cases. You may, however, get a patient with more than one orthopaedic complaint. If this occurs simply listen to the examiners question carefully and cater your approach as necessary. If you are completely stumped by a case from the start, simply go back to the beginning and rely on your methodological history and focussed examination according to the patient's complaint. You may not always be expected to get an accurate diagnosis in an uncommon syndrome but you will be expected to discuss the orthopaedic issues pertaining to the case in question.

Orals

Many candidates find the orals the most intimidating aspects of the FRCS exam. Again, lots of practice of viva technique with colleagues and consultants prior to the event is the key to passing this part.

The current oral exam format is comprised of 3 standardized questions per examiner (6 questions per viva, 5 minutes each), where you are marked on each question by both examiners. This happens for each of the four viva stations.

Since November 2014 examiners have had the viva questions pre-prepared for them by the Examination Board. This means that all the examiners will be asking the same questions at each viva station. In the afternoon the questions will get changed presumably to prevent candidates discussing the questions amongst themselves at lunch. This change is made to further improve exam consistency and ensure it is as fair as possible to all candidates.

In addition, the same clinical photographs and radiographs for a particular question are shown to each candidate. This again improves the standardization of the examination and indirectly ensures only good quality props are used. The examiners are very quick to point out any unclear or confusing clinical pictures or radiographs.

Questions are not deliberately set to catch you out, but some are designed to extract 'higher order thinking' from the candidates. This does not mean that you need to know the intricacies of every operation for reconstructing a dislocated knee following a motorcycle accident, for example. Whilst awareness of operative management options in such an injury is clearly desirable, a safe, methodical approach to a suspected polytrauma patient, with knowledge of the emergency management of a potentially limb-threatening associated vascular injury is what the examiners will hope to elicit from a candidate who has what it takes to be a safe, independently practicing consultant.

It is best to enter the oral examination with the intention of answering the questions as clearly as possible, in a structured, sensible manner, demonstrating a safe and methodical approach to the problems presented.

For the oral component, from experience of the current format, the following assumptions can be made:

- Questions chosen must contain enough material for the candidate and examiners to discuss for 5 minutes without running out of steam
- If you can't respond to a question because you don't know the answer and only 30 seconds have elapsed out of the 5 minutes, the examiners can ask you a reserve question. In practice this situation is very uncommon and the examiners may still stick with the first question, only asking you very basic perhaps even unrelated questions to get some sort of discussion going. With a reserve question you will generally only be scored a 4, at the very best with a superb answer you will only a score 5. It becomes difficult to make up these lost marks in the exam. Again to reiterate, this is a very uncommon situation and perhaps more theoretical than practical as reserve questions are very rarely asked with the examiners preferring to stick with the original question
- If you are doing really well you may reach the reserve fourth question and you will be picking up bonus marks. This is not tending to happen now as there is usually enough to talk about with each question for the full 5 minutes even with a score 8 candidate and, if needed, the examiners will move onto the next question slightly earlier than planned
- Examiners have a list of points that they need to cover with each question and a model answer for reference. Marks are scored when candidates answer correctly the points that are asked
- There may be a series of candidate prompts to which the examiners can refer on the model answer form. The examiners use them if the candidate is straying widely off the mark with their answer to bring the candidate back to the main thrust of the question
- Some examiners believe that it is more difficult to examine candidates using this new system than the old ad-hoc method. Spontaneity is lost and examiners may refer too much to the model answer for guidance rather than let the discussion take its course
- Most candidates prefer the new system as it is perceived to be more impartial and fairer than the older method
- Candidates will be compared to their peers. Ten or so candidates being asked the same set of questions by the examiners will invariably mean they will be ranked in order of performance

FRCS (Tr & Orth) dry run

The exam is an expensive way to practise, but there are other exams that can be used to practise for the FRCS (Tr & Orth), namely the SICOT diploma and the EBOT. Several candidates use these exams as preparation for the FRCS (Tr & Orth) exam and pass them. The advantage is more letters after your name as well as preparation for the FRCS (Tr & Orth) exam.

EBOT examination

The EBOT examination has developed into a prestigious orthopaedic qualification in recent years. Exam applicants have increased significantly since 2011. The exam consists of two sections. Section 1 is a written MCQ paper completed online of 100 MCQs in the format of a single correct answer (SCA). Section 2 is the viva component composed of five viva (oral) stations. The sections examined are:

- Adult orthopaedic and trauma surgery – Upper limb
- Adult orthopaedic and trauma surgery – Lower limb
- Adult orthopaedic and trauma surgery – Spine
- Children's orthopaedic and trauma surgery
- Basic sciences related to orthopaedics, including biomechanics, statistics, audit methodology and outcome-based medicine

Applicants need to be successful in section 1 in order to gain eligibility to proceed to section 2. Candidates regard the examination as professionally very well-run and organized. The viva stations roughly alternate between elective and trauma questions, but there is less rigidity in the number of viva questions asked, varying between 3 and 7–8 depending on the quality of a candidate's response. The spinal section can be quite difficult and candidates really should have spent some time in a spinal unit to do justice to this viva.

In some specialties the European examination is treated as equivalent to the UK specialty exam. In trauma and orthopaedics this is not the case, the EBOT exam has no clinical component. The whole question of a European-wide examination in orthopaedics has recently been explored by David Limb BOA secretary in an article for the *Journal of Orthopaedic Trauma*[1]. Recently the EBOT committee has been exploring the possibility of providing parts of the exam in different languages other than English. In addition they are keen to assess skills as well as knowledge in the final exam. Essentially they are eager to include an additional clinical component to the exam. High stakes clinical exams are difficult to organize. Practicalities include finding a suitable venue, sufficient number of patients with good clinical signs and examiners thoroughly trained in clinical assessment etc.

References

1. Limb D. A European curriculum for trauma and orthopaedic surgery? *J Orthop Trauma*. 2014;2:4.