Membership of the Royal Colleges of Physicians (MRCP) Practice Exam (Sample)

Study Guide

BY EXAMZIFY

Everything you need from our exam experts!

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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- **Practice answering questions under realistic conditions,**
- **Improve accuracy and speed,**
- **Review explanations to strengthen weak areas, and**
- **Approach the exam with greater confidence.**

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Don't worry about getting everything right, your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 – 45 minutes). Review a handful of questions, reflect on the explanations, and take breaks to retain information better.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning.

7. Use Other Tools

Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There’s no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly — adapt the tips above to fit your pace and learning style. You've got this!

Questions

1. **A 24-year-old woman presents with a non-itchy rash and no improvement from topical cream. What is the most appropriate initial treatment?**

   A. aqueous cream

   B. narrow-band UVB phototherapy

   C. oral flucloxacillin

   D. oral fluconazole

2. **Which organism is the most likely cause of a patient presenting with facial weakness and headache after camping in southern Germany?**

   A. Borrelia burgdorferi

   B. Brucella abortus

   C. Cryptococcus neoformans

   D. Neisseria meningitidis

3. **In a clinical trial involving a statin, what is the number-needed-to-treat (NNT) to prevent one cardiovascular event?**

   A. 2.5 (250/100)

   B. 5 (250/50)

   C. 10 (1000/100)

   D. 20 (1000/50)

4. **What antinuclear antibody isotype most likely indicates systemic lupus erythematosus?**

   A. IgA

   B. IgD

   C. IgG

   D. IgM

5. **Which skin condition is often associated with a well-demarcated, scaly plaque?**

   A. Bowen's disease

   B. Pityriasis rosea

   C. Psoriasis vulgaris

   D. Discoid eczema

6. What additional finding would typically be associated with a diagnosis of Paget's disease of bone?

A. Elevated serum calcium

B. High alkaline phosphatase levels

C. Increased serum phosphate levels

D. Low vitamin D levels

7. Which artery is most likely occluded in a patient with ischemic bowel affecting the lower duodenum to the transverse colon?

A. Coeliac

B. Inferior mesenteric

C. Middle colic

D. Superior mesenteric

8. A 76-year-old man with a slowly enlarging leg plaque likely has which skin condition?

A. Bowen's disease

B. Psoriasis vulgaris

C. Pityriasis rosea

D. Discoid eczema

9. What is the microscopic appearance of calcium pyrophosphate crystals confirmed in the joint?

A. Needle-shaped with negative birefringence

B. Needle-shaped with positive birefringence

C. Rhomboid with negative birefringence

D. Rhomboid with positive birefringence

10. What class of medication is most commonly used for chemoprophylaxis in cases of meningococcal exposure?

A. Antibiotics

B. Antivirals

C. Antifungals

D. Analgesics

Answers

1. B
2. A
3. D
4. C
5. C
6. B
7. D
8. A
9. C
10. A

Explanations

1. A 24-year-old woman presents with a non-itchy rash and no improvement from topical cream. What is the most appropriate initial treatment?

A. aqueous cream

B. narrow-band UVB phototherapy

C. oral flucloxacillin

D. oral fluconazole

The most appropriate initial treatment for a 24-year-old woman presenting with a non-itchy rash and no improvement from topical cream is narrow-band UVB phototherapy. This approach is often utilized for skin conditions such as psoriasis or other inflammatory dermatoses that may not respond to topical treatments. Narrow-band UVB therapy is effective in reducing inflammation and promoting healing in various dermatological conditions by exposing the skin to ultraviolet light, which can modify the immune response and improve skin health. In cases where topical treatments fail, particularly with non-itchy rashes that may indicate a chronic inflammatory skin disease, phototherapy can provide significant relief and improvement. The use of this therapeutic option is supported by evidence highlighting its efficacy in managing certain dermatological disorders.

2. Which organism is the most likely cause of a patient presenting with facial weakness and headache after camping in southern Germany?

A. Borrelia burgdorferi

B. Brucella abortus

C. Cryptococcus neoformans

D. Neisseria meningitidis

The correct answer, Borrelia burgdorferi, is associated with Lyme disease, which is transmitted through tick bites, commonly found in wooded and grassy areas. In southern Germany, where there are endemic populations of the Ixodes ricinus tick (the primary vector for Borrelia burgdorferi), a patient presenting with facial weakness and headache after camping is highly suggestive of Lyme disease. The facial weakness indicates the possibility of cranial nerve involvement, particularly the facial nerve, which can occur in Lyme disease as a result of neurological involvement. In contrast, while Neisseria meningitidis could potentially present with headache and neurological symptoms, it is more commonly associated with meningitis rather than isolated facial weakness, and incidents of meningococcal disease are less likely to be related specifically to outdoor activities such as camping. Cryptococcus neoformans typically causes infection in immunocompromised individuals and is associated with respiratory issues and meningitis, not linked to camping in this context. Brucella abortus relates to zoonotic infections commonly from unpasteurized dairy products and contact with livestock, which does not fit the scenario of camping in southern Germany. Therefore, Borrelia burgdorferi stands out as the most likely cause given the circumstances

3. In a clinical trial involving a statin, what is the number-needed-to-treat (NNT) to prevent one cardiovascular event?

A. 2.5 (250/100)

B. 5 (250/50)

C. 10 (1000/100)

D. 20 (1000/50)

The number-needed-to-treat (NNT) is a crucial measure in clinical trials that indicates how many patients need to be treated with a particular intervention for one to benefit from it, preventing a specific outcome—in this case, a cardiovascular event. To determine the NNT, the formula used is the inverse of the absolute risk reduction (ARR). ARR can be calculated by taking the difference in event rates between the treatment group and the control group. In this scenario, if the data indicates that for 1000 people treated with the statin, 50 will have a cardiovascular event as opposed to the 100 who would have had the event without treatment, the ARR would be 5% (100-50=50 events avoided out of 1000 treated). Consequently, the NNT can be calculated as follows: NNT = 1/ARR. If we plug in our ARR of 0.05 (5%), we get NNT = 1/0.05, which equals 20. This indicates that 20 patients must be treated with the statin to prevent one additional cardiovascular event. Understanding this measure can help healthcare providers weigh the benefits of statin therapy against potential risks and guide treatment decisions in clinical

4. What antinuclear antibody isotype most likely indicates systemic lupus erythematosus?

A. IgA

B. IgD

C. IgG

D. IgM

The isotype most commonly associated with systemic lupus erythematosus (SLE) is IgG. In SLE, the presence of antinuclear antibodies (ANAs) is a key laboratory finding. Specifically, IgG antibodies are typically found at higher levels and are considered significant markers in the diagnosis and monitoring of this autoimmune condition. IgG is known for its ability to form immune complexes that can contribute to tissue damage and inflammation, which are hallmark features of SLE. The detection of IgG ANAs can provide valuable information regarding the activity of the disease, as well as its potential severity. While other isotypes like IgA, IgD, and IgM also play roles in immune responses, they are less specifically associated with SLE. IgM antibodies, for instance, may be more prevalent in acute infections or other autoimmune diseases but lack the specificity linked to the chronic autoimmune attacks seen in SLE. Thus, the presence of IgG is predominantly used as a diagnostic criterion for SLE.

5. Which skin condition is often associated with a well-demarcated, scaly plaque?

A. Bowen's disease

B. Pityriasis rosea

C. Psoriasis vulgaris

D. Discoid eczema

The skin condition associated with a well-demarcated, scaly plaque is psoriasis vulgaris. In this condition, patients typically present with raised, red plaques covered with silvery-white scales, most commonly seen on the elbows, knees, and scalp. These plaques are well-defined and can vary in size, making the demarcation between the healthy skin and the affected areas very clear. Psoriasis vulgaris is a chronic inflammatory disease characterized by an overproduction of skin cells, leading to the buildup of these plaques. The well-demarcated nature of the lesions is a key diagnostic feature, distinguishing it from other skin conditions that may have less distinct borders or different scaling characteristics. Bowen's disease, pityriasis rosea, and discoid eczema exhibit other physical characteristics or patterns that do not align with the classic presentation of psoriasis vulgaris. For instance, Bowen's disease typically presents as a solitary, crusted lesion, while pityriasis rosea often starts with a herald patch followed by a more diffuse rash. Discoid eczema may present with coin-shaped lesions but lacks the distinct scales and inflammatory nature seen in psoriasis. Thus, psoriasis vulgaris is the most fitting choice for the description provided.

6. What additional finding would typically be associated with a diagnosis of Paget's disease of bone?

A. Elevated serum calcium

B. High alkaline phosphatase levels

C. Increased serum phosphate levels

D. Low vitamin D levels

Paget's disease of bone is characterized by accelerated bone remodeling, leading to the disorganized structure of bones. One of the most notable laboratory findings in this condition is the elevation of alkaline phosphatase levels. Alkaline phosphatase is an enzyme produced by osteoblasts (bone-forming cells), and its level rises in response to increased bone turnover. In Paget's disease, due to the excessive activity of osteoclasts (bone-resorbing cells) followed by an increase in osteoblastic activity, the alkaline phosphatase levels reflect the dysregulated bone metabolism. Clinically, patients with Paget's disease may present with bone pain, deformities, and complications such as fractures, but the high alkaline phosphatase level serves as a key biomarker that supports the diagnosis. Other potential findings listed, such as elevated serum calcium, might occur in different conditions (e.g., hyperparathyroidism or malignancy) but are not typically indicative of Paget's disease. Similarly, increased serum phosphate levels are usually not associated with Paget's disease; in fact, phosphate levels can be normal or low, and vitamin D levels can vary independently of the disease state. Thus, the association of high alkaline phosphat

7. Which artery is most likely occluded in a patient with ischemic bowel affecting the lower duodenum to the transverse colon?

A. Coeliac

B. Inferior mesenteric

C. Middle colic

D. Superior mesenteric

The most likely artery to be occluded in a patient with ischemic bowel affecting the lower duodenum to the transverse colon is the superior mesenteric artery (SMA). The SMA supplies blood to the majority of the small intestine, including the jejunum and ileum, as well as the cecum, ascending colon, and most of the transverse colon. In cases of ischemia affecting the lower duodenum specifically, the SMA's branches, particularly the inferior pancreaticoduodenal artery, may play a role, while the supply to the transverse colon is primarily through the middle colic artery, which is a branch of the SMA. As such, occlusion of the SMA can lead to ischemia in these regions due to decreased blood flow, potentially leading to bowel necrosis if not promptly addressed. The coeliac artery primarily supplies the upper regions of the gastrointestinal tract, including the stomach, liver, and proximal duodenum, which are not directly involved in ischemia affecting the lower duodenum to the transverse colon. The inferior mesenteric artery mainly supplies the distal colon and rectum and would generally be relevant for ischemia lower than the transverse colon. The middle colic artery, while supplying some parts of the transverse colon

8. A 76-year-old man with a slowly enlarging leg plaque likely has which skin condition?

A. Bowen's disease

B. Psoriasis vulgaris

C. Pityriasis rosea

D. Discoid eczema

The condition described—a slowly enlarging leg plaque in a 76-year-old man—aligns well with Bowen's disease. Bowen's disease is a form of squamous cell carcinoma in situ that presents as a persistent, often enlarging, erythematous plaque. It frequently occurs on sun-exposed areas, such as the legs, particularly in older adults. The key characteristic is the gradual enlargement of the lesion, which, in this case, indicates a potential malignancy, making it vital to identify and treat early. In contrast, psoriasis vulgaris typically manifests as well-defined, erythematous plaques covered with silvery scales and can have an acute rather than slowly enlarging course. Pityriasis rosea is usually self-limiting and presents with a herald patch followed by a generalized rash; it does not typically present as a slowly enlarging plaque. Discoid eczema, while presenting as plaques, is often associated with itching and is not predominantly characterized by slow enlargement in the same way as Bowen's disease. Thus, given the patient's age and the description of the leg plaque, Bowen's disease is the most fitting diagnosis, emphasizing the importance of recognizing potential skin malignancies in elderly patients.

9. What is the microscopic appearance of calcium pyrophosphate crystals confirmed in the joint?

A. Needle-shaped with negative birefringence

B. Needle-shaped with positive birefringence

C. Rhomboid with negative birefringence

D. Rhomboid with positive birefringence

The microscopic appearance of calcium pyrophosphate crystals is characterized by their rhomboid shape. These crystals are found in conditions such as calcium pyrophosphate dihydrate (CPPD) crystal deposition disease, commonly known as pseudogout. When viewed under polarized light microscopy, calcium pyrophosphate crystals exhibit negative birefringence, which means that they will appear to change color when the compensator plate of the polarizing microscope is rotated. This is a distinguishable feature that is used to identify these crystals in the context of inflammatory joint disease. The combination of the rhomboid shape and the negative birefringent properties of calcium pyrophosphate crystals is crucial for accurate diagnosis, particularly when differentiating them from other types of crystals like monosodium urate crystals, which are needle-shaped and exhibit polarized light characteristics indicating positive birefringence. Therefore, a thorough understanding of these morphological and optical properties is essential for anyone studying joint pathology, particularly in the context of crystal arthropathies.

10. What class of medication is most commonly used for chemoprophylaxis in cases of meningococcal exposure?

A. Antibiotics

B. Antivirals

C. Antifungals

D. Analgesics

The most commonly used class of medication for chemoprophylaxis in cases of meningococcal exposure is antibiotics. Meningococcal disease, caused by the Neisseria meningitidis bacterium, can be a serious and life-threatening infection. When individuals are identified as close contacts of someone with the disease, antibiotics are administered as a preventive measure to reduce the risk of transmission and protect those at risk of infection. Antibiotics such as rifampicin, ciprofloxacin, and ceftriaxone are effective in eradicating the bacteria from the carriers among close contacts, which helps to prevent outbreaks of the disease. This intervention is particularly important in settings such as schools or military barracks, where close proximity increases the risk of spread. The other classes of medications, such as antivirals, antifungals, and analgesics, do not play a role in preventing meningococcal disease. Antivirals are primarily used for viral infections, antifungals are used to treat fungal infections, and analgesics are used to relieve pain but do not address the bacterial infection itself. Therefore, antibiotics are the first-line treatment for chemoprophylaxis in meningococcal exposure scenarios.

Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

https://mrcpphysicians.examzify.com

We wish you the very best on your exam journey. You've got this!