

Nuclear Medicine viva 10th Sept 2010

1. What is the efficiency of a gamma camera?
 - a. Vaguely: poor, if a number exists, good luck to you.
2. What are converging and diverging collimators?
3. What are they used for?
4. How does the sensitivity vary with distance for a converging collimator?
 - a. Increases up to the convergence point.
5. What would you see if the collimator was damaged?
6. What effect would that have clinically?
 - a. Literally the answer was: a bad effect on the clinical image.
7. Radionuclide waste calculations (project). Are there any examples of where the same radionuclide used in two different investigations should have a different excretion factor? I said TcMAA and TcMAG3, she specifically wanted ¹²³IMIBG and Na¹²³I but they're both correct.
8. What are sensitivity and specificity?
9. Where do you get your GFR standard from?
 - a. It's a spare patient sample provided by the manufacturer.
10. What attenuation correction can you use other than CT or a line source?
 - a. Chang method.
11. What sort of filters can you apply to an image?
 - a. This question kind of fizzled out when I asked if she mean planar or FBP, probably meant things like smoothing filters but I'm not sure.
12. What is the sensitivity of a gamma camera?
 - a. I had no idea what she meant, she then asked:
13. What is the sensitivity of a 2 phase bone scan?
 - a. Again I had no idea what she meant, she evidently meant 'what can you diagnose with a...'. Can differentiate between bone infection and loosening of an implant.
14. GM and scintillation monitor calibration. How does the sensitivity of each vary for photons and electrons and why?
 - a. GM good for electrons, Scintillation good for photons
15. Gamma probes, what precautions do they use in theatre?
 - a. A big plastic condom thing and in general they should be careful with them, but they are not, thus they break them.
16. You have a new department, what legislation do you have to comply with?
 - a. Write down the words IRR99, IRMER, MARS and RSA/EPR on a sheet and give a brief summary of what you need for each, if you just dive in and talk about legislation you'll probably get lost.
17. Incidents, who do you notify if there is:
 - a. an equipment failure?
 - b. a patient overdose?
 - c. a source loss?
18. Signage on a therapy room door, other than controlled area, what should you have?
 - a. 'Contamination risk'
19. What is the role of the RPS?
 - a. The **only** role of the RPS under IRR99 is the ensure that the local rules are followed, they have no other responsibilities as the RPS. This is widely misunderstood but even the moderator agreed with me, recently HSE

inspectors have been giving people a hard time about this misunderstanding.

20. What if the RPS doesn't like the content of the local rules, can they change them?
 - a. No, the role of the RPA is to advise on their content, not the RPS. (Obviously realistically they can advise but that's not technically in their job description).
21. Moderator, afterwards, not really during the viva proper, ¹⁷⁷Lu-Dotatate therapy that we do. Do you give anything to protect the kidneys?
 - a. Yes, an amino acid.