14.1 The Physiology of Stress and Stress-Related Illness: Test Pack

AQA 7182 · about 15 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions.

1 Outline the HPA axis, naming the hypothalamus, pituitary and adrenal components and the hormone released.

(Total for Question 1 is 2 marks)

2 Explain an ethical issue such as protection from harm and how it is addressed in stress research.

(Total for Question 2 is 2 marks)

3 Identify an individual difference in cortisol response, such as gender or temperament, and outline its effect on stress-illness links.

(Total for Question 3 is 2 marks)

4 Explain two ways long-term elevated cortisol damages bodily systems, for example immune suppression and increased cardiovascular risk.

(Total for Question 4 is 4 marks)

© Revision Library | revisionlibrary.co.uk

Mark scheme · 14.1 The Physiology of Stress and Stress-Related Illness: Test Pack

Question 1

names the three components: hypothalamus, pituitary gland, and adrenal cortex oe	**B1**
states that the adrenal cortex secretes cortisol as the key stress hormone oe	**B1**

Answer: Hypothalamus -> pituitary -> adrenal cortex; the adrenal cortex releases cortisol.

Question 2

identifies an ethical issue such as protection from psychological harm or distress in stress induction studies oe	**M1**
explains how researchers mitigate this, for example through careful screening, informed consent, limiting stress induction intensity and providing debriefing and support oe	**A1**

Answer: Researchers must protect participants from psychological harm when inducing stress; they do this by screening for vulnerability, obtaining informed consent, keeping stressors within ethical limits and providing debriefing and support afterwards.

Question 3

identifies an individual difference, e.g. some people show high cortisol reactivity while others show blunted responses, or gender differences oe	**M1**
explains that this variation means the same stressor may produce different physiological effects and illness risk in different people oe	**A1**

Answer: There are individual differences such as high versus blunted cortisol responders or gender differences in reactivity; this means the same stressor can lead to illness in some people but not others, complicating a one-size-fits-all causal model.

Question 4

states that prolonged cortisol suppresses immune function, for example by reducing lymphocyte activity or cytokine production oe	**M1**
explains immune suppression increases susceptibility to infection and slows wound healing oe	**A1**
states that chronic cortisol and sympathetic activation affect the cardiovascular system, for example raising blood pressure and promoting atherosclerosis oe	**M1**
explains this increases risk of cardiovascular disorders such as hypertension and coronary heart disease over time oe	**A1**

Answer: Chronic cortisol suppresses immune responses, reducing lymphocyte function and slowing wound healing, and, together with prolonged sympathetic activity, raises blood pressure and contributes to atherosclerosis, increasing cardiovascular disease risk.

© Revision Library | revisionlibrary.co.uk