Section 1 The FRCS (Tr & Orth) Oral Examination

Chapter 1

General guidance for the FRCS (Tr & Orth)

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The FRCS (Tr & Orth) exam sets out to provide an assessment of the knowledge and skills and the ability to use these to the required standards of a consultant orthopaedic surgeon working in the National Health Service in the UK. It is a significant career hurdle to pass and involves an intensive 6–12-month period of study during which time everyday life and activities increasingly assume secondary importance to passing 'the exam'.

The viva exam or 'structured oral examination' as the Intercollegiate Specialty Board (ISB) prefers to call it is an important component of this exam. Whilst most candidates are more fearful of the clinical component, the oral section is never as clear-cut or straightforward as some examiners (or consultant non-examiners) would have us believe.

This general introduction provides an overview of how to improve your score and pass the oral exam with flying colours.

Careful tactical planning is required beforehand as on the days of the exam it is usually too late to alter your game plan and poorly thought-out tactics may lead to your downfall.

We have avoided the temptation of solely focusing on what successful candidates believe are the important tips and tricks that will get you through the oral exams. We have additionally looked at the exam process itself and what it sets out to test. The logic is that if you understand how and why the exam acts as an assessment tool you will increase your chances of success.

At most revision exam courses current or past examiners and recently successful candidates give a 5–10-minute talk on the key features needed to pass the exam. Most advice is fairly reasonable but opinions and views may occasionally be counterproductive and best ignored.

Remember that advice is always a personal issue for each individual candidate and what works best for you may not necessarily work well for the candidate sitting next to you.

Be a bit sceptical and question in your own mind the value of any guidance that you might receive. It could be completely wrong or include tactics and plans you have tried before which just don't work for you. Work out in detail your own individual viva tactics, before exam day, and stick to this strategy. During the exam only change your game plan if it is absolutely crystal clear you have adopted the wrong exam approach but this shouldn't be the case if you have done your homework correctly!

The FRCS (Tr & Orth) examination is the final hurdle at the end of higher surgical training. It usually enables the successful candidate to apply for his or her Certificate of Completion of Training and therefore a consultant post. In turn it leads to largely unsupervised surgical practice.

The FRCS is split into two sections, with part 1 comprising the written exam and part 2 the clinicals. Part 2 in turn is divided into clinical cases and the structured oral interviews or vivas. Half of the marks for the part 2 section are allocated in the clinical cases and half in the vivas.

The examiners are not looking for a narrow inflexible candidate but rather a safe surgeon with broad knowledge and sound basic principles that they would trust as a consultant colleague. It is with this standard in mind that the viva should be approached.

The viva examination is a test not only of knowledge but of the ability to convey the required information to the examiners in a confident and coherent way that persuades them you are a safe orthopaedic surgeon.

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All the basic knowledge required for the orals should have been acquired in preparation for the Part 1 exam. This does not mean, however, that you can relax and assume that you can give a good verbal answer based on this knowledge. We have all been in trauma meetings when, put on the spot by a consultant, we have seen colleagues clam up and deliver a rushed, illogical answer when the trainee knows the answer but cannot present his or her thoughts clearly.

The focus for preparation should therefore be on practising technique and formulating logical answers to any possible questions. Quite a task!

How to improve your viva technique

Before the exam

1. Know your stuff

In general your knowledge needs to be broad and basic rather than narrow and very detailed so that you can talk about anything on the curriculum.

Having said this, drawing up a list of important topics in each section of the viva is a good idea so you can focus your viva practice. It is relatively easy to predict what topics will come up in the viva (but be prepared for the odd surprise!). For example, in the paediatric viva you are likely to be asked about developmental dysplasia of the hip (DDH), slipped upper femoral epiphysis (SUFE), clubfoot, septic arthritis of hip and Legg–Calvé–Perthes disease (LCPD). For the trauma viva you must know hip fractures, ankle fractures and wrist fractures very well but basic principles of fracture management will also be tested. In the basic science viva surgical approaches are often asked and knowledge of the structure of cartilage, bone, meniscus and tendon is essential.

There are a number of drawings and diagrams that you can be asked to reproduce. You may be asked to draw the brachial plexus or a stress–strain curve and label it – if practised these are easy, but they are also easy to make mistakes with if you are not familiar with them.

There are a number of websites with example viva questions. Don't try to answer them all. It is better to try to answer a few from each section well to practise the technique of constructing a logical structured answer.

http://www.bota.org.uk/cms.php?id=137
http://frcsorthexam.co.uk/viva_topics.html

2. Practise with colleagues

Rehearsing your viva technique with colleagues who are also taking the exam is an excellent way of building confidence. Try to simulate the exam scenario by sticking to one topic and making the questions get harder and harder. Revising with colleagues of a similar ability is great but be careful one 'hotshot' doesn't try to dominate the group and render the exercise futile by answering all the questions. It is less about knowing all the answers, rather more being able to think on your feet, applying basic principles to questions and constructing logical and if possible evidence-based answers. Remember it's an exam about common sense and making sensible decisions. If you come out with something outrageous and can't back it up, you will fail.

3. Practise with an examiner

If there is an examiner in your region who is happy to conduct a practise viva then jump at the chance. He or she knows the structure and standard of the exam and this will give you an idea of the level you have to achieve.

4. Practise with your trainer

You spend a lot of time with your trainer, so ask him or her to grill you in theatre, in trauma meetings and in clinic, and use opportunities running up to the exam to get used to answering questions on a wide range of topics. Consultants are busy and don't always seem to have time for formal teaching but there are usually a few minutes between cases in theatre for a short session.

5. Practise with your partner, dog, mirror. Practise, practise, practise!

You don't always have colleagues taking the exam at the same time or an understanding boss but you can give your partner some prompts and then practise talking orthopaedics. The dog may have more patience than your long-suffering other half! Joking aside, the more time you spend verbalising your answers the better you will get at giving a good answer. Practice highlights mannerisms that you can try to avoid in the exam and provides an experience that you can draw on when it comes to the real thing.

6. Go on a course

There are an increasing number of exam/viva preparation courses and these can give excellent viva practice. Many of the courses are very expensive and really not worth the money, but some provide you with a real insight into the exam – ask your colleagues for recommendations.

7. Know what to expect

Having knowledge about how the exam works and how the vivas are divided up helps you prepare and you will feel more confident when it comes to the real thing. Ask colleagues who have recently taken the exam what they were asked, the standard of questioning, whether they were asked to reference studies etc.

On the day

Before the exam

The viva part of the exam takes place one or two days after the clinical cases. Half the candidates will be examined on one day and half on the second. The time in between is stressful and difficult to spend productively as you mull over your performance in the clinical cases. Try not to convince yourself you have failed, as you probably haven't and need a confident performance in the vivas.

Often several different surgical specialties hold exams on the same day so there will be lots of trainees milling around. Listen for when you are to enter the examination hall.

Before each viva you line up in groups of eight and are then led into the hall where you sit at lines of tables.

The viva is in four sections:

Adult elective orthopaedics and spine
Trauma
Paediatric orthopaedics and hand surgery
Applied basic sciences related to orthopaedics

You have 30 minutes for each oral. Some candidates will have all four in close succession; others will have long gaps between them.

In the examination hall

There are two examiners per desk and sometimes a third who is mainly assessing the examiners. One of the examiners will ask questions for 15 minutes and then they swap over. The oral interviews are conducted by non-specialists, that is, a hand surgeon may ask you questions about adult elective orthopaedics and a hip surgeon may examine you on paediatric orthopaedics. This is in an attempt to standardize the difficulty of the questions so that specialists do not focus on the minutiae of their topic and lose the big picture.

Marking

The scoring system is out of 8. A score of 6 is a pass, 7 is very good and 8 is excellent but difficult to achieve. A 5 is a close fail and 4 a poor fail. If you score 5 on one table you can make it up on the others. The marking system is described in detail later in this chapter.

Question format

The examiners often use objects in their questions. They may have a laptop with a photo of an implant, a histology slide or even an anatomical dissection. There may be laminated photos of X-rays or CT scans. There may be orthopaedic hardware on the table to look at, such as a trauma implant. You must be able to explain how plates, screws and nails work.

The structure of the viva has changed from spot diagnoses of pictures, X-rays and quick-fire questions to a fairly predictable set of three or four main topics from each examiner. This means the questions start (relatively) simple and become progressively more difficult until you will probably not be able to answer. If you cannot answer the first question, you are in trouble and the examiners can ask you a reserve question but this will probably result in you scoring a 4. If you answer 10 questions on the topic very well and only get stuck on question number 11 you are doing well and probably heading for a 7. The examiners will push you if you are doing well, usually until the point where you either say you don't know or guess. Examiners can usually detect guesswork so it is generally better to admit defeat at this point and move on to a new topic.

Listen to the question

Listen closely to the wording of the question.

If you are asked about management of a patient, start with history, examination, investigation and treatment. If the question is 'What implant would you use?' don't talk about all the different options,

state what you would do and back it up with reasons and evidence. If you are asked 'What would you do?' don't say 'My boss did this', you must give an opinion and justify it. When answering the question don't try to make up an answer if you really don't know. The examiners will see through this and will know immediately. Be honest, if you don't know just admit it and they will move on so you have a better chance. If you try and blag it you may become unstuck!

You may not understand the question and in this scenario you are perfectly justified to ask the examiner to repeat it.

Answering the question

Before you answer the question take a few seconds to compose yourself, mentally construct a checklist of the main points you want to make and then start calmly with your answer. This avoids blurting out the first thing that comes into your head and gives the examiners the impression you are giving a considered response. If you do come out with something nonsensical, just admit that you said the wrong thing and correct it.

If you are confident on a topic keep talking, keep to the question that was asked and show off! Avoid going off on a tangent since you don't score points for this. If you can direct the answer onto a topic you know well, try to do this. Once you have finished your answer stop and keep quiet. Try to avoid the temptation to add extras on the end of your answer, this sounds like you are waffling and can annoy the examiners. It can also bring you into an area you really didn't want to talk about, which is bad. The examiners may cut you off; it can happen whether you are doing well or not so don't let this put you off. Just concentrate on the next question.

Remember that the examiners are looking to pass the candidate that sounds like a safe, new consultant. This means that you need to give sensible answers but not be a world expert on anything in particular. You should approach the answer as if it is your first week as a consultant.

Quoting references

We suggest trying to remember the main author, journal title and year of a few important papers, for example long-term results of the joint replacement you use and joint registry survival data for your implant of choice. If you have time to read the last few editions of JBJS then this may come in useful but concentrate on the high-quality studies.

Recently there has been a focus in the orthopaedic literature on national joint registries, and knowing the basics of how these are organized and the results (at least of the England and Wales registry) is a good idea.

Viva voce and the new structured oral examination

The ISB makes a clear distinction between the traditional viva voce and the new structured oral examination.

The viva voce was the traditional form of oral exam, where one or more examiners fired random questions at a candidate in a face-to-face interview or discussion. Each candidate might receive a different exam with regard to the assessment content, item difficulty and examiner leniency. The occasional examiner could be quite unpleasant and demoralizing to candidates who were struggling with their performance. One or two senior examiners seemed to take a perverse pleasure in asking impossible basic science questions and failing as many candidates as possible.

This has all changed with the introduction of blueprinting, structure and careful standard setting. The current exam is a fair, consistent, valid and reliable method of assessment.

The importance of probing the higher cognitive processes of candidates has been emphasized by the ICB and sampling of the curriculum is more robust.

An assessment blueprint confirms that the exam tests a representative sample of all the appropriate curriculum outcomes and a representative sample of all the curriculum content.

The complex nature of assessment in high-stakes exit exams, and the need for high validity and reliability, make the assessment blueprint an essential tool for examination planning and ensure content validity of the exam.

The latest education evidence is applied to assessment methods and continually updated to ensure best educational practice.

Political correctness is better observed these days. The examiners have to remind the candidate which oral they are sitting in order to give them time to

settle and must be polite at all times. They are not allowed to give much candidate feedback at all such as 'well done' or 'excellent' and certainly no harassment of candidates is ever allowed and will be stopped by the co-examiner.

A good robust discussion is a grey area; it may quickly turn into a robust argument and is probably best avoided.

Examiners are not testing a candidate's ability to stand up to rapid quick-fire questions and excessive probing. This was the norm in the late 1990s and could bring out the best in a candidate – has political correctness gone too far these days?

In truth these methods were old fashioned and more often terrified and stressed candidates into performing poorly.

Practicalities of the oral exam

The viva or structured oral examination consists of four 30-minute orals: trauma, adult elective orthopaedics, children's orthopaedics/hand and upper limb and applied basic sciences. Each viva section lasts 30 minutes during which time you will be asked six questions.

Examiners are encouraged to keep their own discussion to a minimum to allow candidates the maximum opportunity to speak and score marks.

Questions are set at the level of a newly appointed consultant at day one in a District General Hospital. The questions consist of a default question, competency question and advanced question.

The FRCS (Tr & Orth) is a structured blueprinted exam. The material on which candidates are to be tested is made available to examiners on each morning of the exams.

Each oral exam is divided into two halves lasting 15 minutes each. One examiner asks three questions of approximately 5 minutes 'to read minutes' duration whilst the other examiner makes notes. At the first bell (15 minutes) the examiners reverse roles and a further three questions are asked.

Each pair of examiners will decide between themselves which half of the oral exam (and three questions) they are going to take with the exception of the children's orthopaedics/hand and upper limb section in which an examiner is already allocated to each specialty well in advance of the exams.[1]

The examiner who is not asking questions will be writing detailed notes, which inform the marking process. This is used for feedback purposes for unsuccessful candidates. Notes need to be objective, fair, balanced and informative and deal with what was actually said by candidates, rather than a vague subjective statement that may be difficult to defend if a failed candidate challenges the decision. Comments need to be factually correct, phrased in a professional manner and no comment should be made that the examiner would not be prepared to make to the candidate in person.

The examiners independently assess the performance in each of the six questions. The two examiners do not confer and as such any accusations that one examiner may exert undue pressure on the other during the marking process is avoided.

It is important not to be too discouraged or downhearted should an oral exam question go particularly badly. You must leave it behind you, remain focused and hope that you can redeem the situation by answering the other oral exam questions well. The same sentiments apply if, say, the trauma or adult general orthopaedics oral goes poorly. Again, stay focused and put things behind you as sometimes you can lose all sense of perspective in gauging how well or otherwise you are performing. There are classic stories of candidates thinking that they have badly failed an oral only to gain a good pass but then failing the subsequent oral as they were too distracted with worries that followed them into the next oral exam. Today there is really no excuse for carrying forward negative sentiments from one oral into another. At the very worst, examiners are only allowed to give you neutral feedback even if you have performed extremely badly. At the beginning of the millennium examiners frequently made very discouraging and negative comments during an oral exam if you were performing poorly. Candidates were left in little doubt that they were going to be failed in that section of the exam.

Marking system

A closed marking system is used from 4 to 8 and this equates to the following:

- 4 – Poor fail.
- 5 – Fail.
- 6 – Pass.
- 7 – Good pass.
- 8 – Exceptional pass.

Examiners assess nine trainee characteristics during the standardized oral examination.

1. Personal qualities.
2. Communication skills.
3. Professionalism.
4. Surgical experience.
5. Organizational and logical, step-wise sequencing of thought processes, ability to focus on the answers quickly.
6. Clinical reasoning and decision making.
7. Ability to handle stress.
8. Ability to deal with grey areas in practice and complex issues.
9. Ability to justify an answer with evidence from the literature.

This list has been simplified into three domains.

Overall professional capability/patient care

- Personal qualities, professionalism and ethics, surgical experience, ability to deal with grey areas.

Knowledge and judgement

- Knowledge, ability to justify, clinical reasoning.

Quality of response

- Communication skills, organization and logical thought process. Assess questions, answers and prompting (QAP).

Marking in detail

4 – Unsafe and potentially dangerous. A very poor answer. Gross basic mistakes and poor knowledge. Should not be sitting the exam. The examiners have severe reservations about the candidate's performance and are essentially flagging this up. Too ignorant of the fundamentals of orthopaedic practice to pass. Difficult to salvage even if other marks are 7 or 8, which is probably unlikely if the candidate is scoring a 4 in the first instance.

Did not get beyond the default questions, fails in all/most competencies. Poor basic knowledge/judgement/understanding to a level of concern.

5 – Some hesitancy and indecisiveness. The answer is really not good enough with too many deficiencies. Too many basic errors and not getting to the nub of the issue. Wandering off at tangents and not staying focused on the question. Misinterpreting the question, wrong examination advice for tactics. The same ATLS and/or radiograph talk with each oral viva question.

Difficulty in prioritising, large gaps in knowledge, poor deductive skills, patchy performance, struggled to apply knowledge and judgement. Confused or disorganized answer. Poor higher-order thinking.

6 – Satisfactory performance. Covered the basics well, safe and would be a sound consultant. No concerns. Performance acceptable but not anything special or outstanding.

Good knowledge and judgement of common problems. Important points mentioned, no major errors and requires only minor prompting.

7 – Good performance. Would make a good consultant. Articulate and to the point. Able to quote papers, knows various guidelines and publications.

Coped well with difficult topics/problems. Goes beyond the competency questions. Logical answers. Strong interpretation/judgement but wasn't able to quote or use the literature effectively. Good supporting reasons for answers.

No prompting needed for answers but prompting required for the literature.

8 – Potential gold medal or prize-winning performance. Smooth, articulate and polished. Able to succinctly discuss controversial orthopaedic issues in a sensible way. Excellent command of the literature. Switched on and makes the examiners feel very reassured. Looks and talks the part.

Stretches the examiners, no prompting necessary. Confident, clear, logical and focused answers.

The marking system should allow exceptional candidates to be identified and should in theory allow feedback to be given to unsuccessful candidates.

The two examiners give separate independent marks without conferring with each other.

The marking system may be reviewed in the future and one suggestion is to reduce the choice to poor fail, fail and pass in an attempt to reduce potential bias and variability. Any change to the marking system will throw up a number of conflicting issues and opinions and may not necessarily improve on the current method.

Within a 2-hour period (120 minutes) eight examiners can independently assess each trainee on a total of 24 topics. This generates 48 test scores, which should provide a reliable and valid measure of a candidate's ability in terms of the educational domains being assessed, namely professionalism/patient care, knowledge and judgement and quality of response.

Viva tactics

It very rapidly becomes apparent to the examiners how well a candidate has prepared for the structured oral examination. Usually within the first two minutes or so a score is formulated and tends to stay constant. It is unusual for a candidate to significantly change their performance throughout the remainder of the oral viva.

The viva should start easy and progress depending on how a candidate performs. The questions are never asked to trick a candidate. An examiner's performance is constantly scrutinized and any erratic or unduly harsh or lenient marking is flagged up and fed back to the examiners.

Unless a candidate is doing exceptionally well they will not be asked difficult or obscure questions. A candidate who is performing poorly is never put through this ordeal.

- If you don't know an answer to a question say so and the examiners can move on to a different question. Easier said than done if the question is at the beginning of a topic and is straightforward. Not knowing the answer is going to go down like a lead balloon with the examiners. With only three topics per examiner in the oral you can't afford to stall at the first hurdle with a topic and have nothing to say. If this scenario could occur it is perhaps wiser to delay sitting the exam to the next scheduled set of exams.
- If you wish to clarify a question then do so. Don't however keep clarifying every single question with the examiners, as this will annoy them immensely.
- If you are challenged about an answer take the hint you may be wrong even if you think you are right. That said, some examiners suggest standing your ground if you are convinced you are correct. The decision depends very much on the context of the question and how well you are doing and what sort of rapport you have developed with the examiners. If you are the 'irritating I know everything candidate type' then perhaps better not to argue.
- Try to quote papers if you are able to as this will impress the examiners and boost your marks.

Appearance and affect

Does it matter if you dress unconventionally, in poor taste or even unkempt and scruffily? It shouldn't matter and most examiners would deny it would influence their marking. However, conventional wisdom suggests it may convey the subliminal impression that you are unprofessional and may affect your overall mark.

You should wear something conventional, smart and comfortable that you have worn before. Dressing formally focuses the mind for the task ahead. If you are neat and tidy in appearance, perhaps your thoughts will be well ordered too. Forget loud or novelty ties. In the end you are not in the exam to score fashion points or use it to make a visible statement on your value system – you just want to pass the exam.

Examiners are also aware that the stress of the examination may make candidates do strange things. The examiners will make every effort to put you at ease and relax you. The occasional grimace or bizarre facial expression will be pardoned. However we remain unconvinced that you would pass the exam if you repeatedly behave in an odd or weird manner.

Winding up the examiners

Forget it as it is not worth the effort and you are at a significant disadvantage in terms of outcome.

- Don't ask me that question.
- I'll probably know the answer when you tell me it.
- Do not say 'in my experience'. It is highly likely that your experience is minimal.
- What I think you are trying to ask me is . . .
- Can I interest you in the complications of elbow replacements?
- Just get on with it.
- No thank you, stop interrupting me, I wish to finish my answer.
- I am having a bad day I don't like oral exams.
- I think you have got a bit mixed up with the answer.
- That's not right, you are wrong.
- I don't think we are on the same wavelength.
- I think we have a problem with communication.

Examiners are advised not to respond to inappropriate behaviour by the candidate. However they can only be tolerant and open minded up to a point and the overall impression you are creating will not be reassuring.

Examiner conduct

Each examiner is encouraged to be polite and put candidates at ease. They are not allowed to examine a candidate that they know on a personal basis or if

the candidate has worked for them in the recent past. Examiners are reminded that excessive stress is unpleasant and damages a potentially good candidate's performance. All candidates are treated the same and the mark is based on performance only and not behaviour.

Oral exam questions

On average you will spend 5 minutes on each oral viva topic. Should a question have a somewhat limited scope or your knowledge is poor you will spend a little less time on it, but consistency demands that the examiners divide the time more or less equally. The oral vivas are structured so that the examiners have no choice of questions. In the past the oral viva consisted of as many questions as the examiner wanted to ask the candidate. The oral viva could include upwards of 15 topics with a spot diagnosis and very brief discussion of management of the condition shown.

Previously examiners in the hands oral were all hand surgeons and likewise in the children's oral all examiners were paediatric orthopaedic surgeons. It is now highly unlikely an examiner is able to examine you in their chosen subspecialty. The aim is to avoid them asking you excessive depth in an area of special interest or area of expertise. The aim of the exam is to test your knowledge to the level of a day one orthopaedic consultant in a District General Hospital and not to the chosen expert subspecialty level of the examiner. Thus a hip surgeon may have to ask you about hand topics or a shoulder surgeon about paediatric orthopaedic topics. The examiners may not necessarily be ignorant on these subjects but it is fair to say your own clinical experience may well be more recent and well informed than theirs. This should give you some confidence to speak with experience but don't overdo it and rub up the examiners the wrong way.

It has been suggested that the structured nature of the exam reduces the likelihood of an examiner being able to question you in excessive depth about a subject. This is especially so as the examiner is only likely to have general rather than subspecialty interest in the subject. We would counter this with saying that it is surprising how much ground one can cover in 5 minutes. In addition it is surprising how much an examiner will know outside their area of interest. The vast majority of examiners are conscientious and keep themselves up to date with orthopaedics. Also, examiners would definitely want to avoid the potential embarrassment of a candidate being more informed on a topic than they are.

It is better not to argue with the examiners but if your answer reflects current thinking on a subject and is at odds with the examiner explain the evidence and up-to-date thinking. You may get the sense that the examiner is unhappy with your answer mainly because it does not match with what is written on the sheet so have the confidence to explain the new thinking. Offer your considered reasoning of the issue without being patronizing or causing embarrassment to the examiner.

The other concern with the format of the structured oral is that it may lack fluency and spontaneity. Some examiners may simply introduce the question before initiating a discussion with only occasional reference to the answer sheet. This is usually because they are experienced, are familiar with the material and have the self-assurance to allow the oral to run a more spontaneous course. They are confident enough in their own ability to access the answers. An examiner who is less certain of an answer, less comfortable with the topic and who is less certain of the criteria against which the answers are to be judged is likely to spend more time referring to the answer sheet. Then again the examiner may be particularly pedantic in their interpretation of how a structured viva should be conducted or be paranoid that the examiner assessor will pull them in and reprimand them for straying too far from the structured oral examining process. You may be able to detect clues as to what type of examiner you have by how he/she phrases the question. If the examiner looks down onto a sheet and reads the question from it without looking up at you and making eye contact they are in the second category. These examiners want facts, and ideally the facts that are listed on the answer paper.

You can refine your answering technique to improve your performance and the overall impression that you create. Some candidates may need a lot of prompting whilst others can get into a rhythm and quickly impress examiners with their knowledge. Examiners like a candidate who can take control and make life easy for them.

Most candidates usually require a bit of help from the examiner. If you have a reasonable knowledge of a subject then with oral examination practice you can train yourself to deliver the information with more facility and polish.

Do not worry about the pace of the oral exam. It is the responsibility of the examiners to ensure that the requisite points are covered, and the guided answer sheets from which they are working contain more information than all but the most talented candidates will cover. That said, do not stall the oral exam hoping the examiners will run out of time and only be able to ask you a few questions at the beginning rather than the more difficult ones at the end. This tactic is obvious to examiners and it annoys them immensely so that they will downgrade your mark.

The examiners' answer sheet also contains a list of prompts to guide the candidate back onto the subject if they stray too far and go off at a tangent from the question.

Every second an examiner talks provides less time for a candidate to show if he or she is competent. Therefore examiners are encouraged to allow candidates the maximum time to talk as much as possible. This process is helped by clear explicit questions. This contrasts to the old days when examiners would go off at tangents and tell you stories or anecdotes, although in all fairness you had usually passed the viva exam by that stage!

Examiners are now strongly encouraged to stop hammering on if a candidate can't answer a question, and just move on to another question. This is very different from the early millennium when many candidates frequently complained that some examiners would just keep at it in the vivas looking for the magical word to unlock the door.

Oral exam questions are prepared so as to be crystal clear and explicit with default questions if candidates are unable to answer. Tutorials are avoided, although again in the old days you had usually failed by the tutorial stage. It was not unheard of for examiners to stop formally examining candidates and give them an anatomy tutorial if they had messed up the anatomy section and failed outright.

Examiners may use props such as slides, radiographs, pictures and charts or surgical implants (e.g. screws, plates, femoral stem, worn polyethylene) but are advised to make sure they are clear and unambiguous to the candidates. Laminated photographs are generally preferred to laptops.

Topics for the structured oral exam

Ideally topics should be asked that cannot be assessed in a hands-on setting at the clinical exams, e.g. trauma emergencies, critical condition and acute illnesses. Some topics such as avascular necrosis (AVN) find their way into both parts of the exam so this distinction isn't particularly clear-cut at times. The clinical scenario should be realistic and be able to generate enough questions. The scenario should be neither too long with too much information nor too short with insufficient data.

Lines of questions should easily be developed for the 'introduction', 'competence' and 'advanced' question categories.

Examiners have identified appropriate acceptable and unacceptable answers to the questions.

Oral viva courses for the FRCS (Tr & Orth)

There are many viva teaching courses to choose from. Some are well established with excellent candidate feedback whilst others are less well known and illustrious. Oral practice courses are less difficult to organize than clinical courses and this explains the wider choice available.

The sensible option is to ask the advice of several local trainees who have recently passed the exam as to which one they would recommend. Another useful source is the regional training programme websites that usually have an area in which candidates are encouraged to provide feedback from the various courses they have attended. This should give you some idea of which courses are worth going to or avoiding. This material may be restricted unless you are a local trainee.

What is the evidence? Do I need to know papers?

Yes, you do. We are not convinced when we hear people say 'you do not need to quote the literature'. Looking good by quoting the latest journal articles is impressive but not to your examiner if you are quoting papers inappropriately within an answer.

You would need to know the seminal papers on different subject areas within the last few years. There is a subtle difference between quoting journal articles to support four different ways to manage a tibial plateau fracture or saying 'This is what I would do . . .' If the examiners ask 'Why?' you can then quote the literature.

If you want to score an 8 the examiners would expect that not only should you have an excellent

command of the literature but be able to use the literature to justify and support your management decisions.

To score a 7 a candidate needs to be familiar with the literature and be able to quote papers but perhaps is not quite as expert using it to support arguments or justify management decisions. The examiners may need to occasionally prompt and help out the candidate with the current literature.

Scoring 6 suggests a candidate would probably know the seminal papers but struggle to get further beyond this. With good knowledge and judgement and the important points mentioned a candidate may score a safe 6 without knowing any significant literature to back up the evidence.

A score of 5 suggests the literature doesn't really matter as you are struggling to keep your head above the water and are trying to get past the default questions onto the competency questions.

Scoring a 4 means you will have time to read the various key orthopaedic papers before you re-sit the examination.

Educational value of the structured, standardized oral exam

The oral examination questions are ideally sourced on patient care (i.e. clinical scenarios), designed to promote higher-order thinking (i.e. use of knowledge for decision making, interpretation, clinical judgement) and centred on a trainee's quality of answer (quality, focus, confidence displayed when answering and amount of prompting required).

Advantages of the oral exam include:

- It is a face-to-face exam. It can therefore be used to assess aspects of trainees that other exams may fail to assess such as quality of responses.
- It is a flexible exam. The examiner can choose from a pool of predetermined questions to ask an easier or more difficult question, depending on the candidate's response to the earlier question.
- Oral exams can be used to assess the candidate's cognitive abilities related to clinical practice, such as problem solving and decision making.
- Oral exams may capture certain important examinee traits which other exams may fail to assess; e.g. fitness-to-practise, worthiness for recognition as senior clinicians, professionalism.

Disadvantages of the oral exam include:

- Meticulous planning is required to ensure the exam is structured according to the examination blueprint.
- Oral exams require a large number of examiners to maintain reliability.
- The examiners should be pre-trained to apply the same standards to each candidate using pre-validated rating scale descriptors.
- The organization and administration of an oral exam is costly and time consuming.
- It has been shown that oral exams may bias against some candidates, e.g. certain ethnic groups.
- Oral exams tend to assess certain candidate attributes which are not intended to be assessed, e.g. examinee style of speaking.
- Oral exams can feel threatening and stressful to the candidate.

Although it is outside of the scope of the book to discuss in detail educational principles behind assessment several theories do warrant a brief mention.

Miller's pyramid of assessment stresses that four levels of assessment need to be tested to obtain a comprehensive understanding of a trainee's ability (Table 1.1).

Bloom's taxonomy categorizes knowledge into six levels:

1. Knowledge recall.
2. Comprehension or understanding.
3. Application.
4. Analysis.
5. Synthesis.
6. Evaluation.

This is a hierachical classification with the lowest cognitive level being 'knowledge recall' and the highest 'evaluation of knowledge' (Table 1.2). The lower levels can be attained with a superficial approach to learning with memorizing lists and rote learning of facts but the upper levels involve higher-order thinking and can only be attained by deep learning.

The assessment of recall and comprehension of knowledge is essential, but if only recall and comprehension are tested, lower-order thinking will be promoted. In contrast, higher-order thinking is encouraged by assessing the knowledge at application,