

Chapter 1

SUGGESTIONS TO FUTURE CANDIDATES SITTING THE PART II RADIATION ONCOLOGY EXAMINATION.

D.Christie & G.Delaney, October 1997

This booklet gives a set of suggestions to candidates preparing to sit the exam from the perspective of two registrars who have recently passed (thankfully). As this exam is unlike any that the candidate will have done, it requires different preparation, and preparation which exceeds the clinical experience gained in the day-to-day management of patients. While trainees in other specialties have texts to guide their exam preparation, no publication is available to radiation oncology registrars. It is hoped that registrars who are beginning to prepare for the exam will gain an improved sense of direction in their studies after considering our suggestions. Candidates will naturally vary in the style of preparation that is best for them, but the following includes some of the suggestions made at the training course:

Getting started:

1. **Plan to sit in your 4th or 5th year of training, and allow at least 12 months of your spare time to prepare.** Expect to spend most evenings and weekends during this time on your studies. Most of your social life and outside interests should be shut down if you are seeking to pass at the first attempt. Those who have partners should communicate to them the significance of passing the exam and generate the attitude that you are sitting the exam together.

2. **Obtain copies or ready access to all of the major oncology texts 1,2**, a book on general medicine **3** and a book of surgical pathology, ideally Ackerman's book **4**, although cheaper alternatives are available **5,6**. Halperin's text **7** is well-suited to preparation of the paediatric topics.

3. **Aim to compile a basic set of study notes on all the cancers and cancer-related topics, with several months to spare prior to the intended date of sitting.** This should include a plan of management for each stage of each tumour, including surgical methods, chemotherapy regimens and radiotherapy techniques. The last three months should not be spent on learning new information, but spent in revising and improving its applicability to clinical problems.

4. When going through the literature, **it is easy to go overboard learning studies, and to oversupply essays with references.** There are few opportunities in the exam to present and discuss literature in detail, studies which support the use of standard practice for example are of mainly historical value, and only landmark papers would need to be quoted. If you recommend a treatment that is not standard or might seem unconventional to the examiners, have a sound justification for it from the literature.

Methods of study:

5. **Pay special attention to issues which are poorly covered in texts**, such as the indications for radical treatment, the advantages of one method of treatment over another, the significance of the various complications (not just their frequency), and the likely outcome if no treatment is given. Key management issues are commonly avoided by the texts, and over-reliance on texts can result in a failure to form a cohesive opinion about how a treatment option should be selected for a particular patient. If surgery or chemotherapy is involved you should have an opinion about how these would be done, so that you can advise medical oncologists or surgeons, rather than referring the patients to them for their opinion.

6. **Write essays from past papers as you go.** A topic should not be considered finished until that is done. Have them marked by a variety of consultants; particularly any recently involved in the exam.

7. Without rewriting the essay question, **use the words of the question in the answer as much as possible so that you know your answer is relevant**, for example, if the question says "Discuss the indications for..." then start your answer with "The indications for ... are..." rather than starting with irrelevant information such as the importance of the question or the prevalence of the problem, as there is simply no time to waste, and no marks given for irrelevant material. When planning essays, don't forget to consider the six topics which are so easily omitted - namely palliation, paediatrics, geriatrics, brachytherapy, treatment of recurrent disease, and follow-up.

8. **Become familiar with the terms used in the exam questions.** Some terms that occur frequently and an approach to them are listed below (8a to 8h):

8a. "*Discuss the role of radiotherapy in cancer of the X*". Begin by dividing radiotherapy into the clinical settings in which it is given, such as preoperative, definitive, postoperative, recurrence, palliation. Under each of these, describe the treatment, the aim, advantages, disadvantages, indications, contraindications, toxicities and expected results. This type of question enables (and forces) you to present your opinion, so avoid terms which are non-committal such as "you could do..." or "it has been proposed that...etc", as they do not inform the examiner that you are making safe, sensible choices. The use of a specific technique or protocol at your own centre is not evidence that a treatment is effective, so avoid mentioning that a technique is used at a specific centre such as your own unless you can present some data to support it.

8b. "*Discuss the relative roles of surgery, chemotherapy and radiotherapy in the management of cancer of the X*". Choose one approach from these two options. Either divide the essay into surgery, chemotherapy and radiotherapy, and give a long paragraph on each using the scheme in 8a above; or, divide the tumour into stages and discuss the way in which the role of each modality varies accordingly. Essays answering this type of question tend to be very long and can easily exceed the allotted time.

8c. "*Describe in detail a radiotherapy technique for the treatment of...*" Divide the essay into - pretreatment steps (eg dental review, visual field testing, semen analysis), simulation markup (beam direction and treatment borders, including a diagram), prescription (dose, fractionation, treatments per day, days per week, total time, beam energy), special instructions (such as bolus, compensators, port films, point dose calculations, set-up checks etc), finally a brief summary of the acute toxicity and its management.

8d. "*What is the rationale for the use of adjuvant radiotherapy in the treatment of...*" Describe the frequency of recurrence if no radiotherapy is given,

and the outcome of treating recurrent disease in that setting. Describe the effect of other adjuvant treatments on local control (usually less than radiotherapy), briefly outline a technique (dose and fractionation), then balance the benefits of the radiotherapy against the toxicities, and give your indications and contraindications for giving radiotherapy.

8e. "Discuss the management of a patient with ...". Divide management into assessment and treatment, then divide assessment into history, examination and investigations, giving a short paragraph on each. When the results of the assessment are not given in the question, then all outcomes must be accounted for and an algorithm may be the best way to cover them. Each possible scenario requires a reasoned answer, but bear in mind that the question is asking for your Opinion on treatment of a specific patient, so give an opinion rather than a non-committal discussion of options.

8f. *The unpredictable question.* Each exam contains a question about a practical oncology-related topic, such as waiting lists, follow-up, screening, or pregnancy. There is no universal approach to these, but a range of current oncology topics should be predicted and converted into practice essay questions to ensure a systematic approach during the exam.

8g. "Discuss the clinical features of cancer of the X." The term "clinical features" is variably interpreted but implies symptoms, signs and investigation findings, not prevalence, staging, treatment etc.

8h. "Write short notes on the pathology of cancer of the X." Divide the notes into the following sections (where applicable): Predisposing factors, natural history (including routes of spread), gross appearance, biopsy technique, histological appearance, immunohistochemistry, EM features, cytogenetic features, typical treatment, prognosis. Avoid excess clinical information.

9. Most importantly of all, **coordinate with other registrars at a similar level.** Other registrars will have far more time for you than anyone else who might contribute to your training, and the perception of a competitive barrier between registrars should be converted to a sense of collaboration. Swap essays, discuss topics, take each other for short cases, and rehearse pathology pots and slides together. Very little organisation is required to arrange a small group with regular meetings (eg once per month). The optimal attendance is 5 - 10, which is achievable in most large cities where there is one large centre or several smaller centres. It should complement any existing formal teaching rather than replacing it. Those who are in isolated centres with no others at a similar level should share essays and relevant articles etc by mail, electronic mail or phone.

10. **When seeing patients in clinical settings, arrange to present them (including their management) as long cases to your consultants.** There are only a limited number of clinical problems, which lend themselves to this part of the exam, and it is possible to prepare well for the common examples. Rehearse an approach to specific common abnormalities such as skin lesions, neck nodes, cranial nerves, breast lumps, coin or hilar lesions on a chest X ray, and brain lesions on a cerebral CT scan. Many short cases have superficial lesions, so become completely familiar with the superficial and deep units available in your department, memorise their energies, depth dose characteristics, filters, penumbras, shielding requirements, FSD's (focus to skin distance), and appreciate how these can be manipulated to tailor the treatment.

11. **Practice one of the commonly required hand-planning problems once or twice each month.** A friendly radiation therapist may arrange outlines and a selection of beam profiles. Common mistakes include selecting a beam that is too narrow to cover the volume and misorientating wedges. Suitable examples include a pituitary tumour, a maxillary or parotid tumour (wedged pair), breast tangents, four-field chest, abdomen or pelvis. Obtain a copy of the questions and ensure that you understand the meanings of incident and applied dose. Although the readily-available questions are the same each year, invariably candidates forget to complete them all (*personal communication, Prof A Langlands*).

Getting close to the exam:

12. **Ask your consultants to arrange and mark full mock written exams and include a mock planning exam.** The written exams require constant writing for a two to three hours, and the time restrictions add stress that can influence your answers. You may be surprised when the marks are compared with essays you have written without time pressure. Use the experience to decide what you will take into the written exams well in advance. As trivial as it seems, even the pens you choose can make a difference under the pressure of time.

13. **Make the final decision about whether to sit within the last few weeks before the deadline for paying the exam fee.** Consider the results of your mock written exam, the result of your mock exam at the Part II training course, practice essays, and the opinions of your consultants. It is best not to sit until a reasonable chance exists as unsuccessful attempts may affect your employability as a consultant (even though they do not appear on your curriculum vitae), as well as the personal impact of failure.

14. **Use available study leave,** but if extended periods of leave are required to complete background reading then you are probably not ready for the exam. One or two weeks should enable you to fill any final holes in your reading and finalise essay plans.

15. **Avoid becoming physically run-down** as this affects performance. Get sufficient rest, sleep and exercise to function at your usual level.

16. Have your final few days before the exam planned out; you will not have time to read all your notes. Compile a set of "final-check" notes of things that you find difficult, and check them immediately before you go in. **Be fully aware of the timetable, the venue, and how long it takes to get there.**

The exam itself:

17. When starting a written exam, there is variation of opinion about essay planning. Some prefer to plan all essays first; then write them, others plan and write essays one at a time. If you take the first option, after completing the plans, divide the remaining time by the number of questions for the time to be spent on each essay and write the times down on the question paper. If an essay is unfinished within the allotted time, stop writing it and go on to the next. At the end of the planning process, look over the plans and consider the frequently-omitted considerations, including recurrent disease, paediatric and elderly cases, brachytherapy, and palliation. Allow five minutes at the end of the exam to round off unfinished work. At the outset, you will be given two exercise books, so aim to write some plans in each, so that you can have the plan open at the right page while writing the essay in the other book. Your approach to essay planning should be practiced in mock written exams so that you use a rehearsed process on exam day. **Know how much you can write in 25 minutes.**

18. Between the written and oral exam, continue to practice as many clinical cases as possible, and present them to a range of observers. It is better to use observers who are less familiar with you to simulate the exam. Medical oncology and palliative care wards are good sources of material. You should not need to spend much further time on hand-planning exercises.

19. In the short cases, don't spend time talking to the patient. Just say "hello" and "tell me if I hurt you" if that seems likely. You will be asked to

examine a specific anatomical site and you should simply do that, rather than trying to examine a system such as the respiratory system. You may even be asked to examine a specific abnormality for example a skin cancer, then later asked what other relevant regions you would have examined if there was time, such as lymph nodes. Examine each abnormality fully, it is easy to forget fixation of skin lesions, and evidence of perineural spread. It may be necessary to examine beyond the regions indicated, for example if you are asked to examine the legs of a patient who appears to have spinal cord compression you may need to define the sensory level on the chest. If so, ask the examiners permission first, if it is relevant they should agree. The time spent examining is usually one to three minutes; three to five minutes will be spent answering the examiners' questions. Commonly asked questions include "What have you found?" (Answer: "cancer of the X until proven otherwise", or give a differential diagnosis if the answer is not obvious), or "how would you proceed to manage this patient" (Answer: history, further examination, relevant investigations, providing these confirm the suspected diagnosis then management as follows...).

20. In the long cases, spend a short time gaining good rapport by thanking the patient and telling him or her not to keep anything secret from you. Keep a close check on the time and plan to have five minutes at the end to put your thoughts together. In the history, include detailed questioning on epidemiological factors (eg menstrual history or asbestos exposure) and social history if relevant to management. You may be surprised at how much information the patient can give, one patient in a mock clinical exam was able to say that she had a recurrent ependymoma of the spinal cord at T8 and was suffering from Brown-Sequard syndrome. Ask the patient about the treatment options they were given and their attitudes to the treatment they are receiving. For example, one patient said that she was happy to be having a mastectomy rather than a breast-conserving treatment because her husband had previously had an amputation of the leg.

21. In both short and long cases, a period of questions will follow the time spent with the patient. Your answers to these and those given in the viva section will be the most important determinants of success or failure. The questions are not tricky or particularly difficult (in hindsight), but address issues which arise in everyday practice. You will not be asked about rare cancers or obscure topics unless you raise them in your answers. The examiner might test your indications for treatment by changing the patient's age, performance status or other background information. **Your organisation and maturity regarding the management of patients must be presented. Talk to the examiners as if you were talking to a consultant colleague in a busy clinical practice. Answer questions as directly as possible rather than talking around the question.** Apparently, a common fault is to give an answer on a variation of the question that is being asked. No answer should take more than a few sentences, however silence may indicate that more information could be given. Although the examiners will not say if you are right or wrong, and will not offer any advice, it is easy to misunderstand a question if you are not looking at them while talking, just as you might in any professional conversation. "Tuning in" to the examiners' questions can help you avoid being led into a situation where you are repeatedly giving an incorrect answer without stopping to think if you are certain. If you are being repeatedly questioned on an issue then there is something about your answer which is not addressing the question, and stop briefly to think before continuing. You may ask the examiners brief direct questions for clarification, and it can help to do so rather than persisting with a situation of misunderstanding. Nerves alone can make you give wrong answers, so be prepared to retract anything which you realise to be incorrect (hopefully not too often). It is better to decisively retract an incorrect statement and then follow a line that you feel more comfortable with, than to give inconsistent answers out of a fear that retraction is inappropriate.

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