Key Feature Problem
Practice Exam A – 2023.2

Answers and Rationale Booklet

Grouping

In the marking grids, you will find some answers are “grouped”. Grouping is a tool used in the marking process to ‘group together’ similar responses and awards higher marks to the most specific response. It prevents repeated responses within the same ‘group’ from accumulating marks.

In the example below, answers B, C, and D have been placed in Group 1. Candidates will only be awarded marks for one answer given within this set. For each group set, only the most valuable answer provided contributes towards the point-score of the question. If a candidate answers B and C, they will only receive 3 marks. If a candidate answers C and D, they will only receive 2 marks.

A. Brief duration of pain, lasting a few seconds to minutes (Score:1)
B. Trigger point in the distribution of the nerve (Score:3; **Group:1**; GroupScore:3)
C. Trigger point in the distribution of pain (Score:2; **Group:1**; GroupScore:3)
D. Trigger point (area not specified) (Score:1; **Group:1**; GroupScore:3)
E. Pain triggered by chewing, cold, brushing teeth, shaving etc. (Score:2)
F. No sensory and/or motor loss in area of pain (Score:1)

Note that any additional responses provided by the candidates for the question that fall outside of this group set may score additional marks.

Zeroing

Where candidates offer a dangerous answer this may attract a zero score. A dangerous answer would include responses which place the patient at risk of imminent harm. This would result in the entire question (but not case) scoring zero marks, in recognition of the risk posed to the patient.

These questions remain correct at time of reviewing for the practice exam and at the time of use within the KFP. Please be aware guidelines are subject to change. In the real exam, questions would be adjusted accordingly during a post-examination review.

Case 1

References:

1. Royal Children's Hospital Melbourne. Clinical practice guidelines: Slow weight gain. Melbourne: RCH, 2021. Available at www.rch.org.au/clinicalguide/guideline_index/Slow_weight_gain/ [Accessed December 2021].

2. Therapeutic Guidelines. Bone and metabolism: Short stature in children. West Melbourne, Vic: Therapeutic Guidelines, 2019. Available at https://tgldcdp.tg.org.au/viewTopic?topicfile=short-stature-children [Accessed December 2021].

3. Simm PJ, Werther GA. Child and adolescent growth disorders – An overview. Aust Fam Physician 2005;34(9):731–37.

4. Queensland Government. Children's Health Queensland Hospital and Health Service: Referral guideline – Short stature. Brisbane: Queensland Government, 2021. Available at http://www.childrens.health.qld.gov.au/referral-guideline-short-stature/ [Accessed December 2021].

5. The Royal College of Pathologists of Australia. Clinical problems – Short stature. Sydney: RCPA. Available at http://www.rcpa.edu.au/Manuals/RCPA-Manual/Clinical-Problems/S/Short-stature [Accessed December 2021].

6. Australian Government Department of Health. National Immunisation Program – National Immunisation Program Schedule 6 February 2023. Canberra: Australian Government DoH, 2023 Available at https://www.health.gov.au/sites/default/files/2023-03/national-immunisation-program-schedule.pdf [Accessed March 2023].

7. Australian Government Department of Health. Australian immunisation handbook – Catch- upcalculator. Canberra: Australian Government Doh, 2023. Available at https://immunisationhandbook.health.gov.au/catch-up-calculator/calculator [Accessed March 2023].

Case Rationale

Candidates are presented with a boy with short stature and short penile length. They are required to provide a list of the most likely differential diagnoses, arrange initial investigations, and finally, provide a list of appropriate catch-up vaccinations.

When answering questions in the Key Feature Problem exam, it is important to ensure that the case is read fully, all information is considered and that candidates read and re-read the question, and after writing their answer consider reading the question again to ensure their answer matches the actual question asked.

Question 1.1

Question Rationale

Candidates are expected to be aware of the possible causes of short stature in children and be able to provide a rational list of differential diagnoses in the context of this child's presentation. Ideal answers recognised that a well child, growing along a consistent percentile for weight, height and head circumference, and in keeping with his parents' height, is most likely to have short stature as a normal finding as part of his familial potential. Additionally, ideal answers considered possible underlying diagnoses that would also present in this way. The most common incorrect answers repeated the presenting problem without offering an underlying diagnosis ('short stature') or were unlikely given the otherwise normal examination findings ('chronic renal failure', 'congenital cardiac disease', 'haematological malignancy').

Maximum Score: 6

Answer Keys

A. Constitutional growth delay; normal variant; normal development (Score: 2)
B. Familial, genetic short stature; delayed genital development (Score: 2)
C. Hypothyroidism (Score: 1)
D. Hypopituitarism (Score: 1)
E. Growth hormone deficiency (Score: 1)
F. Coeliac disease (Score: 1)
G. Intrauterine growth retardation
H. Malnutrition
I. Failure to thrive
J. Deprivation, neglect, abuse
K. Diabetes
L. Chronic renal failure
M. Chronic infection; inflammation
N. Congenital adrenal hyperplasia
O. Cushing syndrome
P. Glucocorticoid use
Q. Gonadotropin deficiency; hypogonadism
R. Cryptorchidism
S. Micropenis
T. Hyperthyroidism
U. Inflammatory bowel disease (eg ulcerative colitis, Crohn's disease)
V. Haematological malignancy
W. Anaemia
X. Congenital cardiac disease

Y. Cystic fibrosis
Z. Metabolic disorders
AA. Chromosomal disorder (eg Down syndrome, Prader–Willi syndrome, Klinefelter syndrome, lysosomal storage disease, Kallmann syndrome)
AB. Skeletal dysplasia (eg achondroplasia)
AC. Parental anxiety
AD. Immunodeficiency
AE. Thalassaemia

Question 1.2

Question Rationale

Appropriate initial investigations for a child presenting with short stature are outlined in the References.

Maximum Score: 6

Answer Keys

A. Adrenocorticotropic hormone
B. Coeliac serology (Score: 1)
C. Dexamethasone suppression test
D. Follicle-stimulating hormone
E. Full blood count (Score: 1)
F. HbA1c
G. Insulin
H. Insulin-like growth factor 1 (Score: 1)
I. Karyotype
J. Liver function tests (Score: 1)
K. Luteinising hormone
L. Parathyroid hormone
M. Prolactin
N. Serum calcium (Score: 1)
O. Serum cortisol
P. Serum folate
Q. Sex hormone-binding globulin
R. Synacthen stimulation test
S. Testosterone
T. Thyroid function tests (Score: 1)
U. Ultrasound abdomen
V. Ultrasound scrotum
W. Urea and electrolytes (Score: 1)
X. Urine cortisol
Y. Urine for microscopy, culture and sensitivities (Score: 1)
Z. Vitamin D

Question 1.3

Question Rationale

Candidates are expected to be familiar with appropriate catch-up vaccinations to provide to an unimmunised child. Ideal answers took into account the child's age and parental wishes and provided specific vaccine brand names or an accurate list of their contents. The most common incorrect answers offered single vaccines that were inappropriate for the child's age ('haemophilus influenzae type B', 'rotavirus'), listed individual vaccine components on separate lines rather than listing the vaccines themselves ('diphtheria', 'tetanus', 'pertussis'), ignored parental wishes ('influenza') or did not answer the question being asked ('call public health unit', 'obtain consent from mother').

Maximum Score: 7

Answer Keys

A. Diphtheria–tetanus–pertussis vaccine; hepatitis B vaccine; polio vaccine; haemophilus influenzae type b vaccine (eg Hexaxim, Infanrix hexa) (Score: 3; Group: 1; Group Score: 3)
B. Diphtheria–tetanus–pertussis vaccine; polio vaccine (eg Adacel Polio, Boostrix-IPV, Infanrix IPV, Quadracel) (Score: 2; Group: 1; Group Score: 3)
C. Diphtheria–tetanus–pertussis vaccine (eg Boostrix, Infanrix, Tripacel) (Score: 1; Group: 1; Group Score: 3)
D. Hepatitis B vaccine (eg Engerix-B, H-B-Vax II) (Score: 1; Group: 1; Group Score: 3)
E. Polio vaccine (eg IPOL) (Score: 1; Group: 1; Group Score: 3)
F. Measles–mumps–rubella–varicella vaccine (eg Priorix-tetra, ProQuad) (Score: 2; Group: 2; Group Score: 2)
G. Measles–mumps–rubella vaccine (eg M-M-R II, Priorix) (Score: 1; Group: 2; Group Score: 2)
H. Varicella vaccine (eg Varilrix, Varivax) (Score: 1; Group: 2; Group Score: 2)
I. Meningococcal ACWY (MenACWY-D; MenACWY-CRM; MenACWY-TT) vaccine (eg Menactra, Menveo, Nimenrix) (Score: 2)
J. Haemophilus influenzae type B vaccine (eg Act-HIB, Hiberix)
K. Rotavirus vaccine (eg Rotarix, RotaTeq)
L. Pneumococcal conjugate vaccine (13vPCV) vaccine (eg Prevenar 13)
M. Pneumococcal polysaccharide vaccine (23vPPV) vaccine (eg Pneumovax 23)
N. Meningococcal B (MenB-MC, MenB-fHBP) vaccine (eg Bexsero, Trumenba)
O. Meningococcal C vaccine (eg NeisVac-C)
P. Influenza vaccine
Q. COVID-19 vaccine
R. Any other vaccine
S. Contact mother to obtain consent
T. Contact local public health unit

Case 2

References:

1. Gray L. Chronic abdominal pain in children. Aus Fam Physician 2008;37(4):398–400.

2. Boronat AC Ferreira-Maia AP, Matijasevich A, Wang Y-P. Epidemiology of functional gastrointestinal disorders in children and adolescents: A systematic review. World J Gastroenterol 2017;23(21):3915–927. doi: 10.3748/wjg.v23.i21.3915.

3. Tsao K, Anderson KT. Evaluation of abdominal pain in children. BMJ Best Practice 2020. Available at https://bestpractice.bmj.com/topics/en-us/787 [Accessed December 2021].

4. Government of Western Australia Child and Adolescent Health Service. Children's Hospital – Pre- referral guidelines: Chronic/recurrent abdominal pain. Nedlands, WA: Government of Western Australia Child and Adolescent Health Service, 2019. Available at https://pch.health.wa.gov.au/For-health-professionals/Referrals-to-PCH/Prereferral-guidelines/Chronic-abdominal-pain [Accessed December 2021].

5. Therapeutic Guidelines. Pain and analgesia: Mild, acute nociceptive pain – Oral drugs for mild, acute nociceptive pain in children. West Melbourne, Vic: Therapeutic Guidelines, 2020. Available at https://tgldcdp.tg.org.au/viewTopic?etgAccess=true&guidelinePage=Pain%20and%20Analgesia&topicfile=mild-acute-nociceptive-pain&guidelinename=Pain%20and%20Analgesia&sectionId=toc_d1e192#toc_d1e192 [Accessed December 2021].

6. The Royal Children's Hospital Melbourne. Kids health information: Unequal breast size. Melbourne: RCH, 2018. Available at http://www.rch.org.au/kidsinfo/fact_sheets/Unequal_breast_size/ [Accessed December 2021].

7. Better Health Channel. Young people (13–19): Puberty. Melbourne: Better Health Channel, 2021. http://www.betterhealth.vic.gov.au/health/healthyliving/puberty [Accessed December 2021].

Case Rationale

Candidates are presented with a girl with recurrent weekday abdominal pain. They are required to provide a list of the most likely differential diagnoses, initial pharmacological management and advice regarding the presence of a breast bud.

When answering questions in the Key Feature Problem exam, it is important to ensure that answers are in the context of the presented patient and that all the information is provided. The Key Feature Problem exam is not a short-answer exam where candidates provide all possible differential diagnoses for a presenting symptom; candidates need to ensure their answers are focused and address the ‘key features’ of the presented patient and question.

Question 2.1

Question Rationale

Candidates are expected to be aware of the possible causes of recurrent abdominal pain in children and to be able to provide a rational list of differential diagnoses in the context of this child's presentation. Ideal answers recognised that mild pain limited to weekdays was likely to have a non-organic basis. The most common incorrect answers were those that were unlikely, given the otherwise normal examination findings ('appendicitis', 'gastroenteritis', 'diabetic ketoacidosis').

Maximum Score: 4

Answer Keys

A. Functional abdominal pain; functional gut disorder; non-specific abdominal pain; recurrent abdominal pain syndrome (Score:1; Group: 1; Group Score: 1)
B. Non-organic abdominal pain (Score: 1; Group: 1; Group Score: 1)
C. Anxiety (+/– due to bullying) (Score: 1)
D. Depression (+/– due to bullying) (Score: 1)
E. Psychogenic; somatisation (+/– due to bullying) (Score: 1)
F. Irritable bowel syndrome (Score: 1)
G. Abdominal migraine (Score: 1)
H. Child abuse (Score: 1)
I. School avoidance (Score: 1)
J. Malingering
K. Constipation
L. Coeliac disease
M. Mesenteric adenitis
N. Appendicitis; cholecystitis
O. Functional dyspepsia
P. Gastritis; peptic ulcer disease; gastroesophageal reflux disease; reflux; Helicobacter pylori infection
Q. Gastroenteritis
R. Infection; infestation (eg worms, parasites)
S. Fructose, maltose or lactose intolerance/deficiency
T. Structural issue (eg hernias, intussusception)
U. Eating disorder
V. Urinary tract infection
W. Hypothyroidism
X. Hypercalcaemia

Y. Dysmenorrhoea; period pain; cyclical pain
Z. Polycystic ovarian syndrome
AA. Sexually transmitted infections
AB. Pregnancy +/– ectopic
AC. Diabetes; diabetic ketoacidosis

Question 2.2

Question Rationale

The appropriate initial pharmacological management of a child with mild, acute, nociceptive pain is outlined in the References. More marks were awarded for more specific answers that included the medication, dose, route of administration and frequency, as requested. Fewer marks were awarded for non-specific answers. Dangerous answers ('benzodiazepines', 'aspirin') resulted in zero marks for the question, but not for the whole case.

Maximum Score: 4

Answer Keys

A. Paracetamol (Score: 2)
B. Ibuprofen (Score: 2)
C. Proton pump inhibitor (Score: 1)
D. Histamine-2 receptor antagonist (Score: 1)
E. Antacid
F. Antispasmodic
G. Peppermint oil
H. Mebeverine
I. Iberogast
J. Antidepressant
K. Enzyme replacements
L. Probiotics
M. Antidiarrhoeal
N. Laxative
O. Anti-emetic
P. Antibiotic
Q. Triptan
R. Gabapentinoid
S. Antihypertensive
T. Antiepileptic
U. Melatonin
V. Opiate; codeine
W. Tramadol; tapentadol
X. Benzodiazepine (Zero: 1)
Y. Aspirin (Zero: 1)
Z. Combined oral contraceptive pill

Question 2.3

Question Rationale

Candidates are expected to recognise the typical clinical presentation of physiological breast bud and to provide advice to the patient. Ideal answers recognised and communicated that an asymmetrical breast bud is a normal stage of pubertal development. The most common incorrect answers were those that did not answer the question asked (‘arrange ultrasound’, ‘refer to specialist’) or did not take into account the most likely diagnosis, given the age of the patient (‘advise could be breast cancer’).

Maximum Score: 2

Answer Keys

A. Advise this is a normal pubertal development stage; breast bud formation (Score: 2)
B. Advise no management is required (Score: 1)
C. Provide reassurance; education – no details (Score: 1)
D. Arrange ultrasound
E. Arrange mammogram
F. Refer to specialist

Case 3

References:

1. DermNet NZ. Psoriasis. Hamilton, NZ: Dermnet NZ, 2020. Available at https://dermnetnz.org/topics/psoriasis [Accessed December 2021].

2. DermNet NZ. Guttate psoriasis. Hamilton, NZ: Dermnet NZ, 2021. Available at https://dermnetnz.org/topics/guttate-psoriasis [Accessed December 2021].

3. Therapeutic Guidelines. Dermatology – Psoriasis – Treating psoriasis according to location or type. West Melbourne, Vic: Therapeutic Guidelines, 2021. Available at https://tgldcdp.tg.org.au/viewTopic?topicfile=psoriasis&guidelineName=Dermatology#toc_d1e187 [Accessed December 2021].

Case Rationale

Candidates are presented with a middle-aged man who has a rash consistent with psoriasis on his trunk. They are required to identify likely exacerbating factors in the given history, outline appropriate topical pharmacological management and select appropriate initial investigations.

When answering questions in the Key Feature Problem exam, it is important that investigations are chosen rationally and are appropriate to the question. In this case, candidates commonly selected tests that form part of batch or baseline testing, such as full blood count; urea and electrolytes; liver function tests; and urine for microscopy, culture and sensitivities. These did not attract marks, as they do not provide any insight into a candidate's knowledge of psoriasis or its potential complications.

Question 3.1

Question Rationale

Candidates are expected to be aware of risk factors for exacerbations of psoriasis, and identify these in the given history and examination, which made for ideal answers. The most common incorrect answers were those that created collateral history that was not actually provided in the scenario (‘pharyngitis’, ‘skin trauma’) or that were not risk factors for psoriasis (‘dry skin’, ‘sorbolene’).

Maximum Score: 3

Answer Keys

A. Obesity (Score: 1)
B. Smoking (Score: 1)
C. Excessive alcohol (Score: 1)
D. Non-steroidal anti-inflammatory drug use (Score: 1)
E. Stress; stressful event; depressed mood (Score: 1)
F. Pharyngitis; streptococcal infection
G. Skin trauma; cuts; abrasions
H. Sunlight; ultraviolet light; sunburn
I. Dry skin
J. Recent infection; local infection – unspecified
K. Sedentary lifestyle; lack of exercise
L. Sorbolene use
M. Steroid use
N. Sweating; hyperhidrosis

Question 3.2

Question Rationale

Candidates are expected to be familiar with the appropriate pharmacological management of psoriasis by location or type. Ideal answers reflected the first-line options, as outlined in the References. More marks were awarded for first-line options, while fewer marks were awarded for second-line options. The most common incorrect answers were those that were specifically excluded from the question (‘emollients’), non-specific (‘topical steroid’), did not address the most likely underlying diagnosis (‘antibiotics’, ‘antihistamines’) or were non-pharmacological (‘stop smoking’, ‘refer to dermatologist’).

Maximum Score: 6

Answer Keys

A. Coal tar (Score: 2)
B. Liquor picis carbonis (LPC)+salicylic acid (Score: 2)
C. Methylprednisolone aceponate (eg Advantan) (Score: 2; Group: 1; Group Score: 2)
D. Mometasone furoate (eg Elocon, Novasone, Zatamil) (Score: 2; Group: 1; Group Score: 2)
E. Betamethasone dipropionate (eg Diprosone, Eleuphrat) (Score: 1; Group: 1; Group Score: 2)
F. Calcipotriol–betamethasone dipropionate (eg Daivobet) (Score: 1)
G. Topical steroid (non-specific or different to above)
H. Emollients
I. Antihistamines
J. Probiotics
K. Keratolytic agents
L. Oral steroids
M. Dithranol (anthralin)
N. Calcineurin inhibitors (eg tacrolimus, pimecrolimus)
O. Retinoids (eg tazarotene, acitretin)
P. Systemic non-biological therapies (eg methotrexate, ciclosporin)
Q. Systemic biological therapies (eg infliximab, etanercept)
R. Ultraviolet therapy (eg phototherapy, heliotherapy)
S. Treatment for scabies (eg permethrin, benzyl benzoate)
T. Treatments for other infestations (eg ivermectin, albendazole, pyrethrins)
U. Antibiotic
V. Antifungal
W. Antiviral
X. Non-pharmacological management actions (eg baths, soap-free wash, mineral springs, occlusive dressings)

Question 3.3

Question Rationale

Appropriate initial investigations for a patient with chronic psoriasis are outlined in the References and reflect the increased cardiovascular risk associated with a chronic systemic autoimmune disease. In the absence of symptoms suggestive of psoriatic arthritis, investigations for this diagnosis are not considered appropriate initial investigations.

Maximum Score: 2

Answer Keys

A. Anticyclic citrullinated peptide antibody
B. Anti-double-stranded deoxyribonucleic acid antibody
C. Antineutrophil cytoplasmic antibody
D. Antinuclear antibody
E. Coagulation studies
F. Echocardiogram
G. Electrocardiogram (Score: 1)
H. Extractable nuclear antigen antibody
I. Fasting lipids (Score: 1)
J. Full blood count
K. HbA1c (Score: 1)
L. Human leucocyte antigen B27
M. Human leucocyte antigen DQ2
N. Iron studies
O. Prostate-specific antigen
P. Rheumatoid factor
Q. Serum calcium
R. Serum magnesium
S. Serum phosphate
T. Serum urate (Score: 1)
U. Thyroid function tests
V. Urine for microscopy, culture and sensitivities
W. Vitamin B12
X. Vitamin D
Y. X-ray hands
Z. X-ray lumbosacral spine

Case 4

References:

1. Queensland Government. Procedural consent form – Excision of a skin lesion or subcutaneous lump. Brisbane: Queensland Government, 2011. Available at http://www.health.qld.gov.au/__data/assets/pdf_file/0026/147293/plastics_05.pdf [Accessed December 2021].

2. Therapeutic Guidelines. Periprocedural management of patients with cardiovascular disease – Periprocedural use of non-vitamin K anticoagulants. West Melbourne, Vic: Therapeutic Guidelines, 2018. Available at https://tgldcdp.tg.org.au/viewTopic?etgAccess=true&guidelinePage=Cardiovascular&topicfile=periproced ural-management-cardiovascular-disease&guidelinename=Cardiovascular&sectionId=toc_d1e634#toc_d1e634 [Accessed December 2021].

3. Therapeutic Guidelines. Periprocedural management of adults with diabetes – Periprocedural management of adults with type 2 diabetes. West Melbourne, Vic: Therapeutic Guidelines, 2019. Available at https://tgldcdp.tg.org.au/viewTopic?etgAccess=true&guidelinePage=Diabetes&topicfile=periprocedural-m anagement-of-adults-with-diabetes&guidelinename=Diabetes&sectionId=toc_d1e1083#toc_d1e1083 [Accessed December 2021].

Case Rationale

Candidates are presented with a middle-aged man who has a suspicious pigmented skin lesion on his shoulder. They are required to outline the appropriate immediate management of the lesion, discuss potential risks involved in any management action and then provide advice regarding peri-procedural medication management.

When answering questions in the Key Feature Problem exam, it is important to be as specific as possible and to answer each question as if in clinical practice – it would be inappropriate to advise a patient that they need an ‘excision’ or that they should ‘withhold medication’ without providing more detail.

Question 4.1

Question Rationale

Candidates are expected to recognise that the provided clinical image might represent a melanoma and to manage this appropriately. Ideal answers were specific and evidence based. The most common incorrect answers were non-specific (‘biopsy’, ‘excision’), constituted incorrect management of a pigmented skin lesion (‘punch biopsy’, ‘cryotherapy’, ‘observe’) or did not answer the question asked (‘arrange ultrasound’). Dangerous answers (‘excision with 2-cm margin’) resulted in zero marks for the question, but not for the whole case.

Maximum Score: 2

Answer Keys

A. Refer to dermatologist, plastic surgeon, melanoma clinic for excision +/– biopsy with minimum 2-mm margin +/– subcutaneous fat (Score: 2; Group: 1; Group Score: 2)
B. Excision +/– biopsy with minimum 2-mm margin +/– subcutaneous fat (Score: 2; Group: 2; Group Score: 2)
C. Excision +/– biopsy (no, or incorrect, margin [<10 mm]) (Score: 1; Group: 1; Group Score: 2)
D. Refer to dermatologist, plastic surgeon, melanoma clinic (no reason given) (Score: 1; Group: 2; Group Score: 2)
E. Ensure international normalised ratio is <3 prior to excision (Score: 1)
F. Excision biopsy (inappropriate margin, ie >10 mm) (Zero: 1)
G. Withhold warfarin prior to procedure
H. Give bridging dose of low-molecular-weight heparin
I. Punch biopsy
J. Biopsy (non-specific, or other than listed above)
K. Observe (Zero: 1)
L. Topical therapy (eg diclofenac, fluorouracil, imiquimod)

Question 4.2

Question Rationale

Candidates are expected to be aware of the potential risks of an excision of a skin lesion. Ideal answers were specific to the common risks associated with an excision. The most common incorrect answers were those that discussed highly unlikely risks (‘seeding’) or risks of inappropriate management (‘localised skin reaction’).

Maximum Score: 3

Answer Keys

A. Risk of bleeding (Score: 1)
B. Risk of infection (Score: 1)
C. Risk of scarring; hypertrophic scarring (Score: 1)
D. Risk of recurrence of lesion; possibility of incomplete excision (Score: 1)
E. Risk of wound dehiscence (Score: 1)
F. Risk of adverse reaction to local anaesthetic; inadvertent intravenous administration of local anaesthetic (Score: 1)
G. Risk of nerve damage (Score: 1)
H. Risk of localised skin reaction
I. Risk of seeding; spreading melanocytes
J. Risk of slow wound healing – +/– secondary to diabetes

Question 4.3

Question Rationale

Candidates are expected to be familiar with the appropriate peri-procedural management of non-vitamin K antagonist oral anticoagulants and oral hypoglycaemia agents. Ideal answers reflected the management, as outlined in the References. More marks were awarded for more specific answers, while fewer marks were awarded for less specific answers. The most common incorrect answers were those that were specifically excluded from the non-specific (‘withhold medications) or were non-pharmacological (‘fast from midnight’).

Maximum Score: 4

Answer Keys

A. Advise to withhold apixaban 1–3 days prior to procedure (Score: 2; Group: 1; Group Score: 2)
B. Advise to withhold apixaban (no, or incorrect, time frame) (Score: 1; Group: 1; Group Score: 2)
C. Advise that apixaban increases risk of bleeding (Score: 1; Group: 1; Group Score: 2)
D. Advise to withhold dapagliflozin 2–3 days prior to procedure (Score: 2; Group: 2; Group Score: 2)
E. Advise to withhold dapagliflozin (no, or incorrect, time frame) (Score: 1; Group: 2; Group Score: 2)
F. Advise that dapagliflozin increases risk of diabetic ketoacidosis (Score: 1; Group: 2; Group Score: 2)
G. Advise that he might need to withhold or adjust metformin dose (Score: 1)
H. Advise that enoxaparin coverage might be appropriate (Score: 1)
I. Advise to change oral hypoglycaemic to insulin
J. Advise to have heparin infusion

Case 5

References:

1. Therapeutic Guidelines. Respiratory: Cough in children. West Melbourne, Vic: Therapeutic Guidelines, 2021. Available at https://tgldcdp.tg.org.au/viewTopic?topicfile=cough-children [Accessed December 2021].

2. Royal Children's Hospital Melbourne. Clinical practice guidelines: Cough. Melbourne: RCH, 2019. Available at rch.org.au/clinicalguide/guideline_index/Cough [Accessed December 2021].

3. Royal Children's Hospital Melbourne. Clinical practice guidelines: Whooping cough (pertussis). Melbourne: RCH, [date unknown]. Available at rch.org.au/clinicalguide/guideline_index/Whooping_Cough_Pertussis [Accessed December 2021].

4. Therapeutic Guidelines. Respiratory: Non-allergic rhinitis. West Melbourne, Vic: Therapeutic Guidelines, 2021. Available at https://tgldcdp.tg.org.au/viewTopic?topicfile=nonallergic-rhinitis [Accessed December 2021].

5. Therapeutic Guidelines. Respiratory: Allergic rhinitis. West Melbourne, Vic: Therapeutic Guidelines, 2021. Available at https://tgldcdp.tg.org.au/viewTopic?topicfile=allergic-rhinitis [Accessed December 2021].

6. Therapeutic Guidelines. Respiratory: Asthma: Assessment of wheeze and asthma in children 5 years and younger, Acute wheeze and assessment for asthma in children 5 years and younger – Treatment trial for wheeze and asthma in children 1 to 5 years. West Melbourne, Vic: Therapeutic Guidelines, 2021. Available at https://tgldcdp.tg.org.au/viewTopic?etgAccess=true&guidelinePage=Respiratory&topicfile=wheeze-and-asthma-children&guidelinename=Respiratory&sectionId=toc_d1e74#toc_d1e225 [Accessed December 2021].

Case Rationale

Candidates are presented with a boy who has a prodromal illness, followed by a spasmodic cough. They are required to provide a list of most likely differential diagnoses, immediate management of the single most likely underlying diagnosis, and then management of chronic rhinosinusitis and possible asthma.

When answering questions in the Key Feature Problem exam, if the clinical scenario states that ‘COVID-19 has been definitively excluded’, candidates may exclude this as an ongoing diagnosis within the case. Additionally, the Key Feature Problem exam can include questions from all five domains of the general practice curriculum, so candidates must be able to answer questions regarding ‘population health and the context of general practice’ and include this in their exam preparation.

Question 5.1

Question Rationale

Candidates are expected to be aware of the possible causes of cough in children and to be able to provide a rational list of differential diagnoses in the context of this child's presentation. Ideal answers recognised that the spasmodic nature of the cough made the diagnosis of pertussis the most likely and dangerous diagnosis to be considered. Additionally, they considered other common diagnoses that would also present in this way. The most common incorrect answers failed to take in to account the age of the patient ('bronchiolitis', 'tracheomalacia') or the absence of additional examination findings ('pneumonia', 'tuberculosis', 'cystic fibrosis').

Maximum Score: 5

Answer Keys

A. Whooping cough; pertussis (Score: 2)
B. Upper respiratory tract infection +/– viral (Score: 1)
C. Croup (Score: 1)
D. Post-viral cough (Score: 1)
E. Upper airway cough syndrome; post-nasal drip (Score: 1)
F. Bronchiolitis
G. Environmental exposure to cigarette smoking
H. Inhaled foreign body
I. Sinusitis
J. Bronchitis
K. Asthma
L. Pneumonia
M. Lung abscess
N. Tuberculosis
O. Congenital airway abnormalities (eg tracheomalacia, trachea-oesophageal fistula, vascular ring)
P. Chronic lung disease (eg bronchiectasis, cystic fibrosis)
Q. Somatic cough syndrome; psychogenic cough
R. Tic cough; habit cough

Question 5.2

Question Rationale

Candidates are expected to be familiar with the appropriate patient and public health management of pertussis. Ideal answers were specific and outlined a coherent public health response. Fewer marks were awarded for answers that were non-specific ('arrange prophylactic treatment of family members'). The most common incorrect answers were non-specific ('isolate', 'give antibiotics'), inappropriate ('arrange early vaccination for sister', 'isolate until cough completely resolves', 'treat all day-care staff') or did not address the management of pertussis ('analgesia', 'cough medicine').

Maximum Score: 6

Answer Keys

A. Notify local public health unit (Score: 2)
B. Notify day-care (Score: 2)
C. Arrange appropriate antibiotics for Joe (Score: 2)
D. Arrange prophylactic antibiotics for sister (Score: 2; Group: 1; Group Score: 2)
E. Arrange prophylactic antibiotics for parents (+/– as there is a child aged <6 months in the house) (Score: 2; Group: 1; Group Score: 2)
F. Arrange prophylactic treatment of family members (not specifying whom) (Score: 1; Group: 1; Group Score: 2)
G. Arrange prophylactic antibiotics for any pregnant women exposed to Joe in their last trimester (Score: 2; Group: 2; Group Score: 2)
H. Arrange prophylactic antibiotics for pregnant women exposed to Joe (non-specific) (Score: 1; Group: 2; Group Score: 2)
I. Advise that Joe and his sister can return to day-care when they have completed five days of antibiotics (Score: 2; Group: 3; Group Score: 2)
J. Advise that Joe can return to day-care after he has been coughing for 21 days (Score: 2; Group: 3; Group Score: 2)
K. Advise that Joe can return to day-care after treatment (non-specific) (Score: 1; Group: 3; Group Score: 2)
L. Advise household members to update their pertussis vaccinations (Score: 1; Group: 3; Group Score: 2)
M. Advise unvaccinated contacts to have pertussis vaccination as soon as possible (Score: 1; Group: 3; Group Score: 2)
N. Advise household members to see their doctors for medical review if they are symptomatic
O. Advise antibiotics for all childcare staff +/– children in same day-care room
P. Advise antibiotics for all children at the day-care

Q. Advise mask-wearing
R. Advise to isolate until the cough completely resolves
S. Advise to isolate (non-specific)
T. Inform other patients who attended at the same time; inform other contacts
U. Arrange early vaccination for sister
V. Advise use of analgesia (eg paracetamol, ibuprofen)
W. Advise use of cough medicine; lozenges

Question 5.3

Question Rationale

Candidates are expected to be familiar with the appropriate pharmacological management of chronic rhinosinusitis and possible asthma in children. Ideal answers recognised that unmanaged chronic rhinosinusitis might be the cause of the patient's cough and provided first-line options with appropriate drug examples, as outlined in the References. Fewer marks were awarded for answers without specific examples, second-line options or those that only addressed the patient's cough. The most common incorrect answers were those that were inappropriate for the age of the patient ('DYMISTA') or were inappropriate in managing the presenting symptoms ('decongestant', 'antibiotics'). It is important to note that an appropriate drug example was required for a mark – the use of drug classes is included for the benefit of the marker and is not required to be listed by candidates.

Maximum Score: 5

Answer Keys

A. Oral antihistamine with appropriate example (eg cetirizine (Zyrtec), desloratadine (Aerius), fexofenadine (Telfast), loratadine (Claratyne) (Score: 2, Group: 1, Group Score: 2)
B. Oral antihistamine (no example) (Score: 1, Group: 1, Group Score: 2)
C. Intranasal corticosteroid with appropriate example (eg fluticasone furoate (Avamys), mometasone (Nasonex) (Score: 2, Group: 2, Group Score: 2)
D. Intranasal corticosteroid (no example) (Score: 1, Group: 2, Group Score: 2)
E. Montelukast (Singulair) (Score: 1)
F. Salbutamol (Ventolin; Asmol) (Score: 1)
G. Saline nasal rinse (FESS) (Score: 1)
H. Oral antihistamine (inappropriate example)
I. Intranasal corticosteroid (inappropriate example)
J. Intranasal antihistamine
K. Intranasal antihistamine+corticosteroid
L. Intranasal ipratropium
M. Eye drops
N. Decongestant – oral, intranasal, unspecified
O. Immunotherapy
P. Steroid – oral, inhaled, unspecified
Q. Cough suppressants
R. Antibiotics

Case 6

References:

1. Therapeutic Guidelines. Psychotropic: Psychoses – First episode of psychosis: Assessing a first episode of psychosis in adults and young people. West Melbourne, Vic: Therapeutic Guidelines, 2021. Available at https://tgldcdp.tg.org.au/viewTopic?etgAccess=true&guidelinePage=Psychotropic&topicfile=first-episode-psychosis&guidelinename=Psychotropic&sectionId=toc_d1e47#toc_d1e47 [Accessed December 2021].

2. Early Psychosis Guidelines Writing Group and EPPIC National Support Program. Australian clinical guidelines for early psychosis. 2nd edn. Melbourne: Orygen, The National Centre of Excellence in Youth Mental Health, 2016. Available at https://www.orygen.org.au/Campus/Expert-Network/Resources/Free/Clinical-Practice/Australian-Clinical-Guidelines-for-Early-Psychosis/Australian-Clinical-Guidelines-for-Early-Psychosis.aspx?ext [Accessed December 2021].

3. Griswold KS, Del Regno PA, Berger RC. Recognition and differential diagnosis of psychosis in primary care. Am Fam Physician 2015;91(12):856–63. Available at https://www.aafp.org/pubs/afp/issues/2015/0615/p856.html [Accessed November 2022].

4. Keks N. The acutely psychotic patient: Assessment and initial management. Aust Fam Physician 2006;35(3):90–94. Available at racgp.org.au/getattachment/514add03-28f8-45fe-917b-95ea0ea10d5b/attachment.aspx [Accessed December 2021].

5. Winckel K, Siskind D. Clozapine in primary care. Aust Prescr 2017;40(6):231–36. Available at nps.org.au/australian-prescriber/articles/clozapine-in-primary-care [Accessed December 2021].

6. South Eastern Sydney Local Health District. Clozapine – Guidelines for prescribing, administration and monitoring. NSW: NSW Health, 2019. Available at www.seslhd.health.nsw.gov.au/sites/default/files/documents/SESLHDPR%20591%20-%20Clozapine%20-%20Guidelines%20for%20Prescribing%2C%20Administration%20and%20Monitoring.pdf [Accessed December 2021].

Case Rationale

Candidates are presented with a young adult man with a first episode of psychosis. They are required to provide a list of history features consistent with the most likely diagnosis, provide a list of possible organic causes of the patient's presentation and select appropriate investigations for monitoring of clozapine therapy.

When answering questions in the Key Feature Problem exam, it is important to ensure answers are in the context of the presented patient and all of the information provided. The Key Feature Problem exam is not a short-answer exam where candidates provide all possible differential diagnoses for a presenting symptom; candidates need to ensure their answers are focused and address the 'key features' of the presented patient and question.

Question 6.1

Question Rationale

Candidates are expected to be familiar with the diagnostic features of psychosis and identify these in the given history, which made for ideal answers. The most common incorrect answers were those that created collateral history that was not actually provided in the scenario (‘hallucinations’, ‘disorganised speech’) or that provided alternative diagnoses (‘anxiety’, ‘depression’).

Maximum Score: 4

Answer Keys

A. Delusions +/– persecutory, bizarre, grandiose (Score: 1; Group: 1; Group Score: 1)
B. Ideas of reference (Score: 1; Group: 1; Group Score: 1)
C. Lack of motivation (Score: 1)
D. Poor, decreased self-care (Score: 1)
E. Blunted affect (Score: 1)
F. Reduced speech (Score: 1)
G. Social withdrawal (Score: 1)
H. Catatonia (Score: 1)
I. Hallucinations
J. Impaired insight
K. Disorganised thinking
L. Disorganised speech
M. Impaired planning
N. Reduced mental flexibility
O. Impaired memory, concentration
P. Impaired social cognition, understanding of social rules
Q. Disorganised behaviour
R. Aggression; hostility
S. Depression; anxiety

Question 6.2

Question Rationale

Candidates are expected to be aware of the possible organic causes of psychosis in young adults and to be able to provide a rational list of differential diagnoses in the context of this patient's presentation. Ideal answers recognised diagnoses that would present with psychotic features in the absence of other focal symptoms. The most common incorrect answers failed to take in to account the age of the patient ('dementia', 'Huntington disease') or the absence of additional history of examination findings ('substance abuse', 'head injury', 'sepsis').

Maximum Score: 5

Answer Keys

A. HIV infection (Score: 1)
B. Cerebrovascular disease (Score: 1)
C. Space occupying lesion; intracranial lesion; brain tumour (Score: 1)
D. Cushing disease; pituitary adenoma (Score: 1)
E. Thyrotoxicosis; hyperthyroidism (Score: 1)
F. Hyperparathyroidism (Score: 1)
G. Systemic lupus erythematosus (Score: 1)
H. Wilson disease (Score: 1)
I. Hypoglycaemia; hyperglycaemia; diabetes mellitus (Score: 1)
J. Electrolyte abnormality (Score: 1)
K. Metabolic abnormality (Score: 1)
L. Sleep deprivation (Score: 1)
M. Multiple sclerosis (Score: 1)
N. Vitamin B deficiency (Score: 1)
O. Neurosyphilis (Score: 1)
P. Acute intermittent porphyria (Score: 1)
Q. Addison disease (Score: 1)
R. Hepatitis C (Score: 1)
S. Creutzfeldt–Jakob disease (Score: 1)
T. Heavy metal toxicities (Score: 1)
U. Hypothyroidism; myxoedema
V. Folate deficiency
W. Substance abuse (+/– eg amphetamines, stimulants, hallucinogens, cannabis)
X. Alcohol use, abuse, withdrawal
Y. Epilepsy (eg absence, temporal lobe); seizures
Z. Huntington disease
AA. Cerebral trauma; head injury; acquired brain injury

AB. Exogenous steroid use
AC. Hypoxia
AD. Sepsis; infection
AE. Encephalitis; meningitis; encephalopathy
AF. Genetic, heritable conditions
AG. Oncological conditions
AH. Dementia (eg Alzheimer’s disease, Lewy body, Parkinson’s disease)
AI. Tay–Sachs disease
AJ. Psychological causes (eg stress, schizophrenia, bipolar disorder, depression, anxiety, personality disorder)

Question 6.3

Question Rationale

Appropriate initial monitoring investigations for a patient taking clozapine are outlined in the References, and reflect the specific risks of agranulocytosis and cardiac disease related to clozapine, as well as the metabolic risk related to antipsychotics more generally. For this reason, a full blood count attracts 2 marks, whereas other correct investigations get 1 mark.

Maximum Score: 7

Answer Keys

A. Blood film
B. C-reactive protein (Score: 1)
C. Clozapine level (Score: 1)
D. CT scan brain
E. Electrocardiogram (Score: 1)
F. Electroencephalogram
G. Erythrocyte sedimentation rate
H. Fasting glucose (Score: 1)
I. Fasting lipids (Score: 1)
J. Full blood count (Score: 2)
K. Iron studies
L. Liver function tests (Score: 1)
M. Parathyroid hormone
N. Prolactin
O. Serum calcium
P. Serum cortisol
Q. Serum folate
R. Serum insulin
S. Serum magnesium
T. Serum phosphate
U. Thyroid function tests
V. Troponin (Score: 1)
W. Urea and electrolytes (Score: 1)
X. Vitamin B12
Y. Vitamin D
Z. X-ray chest

Case 7

References:

1. Therapeutic Guidelines. Rheumatology: Undifferentiated arthritis in adults – Undifferentiated monoarthritis in adults. West Melbourne, Vic: Therapeutic Guidelines, 2017. Available at https://tgldcdp.tg.org.au/viewTopic?etgAccess=true&guidelinePage=Rheumatology&topicfile=undifferenti ated-arthritis-in-adults&guidelinename=Rheumatology&sectionId=toc_d1e177#toc_d1e177 [Accessed December 2021].

2. Southern Adelaide Local Health Network. Outpatient GP referral guidelines: Rheumatology – Acute onset monoarthritis. Adelaide: SA Health, 2016. Available at sahealth.sa.gov.au/wps/wcm/connect/1116838046d4b1ddbe0ffe22d29d99f6/Outpatient+GP+Referral+Guidelines+Rheumatology+Acute+Onset+Monoarthritis+SALHN.pdf?MOD=AJPERES&CACHEID=R OOTWORKSPACE-1116838046d4b1ddbe0ffe22d29d99f6-nKPmOlr [Accessed December 2021].

3. Southern Adelaide Local Health Network. Outpatient GP Referral Guidelines: Rheumatology – Subacute single or several joint arthritis. Adelaide: SA Health, 2016. Available at sahealth.sa.gov.au/wps/wcm/connect/c693900046d4c1f9bea6fe22d29d99f6/Outpatient+GP+Referral+Guidelines+Rheumatology+Subacute+single+or+several+joint+arthritis+SALHN.pdf?MOD=AJPERES&CACHEID=ROOTWORKSPACE-c693900046d4c1f9bea6fe22d29d99f6-nJKBB06 [Accessed December 2021].

4. Therapeutic Guidelines. Rheumatology: Gout. West Melbourne, Vic: Therapeutic Guidelines, 2021. Available at https://tgldcdp.tg.org.au/viewTopic?topicfile=gout [Accessed December 2021].

5. Therapeutic Guidelines. Cardiovascular: Blood pressure reduction. West Melbourne, Vic: Therapeutic Guidelines, 2021. Available at https://tgldcdp.tg.org.au/viewTopic?topicfile=blood-pressure-reduction [Accessed December 2021].

Case Rationale

Candidates are presented with a middle-aged man with acute monoarthritis and the results of synovial fluid microscopy. They are required to provide a list of most likely differential diagnoses, select appropriate investigations for a patient presenting with subacute monoarthritis and outline the appropriate initial pharmacological management of gout.

When answering questions in the Key Feature Problem exam, if pharmacological management is requested, it is important to ensure that answers include all the information requested. It is also important to remember that the cessation or reduction of certain medications might be considered an appropriate pharmacological management action – in the case, cessation and/or replacement of hydrochlorothiazide with an alternative antihypertensive is an important step in the management of gout.

Question 7.1

Question Rationale

Candidates are expected to be aware of the possible causes of acute monoarthritis in adults, and to be able to provide a rational list of differential diagnoses in the context of this patient's presentation and synovial fluid microscopy results. Ideal answers recognised that monoarthritis in a patient who is systemically unwell suggests a diagnosis of septic arthritis until proven otherwise; therefore, this answer was awarded the most marks. The most common incorrect answers were those that created collateral history that was not actually provided in the scenario ('fracture', 'renal failure') or that was much less likely for the given presentation ('malignancy').

Maximum Score: 3

Answer Keys

A. Septic arthritis (Score: 2)
B. Gout +/– exacerbation (Score: 1)
C. Pseudogout; acute calcium pyrophosphate crystal arthritis (Score: 1)
D. Osteomyelitis (Score: 1)
E. Haemarthrosis
F. Trauma; fracture
G. Osteonecrosis
H. Inflammatory arthritis
I. Reactive arthritis
J. Osteoarthritis
K. Malignancy
L. Cellulitis
M. Haemochromatosis
N. Renal failure

Question 7.2

Question Rationale

Appropriate initial investigations for an adult with subacute monoarthritis are outlined in the References.

Maximum Score: 6

Answer Keys

A. Anticyclic citrullinated antibody (Score: 1)
B. Anti-double-stranded deoxyribonucleic acid antibody
C. Antinuclear antibodies (Score: 1)
D. C-reactive protein (Score: 1)
E. CT scan left knee
F. Extractable nuclear antigens
G. Fasting glucose
H. Fasting lipids
I. Full blood count (Score: 1)
J. Iron studies
K. Liver function tests (Score: 1)
L. MRI left knee
M. Prostate-specific antigen
N. Rheumatoid factor (Score: 1)
O. Serum calcium (Score: 1)
P. Serum folate
Q. Serum magnesium
R. Serum parathyroid hormone
S. Serum phosphate
T. Serum urate (Score: 1)
U. Thyroid function tests
V. Ultrasound left knee
W. Urea and electrolytes (Score: 1)
X. X-ray left knee (Score: 1)
Y. Vitamin B12
Z. Vitamin D

Question 7.3

Question Rationale

Candidates are expected to be familiar with the appropriate pharmacological management of gout. Ideal answers reflected the first-line options, as outlined in the References. More marks were awarded for first-line options, while fewer marks were awarded for second-line or less specific options. The most common incorrect answers were those that did not recognise the specific contraindications to medications in the scenario (‘alternative non-steroidal anti-inflammatory drug’ in a patient taking both an angiotensin-converting enzyme inhibitor and diuretic), were non-specific (‘urate lowering therapy’), did not address the most likely underlying diagnosis (‘proton pump inhibitor’) or were non-pharmacological (‘reduce alcohol’, ‘low purine diet’).

Maximum Score: 6

Answer Keys

A. Commence allopurinol (Score: 2)
B. Commence colchicine (Score: 2)
C. Commence prednis(ol)one (Score: 2)
D. Cease indomethacin (Score: 2; Group: 1; Group Score: 2)
E. Reduce indomethacin (Score: 1; Group: 1; Group Score: 2)
F. Cease hydrochlorothiazide (Score: 2; Group: 2; Group Score: 2)
G. Reduce hydrochlorothiazide (Score: 1; Group: 2; Group Score: 2)
H. Commence calcium channel blocker with appropriate example (eg amlodipine; felodipine; lercanidipine; nifedipine) (Score: 2; Group: 3; Group Score: 2)
I. Commence calcium channel blocker (with no, or incorrect, example) (Score: 1; Group: 3; Group Score: 2)
J. Change quinapril to losartan (Score: 1)
K. Commence paracetamol (Score: 1)
L. Increase dose of hydrochlorothiazide
M. Commence proton pump inhibitor
N. Commence histamine-2 receptor antagonist
O. Change to alternative non-steroidal anti-inflammatory drug
P. Arrange intra-articular steroid injection
Q. Commence febuxostat
R. Commence probenecid

Case 8

References:

1. Therapeutic Guidelines. Neurology: Headache and facial pain – Headache and facial pain classification and diagnosis. West Melbourne, Vic: Therapeutic Guidelines, 2021. Available at https://tgldcdp.tg.org.au/viewTopic?topicfile=headache-and-facial-pain-classification-and-diagnosis [Accessed December 2021].

2. Therapeutic Guidelines. Neurology: Headache and facial pain – Medication overuse headache. West Melbourne, Vic: Therapeutic Guidelines, 2017. Available at https://tgldcdp.tg.org.au/viewTopic?topicfile=medication-overuse-headache [Accessed December 2021].

3. Therapeutic Guidelines. Neurology: Headache and facial pain – Migraine – Prophylaxis for migraine. West Melbourne, Vic: Therapeutic Guidelines, 2019. Available at https://tgldcdp.tg.org.au/viewTopic?etgAccess=true&guidelinePage=Neurology&topicfile=migraine&guide linename=Neurology&sectionId=toc_d1e414#toc_d1e414 [Accessed December 2021].

4. Therapeutic Guidelines. Dermatology: Miscellaneous skin conditions – Pityriasis rosea. West Melbourne, Vic: Therapeutic Guidelines, 2020. Available at https://tgldcdp.tg.org.au/viewTopic?etgAccess=true&guidelinePage=Dermatology&topicfile=skin-conditions-miscellaneous&guidelinename=Dermatology&sectionId=toc_d1e255#toc_d1e255 [Accessed December 2021].

5. Oakley A. Pityriasis rosea. NZ: DermnetNZ, 2014. Available at https://dermnetnz.org/topics/pityriasis-rosea [Accessed December 2021].

Case Rationale

Candidates are presented with a young adult woman with chronic daily headaches. They are required to provide a list of most likely differential diagnoses, outline the appropriate pharmacological management of medication overuse headache and provide appropriate non-pharmacological management advice for pityriasis rosea.

When answering questions in the Key Feature Problem exam, if pharmacological management is requested, the need for dosing regimens will be specified. Where dosing regimens are not required, no additional marks are awarded for providing this detail. While candidates are not expected to provide doasges of drugs, they maybe required to show understanding of routes and timings of medication administration and other information regarding drug classes.

Question 8.1

Question Rationale

Candidates are expected to be aware of the possible causes of chronic daily headache in adults to be able to provide a rational list of differential diagnoses in the context of this patient's presentation. Ideal answers recognised that chronic daily, or almost daily, medication use suggests a diagnosis of medication overuse headache, and this answer was therefore awarded the most marks. Fewer marks were awarded for answers that would account for the nature of the headache but did not take in account chronic medication use ('migraine without aura', 'tension headache'). The most common incorrect answers were those that were non-specific ('stress'), created collateral history that was not actually provided in the scenario ('obstructive sleep apnoea', 'hypertension') or that were much less likely for the given presentation ('temporal arteritis', 'malignancy').

Maximum Score: 5

Answer Keys

A. Medication overuse headache (Score: 3; Group: 1; Group Score: 2)
B. Analgesic rebound headache (Score: 2; Group: 1; Group Score: 2)
C. Migraine without aura (Score: 2; Group: 2; Group Score: 2)
D. Migraine (non-specific) (Score: 1; Group: 2; Group Score: 2)
E. Tension-type headache (Score: 2)
F. Stress
G. Migraine with aura
H. Aura without headache; acephalgic migraine
I. Trigeminal autonomic cephalgias (eg cluster headache, paroxysmal hemicrania, short-lasting unilateral neuralgiform headache attacks with conjunctival injection and tearing, hemicrania continua)
J. Reversible cerebral vasoconstriction syndrome
K. Primary headache associated with sexual activity; benign sex headache
L. Primary exercise headache; benign exertional headache
M. Primary stabbing headache; ice-pick headache
N. Primary cough headache; benign cough headache
O. Hypnic headache
P. Low/high cerebrospinal fluid pressure headache; benign intracranial hypertension
Q. Cervicogenic headache
R. Drug-induced headache
S. Headache induced by metabolic or other medical condition (eg obstructive sleep apnoea, hypoxia, hypertension, phaeochromocytoma, epilepsy, hypoglycaemia, hypercapnia)

T. Rhinosinusitis
U. Neuralgia (+/– trigeminal, glossopharyngeal, greater occipital, postherpetic trigeminal)
V. Temporal arteritis
W. Malignancy

Question 8.2

Question Rationale

Candidates are expected to be familiar with the appropriate pharmacological management of medication overuse headache. Ideal answers reflected the management as outlined in the References, recognising the need to both cease certain medications and provide alternative, or bridging, analgesia. The most common incorrect answers were those that were non-specific (‘analgesia’), did not address the most likely underlying diagnosis (‘alternative triptan’, ‘gabapentinoid’) or were non-pharmacological (‘massage’, ‘time off work’).

Maximum Score: 4

Answer Keys

A. Commence naproxen (Score: 2)
B. Commence prednis(ol)one (Score: 1)
C. Cease or gradually reduce codeine (Score: 2)
D. Cease or gradually reduce sumatriptan (Score: 2)
E. Cease or gradually reduce paracetamol (Score: 2)
F. Commence amitriptyline, nortriptyline (Score: 1)
G. Commence candesartan (Score: 1)
H. Commence pizotifen (Score: 1)
I. Commence propranolol (Score: 1)
J. Commence topiramate (Score: 1)
K. Commence verapamil (Score: 1)
L. Commence aspirin
M. Commence non-steroidal anti-inflammatory drug
N. Commence anti-emetic
O. Increase dose of sumatriptan
P. Change to alternative triptan
Q. Commence sodium valproate
R. Commence gabapentinoid
S. Commence selective serotonin noradrenaline reuptake inhibitor
T. Commence mirtazapine
U. Commence venlafaxine
V. Arrange botulinum toxin injections

Question 8.3

Question Rationale

Candidates are expected to recognise the classic rash of pityriasis rosea and to be familiar with appropriate non-pharmacological management advice. Ideal answers reflected the management as outlined in the References, including the fact that no specific treatment is required for this rash. The most common incorrect answers were those that included advice specifically excluded by the question (‘emollients’), addressed symptoms not currently being experienced by the patient (‘keep skin cool to help with itch’) or were pharmacological (‘steroids’, ‘antihistamines’, ‘emollients’).

Maximum Score: 2

Answer Keys

A. Advise no specific treatment is required (Score: 2)
B. Advise to cautiously expose skin to sunlight, artificial ultraviolet phototherapy +/– without burning (Score: 1)
C. Advise to keep skin cool
D. Advise to isolate +/– due to infection
E. Advise use of emollients
F. Advise use of calamine lotion
G. Advise use of antihistamine
H. Advise use of topical corticosteroid
I. Advise use of oral steroid
J. Advise use of selenium sulphide shampoo
K. Advise use of antifungal
L. Advise use of antiviral

Case 9

References:

1. The Royal Australian College of General Practitioners. Part A – Urinary incontinence. In: RACGP aged care clinical guide (Silver Book). 5th edn. East Melbourne, Vic: RACGP, 2020. Available at https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/silver-book/part-a/urinary-incontinence [Accessed December 2021].

2. Hutchinson A, Nesbitt A, Joshi A, Clubb A, Perera M. Overactive bladder syndrome: Management and treatment options. Aust J Gen Pract 2020;49(9):593–98. Available at https://www1.racgp.org.au/ajgp/2020/september/overactive-bladder-syndrome [Accessed December 2021].

Case Rationale

Candidates are presented with an older woman with urinary urgency and frequency. They are required to provide the most likely diagnosis, outline specific examination findings that would suggest an additional underlying diagnosis and provide appropriate non-pharmacological management options.

When answering questions in the Key Feature Problem exam, it is important to ensure that the case is read fully, all information is considered and that candidates read and re-read the question, and after writing their answer consider reading the question again to ensure their answer matches the actual question asked.

Question 9.1

Question Rationale

Candidates are expected to be aware of the possible causes of urinary urgency and frequency in older females and use this in conjunction with the provided investigation results and bladder diary to provide a rational, most likely diagnosis for this patient's presentation. Ideal answers recognised that the most likely diagnosis is urge urinary incontinence. Fewer marks were awarded for answers that described the mechanism by which the symptoms occur without specifying the diagnosis ('detrusor overactivity'). The most common incorrect answers were those that were non-specific ('incontinence'), created collateral history that was not actually provided in the scenario ('behavioural incontinence') or did not take into account all of the elements provided in the scenario ('urinary tract infection', 'malignancy').

Maximum Score: 2

Answer Keys

A. Urge urinary incontinence; urge incontinence (Score: 2)
B. Overactive bladder syndrome (Score: 1)
C. Idiopathic detrusor overactivity, instability (Score: 1)
D. Stress incontinence
E. Chronic retention (overflow incontinence)
F. Functional or behavioural incontinence
G. Mixed incontinence
H. Urinary incontinence (non-specific)
I. Urinary tract infection +/– recurrent
J. Interstitial cystitis
K. Atrophic vaginitis
L. Pelvic organ prolapse
M. Urinary tract stone
N. Urinary tract malignancy

Question 9.2

Question Rationale

Candidates are expected to be aware of the examination findings suggestive of an additional underlying cause of urge urinary incontinence. Ideal answers were specific and included the expected abnormality. The most common incorrect answers were those that were non-specific (‘pain’, ‘bladder size’, ‘neurological examination’) or were features of history (‘sensation of incomplete bladder emptying’).

Maximum Score: 3

Answer Keys

A. Appearance of frailty (Score: 1)
B. Problems with mobility; problems with transfers (Score: 1)
C. Cognitive impairment; cognitive function (Score: 1)
D. Presence of enlarged bladder (Score: 1)
E. Presence of pelvic mass (Score: 1)
F. Presence of atrophic vulval or vaginal changes (Score: 1)
G. Presence of pelvic organ prolapse (Score: 1)
H. Loss of urine observed at the urethral meatus on coughing (Score: 1)
I. Presence of constipation, faecal impaction +/– on digital rectal examination (Score: 1)
J. Presence of altered anal tone +/– on digital rectal examination (Score: 1)
K. Presence of altered perineal sensation +/– on digital rectal examination (Score: 1)
L. Presence of perineal skin disease (eg dermatitis, thrush) (Score: 1)
M. Presence of lower limb weakness +/– on lower limb neurological examination (Score: 1)
N. Presence of upper motor neurone signs +/– on lower limb neurological examination (Score: 1)
O. Signs of other conditions associated with incontinence (eg diabetes; neuropathy; cerebrovascular disease; Parkinson’s disease) (Score: 1)
P. Abdominal tenderness
Q. Pelvic tenderness
R. Vaginal bleeding
S. Vaginal discharge
T. History features

Question 9.3

Question Rationale

Candidates are expected to be familiar with the appropriate non-pharmacological management of urge urinary incontinence. Ideal answers were specific and evidence based. The most common incorrect answers were not appropriate to the patient ('limit alcohol', 'lose weight', 'stop smoking'), were not evidence based ('double voiding', 'use indwelling catheter') or did not answer the question asked ('arrange urodynamic studies', 'trial intravaginal oestrogen').

Maximum Score: 3

Answer Keys

A. Advise appropriate fluid intake of 1.5–2 L per day (Score: 1)
B. Advise to limit caffeine intake; drink water instead of caffeinated beverages (Score: 1)
C. Advise to avoid/treat constipation (Score: 1)
D. Advise regular toileting +/– prompting for same (Score: 1)
E. Advise good posture when toileting (Score: 1)
F. Advise to allow adequate time for emptying when toileting (Score: 1)
G. Advise bladder retraining program +/– refer to pelvic floor physiotherapist (Score: 1)
H. Advise pelvic floor exercises +/– refer to pelvic floor physiotherapist (Score: 1)
I. Advise use of incontinence products (eg disposable pants, absorbent bedding) (Score: 1)
J. Advise use of mobility aids (Score: 1)
K. Advise use of toileting aids (eg bedside commode or urinal, over-toilet frame) (Score: 1)
L. Advise to plan her outings by identifying local toilets (Score: 1)
M. Advise to limit alcohol intake
N. Advise to minimise evening fluid intake
O. Advise use of night-lighting
P. Advise to stop smoking
Q. Advise to lose weight
R. Advise double voiding
S. Advise use of an indwelling catheter
T. Pharmacological management actions (eg cranberry tablets, probiotics, urine alkalinising agent, intravaginal oestrogen, laxatives, prophylactic antibiotics, anticholinergics)
U. Arrange investigations (eg ultrasound, urodynamics)
V. Refer to pelvic floor physiotherapist (non-specific)
W. Refer to physiotherapist, exercise physiologist, occupational therapist
X. Refer to emergency department; urologist; nephrologist; orthopaedic surgeon

Case 10

References:

1. Cancer Council Australia. Clinical guidelines: National Cervical Screening Program: Guidelines for the management of screen-detected abnormalities, screening in specific populations and investigation of abnormal vaginal bleeding. Sydney: CCA, 2021. Available at https://wiki.cancer.org.au/australia/Guidelines:Cervical_cancer/Screening [Accessed December 2021].

2. Cancer Council Australia Cervical Cancer Screening Working Party. National Cervical Screening Program: Guidelines for the management of screen detected abnormalities, screening in specific populations and investigation of abnormal vaginal bleeding. Clinical pathway: Cervical screening pathway. Sydney: CCA, 2016. Available at https://wiki.cancer.org.au/australiawiki/images/4/4b/Flowchart_6_1_NEW.pdf [Accessed December 2021].

3. The Royal Australian and New Zealand College of Obstetricians and Gynaecologists. Best practice statement: Investigation of intermenstrual and postcoital bleeding. Melbourne: RANZCOG, 2021. Available at https://ranzcog.edu.au/wp-content/uploads/2022/05/Investigation-of-intermenstrual-and-postcoital-bleeding.pdf [Accessed December 2021].

4. Therapeutic Guidelines. Sexual and reproductive health: Contraception – Emergency contraception. West Melbourne, Vic: Therapeutic Guidelines, 2020. Available at https://tgldcdp.tg.org.au/viewTopic?topicfile=emergency-contraception [Accessed December 2021].

Case Rationale

Candidates are presented with a young adult woman with an abnormal cervical screening test result. They are required to outline an appropriate management action, select appropriate investigations for a patient presenting with postcoital bleeding and outline appropriate pharmacological management options for emergency contraception.

When answering questions in the Key Feature Problem exam, if pharmacological management is requested, the need for dosing regimens will be specified. Where dosing regimens are not required, no additional marks are awarded for providing this detail. While candidates are not expected to know the dosing regimens for all medications, it is expected that for common conditions and emergency situations candidates would be aware of correct dosing regimens.

Question 10.1

Question Rationale

Candidates are expected to be familiar with the management of an abnormal cervical screening test result, as outlined in the Australian National Cervical Screening Program pathway reference.

Maximum Score: 2

Answer Keys

A. Arrange/perform repeat human papillomavirus, cervical screening test in 12 months (Score: 2)
B. Add recall for 12 months (Score: 1)
C. Arrange/perform repeat human papillomavirus, cervical screening test (with no, or incorrect, time frame)
D. Arrange/perform repeat cervical co-test (human papillomavirus and liquid-based cytology test) (with no, or incorrect, time frame)
E. Arrange/perform screening for sexually transmitted infections
F. Arrange/perform vaginal swab for microscopy, culture and sensitivities
G. Refer for colposcopic assessment
H. Refer for large loop excision of the transformation zone or variations on surgical excision
I. Refer for hysterectomy
J. Refer to gynaecologist

Question 10.2

Question Rationale

Appropriate initial investigations for a patient with postcoital bleeding are outlined in the References. Candidates who did not identify the importance of a serum beta-human chorionic gonadotropin in a patient with postcoital bleeding were not able to score maximum marks for the question.

Maximum Score: 4

Answer Keys

A. Blood film
B. Blood group and antibodies
C. Cervical co-test (Score: 1)
D. Cervical screening test
E. Coagulation studies
F. CT scan abdomen
G. CT scan pelvis
H. First-pass urine for chlamydia PCR (Score: 1)
I. Full blood count
J. Herpes simplex virus serology
K. High vaginal swab for herpes simplex PCR
L. High vaginal swab for microscopy, culture and sensitivities
M. HIV serology
N. Iron studies
O. Liver function tests
P. Rubella serology
Q. Serum beta-human chorionic gonadotropin (Score: 2)
R. Serum calcium
S. Serum magnesium
T. Serum phosphate
U. Syphilis serology
V. Thyroid function tests
W. Ultrasound abdomen
X. Ultrasound pelvis (Score: 1)
Y. Urea and electrolytes
Z. Urine for microscopy, culture and sensitivities

Question 10.3

Question Rationale

Candidates are expected to be familiar with appropriate pharmacological management options for emergency contraception. Ideal answers were first-line options, as outlined in the References. Fewer marks were awarded for second-line options (‘Postinor’). The most common incorrect answers were non-specific (‘morning-after pill’, ‘intrauterine device’), not appropriate for emergency contraception (‘Mirena’, ‘combined oral contraceptive pill’) or did not answer the question asked (‘arrange surgical termination’, ‘refer to specialist’).

Maximum Score: 2

Answer Keys

A. Copper intrauterine device (Multiload, Copper-T) (Score: 2)
B. Ulipristal containing oral emergency contraceptive pill (EllaOne) (Score: 2)
C. Levonorgestrel-containing oral emergency contraceptive pill (Postinor) (Score: 1)
D. Levonorgestrel-releasing intrauterine device (Mirena, Kyleena)
E. Intrauterine device (non-specific)
F. Morning-after pill
G. Combined oral contraceptive pill
H. Monophasic vaginal ring (NuvaRing)
I. Progestogen-only oral contraceptive pill (Microlut, Micronor, Locilan 28, Noriday 28)
J. Depot medroxyprogesterone contraception (Depo-Ralovera, Depo-Provera)
K. Etonogestrel contraceptive implant (Implanon NXT)
L. Arrange surgical termination
M. Refer to obstetrician and gynaecologist

Case 11

References:

1. Therapeutic Guidelines. Bone and metabolism: Thyroid disorders – Hypothyroidism – Introduction to primary hypothyroidism. West Melbourne, Vic: Therapeutic Guidelines, 2019. Available at https://tgldcdp.tg.org.au/viewTopic?etgAccess=true&guidelinePage=Bone%20and%20Metabolism&topicfile=hypothyroidism&guidelinename=Bone%20and%20Metabolism&sectionId=toc_d1e47#toc_d1e47 [Accessed December 2021].

2. Therapeutic Guidelines. Bone and metabolism: Thyroid disorders – Hypothyroidism – Overview of primary hypothyroidism. West Melbourne, Vic: Therapeutic Guidelines, 2019. Available at https://tgldcdp.tg.org.au/viewTopic?etgAccess=true&guidelinePage=Bone%20and%20Metabolism&topicfile=hypothyroidism&guidelinename=Bone%20and%20Metabolism&sectionId=toc_d1e58#toc_d1e58 [Accessed December 2021].

3. Hughes K, Eastman C. Thyroid disease. Long-term management of hyperthyroidism and hypothyroidism. Aust J Gen Pract 2021;50(1–2):36–42. Available at https://www1.racgp.org.au/getattachment/29c41e66-b44e-49c9-8441-91cfeb37c7a7/Thyroid-disease-Long-term-management-of-hyperthyro.aspx [Accessed December 2021].

4. Warren AM, Topliss D; The Royal College of Pathologists of Australasia. Common sense pathology: Investigation of common thyroid problems. Pyrmont, NSW: Australian Doctor Group, 2019. Available at https://www.rcpa.edu.au/getattachment/80a063e5-2168-4230-aa82-1c2bfaafb144/Investigation-of-common-thyroid-problems.aspx [Accessed December 2021].

5. Therapeutic Guidelines. Bone and metabolism: Thyroid disorders – Hypothyroidism – Inadequate response to thyroxine replacement for hypothyroidism in adults. West Melbourne, Vic: Therapeutic Guidelines, 2019. Available at https://tgldcdp.tg.org.au/viewTopic?etgAccess=true&guidelinePage=Bone%20and%20Metabolism&topicfile=hypothyroidism&guidelinename=Bone%20and%20Metabolism&sectionId=toc_dle688#toc_dle688 [Accessed December 2021].

Case Rationale

Candidates are presented with an older woman with symptoms consistent with hypothyroidism and investigation results showing a raised thyroid-stimulating hormone level and hyperlipidaemia. They are required to provide the most likely diagnosis, select appropriate additional investigations to confirm the single most likely diagnosis and outline possible causes of persistently abnormal thyroid-stimulating hormone results despite appropriate pharmacological management.

When answering questions in the Key Feature Problem exam, it is important to ensure answers are in the context of the presented patient and all of the information provided. The Key Feature Problem exam is not a short-answer exam where candidates provide all possible differential diagnoses for a presenting symptom; candidates need to ensure their answers are focused and address the ‘key features’ of the presented patient and question.

Question 11.1

Question Rationale

Candidates are expected to be aware of the possible causes of fatigue and weight gain in older females and use this in conjunction with the provided investigation results to provide a rational, most likely diagnosis for this patient's presentation. Ideal answers recognised that the most likely diagnosis to account for the presenting symptoms and investigation results was Hashimoto's thyroiditis. Fewer marks were awarded for answers that were less specific ('autoimmune thyroiditis', 'hypothyroidism'). The most common incorrect answers were those that were non-specific ('thyroid disease'), created collateral history that was not actually provided in the scenario ('medication-induced hypothyroidism') or did not consider all of the elements provided in the scenario ('depression', 'hyperlipidaemia').

Maximum Score: 2

Answer Keys

A. Hashimoto's thyroiditis; Hashimoto's hypothyroidism; autoimmune lymphocytic thyroiditis (Score: 2)
B. Autoimmune thyroiditis (Score: 1)
C. Hypothyroidism (Score: 1)
D. Subacute thyroiditis
E. Postpartum thyroiditis
F. Medication-induced hypothyroidism
G. Iodine-associated hypothyroidism
H. Infiltrative hypothyroidism
I. Secondary hypothyroidism (hypothalamic, pituitary disease)
J. Thyroid hormone resistance
K. Factitious hypothyroidism (+/– secondary to heterophile antibodies)
L. Thyroid disease; thyroiditis (non-specific)
M. Hyperthyroidism; Grave's disease
N. Hyperlipidaemia
O. Depression; anxiety; mood disorder
P. Menopause
Q. Malignancy
R. Iron deficiency +/– anaemia
S. Heart failure
T. Hypercalcaemia

Question 11.2

Question Rationale

Appropriate initial investigations for a patient with a raised thyroid-stimulating hormone level are outlined in the References.

Maximum Score: 4

Answer Keys

A. Adrenocorticotropic hormone
B. Antidiuretic hormone
C. Anti-thyroglobulin antibody (Score: 1)
D. Anti-thyroid peroxidase antibody (Score: 2)
E. Blood film
F. Bone densitometry
G. Bone scintigraphy
H. C-reactive protein
I. Coeliac serology
J. Follicle-stimulating hormone
K. Free thyroxine (Score: 2)
L. Free triiodothyronine
M. HbA1c
N. Insulin-like growth factor-1
O. Luteinising hormone
P. Oestradiol
Q. Parathyroid hormone
R. Progesterone
S. Prolactin
T. Reverse triiodothyronine
U. Serum calcium
V. Serum iodine
W. Thyroid scintigraphy
X. Thyroid-stimulating hormone receptor antibody
Y. Ultrasound thyroid
Z. Vitamin D

Question 11.3

Question Rationale

Candidates are expected to be familiar with possible causes of persisting hypothyroidism, despite appropriate pharmacological management. Ideal answers recognised potential causes of medication malabsorption specific to the patient ('impaired absorption due to ferrous sulphate [iron] therapy'), as well as common issues related to the use of levothyroxine specifically ('incorrect storage', 'impaired absorption due to co-administration with food'). The most common incorrect answers were non-specific ('impaired absorption'), ignored information provided in the scenario ('poor compliance') or did not answer the question asked ('refer to specialist').

Maximum Score: 4

Answer Keys

A. Insufficient dose (Score: 2)
B. Impaired absorption due to ferrous sulphate (iron) therapy (Score: 2, Group: 1, Group Score: 2)
C. Ferrous sulphate (iron) therapy (non-specific) (Score: 1, Group: 1, Group Score: 2)
D. Impaired absorption due to calcium carbonate therapy (Score: 2, Group: 2, Group Score: 2)
E. Calcium carbonate therapy (Score: 1, Group: 2, Group Score: 2)
F. Incorrect storage (Score: 2)
G. Coeliac disease +/– affecting absorption (Score: 2)
H. Impaired absorption due to co-administration with food (Score: 2)
I. Incorrect diagnosis or treatment
J. Poor compliance
K. Iodine excess
L. Medication interaction – with medication not taken by patient
M. Medication interaction – with medication that does not interact with levothyroxine
N. Medication interaction – medication not specified
O. Refer to endocrinologist

Case 12

References:

1. Therapeutic Guidelines. Dermatology: Pigment disorders – Melasma. West Melbourne, Vic: Therapeutic Guidelines, 2015. Available at https://tgldcdp.tg.org.au/viewTopic?topicfile=pigment-disorders&guidelineName=Dermatology#toc_d1e144 [Accessed December 2021].

2. Bekhor P, Lim DS, Rodrigues M. A–Z of skin: Melasma. St Leonards, NSW: Australasian College of Dermatologists, 2019. Available at https://www.dermcoll.edu.au/atoz/melasma [Accessed December 2021].

3. Oakley A, Doolan BJ, Gupta M. Melasma. NZ: Dermnet NZ, 2020. Available at https://dermnetnz.org/topics/melasma [Accessed December 2021].

Case Rationale

Candidates are presented with a middle-aged woman with a rash consistent with melasma. They are required to provide the most likely diagnosis, provide additional aspects of history that would support the most likely diagnosis, and outline appropriate topical or oral pharmacological management options.

When answering questions in the Key Feature Problem exam, it is important to ensure specificity when asked for history features to support the most likely underlying diagnosis. Non-specific answers, such as ‘past history’, ‘medication history’, ‘allergies’ and ‘family history’, are generic answers and offer no insight into a candidate’s knowledge of the underlying diagnosis. As such, these answers are not awarded marks.

Question 12.1

Question Rationale

Candidates are expected to be aware of the possible causes of a pigmented facial rash in middle-aged females and to be able to provide a rational, most likely diagnosis for this patient's presentation. Ideal answers recognised the classical clinical presentation of melasma. The most common incorrect answers were those that were non-specific ('hyperpigmentation'), created collateral history that was not provided in the scenario ('drug-induced hyperpigmentation') or did not recognise the classic clinical image ('sunburn', 'systemic lupus erythematosus').

Maximum Score: 2

Answer Keys

A. Melasma; chloasma (Score: 2)
B. Hyperpigmentation
C. Hypermelanosis
D. Poikiloderma of Civatte
E. Post-inflammatory hyperpigmentation
F. Café au lait macules
G. Congenital melanocytic naevi
H. Naevus of Ota
I. Naevus fusco caeruleus zygomaticus; Hori naevus
J. Solar lentigo
K. Acquired dermal macular hyperpigmentation
L. Drug-induced hyperpigmentation
M. Systemic lupus erythematosus
N. Sunburn
O. Rosacea (+/– acne)
P. Eczema

Question 12.2

Question Rationale

Candidates are expected to be aware of risk factors for melasma. Ideal answers sought out the possibility of pregnancy, as well as other known risks. The most common incorrect answers were those that were non-specific (‘history of other skin conditions’) or were not associated with melasma (‘joint symptoms’).

Maximum Score: 5

Answer Keys

A. Last menstrual period; possibility of pregnancy (Score: 1)
B. Compliance with oral contraceptive pill (Score: 1)
C. Family history of similar rash (Score: 1)
D. History of cumulative ultraviolet exposure (or similar description) (Score: 1)
E. Recent use of new perfumed soaps, toiletries, cosmetics (Score: 1)
F. Recent laser treatment; chemical peel (Score: 1)
G. Symptoms of hypothyroidism (Score: 1)
H. Sun protection used at cricket
I. Presence of pigmentation elsewhere
J. Presence of joint symptoms
K. Past history of similar rash
L. Past history of other skin conditions
M. Past history of skin condition associated with past pregnancies
N. Family history of autoimmune disorders
O. Family history of dermatological conditions

Question 12.3

Question Rationale

Candidates are expected to be familiar with appropriate topical and oral pharmacological management options for melasma. Ideal answers recognised that the oestrogen-containing contraceptive must be stopped and also used first-line options to address the pigmentation, as outlined in the References. Fewer marks were awarded for second-line options (‘ascorbic acid’). The most common incorrect answers were non-specific (‘sunscreen’, ‘topical steroid’) or did not answer the question asked (‘patient education’, ‘refer to specialist’). Answers specifically contraindicated in the treatment of melasma (‘microneedling’, ‘laser therapy’) resulted in zero marks for the question, but not for the whole case.

Maximum Score: 7

Answer Keys

A. Stop combined oral contraceptive pill (Score: 3)
B. Commence progestogen-only contraceptive (Score: 2)
C. Commence barrier contraceptive methods (Score: 2)
D. Commence strict sun protection with micronised titanium dioxide, zinc oxide, iron oxide (Score: 2)
E. Commence cosmetic camouflage preparations (Score: 2)
F. Commence topical hydroquinone (Score: 2)
G. Commence topical tretinoin (Score: 2)
H. Commence moderate potency topical steroid (eg betamethasone valerate 0.02% (Antroquoril, Betnovate-1/5, Celestone-M, Cortival-1/5); betamethasone valerate 0.05% (Betnovate-1/2, Cortival-1/2); methylprednisolone aceponate 0.1% (Advantan); Triamcinolone acetonide 0.02% (Aristocort, Tricortone)) (Score: 2)
I. Commence ascorbic acid, vitamin C (Score: 1)
J. Commence topical azelaic acid (Score: 1)
K. Commence topical kojic acid (Score: 1)
L. Commence topical cysteamine (Score: 1)
M. Commence topical methimazole (Score: 1)
N. Commence topical tranexamic acid (Score: 1)
O. Commence topical glutathione (Score: 1)
P. Commence topical soybean extract (Score: 1)
Q. Commence other topical or oral steroid
R. Commence antibiotics
S. Commence antifungals
T. Chemical peels

U. Microneedling (Zero: 1)
V. Laser therapy (Zero: 1)
W. Intense pulse light therapy (Zero: 1)
X. Patient education
Y. Other sun protection measures
Z. Refer to dermatologist

Case 13

References:

1. Bower WF, Everaert K, Ong TJ, Ervin CF, Norgaard JP, Whishaw M. Questions to ask a patient with nocturia. Aust J Gen Pract 2018;47(7):465–69. Available at https://www1.racgp.org.au/getattachment/6d4962e7-43ac-4886-8c36-5f6a2aeef616/Questions-to-ask-a-patient-with-nocturia.aspx [Accessed December 2021].

2. Pedler K, Prince D, Rashid P. (2012). Nocturia: A guide to assessment and management. Aust Fam Physician 2012;41(6):399–402. Available at https://www.racgp.org.au/getattachment/b43c05ba-e29e-47c3-b816-ec47ceeafe97/Nocturia-a-guide-to-assessment-and-management.aspx [Accessed December 2021].

3. Psychotropic: Insomnia in adults – Assessing an adult with insomnia. (2021). Available at https://tgldcdp.tg.org.au/viewTopic?etgAccess=true&guidelinePage=Psychotropic&topicfile=insomnia-adults&guidelinename=Psychotropic&sectionId=toc_d1e54#toc_d1e54 [Accessed December 2021].

4. O'Connor E, McVey A, Demkiw S, Lawrentschuk N, Murphy DG. Assessment and management of haematuria in the general practice setting. Aust J Gen Pract 2021;50(7): 46–471. Available at https://www1.racgp.org.au/getattachment/0687156e-4fb2-4c6c-a48b-623a2ae03a09/Haematuria-in-the-general-practice-setting.aspx [Accessed December 2021].

Case Rationale

Candidates are presented with a middle-aged Aboriginal man with fatigue, weight gain and nocturia. They are required to provide the most likely diagnosis, select appropriate initial investigations for this presentation and then select appropriate initial investigations when the patient re-presented with proteinuria and haematuria.

When answering questions in the Key Feature Problem exam, it is important that investigations are chosen rationally and are appropriate to the question. In this case, candidates commonly selected tests that form part of batch or baseline testing, such as C-reactive protein, liver function tests and thyroid function tests. These did not attract marks, as they do not provide any insight into a candidate's knowledge of appropriate initial investigations for nocturia, proteinuria or haematuria.

Question 13.1

Sub Question Rationale

Candidates are expected to be aware of the possible causes of nocturia in middle-aged Aboriginal males and to be able to provide a rational, most likely diagnosis for this patient's presentation. Ideal answers recognised that the symptoms of nocturia and weight gain in an Aboriginal patient taking a long-term antipsychotic medication were most likely due to the development of type 2 diabetes secondary to the medication. Fewer marks were provided for less specific answers ('diabetes', 'antipsychotic'). The most common incorrect answers were those that created collateral history that was not provided in the scenario ('caffeine consumption', 'excessive night-time fluid intake') or did not take into account all elements of the clinical scenario ('restless leg syndrome', 'obstructive sleep apnoea').

Maximum Score: 2

Answer Keys

A. Type 2 diabetes secondary to olanzapine, antipsychotic (Score: 2, Group: 1, Group Score: 2)
B. Hyperglycaemia secondary to olanzapine, antipsychotic (Score: 2, Group: 1, Group Score: 2)
C. Type 2 diabetes or hyperglycaemia only (no cause given) (Score: 1, Group: 1, Group Score: 2)
D. Selective serotonin reuptake inhibitor (sertraline), antipsychotic (olanzapine) (no cause given) (Score: 1, Group: 1, Group Score: 2)
E. Diabetes insipidus (Score: 1)
F. Primary polydipsia
G. Oedematous states (eg heart failure, chronic kidney disease, hepatic failure)
H. Alcohol consumption
I. Caffeine consumption
J. Excessive night-time fluid intake
K. Medications not taken by patient
L. Bladder outflow obstruction (eg benign prostatic hypertrophy, prostate cancer, urethral stricture disease)
M. Overactive bladder syndrome
N. Urinary retention
O. Bladder cancer
P. Urinary tract calculi
Q. Urinary tract infection, cystitis
R. Neurogenic bladder dysfunction (eg cerebrovascular accident, Parkinson's disease)

S. External compression (eg pelvic mass)
T. Restless leg syndrome; periodic limb movements of sleep
U. Obstructive sleep apnoea
V. Parasomnias
W. Exacerbation of bipolar 1 disorder +/– depressive, manic episode
X. Hyperthyroidism; hypothyroidism
Y. Gastroesophageal reflux disease
Z. Poor sleep practices
AA. Recreational drug use
AB. Varenicline

Question 13.2

Question Rationale

Appropriate initial investigations for a patient with nocturia are outlined in the References.

Maximum Score: 6

Answer Keys

A. 24-hour urine protein
B. Antidiuretic hormone
C. C-reactive protein
D. Echocardiogram
E. Electrocardiogram (Score: 1)
F. Erythrocyte sedimentation rate
G. Fasting blood glucose (Score: 1)
H. Fasting lipids (Score: 1)
I. Full blood count (Score: 1)
J. Iron studies
K. Liver function tests (Score: 1)
L. Parathyroid hormone
M. Prolactin
N. Prostate-specific antigen (Score: 1)
O. Serum aldosterone
P. Serum calcium
Q. Serum folate
R. Serum magnesium
S. Serum phosphate
T. Serum renin
U. Thyroid function tests
V. Urea and electrolytes (Score: 1)
W. Urinary catecholamines
X. Urine osmolality (Score: 1)
Y. Vitamin B12
Z. Vitamin D

Question 13.3

Question Rationale

Appropriate initial investigations for a patient with proteinuria and haematuria are outlined in the References.

Maximum Score: 4

Answer Keys

A. C-reactive protein
B. Coagulation studies (Score: 1)
C. CT scan abdomen
D. CT scan chest
E. Erythrocyte sedimentation rate
F. Full blood count (Score: 1)
G. Iron studies
H. Liver function tests
I. Parathyroid hormone
J. Prostate-specific antigen
K. Serum calcium
L. Serum electrophoresis
M. Serum folate
N. Serum magnesium
O. Serum phosphate
P. Thyroid function tests
Q. Ultrasound abdomen
R. Ultrasound kidneys, ureters and bladder (Score: 1)
S. Ultrasound renal artery doppler
T. Urea and electrolytes (Score: 1)
U. Urine albumin/creatinine ratio (Score: 1)
V. Urine Bence Jones protein
W. Urine electrophoresis
X. Urine for microscopy, culture and sensitivities (Score: 1)
Y. Vitamin B12
Z. Vitamin D