

GCSE Biology A (Gateway)

J247/04 Biology A B4-B6 and B7 (Higher Tier)

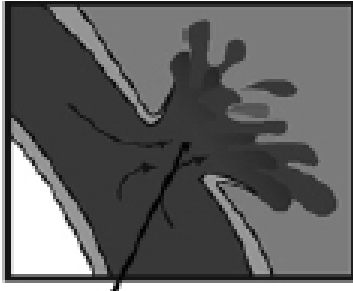
Question Set: 6

1

Strokes are a type of cardiovascular disease.

One cause of a stroke is an artery in the brain bursting.

Hemorrhage



Blood bursts through wall

(a) (i) When a person has a stroke, why are arteries more at risk of bursting than veins?

[1]

(ii) How are arteries adapted to try and prevent them bursting and causing a stroke?

[1]

(b) Strokes can have many risk factors.

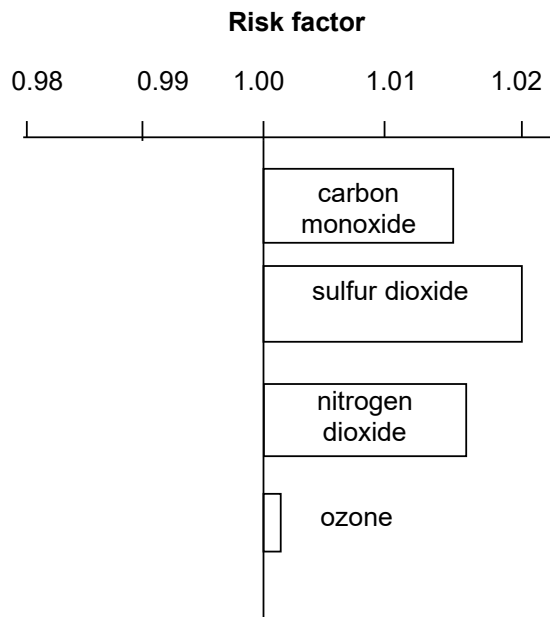
Scientists are trying to investigate whether the risk of having a stroke is increased by pollution.

- They looked at data from 28 different countries, involving six million people.
- They looked at the number of people who had a stroke soon after an increase in pollution.
- They compared this to the number of people who had a stroke after no increase in pollution.

This formula was used to produce a risk factor:

$$\text{risk factor} = \frac{\text{number of people who had a stroke soon after an increase in pollution}}{\text{number of people who had a stroke after no increase in pollution}}$$

The graph shows their results



- (i) If the risk factor for a pollutant was 1.00, what conclusion could the scientists make? [2]
- (ii) Which pollutant is least likely to be a risk factor for a stroke? [1]
- (iii) The risk factors calculated by the scientists are quite small.
However, they still think that pollution is an important factor in strokes.
How did the nature of the data they used help to convince them of this? [2]

Total Marks for Question Set 6: 7

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