

Lifestyle and risk factors

Q1.(2018)

An explanation linking:

- exercise {requires energy/
uses respiration} (1)
- {obtain from/reducing} fat (1)

Q2.(2018)

An explanation linking two of the following:

- reduces the volume of the stomach (1)
- so it reduces food intake (1)
- so stored {fat/lipids} is used up (1)

Q3.a(2018)

Substitution (1)

$$72 \div 1.81^2$$

Evaluation (1)

$$= 21.977 / 21.98 / 22$$

3 s.f. (1)

22.0

Q3.b(2018)

- the BMI shows male A is overweight but his waist:hip ratio {shows he is not abdominally obese / is below 0.9/is healthy} (1)
- male A's weight distribution is not around the {vital organs/abdomen} (1)

Q4.(2020)

An answer combining:

- 1 in 20 is a rate of 5% (1)
- obesity increases the risk of bowel cancer more (than other types of cancer) (1)

Q5.(2020)

An explanation linking:

- BMI calculation takes into account height / divides mass by height² (1)
- the obese man must be shorter / the normal man is taller (1)

Q6.a(2021)

$(8 \times 4) = 32$ (grams of alcohol) (1)

1.2 / 1.20 (x risk)

Q6.b(2021)

An answer including two from:

- mutations in DNA (1)
- cell division is uncontrolled (1)
- leading to the formation of a tumour / growth / mass of cells (1)

Q7.a(2023)

An answer including two from:

- environmental factors (1)
- diet / food intake (1)
- exercise / activity (1)
- if the person is affected by a disease (1)

Q7.b(2023)

An answer including:

- BMI is in the overweight range (1)
- waist:hip is in the healthy range (1)
- suggesting that the fat is not around the vital organs / the patient may have a high percentage of muscle (1)
- patient is consuming too much alcohol which {affects the liver / causes liver damage} (1)
- not smoking reduces the risk of {cardiovascular disease / lung disease / stroke} (1)

Q7.c(2023)

Structure

- stimulus detected by a receptor
- receptor transfers the signal to the sensory neurone
- sensory neurone transfers the signal to the CNS / brain / spinal cord / relay neurone
- signal is transferred to a motor neurone
- myelin sheath speeds up the transmission of the electrical impulse
- the motor neurone transmits the signal to the effector
- the effector produces the response

Function

- rapid response
- to protect the body / response to danger
- involuntary automatic response