RACGP Education

Exam report 2024.1 AKT

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We acknowledge the Traditional Custodians of the lands and seas on which we work and live, and pay our respects to Elders, past, present and future.

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1. Exam psychometrics

Table 1 shows the mean and standard deviation of the entire cohort who sat the exam. These values can vary between exams. The reliability is a measurement of the consistency of the exam.

A candidate must achieve a score equal to or higher than the pass mark to pass the exam. The pass marks for the Applied Knowledge Test (AKT) and Key Feature Problem (KFP) exams are determined by the internationally recognised modified Angoff method, and outcomes may vary between each exam cycle. The Clinical Competency Exam (CCE) pass mark is determined by the borderline regression method (refer to The Royal Australian College of General Practitioners [RACGP] Education **Examination guide** for further details).

The 'pass rate' is the percentage of candidates who achieved the pass mark.

The RACGP has no quotas on pass rates; there is not a set number of candidates who may pass the exam. Pass rates may vary depending on a number of variables.

Table 1. Psychometrics

Mean score (%)	73.96
Standard deviation (%)	10.40
Reliability*	0.90
Pass mark (cut score %)	66.44
Pass rate (%)	78.28
Number sat	838

*Exam reliability is expressed as a value between 0 and 1, in line with international best practice in assessment reporting.

2. Candidate score distribution

Figure 1 shows the range and frequency of final scores for this exam.
The vertical blue line in Figure 1 represents the pass mark.

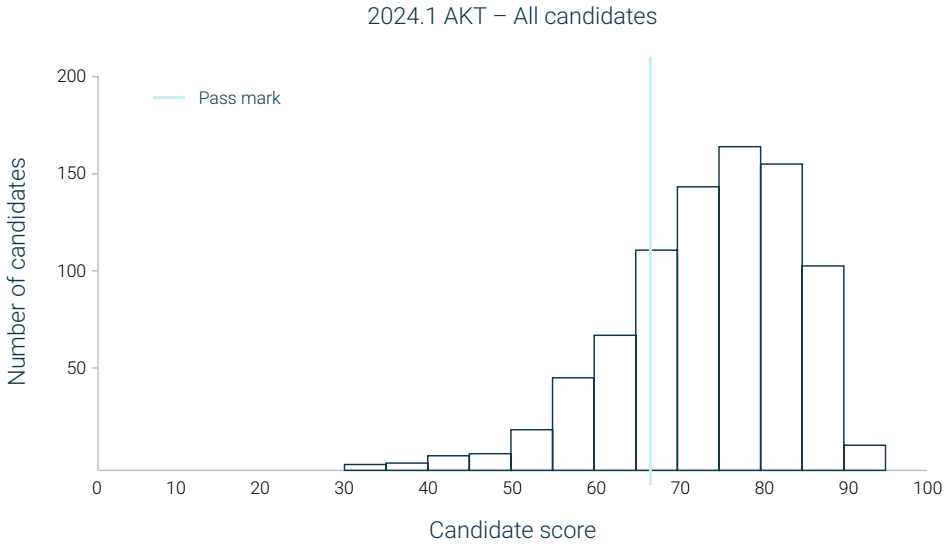

Figure 1. 2024.1 AKT score distribution.

3. Candidate outcomes by exam attempt

Table 2 provides pass rates (%) displayed by number of attempts. A general trend suggests the rate of passing diminishes with each subsequent attempt. Preparation and readiness to sit are important for candidate success.

Table 2. Pass rates by number of attempts

Attempts	Pass rate (%)
First attempt	90.4
Second attempt	47.4
Third attempt	33.3
Fourth and subsequent attempts	23.3

4. Feedback report on 2024.1 AKT

All candidates are under strict confidentiality obligations and must not disclose, distribute or reproduce any part of the exam without the RACGP's prior written consent.

All the questions in the AKT are written by experienced general practitioners (GPs) who currently work in clinical practice, and are based on clinical presentations typically seen in an Australian general practice setting. The questions should be answered based on the context of Australian general practice.

There are two types of question within the AKT: single best answer and modified extended match questions. All questions follow the same format, which includes the stem (case vignette) followed by a lead-in question. Single best answer questions have five answer options. Modified extended match questions have 8–10 answer options. Each question has only one correct answer.

It is important that candidates carefully read the clinical scenario and question. Although more than one option may be plausible, only the most appropriate option for the clinical scenario provided should be selected.

It is useful for candidates to identify any areas of weakness in their clinical practice through self-reflection and feedback. A supervisor, mentor or peer may assist them in developing an appropriate learning plan to assist with future exams and ongoing professional development.

All questions in the AKT undergo extensive quality assurance processes. Questions are rigorously reviewed during the creation, pre-exam and post-exam review processes, and during the standard-setting process following the AKT. Reviews are performed by GPs who are currently in clinical practice across Australia.

This report provides a sample of clinical scenarios from the 2024.1 AKT. The following example cases were selected because:

- the cohort performed poorly on the case
- the case highlights a common error in approaching the AKT
- the case is an example of a serious condition that should not be missed.

Each example case describes alternative options selected by candidates and provides feedback regarding the correct answer to the question.

5. Example cases

Example 1

The clinical scenario described a woman, aged 32 years, who presented requesting removal of her levonorgestrel 52-mg intrauterine device (IUD). She had engaged in unprotected sexual intercourse two days earlier. She did not wish to fall pregnant for six months.

The question asked, 'What is the MOST appropriate next step?'. Of the options provided, the most appropriate response was to recommend the use of condoms and review in one week for IUD removal. Alternative options included removing the IUD today and performing a urine pregnancy test.

This question required candidates to have an understanding of the mechanism of action of a levonorgestrel IUD. This IUD primarily prevents pregnancy by thickening cervical mucus and reducing the thickness of the endometrium. Pregnancy can therefore occur immediately upon removal of the device. Because this patient had engaged in sexual intercourse within the previous seven days, she was at risk of pregnancy as a result of fertilisation by residual sperm or implantation of a fertilised egg.

Example 2

The clinical scenario described a man, aged 58 years, presenting with three months of gradually worsening low back pain. His pain was constant, worse at night and poorly responsive to simple analgesia. He had a 40 pack-year smoking history. Physical examination, including tenderness over his L2 vertebral body was provided. An X-ray image of the lumbar spine consistent with a vertebral metastasis was provided.

The question asked, 'What is the MOST appropriate provisional diagnosis?'. Of the options provided, the most appropriate response was vertebral metastasis. Alternative options included osteoporosis and facet joint dysfunction.

This case required candidates to recognise that this patient had several red flag features indicating a potentially serious cause of his lower back pain. These features included age >50 years, nocturnal pain, poor response to simple analgesia and worsening pain for longer than four weeks. His significant smoking history also increased his risk of lung cancer, which commonly metastasises to bone. Localised tenderness over his L2 vertebra is also indicative of underlying bony pathology. Although osteoporosis can result in vertebral fractures, in the absence of a fracture this condition is usually asymptomatic. Lower back pain is a common presentation to Australian general practice and it is important for GPs to be able to identify patients with potentially serious underlying pathology.

Example 3

The clinical scenario described a woman, aged 34 years, presenting at 34 weeks of pregnancy with a one-week history of itchy palms. Her physical examination was normal. Blood test results showing elevated gamma glutamyl transferase, aspartate aminotransferase and significantly elevated bile acids (>100 µmol/L) were provided.

The question asked, 'What is the MOST appropriate next step?'. Of the options provided, the most appropriate response was to arrange urgent obstetric review. Alternative options included repeating liver function tests in four weeks and prescription of doxylamine at night.

This is an example of a two-step question. It required candidates to diagnose intrahepatic cholestasis of pregnancy and to arrange urgent obstetric review. Intrahepatic cholestasis of pregnancy typically occurs in the third trimester and usually presents with maternal itch without a rash. On rare occasions, jaundice may occur after several weeks. Intrahepatic cholestasis of pregnancy is associated with fetal complications, including preterm birth and admission to a neonatal intensive care unit. Increased risk of stillbirth occurs with serum bile acid concentrations greater than 100 µmol/L. Although intrahepatic cholestasis of pregnancy is an uncommon presentation in Australian general practice, it is important for GPs to be able to identify this serious condition. Patients can then be referred to an obstetric specialist urgently to prevent dangerous fetal complications.

Example 4

The clinical scenario described a woman, aged 75 years, presenting with a six-week history of reduced exercise tolerance and shortness of breath. She had a past medical history of ischaemic cardiomyopathy and had been taking regular ibuprofen for a flare of osteoarthritis. Her regular medications included sacubitril–valsartan and spironolactone. A physical examination consistent with fluid overload was given. Blood test results indicating severe acute kidney injury were provided.

The question asked, 'What is the MOST appropriate initial pharmacological management?'. Of the options provided, the most appropriate response was to cease ibuprofen. Alternative options included adding frusemide and increasing her dose of spironolactone.

This is a case of acute kidney injury secondary to the use of a non-steroidal anti-inflammatory drug (NSAID). This patient was at risk of NSAID-induced acute kidney injury because of her age and given that she was already prescribed an angiotensin II receptor blocker and a diuretic. Prompt diagnosis and cessation of the offending agent can usually reverse the condition. Increasing this patient's spironolactone or adding frusemide without ceasing the ibuprofen is likely to exacerbate the kidney injury.

Example 5

The clinical scenario described a female infant, aged three months, with a three-week history of mucus and streaks of blood in her stools. She had also been unsettled and was sleeping poorly. She was exclusively formula fed. Her weight had dropped from the 50th to the 40th percentile. A normal physical examination was provided.

The question asked, 'What is the MOST appropriate management?'. Of the options provided, the most appropriate response was to trial an extensively hydrolysed formula. Alternative options included recommending a lactose-free formula for six weeks and transferring the patient to the emergency department.

This is a two-step question. It required candidates to identify a case of likely cow's milk protein allergy and to recommend appropriate management. Cow's milk protein allergy is a type of non-IgE-mediated food allergy and is common in the first 1–2 years of life. The diagnosis is clinical and management involves the exclusion of cow's milk protein from the maternal diet if breastfeeding or trialling an extensively hydrolysed formula if the infant is formula fed. Lactose intolerance is rare in infants and usually results in diarrhoea and excessive wind. Approximately 10% of Australian infants have food allergy, and it is therefore important that GPs are able to appropriately identify and manage this common condition.

6. Further information

Refer to the RACGP Education Examination guide for exam-related information.

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