

Mammography screening knowledge questions and marking scheme

Knowledge questions

1a. Imagine 1000 average healthy women, aged 70 years. How many of these women do you think will die from breast cancer over the next 10 years *without* mammography screening?

_____ out of 1000

1b. Now imagine the same 1000 women again. How many of these women do you think will die from breast cancer over the next 10 years *if* they all attended mammography screening every 2 years?

_____ out of 1000

2. Do screening mammograms detect every breast cancer?

Yes

No

3. Out of 1000 women who have a screening mammogram every 2 years over 10 years, 41 will be diagnosed with breast cancer. Of these 41 women how many do you think...

a) had their cancer detected by screening

_____ out of 41

b) had breast cancer diagnosed because they had symptoms between screening mammograms

_____ out of 41

4. Do all women who have an abnormal screening mammogram result have breast cancer?

Yes

No

5. Out of 1000 women who have a screening mammogram every 2 years for the next 10 years, how many do you think will have an abnormal screening mammogram result, go for extra tests and then find out they do not have cancer? (*please tick one box only*)

Between 0 - 99

Between 100 - 199

Between 200 - 299

300 or more

6. Who is more likely to be diagnosed with breast cancer? (*please tick one box only*)

Women who have screening mammograms

OR

Women who do not have screening mammograms

7. Who is more likely to die from breast cancer?(*please tick one box only*)

Women who have screening mammograms

OR

Women who do not have screening mammograms

Marking Scheme

Question 1 (numerical estimate of breast cancer deaths):

2 marks if: $Q1a \leq 20$ and $\frac{1}{2} \times Q1a \leq Q1b < Q1a$

1 mark if: $Q1a \leq 20$ and $0 < Q1b < \frac{1}{2} \times Q1a$

OR

$Q1a \leq 50$ and $\frac{1}{2} \times Q1a \leq Q1b < Q1a$

0 marks if: $Q1a \leq 50$ and $Q1b < \frac{1}{2} \times Q1a$

OR

$Q1a > 50$

OR

$Q1b \geq Q1a$

Question 2 (concept of accuracy/Sensitivity):

1 mark if answered: No

Question 3 (numerical estimate of accuracy/Sensitivity):

2 marks if: $27 \leq Q3a \leq 40$ and $1 \leq Q3b \leq 14$

1 mark if: $27 \leq Q3a \leq 40$ and Q3b unknown

OR

Q3a unknown and $1 \leq Q3b \leq 14$

OR

$Q3b < Q3a < 41$ and $Q3b \geq 1$

0 marks if: $Q3a = 41$ or $Q3b = 0$ or $Q4b \geq Q4a$

Question 4 (Concept of false positives):

1 mark if answered: No

Question 5 (Numerical estimate of false positives):

1 mark if answered: 100-199

Question 6 (concept of over-detection):

1 mark if answered: Women who have screening mammograms

Question 7 (Concept of breast cancer deaths):

1 mark if answered: Women who do not have screening mammograms

Extra mark

Given to those who (concept of breast cancer deaths and numerical estimates):

Received 1 mark for Q7 AND Q1a>Q1b>0

Total Score out of 10