

THE PHARMA SQUAD

OSCE PART C SCENARIOS

SCENARIO ONE

PATIENT DETAILS

- Patient: 68-year-old woman; retired school administrator.
- Presenting concern: Bilateral ankle swelling, worse in the evening, beginning two weeks after a dose increase. No breathlessness, sudden weight gain or one-sided leg pain.
- Medical history: Hypertension; no known heart failure.
- Medicines: Amlodipine increased from 5 mg to 10 mg daily three weeks ago; atorvastatin 40 mg daily. Furosemide is being considered.
- Results: Blood pressure at last review: 132/78 mmHg.
- Social: Does not smoke; drinks wine occasionally; remains active with daily walks.

YOUR TASK

What history would you take, and what problem might you raise?

MODEL ANSWER: PROBLEM

The timing suggests amlodipine-related peripheral oedema, although other causes of swelling must be assessed. The oedema reflects altered capillary pressure rather than necessarily excess total-body fluid.

PHARMACIST ACTION

Ask about onset, bilateral versus unilateral swelling, breathlessness, weight change and other medicines. Assess urgent features. Discuss a dose or antihypertensive review with the prescriber before adding a diuretic solely for this symptom. Explain the suspected link and arrange follow-up.

KEY POINT

A new symptom after a dose change may be an adverse effect, not a new condition.

Reference: Australian Prescriber, Everyday drug therapies affecting the kidneys

SCENARIO TWO

PATIENT DETAILS

- Patient: 72-year-old woman; retired receptionist.
- Presenting concern: Dysuria and urinary frequency since yesterday; no fever or flank pain.
- Medical history: Hypertension and heart failure.
- Medicines: Perindopril 5 mg and spironolactone 25 mg daily; new trimethoprim 300 mg nightly for three days.
- Results: No recent potassium or renal results available at the pharmacy.
- Social: Does not smoke; rarely drinks alcohol; lives independently.

YOUR TASK

What interaction concerns you before supply?

MODEL ANSWER: PROBLEM

Trimethoprim can reduce renal potassium excretion. Her ACE inhibitor and spironolactone add to hyperkalaemia risk, particularly if kidney function is impaired.

PHARMACIST ACTION

Check recent potassium, renal function, other potassium sources and clinical urgency. Contact the prescriber about an appropriate antibiotic or a specific monitoring plan before starting. Escalate symptoms such as marked weakness, palpitations or collapse.

KEY POINT

Three potassium-raising medicines warrant an individual risk assessment.

Reference: Australian Prescriber, Trimethoprim-induced critical hyperkalaemia

SCENARIO THREE

PATIENT DETAILS

- Patient: 67-year-old man; works part time as a bookkeeper.
- Presenting concern: Back pain; diarrhoea for two days with poor oral intake and light-headedness on standing. Less urine today.
- Medical history: Hypertension and chronic kidney disease.
- Medicines: Perindopril 5 mg and furosemide 40 mg daily; paracetamol as needed. New ibuprofen 400 mg three times daily as needed, not yet started.
- Results: Most recent eGFR: 48 mL/min/1.73 m².
- Social: Former smoker; drinks one to two alcoholic drinks per week.

YOUR TASK

What is the main risk and your immediate action?

MODEL ANSWER: PROBLEM

An NSAID combined with an ACE inhibitor and diuretic increases acute kidney injury risk; dehydration and chronic kidney disease add further risk.

PHARMACIST ACTION

Do not start ibuprofen before assessing the illness and discussing a safer pain plan with the prescriber. Review fluid status, urine output and current renal function; arrange prompt medical assessment if unwell or unable to maintain fluids. Give an individual sick-day plan through the treating team.

KEY POINT

OTC and prescribed NSAIDs can change the safety of a stable regimen.

Reference: Australian Prescriber, Medication management on sick days

SCENARIO FOUR

PATIENT DETAILS

- Patient: 75-year-old woman; retired.
- Presenting concern: Chest infection; took the first clarithromycin tablet this morning. No muscle pain or dark urine.
- Medical history: Hypertension and dyslipidaemia.
- Medicines: Simvastatin 40 mg nightly and amlodipine 5 mg daily; new clarithromycin 500 mg twice daily.
- Allergies: No known antibiotic allergy reported.
- Social: Does not smoke; no regular alcohol use; lives with her partner.

YOUR TASK

What problem should you resolve?

MODEL ANSWER: PROBLEM

Clarithromycin inhibits CYP3A-mediated simvastatin metabolism and can markedly increase myopathy and rhabdomyolysis risk. Her age and other medicines merit review.

PHARMACIST ACTION

Check the infection, intended course, current symptoms and all medicines. Contact the prescriber promptly about a suitable alternative antibiotic or a documented statin interruption plan if clarithromycin is required. Ask about new muscle pain, weakness or dark urine and escalate concerning symptoms.

KEY POINT

A single antibiotic dose already taken does not make the interaction irrelevant.

Reference: Australian Prescriber, Drug interactions: principles and practice

SCENARIO FIVE

PATIENT DETAILS

- Patient: 64-year-old man; taxi driver.
- Presenting concern: Presents a new sildenafil 50 mg prescription; has not taken it yet. Occasional exertional chest discomfort.
- Medical history: Stable angina and dyslipidaemia.
- Medicines: GTN spray as needed (last used one week ago), aspirin 100 mg and atorvastatin 40 mg daily.
- Social: Former smoker; drinks beer socially on weekends; works long seated shifts.

YOUR TASK

Would you supply sildenafil as written?

MODEL ANSWER: PROBLEM

Sildenafil and nitrates can cause profound hypotension. Occasional or as-needed nitrate use still matters because chest pain may require GTN unexpectedly.

PHARMACIST ACTION

Do not supply until the prescriber has reviewed his angina treatment and a safe erectile dysfunction plan. Ask about recent nitrate use and other cardiovascular symptoms. Explain that he must tell emergency clinicians about recent sildenafil if chest pain occurs, and seek emergency care rather than self-treating with GTN after sildenafil.

KEY POINT

Always ask about as-needed medicines.

Reference: Australian Prescriber, Sildenafil citrate

SCENARIO SIX

PATIENT DETAILS

- Patient: 58-year-old woman; office manager.
- Presenting concern: Prescription for a single fluconazole 150 mg capsule for vaginal candidiasis; no current bleeding.
- Medical history: Atrial fibrillation.
- Medicines: Warfarin with dose managed by her GP practice; perindopril and atorvastatin daily.
- Results: INR described as stable; last checked 10 days ago.
- Social: Does not smoke; drinks alcohol occasionally; no recent change in diet reported.

YOUR TASK

Does one dose need an interaction plan?

MODEL ANSWER: PROBLEM

Fluconazole can increase warfarin effect and bleeding risk. A single dose can still be clinically relevant.

PHARMACIST ACTION

Check indication, recent INR, warfarin service details and bleeding symptoms. Coordinate with the prescriber or INR service on whether an alternative and earlier INR testing are needed. Give bleeding precautions and a clear follow-up plan; do not suggest an unplanned warfarin dose change.

KEY POINT

Duration alone does not determine interaction severity.

Reference: Australian Prescriber, How to manage warfarin therapy

SCENARIO SEVEN

PATIENT DETAILS

- Patient: 62-year-old woman; part time librarian.
- Presenting concern: Dysuria and frequency without fever or flank pain; wants to start antibiotic tonight.
- Medical history: Rheumatoid arthritis.
- Medicines: Methotrexate 15 mg every Monday (last taken two days ago), folic acid 5 mg weekly, paracetamol as needed; new trimethoprim 300 mg nightly for three days.
- Results: No recent renal result available; no mouth ulcers or unusual bruising reported.
- Social: Does not smoke; little alcohol; lives with family.

YOUR TASK

What would you do before she starts the antibiotic?

MODEL ANSWER: PROBLEM

Trimethoprim may add antifolate effects and increase methotrexate toxicity, including bone marrow suppression.

PHARMACIST ACTION

Verify the exact methotrexate day, renal function and symptoms such as mouth ulcers, fever, sore throat or unusual bruising. Contact the prescriber to select a suitable UTI treatment and assess the need for blood tests. Confirm that methotrexate is taken weekly, not daily.

KEY POINT

A weekly medicine can create a serious short-course interaction.

Reference: Australian Prescriber, Disease modifying drugs in adult rheumatoid arthritis

SCENARIO EIGHT

PATIENT DETAILS

- Patient: 28-year-old woman; works in retail.
- Presenting concern: First prescription for isotretinoin 20 mg daily; says she and her partner are trying to conceive.
- Medical history: Severe acne; otherwise well.
- Medicines: No regular prescription medicines. Has not started isotretinoin.
- Pregnancy history: Last menstrual period uncertain; no contraception; pregnancy is possible.
- Social: Does not smoke; occasional alcohol; lives with her partner.

YOUR TASK

What is your immediate response?

MODEL ANSWER: PROBLEM

Systemic isotretinoin is highly teratogenic and must not be used during pregnancy or while attempting pregnancy. Pregnancy must be avoided for one month after stopping.

PHARMACIST ACTION

Withhold supply; ask whether she may be pregnant or has taken recent doses. Contact the prescriber urgently for pregnancy assessment, treatment review and appropriate specialist advice. Explain the risk clearly and document the agreed plan.

KEY POINT

A normal-looking prescription can become unsafe after one history question.

Reference: Therapeutic Goods Administration, Prescribing medicines in pregnancy database

SCENARIO NINE

PATIENT DETAILS

- Patient: 70-year-old man; retired builder.
- Presenting concern: Persistent knee pain; has taken OTC ibuprofen 400 mg up to three times daily on four days this week.
- Medical history: Osteoarthritis and atrial fibrillation; no known ulcer history.
- Medicines: Apixaban 5 mg twice daily, perindopril 5 mg and atorvastatin 40 mg daily; new celecoxib 200 mg daily.
- Results: Last renal test six months ago; no black stools or unusual bruising.
- Social: Former smoker; drinks one or two beers on weekends; enjoys gardening.

YOUR TASK

What needs clarification?

MODEL ANSWER: PROBLEM

Both celecoxib and ibuprofen are NSAIDs. Duplicate NSAID use increases harms, and NSAIDs with apixaban increase bleeding risk. Kidney and cardiovascular risks also need consideration.

PHARMACIST ACTION

Ask how much ibuprofen he has taken, assess bleeding and GI symptoms, and review renal and cardiovascular history. Advise against combining NSAIDs. Clarify the analgesic plan with the prescriber before commencing celecoxib and counsel on bleeding warning signs.

KEY POINT

A full medication history includes supermarket medicines.

Reference: Australian Prescriber, Choosing a nonsteroidal anti-inflammatory drug for pain

SCENARIO TEN

PATIENT DETAILS

- Patient: 76-year-old woman; retired.
- Presenting concern: New digoxin prescription; reports nausea, poor appetite and intermittent dizziness. Digoxin was stopped months ago for an unknown reason.
- Medical history: Atrial fibrillation; reduced kidney function.
- Medicines: Furosemide 40 mg, perindopril 5 mg and apixaban 5 mg twice daily; new digoxin 250 micrograms daily, not yet started.
- Results: Weight 52 kg; potassium 3.2 mmol/L; resting pulse 54 beats/min.
- Social: Does not smoke or drink alcohol; lives alone.

YOUR TASK

What would you check before supply?

MODEL ANSWER: PROBLEM

Low weight, kidney impairment and hypokalaemia increase the risk of digoxin toxicity. Nausea may be a warning symptom, and the earlier reason for stopping is unknown.

PHARMACIST ACTION

Hold supply and seek prompt prescriber review. Check heart rate, renal function, electrolytes, previous dose and cessation reason; consider an appropriately timed digoxin level if relevant. Ensure the hypokalaemia and symptoms are assessed. Escalate if she is clinically unwell.

KEY POINT

The right medicine can still be the wrong dose for this patient.

Reference: Australian Prescriber, Management of digoxin toxicity

SCENARIO ELEVEN

PATIENT DETAILS

- Patient: 68-year-old man; retired chef.
- Presenting concern: Swollen, painful big toe since yesterday; no medicine supplied yet for the acute pain.
- Medical history: Gout, type 2 diabetes and chronic kidney disease; one previous gout flare.
- Medicines: Perindopril 5 mg, atorvastatin 40 mg and metformin 1 g twice daily; first allopurinol prescription 300 mg daily.
- Results: Most recent eGFR: 32 mL/min/1.73 m².
- Social: Former smoker; drinks beer once or twice per week; enjoys cooking.

YOUR TASK

Identify the two separate issues.

MODEL ANSWER: PROBLEM

The 300 mg starting dose is high, especially with impaired kidney function; a low start and gradual titration are generally used. Allopurinol does not treat the current pain and inflammation. Starting urate-lowering therapy during a flare is not itself an absolute reason to reject it.

PHARMACIST ACTION

Contact the prescriber about a lower starting regimen, serum urate targets and titration, plus suitable flare treatment and prophylaxis. Review renal function and other risks. Counsel to stop allopurinol and seek urgent assessment if a new rash develops.

KEY POINT

Separate long-term prevention from acute flare treatment.

Reference: Australian Prescriber, The management of gout

SCENARIO TWELVE

PATIENT DETAILS

- Patient: 71-year-old woman; retired teacher.
- Presenting concern: New spironolactone prescription after cardiology review; has not started it.
- Medical history: Heart failure and hypertension.
- Medicines: Ramipril 10 mg, furosemide 40 mg, bisoprolol 5 mg and dapagliflozin 10 mg daily; potassium supplement most days; new spironolactone 25 mg daily.
- Results: Yesterday: potassium 5.4 mmol/L; eGFR 38 mL/min/1.73 m². No repeat test booked.
- Social: Does not smoke; occasional wine; lives with her spouse.

YOUR TASK

Can she safely start it today?

MODEL ANSWER: PROBLEM

Spironolactone is useful in selected heart failure patients, but elevated baseline potassium, reduced kidney function, an ACE inhibitor and a supplement raise hyperkalaemia risk.

PHARMACIST ACTION

Do not start it before speaking to the cardiology or prescribing team. Clarify the supplement, symptoms and repeat potassium/renal testing; agree on an individual plan and monitoring. Escalate if unwell or symptomatic. Avoid independent changes to her other prescribed medicines.

KEY POINT

Appropriate indication does not guarantee a safe starting point.

Reference: Australian Prescriber, Diuretics in the management of chronic heart failure

SCENARIO THIRTEEN

PATIENT DETAILS

- Patient: 74-year-old man; retired accountant.
- Presenting concern: Vomiting and poor fluid intake for two days; eating little and passing less urine today. Has no sick-day plan.
- Medical history: Type 2 diabetes and chronic kidney disease.
- Medicines: Empagliflozin 10 mg, perindopril 5 mg and atorvastatin 40 mg daily; metformin XR increased to 1 g twice daily, new dose not started.
- Results: Latest eGFR: 27 mL/min/1.73 m²; has not checked ketones.
- Social: Does not smoke; no regular alcohol use; lives with his wife.

YOUR TASK

What problems change your decision?

MODEL ANSWER: PROBLEM

Severely reduced renal function and dehydration make metformin accumulation and lactic acidosis a concern. Acute illness also calls for an individual SGLT2 inhibitor sick-day plan because dehydration and ketoacidosis are possible.

PHARMACIST ACTION

Do not supply the increased dose as written. Assess severity, glucose/ketone risk and hydration; arrange prompt medical review and renal reassessment. Coordinate a clear temporary medicine and restart plan with the treating clinician; urgent care is needed if he cannot keep fluids down or has concerning symptoms.

KEY POINT

An acute illness can change the safety of usual treatment.

Reference: Australian Prescriber, Safe prescribing of metformin in diabetes

SCENARIO FOURTEEN

PATIENT DETAILS

- Patient: 69-year-old woman; works part time in administration.
- Presenting concern: Starting amiodarone 200 mg daily for a rhythm problem; no first dose taken yet.
- Medical history: Atrial fibrillation and hypertension.
- Medicines: Warfarin managed by a local INR clinic; bisoprolol 5 mg and atorvastatin 40 mg daily; new amiodarone.
- Results: Last INR 2.6; next test scheduled in four weeks. Clinic has not been informed of the new medicine.
- Social: Does not smoke; drinks wine occasionally; lives independently.

YOUR TASK

What plan is missing?

MODEL ANSWER: PROBLEM

Amiodarone can potentiate warfarin and the interaction may evolve over weeks. A therapeutic INR before starting does not cover the coming change.

PHARMACIST ACTION

Confirm the amiodarone regimen, then coordinate closer INR testing and any warfarin dose adjustment with the prescriber or anticoagulation service. Check baseline amiodarone monitoring and counsel on bleeding signs and important long-term adverse effects.

KEY POINT

A manageable interaction still needs a documented monitoring plan.

Reference: Australian Prescriber, Amiodarone in the aged

SCENARIO FIFTEEN

PATIENT DETAILS

- Patient: 73-year-old woman; retired nurse.
- Presenting concern: Acute asthma exacerbation; prescribed prednisolone 50 mg each morning for five days.
- Medical history: Asthma, type 2 diabetes and hypertension.
- Medicines: Metformin XR 1 g twice daily, gliclazide MR 60 mg, perindopril 5 mg and atorvastatin 40 mg daily; new prednisolone.
- Results: Recent fasting glucose around 6 to 8 mmol/L; checks only once or twice weekly and has no plan for high readings.
- Social: Does not smoke; little alcohol; volunteers at a community centre.

YOUR TASK

What should you anticipate and arrange?

MODEL ANSWER: PROBLEM

Prednisolone may cause substantial temporary hyperglycaemia, often later in the day after a morning dose. The asthma treatment may still be necessary.

PHARMACIST ACTION

Confirm a plan for more frequent glucose checks during and shortly after the course, including when to contact her diabetes team. Explain hyperglycaemia symptoms and do not advise her to change diabetes doses independently. Escalate marked readings or illness according to her individual plan.

KEY POINT

The key intervention may be monitoring and follow-up, not changing the prescription.

Reference: Australian Prescriber, Rational prescribing for asthma in adults: written asthma action plans