The Course Handbook 2013

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The content of this handbook represents an amalgamation of our own extensive interview preparation material and is not a collection of questions collected from candidates who have sat the interview. We feel, having been through the process, the list of questions provided comprises the core of what you should be prepared to answer. The example answers are simply an expression of our opinion about how best to answer a question and are not based on any official mark scheme.

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Dear Delegate,

Firstly, thank you for coming on our course. We take the trust that you’ve placed in us very seriously and understand the importance of the application process you’ve embarked on at this vital stage in your medical careers. We are fully committed to delivering you the best possible experience, with a view to preparing and guiding you through the challenging interview process.

The content of this handbook represents an amalgamation of our own extensive interview preparation material and is not a collection of questions collected from candidates who have sat the interview. We feel, having been through the process, the list of questions provided comprises the core of what you should be prepared to answer. The example answers are simply an expression of our opinion about how best to answer a question and are not based on any official mark scheme.

You will notice that some of the answers are clearly personal to us, which is unavoidable for certain types of question and our aim is to give an example of a well constructed answer. Other questions, lend themselves very well to a structured format, which should include certain elements. For these questions, we felt a series of bullet points, highlighting the key components of a good answer was the best format to help you prepare your own answers.

This handbook was specifically designed to be used alongside our interview course. Nevertheless, we wanted it to be a standalone, one-stop document containing all the information needed to prepare adequately for the interview. We advise that you read the entire handbook through at least once before arriving on the course. Inevitably, there will be more questions you think of, and preparation of these is recommended. Please do not use the examples provided as your own. Be creative, make your answers personal to you and your hard work will be rewarded.

The bulk of your preparation should revolve around learning your answers to the database questions and practising important skills such as describing images. The ideal way of doing this, is in a group, so our advice would be to take advantage of meeting fellow candidates at the course and arrange to form small study groups.

Our course is designed to be as up to date as possible. Nevertheless, we are not party to possible changes that may have been made to the interview format. You should all be aware, that the RCR/Shared Services may change the format of the interview process, within the scope of their description. We ask you to expect the unexpected and hope that the material we have prepared for you will allow you to deal with every eventuality. Remember that an unexpected question or station will be difficult for everyone and that it will be those who keep cool under pressure that will perform best.

This is the first edition of the handbook and there will inevitably be the odd mistake. Please let us know as and when you spot these so we can correct them. Our final plea is that you read the handbook carefully before you arrive for the course. This will hugely improve your experience and allow you to get the most out of the day.

We look forward to meeting you all.

Sam & Jay

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The Interview Structure

The RCR states that the interview structure is as follows: “A four station interview. Each station will cover different criteria from the person specification and last for 10 minutes”

The college can therefore structure the stations in any way it sees fit, within the limits of this description. The advice in this handbook is as up to date as possible, but as stated in the introduction, you should be prepared for changes!

A typical structure may be as follows:

1. Preparation station
   - Read through a small ‘audit’ or piece of ‘research’, which you will critique in the research, audit and teaching station.
   - Choose one of 10-12 images to describe & discuss in the abilities station.
   - Prioritise 5 imaging related requests, which you will discuss in the abilities station.

2. Research, audit and teaching
   - Critique the ‘audit’ or piece of ‘research’ you have read in the preparation station
   - Answer general questions on research, audit and teaching

3. Abilities station
   - Prioritise & discuss the order of scan requests from the preparation station.
   - Describe the image you selected in the preparation station.
   - 2 or 3 images will be brought out by the interviewers for you to describe and discuss.

4. Scenarios/ethics station
   - In this station, each candidate is given a number of scenarios to discuss with the interview panel.
   - These are designed to test your ability to work through certain professional and ethical issues.
   - Key areas being examined are:
     - Professional behaviour/working with colleagues
     - Consent issues
     - Radiation protection
     - Ethics

5. Career in Radiology
   - In this station you will be asked a series of questions aimed to test your commitment to radiology, your knowledge of radiology training and your insight into what a career in radiology entails.
The Abilities Station
Station 3: The Abilities Station

Time: 10 minutes
People in the room: 2 Consultant Radiologists

In this station the consultants may want to cover:

• Ability to prioritise workload
• Capacity to problem solve and think analytically
• Demonstrate effective judgement and decision making skills
• Understand the multi-professional team working in radiology
• Demonstrate a broad clinical knowledge base
• Communication skills

You will be given the opportunity to present your chosen examination. You may then be shown between 1-3 other images to present to the interviewers. Prepare for this like you did for any PACES or OSCE exam you have taken. Present the film, your findings, your differential and then your management.

There will then be the opportunity to present the order in which you prioritised the request cards. We think the best way to do this is to lay them down on the table in the order you have chosen. This reduces the likelihood of you getting flustered and forgetting what you have chosen in the preparation station.

You will be surprised. Time flies with this station!

Prioritising scans

There are 3 main questions you need to ask yourself.

1. Clinical need and impact on management?
   • Is the patient critically unwell?
   • Do they need the scan now and will the test change the immediate management of the patient?

2. Is this the best investigation?
   • Is there a more appropriate imaging modality e.g. MRI vs. CT for cord compression
   • Is there an initial study which should be carried out e.g. plain film for ?PE
   • Is there an alternative non-ionising investigation e.g. ultrasound

3. What resources are available? Common issues include:
   • MRI out-of-hours for spinal cord compression. This is often not available even in London teaching hospitals
   • Out of hours V/Q scans for suspected pulmonary embolism in suitable patients

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How to deal with the situation where the patient requires a scan but the wrong modality has been chosen.

• Our advice would be not to place the image last in terms of priority based on the wrong modality being requested, but to order the requests based on clinical need and impact on management and to state to the interview panel that you would change the modality if appropriate, after discussing with the relevant team.

• Example: A CT spine request for a patient, with symptoms of spinal cord compression. “This patient warrants urgent imaging because spinal cord compression is an oncological emergency and imaging could have a dramatic and immediate impact on the management of the patient. However, CT is not the correct modality so I would discuss the patient with the relevant team, and if appropriate, ask them cancel the CT request and request an MRI of the spine instead.”

How to deal with scans that have been requested through an inappropriate referral pathway.

• You may be presented with a scan that has been requested by a senior clinician or surgeon for one of the following:
  o Themselves
  o A friend
  o Their colleague
  o A member of their family
• Undue pressure may have been applied to get a non-urgent scan expedited
• The important points here are as follows
  o The imaging request should have been requested via an appropriate referral pathway i.e. after having been seen and examined by the relevant clinician or surgeon.
  o A scan should never be expedited because it is for a colleague, friend or member of the family.
  o You have to manage a limited resource here appropriately.
• You should discuss these issues with the person who has requested the scan and explain that the request will have to be made through the normal pathways.

Example requests to highlight certain issues.

1. CT Chest/Abdo/Pelvis request for a young patient, road traffic accident, haemodynamically unstable.
   • Likely injuries include aortic injury/transection, hepatic/splenic/renal laceration or rupture
   • This patient requires an urgent CT scan but should be stabilised first.
   • If unable to stabilise, the patient may be better off going straight to theatre, although CT can be performed if clinically warranted and discussion with the referring surgeons is advisable.
   • This type of scan is likely to be your top priority.
Important images

- **CTPA showing a saddle embolus**

  This is a single axial slice of a contrast enhanced CT pulmonary angiogram, through the main pulmonary trunk. There is a filling defect straddling the right and left pulmonary arteries, in keeping with a large saddle embolus. I would inform the team immediately, so that anticoagulation or thrombolysis of the patient can be commenced promptly.

- **CXR showing marked airspace consolidation**

  This is a frontal chest radiograph of a male/female patient (if breast shadows). There is an area of airspace opacification in the right upper zone (use upper/mid/lower zones rather than lobes, otherwise you may get into trouble). My differentials for these appearances include, infection, pulmonary oedema and bronchioloalveolar carcinoma. I would inform the team of my findings and suggest a repeat CXR in 4 to 6 weeks after an appropriate course of therapy to check for resolution.

  Note: If the CXR is suspicious for TB, i.e. upper zone consolidation or miliary TB you should recommend that the patient be immediately isolated in a side room.

- **CXR showing a mass**

  This is a frontal chest radiograph of a male patient. There is a well defined soft tissue density projected over the left upper zone. My differentials for these appearances would include a primary or secondary lung malignancy, lung abscess, a benign lesion such as a pulmonary hamartoma or an area of rounded atelectasis. I would inform the team and refer them to the respiratory MDT for discussion. I would also recommend a CT of the thorax to better characterize the lesion.

- **AXR showing small bowel obstruction**

  This is a plain abdominal radiograph, which shows centrally located dilated, gas filled loops of bowel. I can see the valvulae conniventes running the full width of the bowel. These findings are in keeping with small bowel obstruction. I can see no evidence of previous abdominal surgery or abnormal gas overlying the hernia orifices overlying the groin to suggest adhesions or hernial obstruction. There is no obvious Rigler's sign to suggest free intraperitoneal gas. This is potentially a surgical emergency, due to the risk of perforation. I would inform the team immediately and recommend an urgent surgical referral together with a CT scan of the abdomen & pelvis to identify the cause and transition point.

  Know the 3,6,9 rule for maximum bowel diameter. 3cm = small bowel, 6 cm = large bowel, 9cm = caecum.
Station 4: Scenarios station

**Time:** 10 minutes  
**People in the room:** 2 Consultant Radiologists  
**Number of scenarios:** 2-4

In this station, each candidate is given a number of scenarios to discuss with the interview panel. These are designed to test your ability to work through certain professional and ethical issues. Key areas being examined are:

- Professional behaviour/working with colleagues
- Consent issues
- Radiation protection
- Ethics

This is a difficult station and the easiest one in which to get stuck. The station will begin with a description of a scenario, after which you are asked in a general way about how you would deal with the situation. The interviewing technique has been described as a ‘cascade’ where the interviewer will ask a relatively simple question and your answer will prompt a complication in some way. This will continue. Remember to stick to your core principles of what is ‘right’ and what is ‘wrong’. Try to remain calm and not be coerced into making a decision you wouldn’t be happy making in real life.

The best approach is to have a set structure in your mind about how to answer these types of questions and to proactively work through the issues with minimal input from the interview panel. Interviewers will be fed up with having to drag candidates through each scenario and will be impressed with anyone who attempts to run through all the issues with minimal prompting. The big mistake is to dive straight into the scenario without any structure in mind.

The general approach should be as follows:

- Identify the main issues within the particular scenario that you are given.
- Explain these to the interview panel. E.g. “In this situation, I think the main issues which need addressing are those of consent, radiation protection and professional behaviour”
- Laying out the issues in this way, provides you with the framework to answer the question in a structured way. Deal with each issue in turn:
  - State the issue that needs addressing.
  - Explain the problems this issue is creating.
  - Explain what action are you going to take to solve the problem.
You are the senior IR registrar on call. You are called to perform an emergency coil embolization of a GI bleed on a patient that is Jehovah’s witness. He states that under no circumstances does he want to have a blood transfusion. How do you proceed?

- **Issues**
  - Most Jehovah’s Witness’s would refuse a blood transfusion. However, there are varying degrees of acceptance towards different blood products or a ‘cell-saver’.
  - The procedure may result in significant blood loss.
  - This is a complex issue that you have probably not had to deal with before.
  - If the patient has capacity then you must respect their decision.
  - Your senior may not be available.

- **Problems created**
  - You do not know exactly what is and what isn’t acceptable to this individual in terms of intervention, should he lose a significant volume of blood.
  - In an emergency situation, lack of clarity over the acceptable options could lead to serious consequences, including the patient dying.
  - The patient may be unconscious with a relative who insists they would not want blood products.

- **Action to resolve problems**
  - Discuss in as much detail as you have time for, what is and what isn’t acceptable to the patient in terms of volume replacement.
  - Above all do not delay the procedure too long as this will only increase the need for potential volume replacement.
  - Involve a senior colleague early.
  - If your direct senior is unavailable then seek advice from any available consultant. You may also wish to contact the legal department at your hospital or your medical defence society.
  - Get an anaesthetist on standby and discuss with them briefly the issue.
  - If the patient is unconscious then you must act in the patient’s best interests. The patient’s best interests are not necessarily to have a blood transfusion. In fact this may leave them ostracised from their community, friends and family.

- **References:**

You are an ST1 radiology registrar in nuclear medicine. A senior radiographer informs you that a child undergoing a bone scan has been given the adult dose of the radiopharmaceutical. The parents want to know if everything is ok. What do you do?

- **Issues**
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