

MRCGP
Applied Knowledge Test
1001 Questions and
Answers

Rob Daniels

MA (Cantab), MB BChir, MRCGP
General Practitioner

Pastes⁺

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Introduction

This book is intended predominantly to help candidates prepare for the Membership examination of the Royal College of General Practitioners, which is the qualifying exam for a career in general practice. It is also hoped that this book will be useful for established GPs to identify learning needs as part of their appraisal process and perhaps prepare them for any future knowledge-based test introduced as part of revalidation.

In line with changes in other specialty exams, the MRCGP now consists of a written exam, a formal clinical skills assessment and workplace-based assessment. The written paper encompasses clinical scenarios, hot topics and critical reading, and is in the form of a 200 question MCQ exam known as the Applied Knowledge Test (AKT). The subject matter is divided between critical appraisal and evidence-based clinical practice components, which make up approximately 10% of the questions; 10% will comprise health informatics and administrative questions, with the remaining 80% clinical questions. Questions are of the single best answer, extended matching questions and free text forms, and may require interpretation of pictures, results, and experimental or statistical data. The exam aims to test higher problem-solving rather than simple fact recall. A wealth of information about the curriculum and exam format is available on the Royal College of General Practitioners' website (www.rcgp.org.uk).

The Applied Knowledge Tests take place at the end of January, May and October each year, via computer terminals at 152 Pearson Vue professional testing centres around the UK (www.pearsonvue.co.uk). Detailed feedback will be provided for candidates who are unsuccessful, allowing them to take remedial action where necessary before the next sitting. Candidates may take the exam at any point in their general practice specialty training, but it is expected that most will do so during their third year of specialty training, when they will be working in primary care. All questions will address important issues relating to general practice in the UK, and international applicants should note that the answers will relate to standard clinical practice in the UK, which may differ from their own country.

The key to successful preparation is twofold. Exam technique is vital in many medical exams and the AKT is no exception. Two hundred questions have to be completed in 3 hours at a rate of just over one question a minute. The questions are of the single best answer, extending matching question and algorithm completion format, and there are many examples of each type in this book. The second component of successful exam performance is an adequate knowledge base. The content of the questions in this book is based on the GP curriculum, which is available on the RCGP's website, and the questions are loosely based on my clinical experience. This GP curriculum (www.rcgp-curriculum.org.uk) is an

excellent resource in planning your revision, especially in less clinical areas of the curriculum such as practice management and information technology.

The RCGP website gives the pass mark and exam feedback for each sitting. In 2012 the pass mark was 68% and the pass rate was 75%. It is well worth reading the examiners' reports on previous sittings as these describe areas of weak performance, which the examiners may concentrate on in future exams. Candidates usually perform well in clinical medicine, less well in critical appraisal and worst in administration questions.

The best way to prepare for clinical questions is to read up on problems that you see in general practice, ideally keeping a list of PUNs and DENs (patient's unmet needs and doctor's educational needs) encountered during each surgery. Try to do as many practice multiple choice questions as you can; the old-style MRCGP exam questions are still mostly valid and there are a number of excellent practice MCQ books still available in shops and medical libraries. PasTest also offer an online revision package specifically for the AKT, which gives instant progress feedback (www.pastest.co.uk). It should be possible to pick up on hot topics just through working in general practice and reading the *British Medical Journal* and *British Journal of General Practice*, but a 'Hot topics' course just before the exam is usually money well spent. In the previous incarnation of the MRCGP exam, editorials from the *British Journal of General Practice* had an uncanny habit of turning up as hot topic questions in the next paper. Exam questions are likely to be drawn from several well-known journals, including those listed above. The RCGP's website gives useful information on this, so keep your eyes peeled.

Information on management issues is best picked up by spending a session or two with a practice manager, attending practice meetings and doing multiple-choice questions to identify specific learning needs. It often helps to revise this area with a textbook, such as *Notes for the MRCGP*, although this is now somewhat out of date. Practising critical appraisal of journal articles with a group from your GP training scheme is a useful way of learning this skill, and a lot more enjoyable than trying to read a statistics textbook. The Bandolier website (www.jr2.ox.ac.uk/bandolier) is an excellent source of information about critical appraisal. I have included several statistics questions to illustrate various concepts, but all of the data and graphs are made up, so please do not take the results too seriously.

I have done my best to ensure that all the questions and answers are accurate and current. If you find any discrepancies or have any other comments please let me know and I will make the necessary changes.

Good luck!

Rob Daniels

Chapter 2

Dermatology

SINGLE BEST ANSWER QUESTIONS

2.1 Urticaria

A 17-year-old boy comes to see you about his recurrent attacks of urticaria. Over the years he has tried excluding possible triggers but is now getting regular attacks. These involve itch and rash but he has no signs of angioedema. He has not tried any prescription medications yet. Which one of the following would be appropriate as the next step in his treatment?

- A Issue an EpiPen with advice on how to use it
- B Loratadine tablets
- C Montelukast tablets
- D Prednisolone to use orally when he develops attacks
- E Topical steroids to use for short periods

2.2 Sweaty palms

A 36-year-old businessman complains that he has suffered from sweaty palms for many years, but is now finding this increasingly embarrassing in business meetings. He has a friend who has had successful treatment for this but is not sure what this was. He asks your advice. Which one of the following treatments is most effective for this condition?

- A Botox injections
- B Cervical sympathectomy
- C Excision of sweat glands
- D Topical aluminium hydroxide
- E Topical hydrocortisone

2.3 Psoriasis

Which one of the following is the most appropriate initial treatment for a patient presenting with palmar psoriasis?

- A Betamethasone valerate ointment
- B Hydrocortisone 1% ointment
- C Oral prednisolone
- D Regular emollients
- E Tacrolimus cream

2.4 Prurigo

A medical student has seen a 40-year-old man with prurigo nodularis. The medical student asks you to explain more about this condition. Which one of the following pieces of information is correct?

- A Hydrocortisone cream often worsens the condition
- B Patients with the condition often suffer with intense itch that lasts for about 1 day
- C The majority of patients have a personal or family history of atopy
- D The trunk is often the most affected area of the patient's body
- E Young children are more likely to be affected by prurigo nodularis than adults

2.5 Finger lump

A 56-year-old man attends having knocked his finger while working in the garage. He reports having had a small lump on his finger for some months and, since knocking his finger, this has been leaking, as shown below.



What is the single most likely diagnosis?

- A Keratoacanthoma
- B Myxoid cyst
- C Pyogenic granuloma
- D Sebaceous cyst
- E Wart

2.6 Arm lesion

A 78-year-old retired farmer shows you the lesion below, which he has noticed on his arm.

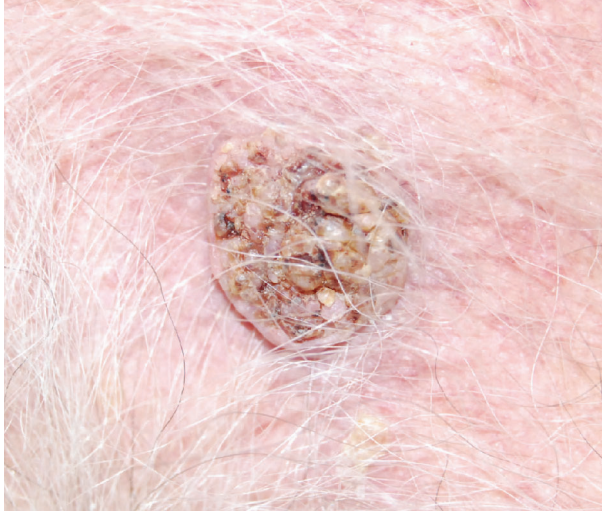


What would be the most appropriate management of this lesion?

- A Cryotherapy
- B Curettage
- C Excision biopsy
- D Shave biopsy
- E Watchful waiting

2.7 Skin lesion

A 93-year-old man complains that for the last few weeks he has had a bleeding lesion on his chest that seems to be growing rapidly. The lesion is shown below.



What is the single most likely diagnosis?

- A Basal cell carcinoma
- B Malignant melanoma
- C Seborrheic keratosis
- D Squamous cell carcinoma
- E Wart

2.8 Skin disease

A 59-year-old woman complains that the skin lesion shown below catches on her clothing. It has been present for several years and is not associated with any other symptoms.

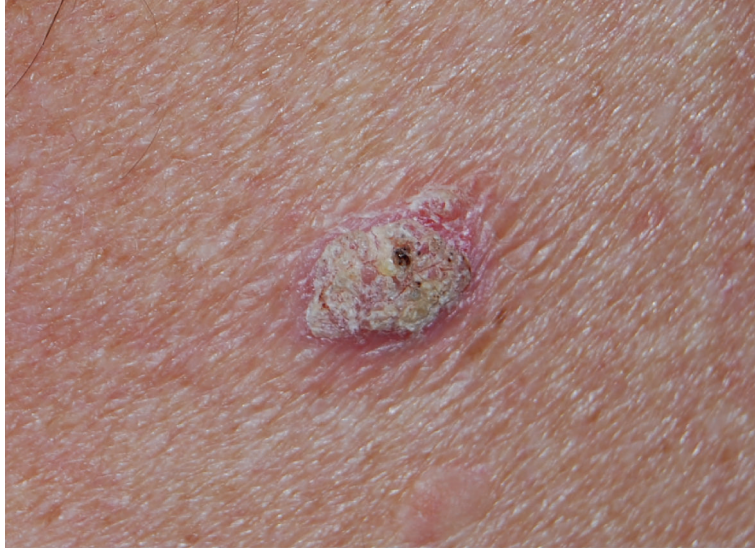


What is the single most likely diagnosis? Select one option only.

- A Dermatofibroma
- B Fibroepithelial polyp
- C Keratoacanthoma
- D Nodular basal cell carcinoma
- E Seborrheic keratosis

2.9 Skin lesion

A 63-year-old man asks if you can get rid of a wart from his back that catches on his clothes and bleeds on occasion. He thinks it has been there for only a couple of months. The lesion is shown below.



Which one of the following would be the single most appropriate treatment for this lesion?

- A Cryotherapy
- B Excision biopsy
- C Salicylic acid
- D Silver nitrate cautery
- E No treatment necessary

2.10 Rash affecting the hand

A 23-year-old man complains of an intensely itchy rash on the palms of his hands. This came on without any obvious cause about 2 weeks ago and was initially painful. It is now very itchy and keeping him awake at night. His hand is shown below.



What is the most likely diagnosis?

- A Contact dermatitis
- B Eczema
- C Hand, foot and mouth disease
- D Pompholyx
- E Scabies

FREE TEXT QUESTIONS

2.33 Skin conditions

A 45-year-old man complains of an intensely itchy rash on both wrists. On examination he has flat-topped violaceous papules on each wrist and forearms. What is the most likely diagnosis? Write your answer in the box below.

2.34 A 72-year-old man with a history of diet-controlled diabetes comes to see you for a routine check. You notice the lesion below on his forehead, which he tells you has been there for some months, but does not cause him any trouble and does not bleed.



In the box below write the single most likely diagnosis

2.35 What would be the most appropriate initial treatment? Write your answer in the box below.

SINGLE BEST ANSWER

2.1 B: Loratadine tablets

Urticaria has multiple causes and avoidance can be difficult if an obvious precipitant cannot be identified. Symptomatic treatment with oral antihistamines is usually sufficient to control symptoms of simple urticaria but where there is associated angioedema parenteral adrenaline might be needed. Montelukast in association with antihistamines can be useful in refractory cases but is ineffective as monotherapy. In severe cases not responding to oral antihistamines, short courses of steroids orally might be needed but topical steroids are not effective.

2.2 A: Botox injections

Botulinum toxin injections are effective treatment for this condition but require repeated treatment every 4–6 months. They are effective for axillary, palmar and facial sweating. With prolonged use they can cause the production of antibodies, which reduce their efficacy. An alternative treatment is iontophoresis. Aluminium hydrochloride is useful for axillary hyperhidrosis but is less so for sweating of the hands and often leaves a residue.

2.3 A: Betamethasone valerate ointment

The British Association of Dermatology recommends using potent topical steroids as part of the initial treatment of palmar psoriasis. Keratolytic agents, such as salicylic acid in Lassar's paste, might be required to remove scale from hyperkeratotic skin. Tars and vitamin D analogues can also help. Palms and soles can be difficult areas to treat, and the patient should be referred to a dermatologist if initial treatments fail after 2–3 months or if there is diagnostic uncertainty. Specialists may recommend treatments including clobetasol propionate under occlusion or PUVA.

2.4 C: The majority of patients have a personal or family history of atopy

Prurigo nodularis is an intensely itchy skin condition of unknown aetiology. Adults are affected more frequently than children and the condition is equally distributed between males and females. Affected individuals are likely to have a personal or family history of atopy; up to 80% have a positive history compared with 25% of the normal population. Nodular, itchy lesions, 1–2 cm in diameter, are symmetrically distributed, particularly on the extensor limb surfaces. Itching is often difficult to treat and is commonly a long-standing problem. High-potency corticosteroids can be tried to treat itchy lesions, under occlusive dressings to increase absorption. Many topical and systemic treatments have been tried in the past with limited success.

2.5 B: Myxoid cyst

Myxoid cysts are ganglions of the distal interphalangeal joint. They grow slowly and often cause grooving of the nail as they grow. They are benign, but can become painful. Treatment is by aspiration of the thick jelly inside or injection with steroid, or surgical excision if they recur. A keratoacanthoma has a plug of keratin in the centre whereas a pyogenic granuloma usually grows rapidly at the site of trauma. Sebaceous cysts are not typically seen on digits.

2.6 C: Excision biopsy

Keratin horns should be excised fully including the base to allow histological exclusion of an underlying squamous cell carcinoma. Cryotherapy will not provide a tissue for histology and curettage or shave biopsy may yield insufficient depth for diagnosis.

2.7 D: Squamous cell carcinoma

This is a squamous cell carcinoma. The bleeding, rapid growth and irregular surface differentiate from a seborrhoeic keratosis or wart. A basal cell carcinoma usually has a rolled edge.

2.8 B: Fibroepithelial polyp

Fibroepithelial polyps are frequently seen at sites of chafing such as the groin, axilla or neck. They are benign and typically have a narrow stalk. They are occasionally associated with insulin resistance but in most cases are idiopathic. Dermatofibromas are usually seen on the legs or arms and are within the skin. Keratoacanthomas have a central plug of keratin.

2.9 B: Excision biopsy

Although most likely a wart, the irregular appearance, rapid growth and history of bleeding raise a possible diagnosis of squamous cell carcinoma (SCC). Excision biopsy with histology would be the most appropriate treatment. Cryotherapy or cautery does not provide tissue for histology. Curettage is an option with tissue sent for histology but a further excision would be necessary if SCC is confirmed.

2.10 D: Pompholyx

This is a typical appearance for pompholyx, with painful, itchy vesicles on the palms (and sometimes soles). It is difficult to treat without potent topical steroids but usually subsides over 2–3 weeks. Potassium permanganate can be used for treatment if vesicles break down and, in refractory cases, topical calcineurin inhibitors, Botox or PUVA (psoralen plus UVA) can be effective.

FREE TEXT ANSWERS

2.33 Lichen planus

Cutaneous lichen planus affects men three times more frequently than women, with a mean age of onset of 40–45. It is intensely itchy and may be widespread. It may also be a sign at sites of previous scarring. It may be associated with hepatitis C infection. Management is with topical steroids. Cases affecting the genital area should be referred for specialist review.

2.34 Solar keratosis (or actinic keratosis)

Bleeding or rapid growth would suggest the alternative diagnosis of squamous cell carcinoma.

2.35 Topical 5-fluorouracil treatment

Topical 5-fluorouracil treatment, usually with pulsed hydrocortisone for the resultant inflammation. Alternatives include cryotherapy or topical 3% diclofenac.