

# ABPI Diploma and Certificate Exam



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## Example questions

All questions in the exam are multiple choice with four possible answers from which you select the one correct answer. There is no negative marking – in other words marks are not taken off if you get an answer wrong.

Questions will include the following question types:

### A. Remembering - recall of factual information given in the learning materials

1 Pressoreceptors release an enzyme called renin. Where in the body are pressoreceptors found?

- A Brain
- B Liver
- C Pancreas
- D Kidney

*Learning materials Unit 6; section 6.2.2.2 Edition 8 (Control of blood pressure)*

2 A patient is considered to have a low risk of developing cardiovascular disease if the assessment score is less than:

- A 5%
- B 10%
- C 15%
- D 20%

*Learning materials Unit 6; section 6.2 Edition 8 (Risk factors for cardiovascular disease)*

3 When treating rheumatoid arthritis, NSAIDs should produce an assessable anti-inflammatory effect within

- A a day
- B a few days
- C a week
- D three weeks

*Learning materials Unit 5; section 5.3.3 Edition 8 (Treatment options)*

4 Ischaemia is best described by which row A to D?

	It is characterised by...	Which causes a...
A	a restriction in blood supply to the tissues	shortage of oxygen and glucose
B	an excessive blood supply to the tissues	shortage of oxygen and glucose
C	a restriction in blood supply to the tissues	buildup of oxygen and glucose
D	an excessive blood supply to the tissues	buildup of oxygen and glucose

*Learning materials Unit 6; section 6.9 Edition 8 (Thrombus)*

**B. Understanding - straightforward questions based on information given in the learning manuals but which require a degree of understanding and/or interpretation of the materials**

5 Which of the following may trigger an episode of endogenous depression?

- A Bereavement
- B Chronic illness
- C Variation in day length
- D Break up of a relationship

*Learning materials Unit 15; section 15.3.1.2 Edition 8 (Triggers of depression - states that exogenous depression is a reaction to a life event; A, B and D are life events.)*

6 Cardiovascular risk calculators consider the medical history of a patient's first degree relatives. Which of A to D below includes only first degree relatives?

- A Brother, mother, first cousin
- B Sister, daughter, father
- C First cousin, father, brother
- D Son, mother, grandfather

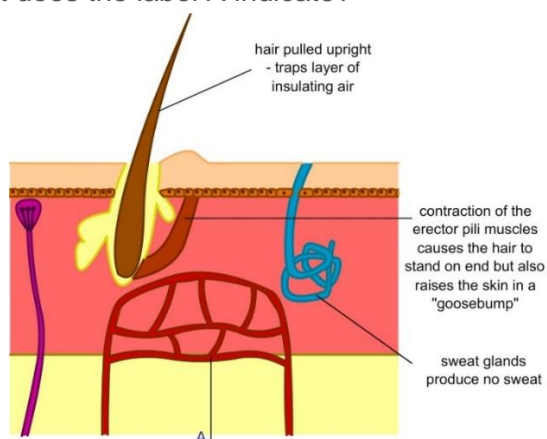
*Learning materials Unit 6; section 6.2 Edition 8 (Risk factors for cardiovascular disease)*

7 Cholangiocarcinoma is more likely in a...

- A 40 year old man suffering from primary sclerosing cholangitis
- B 40 year old woman suffering from hepatitis C
- C 70 year old man suffering from hepatitis B
- D 70 year old woman suffering from shigellosis

*Learning materials Unit 12; section 12.2.5.5 Edition 8 (Bile duct cancer)*

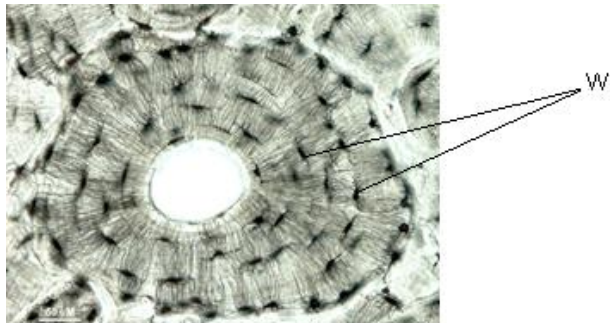
8 In the diagram below showing a cross section through skin on a cold day. What does the label A indicate?



- A Nerve fibres in the skin
- B Blood capillaries dilating
- C Blood capillaries constricting
- D Sebaceous gland in the skin

*Learning materials Unit 2; section 2.6.2.1 Edition 8 (Temperature control in skin)*

- 9 The photograph below shows a section of bone as it appears under a microscope



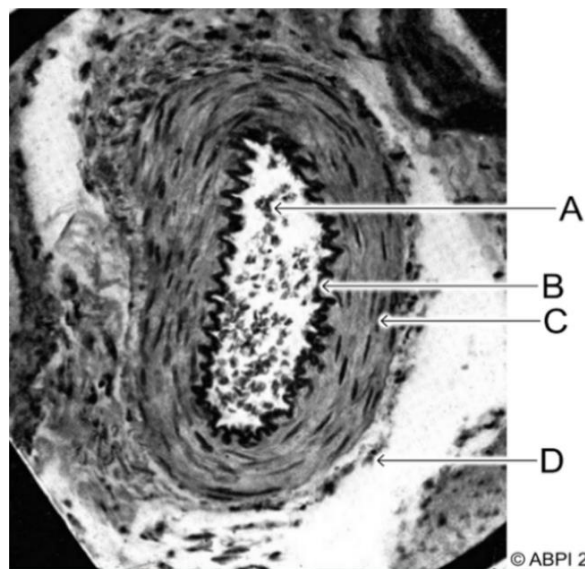
*By kind permission of Tim Arnet for the Bone Research Society*

What is located in the dark structures labelled W?

- A Osteocytes
- B Blood vessels
- C Osteogenic cells
- D Collagen and calcium phosphate

*Learning materials Unit 10; section 10.1.3 Edition 8 (Bone cells)*

- 10 This is a photograph of a cross section of a blood vessel. Which layer is comprised of a single layer of endothelial cells?



*Learning materials Unit 6; section 6.1 Edition 8 (The physiology of the circulatory system)*

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11 Read the two statements below:

1. Antispasmodics are occasionally of value in treating abdominal cramp associated with diarrhoea but they should not be used for primary treatment
2. Antispasmodics should be avoided in young children with gastroenteritis since they are rarely effective and have significant adverse side effects

Which of the following responses is correct?

- A Statements 1 and 2 are correct, and statement 2 explains statement 1
- B Statements 1 and 2 are correct, but statement 2 does not explain statement 1
- C Statement 1 is correct and statement 2 is incorrect
- D Statement 1 is incorrect and statement 2 is correct

*Learning materials Unit 12; section 12.1.3.1 Edition 8 (Treatments for diarrhoea)*

### C. Applying knowledge

- 12 'A classical case of ..... may start in a woman about 55 years of age with a wrist fracture. Ten years later she may present with back pain; spine X-rays may show a vertebral fracture. She might have one of several risk factors: premature menopause; smoking; heavy alcohol consumption; inactivity; calcium or vitamin D deficiency. At the age of 75-80 years the patient might fall and sustain a hip fracture' (WHO 2003)

Which disease is she most likely to be diagnosed with?

- A Osteoporosis
- B Paget's disease
- C Rheumatoid arthritis
- D Ankylosing spondylitis

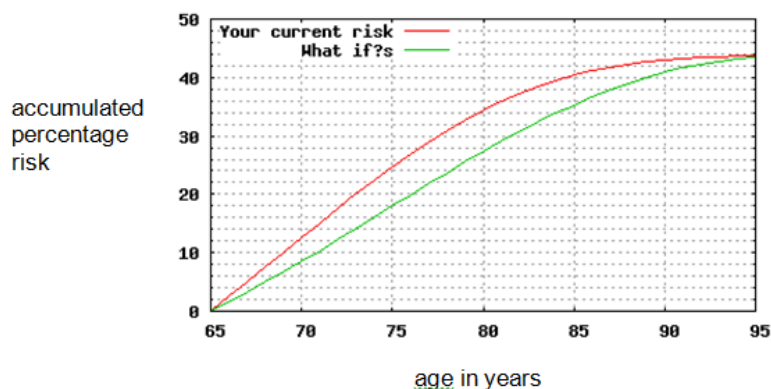
*Learning materials Unit 10; section 10.2.2 Edition 8 (Symptoms of osteoporosis)*

13 Which of the children below is most likely to develop rickets?

- A A keen footballer
- B A vegetarian who walks to school every day
- C A keen musician who eats oily fish or eggs regularly
- D A vegan who plays indoors and always wears sunscreen outside

*Learning materials Unit 10; section 10.4.2 Edition 8 (Osteomalacia)*

14 A 65 year old male smoker with high blood pressure had his QRISK calculated, producing the 'current risk' graph below. The 'what if' graph is the prediction if he gave up smoking.



What was his assessment score?

- A 0%
- B 12%
- C 24%
- D 44%

*Learning materials Unit 6; section 6.3 Edition 8 (Risk factors for cardiovascular disease)*

15 A thirty year old man complains of frequent back pains and stiffness, particularly at night.

Which of the following conditions is most likely to be responsible?

- A Gout
- B Rheumatoid arthritis
- C Enthesitis-related JIA
- D Ankylosing spondylitis

*Learning materials Unit 5; section 5.5 Edition 8 (Ankylosing spondylitis)*

### D. Analysing

16 The Friedwald formula is used to calculate the concentration of LDL-cholesterol in the blood using this equation (when measurements are in mmol/l):

$$[\text{LDL-cho}] = [\text{Total chol}] - [\text{HDL-cho}] - ([\text{TG}]/2.2)$$

A patient's blood sample was found to contain a total cholesterol of 4.33 mmol/l, HDL-cholesterol of 1.15mmol/l, and triglyceride (TG) of 0.44 mmmol/l.

Which row of A to D gives the correct results of the blood test?

	Total cholesterol under target value?	LDL cholesterol under target value?
A	yes	yes
B	no	no
C	yes	no
D	no	yes

*Learning materials Unit 6; section 6.2.1.3 Edition 8 (Measurement of blood cholesterol)*

- 17 The ECG below was taken from a patient suffering from type 1 second-degree heart block.



What is the evidence that it is this type of heart block?

- A no P waves, with extra T waves
- B normal pattern of P waves, unevenly spaced QRS complexes
- C the impulses from the SA node are not reaching the ventricles
- D electrical impulses slowed as they travel through the AV node to the ventricles

*Learning materials Unit 6; section 6.3.2.2 Edition 8 (Bradycardia)*

- 18 Which of the following patients with severe active ankylosing spondylitis may be recommended to use adalimumab?
- A The modified New York criteria for diagnosis of ankylosing spondylitis has been satisfied and there is a score of 3cm on the spinal pain visual analogue scale
  - B The disease satisfies the modified Bath criteria for diagnosis of ankylosing spondylitis and the maximum dose of two NSAIDs taken for four weeks has not sufficiently improved symptoms
  - C The patient has been receiving the current drug treatment for six months but there has been an occasion of five units on the Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) and 6cm on the spinal pain visual analogue
  - D The patient has been receiving the current drug treatment for four months including a month at the maximum dosage of two NSAIDs but symptoms persist and a score of four units on the BASDAI four months ago has been repeated

*Learning materials Unit 5; section 5.5.1 Edition 8 (Treatment of ankylosing spondylosis)*



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**E. Evaluating - interpretation of data in tables or graphs. Understanding of data and some calculations may be required**

- 19 Four patients regularly had their blood pressure measured in clinic and the results are shown below:

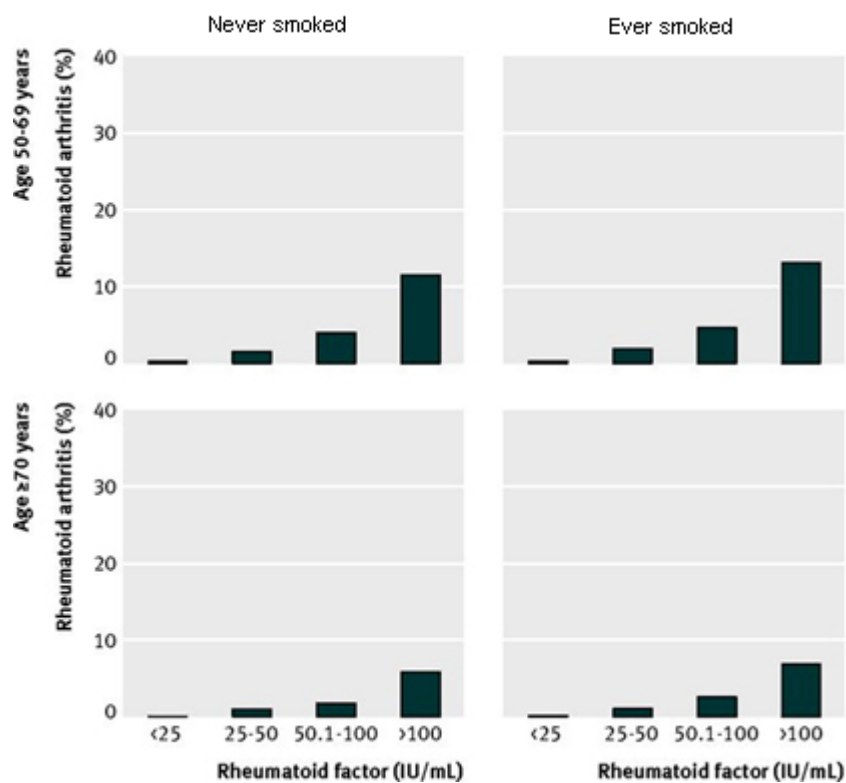
	Month of measurement			
	April	May	June	July
W	138/86	143/80	135/83	137/89
X	140/90	139/83	138/84	146/89
Y	143/91	146/94	147/93	145/92
Z	158/91	154/93	149/90	158/94

The doctor suspects some of these patients are suffering from hypertension. According to NICE guidelines, which patient or patients should have further investigations to determine whether this is the case?

- A W, X, Y, Z
- B W, X, Y
- C X, Y, Z
- D Y, Z

*Learning materials Unit 6; sections 6.2.2.1 Edition 8 (Blood pressure) and section 6.2.25 Edition 8 (Treatment of hypertension)*

20 The data below show the levels of Rheumatoid Factor (RF) in male smokers and non-smokers over the age of 50 years.



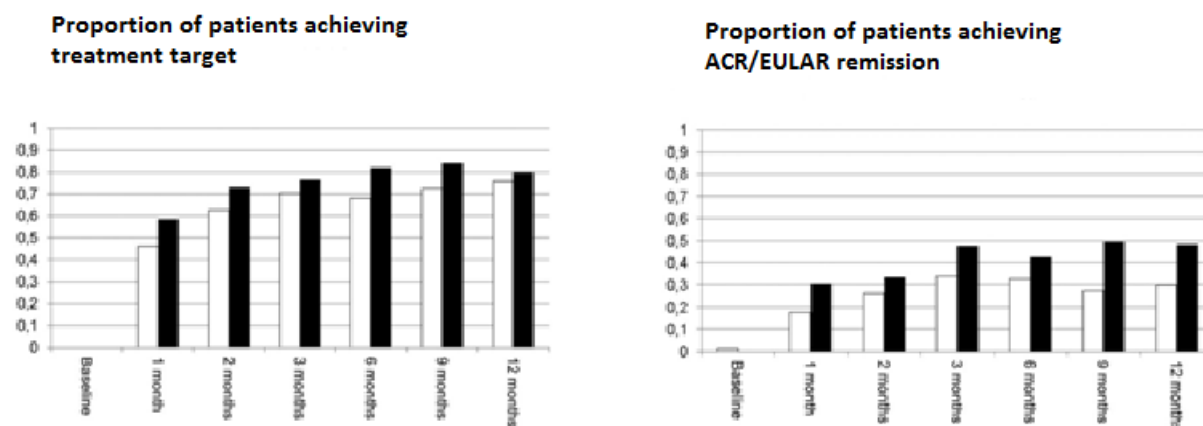
Nielson S.F. et al. *BMJ* 2012; 345: bmj.e5244

Which statement below is best supported by these data?

- A Rheumatoid arthritis is always accompanied by Rheumatoid Factor (RF) in the blood
- B Men over the age of 70 years are less likely to develop the disease than men under the age of 70 years
- C Smoking always increases the likelihood of developing rheumatoid arthritis
- D More than 20% of the men in this study developed rheumatoid arthritis

*Learning materials Unit 5; section 5.3 Edition 8 (Rheumatoid arthritis) and Unit 4; section 4.2.4 Edition 8 (Statistics in medicine)*

- 21 The graphs below are taken from a study into the benefits of adding adalimumab to the combination of methotrexate and intra-articular triamcinolone given as treatment in early rheumatoid arthritis over one year. The black bars show the patient cohort who were given the adalimumab and the white bars show those who received a placebo.



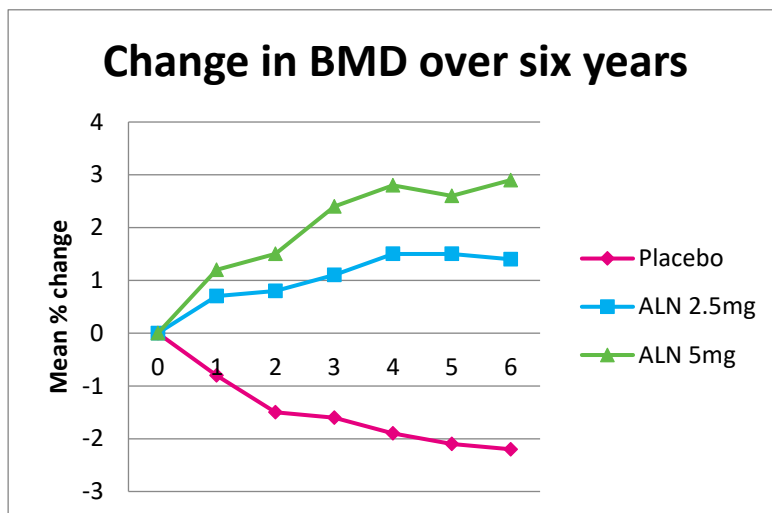
*Ann Rheum Dis 2014;73:654-661*

Which of the following statements is true?

- A Receiving the placebo reduced a patient's chance of remission by 50%
- B Adding adalimumab to the treatment had an increasingly beneficial effect over time
- C The addition of a small molecule DMARD increased rates of remission from month one
- D The addition of a biologic DMARD gave only a 4% increase in patients achieving the treatment target

*Learning materials Unit 5; section 5.3 Edition 8 (Rheumatoid arthritis) and Unit 4; section 4.2.4 Edition 8 (Statistics in medicine)*

- 22 The data below shows the effect of the bisphosphonate alendronate (ALN) on the BMD of hip bones of post-menopausal women.



Which statement below best describes these data?

- A The BMD of women taking the placebo steadily decreased over 6 years, while the BMD of those taking alendronate steadily increased over 6 years.
- B Taking 5mg of alendronate regularly over 6 years was twice as effective as taking 2.5mg regularly over 6 years.
- C Taking alendronate not only prevented bone loss, it caused BMD to increase over 6 years.
- D The placebo did not contain any bisphosphonate drug.

*Learning materials Unit 10; section 10.3 Edition 8 (Treatment of osteoporosis) and Unit 4; section 4.2.4 Edition 8 (Statistics in medicine)*

**Answers**

- 1 D
- 2 B
- 3 D
- 4 A
- 5 C
- 6 B
- 7 C
- 8 C
- 9 A
- 10 B
- 11 B
- 12 A
- 13 D
- 14 C
- 15 D
- 16 D
- 17 C
- 18 D
- 19 D
- 20 B
- 21 D
- 22 C
- 23 D