Appendix 5: DMIST Questions

1. Briefly describe the purpose of the study.
2. Briefly describe the study design.
3. What was the gold standard for determining the presence or absence of cancer?
4. What is image contrast and why is it important?
5. Define statistical power and name the factors that determine the power of a clinical trial.
6. What sub groups were analyzed? Were these subgroups specified prospectively? Why is this important?
7. How was a usually dichotomous test result (positive or negative) converted into results suitable for ROC analysis?
8. Explain and be able to show how the ROC curves were generated/drawn. Explain how the ROC curves were compared.
9. What is the Bonferroni procedure and why was it done?
10. If we used mammography to screen for male breast cancer, what would happen to sensitivity, specificity, positive and negative predictive values? Why?
11. What is verification bias?
12. Based on the sensitivity and specificity reported for mammography in table 3, is mammography better at ruling in or ruling out breast cancer?
13. Does the apparent improvement in breast cancer detection using digital mammography in certain subgroups make sense?
14. Explain what the authors mean when they say that there is a statistically significant difference between digital and film screen mammography in breast cancer detection in women younger than 50 years of age. Include the concepts of the null hypothesis, alpha and p-value in your discussion.