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M.Pharm Practical Notes

Pharmacy Practice Practicals I

Semester 1

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Treatment Chart Review

Practical 1 - Clinical pharmacy case practical

Aim

To review a treatment chart and prioritise medicine-related problems.

Principle

Chart review evaluates indication, effectiveness, safety and practicality of each medicine in the context of diagnosis, allergies, laboratory trends and transitions of care.

Materials and Requirements

- Fictional or approved de-identified case, medicine chart and laboratory record
- Current local policy, relevant product information and clinical guidance
- Pharmaceutical-care and communication worksheet
- Approved method or teaching-data pack and a dated record sheet

Procedure

1. Define the preparation or dataset, study question and method version. Record identities, units and the criteria to be used before examining the outcome.
2. Identify the question, patient-specific information and missing data. Use the supplied fictional record; do not create a prescription or administer a preparation.
3. Reconcile chart entries with the documented history and identify omitted, duplicated or unclear items.
4. Check drug, form, dose, route, frequency, duration, interactions and renal/hepatic considerations using the actual product and indication.
5. Prioritise discrepancies by potential harm and communicate a factual query with a monitoring plan.
6. Document the assessment, evidence, proposed action, responsible clinician and follow-up. Separate a student recommendation from an authorised treatment decision.
7. Retain the original observations and calculations. State deviations, missing information and the limits of the conclusion; do not replace measured values with expected results.

Observations and Record

Enter actual measurements or the supplied teaching data. Record the method, material identity, conditions and units.

Problem / evidence	Goal / priority	Proposed action / owner	Monitoring / follow-up
Safety or urgent issue	Define	Escalate appropriately	Specify
Effectiveness / adherence	Define	Discuss with team	Specify
Information gap	State	Obtain evidence	Review

Worked Example

Fictional chart: the admission list contains two products with the same active ingredient, while the patient reports taking only one at home. Confirm ingredients and intended orders, flag possible duplication and obtain authorised clarification before dispensing.

Result and Interpretation

• Deliver an annotated chart and a ranked intervention log with resolved and unresolved items.

Precautions

• Protect confidentiality and use actual units and timing.
• Check allergy, indication, organ function, interactions and the complete medicine list.
• Urgent clinical findings need timely clinical assessment; teaching notes do not replace care.

Viva Questions and Answers

Why reconcile first?

A wrong input list can make every later assessment unreliable.

Is a brand-name difference enough to exclude duplication?

Active ingredients and strengths must be checked.

What makes an intervention useful?

A clear problem, supporting evidence, practical action and follow-up.

Medication History Interview

Practical 2 - Clinical pharmacy case practical

Aim

To obtain and verify a complete medication history through a structured interview.

Principle

The best possible medication history combines the patient or caregiver account with reliable records and documents actual use, not only prescribed items.

Materials and Requirements

- Fictional or approved de-identified case, medicine chart and laboratory record
- Current local policy, relevant product information and clinical guidance
- Pharmaceutical-care and communication worksheet
- Approved method or teaching-data pack and a dated record sheet

Procedure

1. Define the preparation or dataset, study question and method version. Record identities, units and the criteria to be used before examining the outcome.
2. Identify the question, patient-specific information and missing data. Use the supplied fictional record; do not create a prescription or administer a preparation.
3. Introduce the purpose, confirm privacy and ask open questions about each regular, as-needed and recently stopped medicine.
4. Record prescription, nonprescription, herbal and supplement products, allergy reaction details and previous adverse effects.
5. Confirm formulation, strength, schedule, actual use, adherence barriers, access and recent changes against a second reliable source.
6. Document the assessment, evidence, proposed action, responsible clinician and follow-up. Separate a student recommendation from an authorised treatment decision.
7. Retain the original observations and calculations. State deviations, missing information and the limits of the conclusion; do not replace measured values with expected results.

Observations and Record

Enter actual measurements or the supplied teaching data. Record the method, material identity, conditions and units.

Problem / evidence	Goal / priority	Proposed action / owner	Monitoring / follow-up
Safety or urgent issue	Define	Escalate appropriately	Specify
Effectiveness / adherence	Define	Discuss with team	Specify
Information gap	State	Obtain evidence	Review

Worked Example

Fictional interview: a patient lists a prescribed pain medicine but also takes an over-the-counter cold product. Ask for the packaging and active ingredients before assessing duplicate exposure; do not assume the patient knows the generic names.

Result and Interpretation

• Produce a verified list with sources, discrepancies, allergy details and questions for the care team.

Precautions

• Protect confidentiality and use actual units and timing.
• Check allergy, indication, organ function, interactions and the complete medicine list.
• Urgent clinical findings need timely clinical assessment; teaching notes do not replace care.

Viva Questions and Answers

Why ask about supplements?

They may interact or contribute adverse effects.

Why record allergy details?

The reaction and timing matter, not only a label.

Why use open questions?

They can reveal actual use that a yes/no checklist misses.

Patient Counselling for Oral Medicines

Practical 3 - Clinical pharmacy case practical

Aim

To conduct a medicine-counselling session with demonstration and teach-back.

Principle

Counselling connects an authorised treatment plan with the person ability, preferences and understanding. Teach-back checks the explanation rather than testing or blaming the person.

Materials and Requirements

- Fictional or approved de-identified case, medicine chart and laboratory record
- Current local policy, relevant product information and clinical guidance
- Pharmaceutical-care and communication worksheet
- Approved method or teaching-data pack and a dated record sheet

Procedure

1. Define the preparation or dataset, study question and method version. Record identities, units and the criteria to be used before examining the outcome.
2. Identify the question, patient-specific information and missing data. Use the supplied fictional record; do not create a prescription or administer a preparation.
3. Confirm the exact medicine/device and patient goals, language and health-literacy needs.
4. Explain purpose, use, timing, important precautions, missed-dose instructions from product-specific advice and when to seek help.
5. Demonstrate relevant measuring or device steps with a trainer and ask the person to explain or show use back in their own words.
6. Address storage, access and follow-up and document unresolved concerns.
7. Document the assessment, evidence, proposed action, responsible clinician and follow-up. Separate a student recommendation from an authorised treatment decision.
8. Retain the original observations and calculations. State deviations, missing information and the limits of the conclusion; do not replace measured values with expected results.

Observations and Record

Enter actual measurements or the supplied teaching data. Record the method, material identity, conditions and units.

Problem / evidence	Goal / priority	Proposed action / owner	Monitoring / follow-up
Safety or urgent issue	Define	Escalate appropriately	Specify
Effectiveness / adherence	Define	Discuss with team	Specify
Information gap	State	Obtain evidence	Review

Worked Example

Fictional session: the person can name the medicine but cannot describe when it is taken. Use a simple written schedule based on the authorised label, then repeat teach-back; do not invent a new dosing schedule.

Assigned product type

• Oral medicine: verify the exact active, formulation and authorised label; cover use, measuring if liquid, missed-dose advice, important adverse effects and storage.

Result and Interpretation

• Deliver a counselling checklist, teach-back result and specific follow-up plan.

Precautions

• Protect confidentiality and use actual units and timing.
• Check allergy, indication, organ function, interactions and the complete medicine list.
• Urgent clinical findings need timely clinical assessment; teaching notes do not replace care.

Viva Questions and Answers

Why use teach-back?

It checks whether the explanation was understood.

Why verify the exact device?

Inhalers and other devices can require different technique.

How is adherence support personalised?

Identify the actual barrier and agree a practical solution.

Patient Counselling for an Inhaler

Practical 4 - Clinical pharmacy case practical

Aim

To conduct a medicine-counselling session with demonstration and teach-back.

Principle

Counselling connects an authorised treatment plan with the person ability, preferences and understanding. Teach-back checks the explanation rather than testing or blaming the person.

Materials and Requirements

- Fictional or approved de-identified case, medicine chart and laboratory record
- Current local policy, relevant product information and clinical guidance
- Pharmaceutical-care and communication worksheet
- Approved method or teaching-data pack and a dated record sheet

Procedure

1. Define the preparation or dataset, study question and method version. Record identities, units and the criteria to be used before examining the outcome.
2. Identify the question, patient-specific information and missing data. Use the supplied fictional record; do not create a prescription or administer a preparation.
3. Confirm the exact medicine/device and patient goals, language and health-literacy needs.
4. Explain purpose, use, timing, important precautions, missed-dose instructions from product-specific advice and when to seek help.
5. Demonstrate relevant measuring or device steps with a trainer and ask the person to explain or show use back in their own words.
6. Address storage, access and follow-up and document unresolved concerns.
7. Document the assessment, evidence, proposed action, responsible clinician and follow-up. Separate a student recommendation from an authorised treatment decision.
8. Retain the original observations and calculations. State deviations, missing information and the limits of the conclusion; do not replace measured values with expected results.

Observations and Record

Enter actual measurements or the supplied teaching data. Record the method, material identity, conditions and units.

Problem / evidence	Goal / priority	Proposed action / owner	Monitoring / follow-up
Safety or urgent issue	Define	Escalate appropriately	Specify
Effectiveness / adherence	Define	Discuss with team	Specify
Information gap	State	Obtain evidence	Review

Worked Example

Fictional session: the person can name the medicine but cannot describe when it is taken. Use a simple written schedule based on the authorised label, then repeat teach-back; do not invent a new dosing schedule.

Assigned product type

• Inhaled medicine: use the exact device trainer and manufacturer instructions, assess preparation, inhalation manoeuvre, dose counter, cleaning and storage.
• Do not teach one generic technique for dry-powder and pressurised metered-dose inhalers. Explain controller/reliever roles for the actual prescribed plan.

Result and Interpretation

• Deliver a counselling checklist, teach-back result and specific follow-up plan.

Precautions

• Protect confidentiality and use actual units and timing.
• Check allergy, indication, organ function, interactions and the complete medicine list.
• Urgent clinical findings need timely clinical assessment; teaching notes do not replace care.

Viva Questions and Answers

Why use teach-back?

It checks whether the explanation was understood.

Why verify the exact device?

Inhalers and other devices can require different technique.

How is adherence support personalised?

Identify the actual barrier and agree a practical solution.

Drug Information Query - Renal Function

Practical 5 - Clinical pharmacy case practical

Aim

To answer a focused drug-information query with patient-specific evidence.

Principle

A useful response begins with a precise question, critically assesses current primary and authoritative information and states the relevance and limits for the actual patient.

Materials and Requirements

- Fictional or approved de-identified case, medicine chart and laboratory record
- Current local policy, relevant product information and clinical guidance
- Pharmaceutical-care and communication worksheet
- Approved method or teaching-data pack and a dated record sheet

Procedure

1. Define the preparation or dataset, study question and method version. Record identities, units and the criteria to be used before examining the outcome.
2. Identify the question, patient-specific information and missing data. Use the supplied fictional record; do not create a prescription or administer a preparation.
3. Clarify requester, urgency, indication, age, organ function, complete medicines and the decision needed.
4. Search current product information and the relevant clinical guidance, then examine original evidence where the question remains unresolved.
5. Compare conflicting information by population, endpoint and evidence strength and prepare a concise supported response.
6. Document the assessment, evidence, proposed action, responsible clinician and follow-up. Separate a student recommendation from an authorised treatment decision.
7. Retain the original observations and calculations. State deviations, missing information and the limits of the conclusion; do not replace measured values with expected results.

Observations and Record

Enter actual measurements or the supplied teaching data. Record the method, material identity, conditions and units.

Problem / evidence	Goal / priority	Proposed action / owner	Monitoring / follow-up
Safety or urgent issue	Define	Escalate appropriately	Specify
Effectiveness / adherence	Define	Discuss with team	Specify
Information gap	State	Obtain evidence	Review

Worked Example

Fictional query asks whether a renally cleared medicine can continue after a change in kidney function. Verify the actual drug, formulation, indication, trend and required kidney-function estimate before discussing the product-specific recommendation with the prescriber.

Query focus

• Renal query: confirm kidney trend, acute versus stable state and the drug-specific evidence using eGFR or creatinine clearance as appropriate.

Result and Interpretation

• Deliver the question, search record, evidence appraisal, patient-specific answer and follow-up; do not substitute a generic internet statement.

Precautions

• Protect confidentiality and use actual units and timing.
• Check allergy, indication, organ function, interactions and the complete medicine list.
• Urgent clinical findings need timely clinical assessment; teaching notes do not replace care.

Viva Questions and Answers

Why clarify the question?

The required answer depends on the patient and decision.

Why check product formulation?

Different formulations may have different instructions or evidence.

What if evidence conflicts?

Explain the differences and uncertainty rather than selecting a convenient answer.

Drug Information Query - Interactions

Practical 6 - Clinical pharmacy case practical

Aim

To answer a focused drug-information query with patient-specific evidence.

Principle

A useful response begins with a precise question, critically assesses current primary and authoritative information and states the relevance and limits for the actual patient.

Materials and Requirements

- Fictional or approved de-identified case, medicine chart and laboratory record
- Current local policy, relevant product information and clinical guidance
- Pharmaceutical-care and communication worksheet
- Approved method or teaching-data pack and a dated record sheet

Procedure

1. Define the preparation or dataset, study question and method version. Record identities, units and the criteria to be used before examining the outcome.
2. Identify the question, patient-specific information and missing data. Use the supplied fictional record; do not create a prescription or administer a preparation.
3. Clarify requester, urgency, indication, age, organ function, complete medicines and the decision needed.
4. Search current product information and the relevant clinical guidance, then examine original evidence where the question remains unresolved.
5. Compare conflicting information by population, endpoint and evidence strength and prepare a concise supported response.
6. Document the assessment, evidence, proposed action, responsible clinician and follow-up. Separate a student recommendation from an authorised treatment decision.
7. Retain the original observations and calculations. State deviations, missing information and the limits of the conclusion; do not replace measured values with expected results.

Observations and Record

Enter actual measurements or the supplied teaching data. Record the method, material identity, conditions and units.

Problem / evidence	Goal / priority	Proposed action / owner	Monitoring / follow-up
Safety or urgent issue	Define	Escalate appropriately	Specify
Effectiveness / adherence	Define	Discuss with team	Specify
Information gap	State	Obtain evidence	Review

Worked Example

Fictional query asks whether a renally cleared medicine can continue after a change in kidney function. Verify the actual drug, formulation, indication, trend and required kidney-function estimate before discussing the product-specific recommendation with the prescriber.

Query focus

• Interaction query: identify exact agents, doses, timing, mechanism, severity, supporting evidence and a feasible monitoring or management proposal.
• Distinguish a theoretical interaction flag from a demonstrated patient-specific risk.

Result and Interpretation

• Deliver the question, search record, evidence appraisal, patient-specific answer and follow-up; do not substitute a generic internet statement.

Precautions

• Protect confidentiality and use actual units and timing.
• Check allergy, indication, organ function, interactions and the complete medicine list.
• Urgent clinical findings need timely clinical assessment; teaching notes do not replace care.

Viva Questions and Answers

Why clarify the question?

The required answer depends on the patient and decision.

Why check product formulation?

Different formulations may have different instructions or evidence.

What if evidence conflicts?

Explain the differences and uncertainty rather than selecting a convenient answer.

Poison Information Query

Practical 7 - Clinical pharmacy case practical

Aim

To prepare a structured poison-information response for a fictional exposure.

Principle

Exposure assessment depends on exact substance, amount, route, timing, symptoms, age and co-exposures. Emergency stabilisation and specialist poison advice take priority over an academic calculation.

Materials and Requirements

- Fictional or approved de-identified case, medicine chart and laboratory record
- Current local policy, relevant product information and clinical guidance
- Pharmaceutical-care and communication worksheet
- Approved method or teaching-data pack and a dated record sheet

Procedure

1. Define the preparation or dataset, study question and method version. Record identities, units and the criteria to be used before examining the outcome.
2. Identify the question, patient-specific information and missing data. Use the supplied fictional record; do not create a prescription or administer a preparation.
3. Obtain the product identity and concentration, exposure history, symptoms and current location from the supplied case.
4. Identify urgent danger signs and document immediate referral to emergency services and the appropriate poison centre through the local pathway.
5. Use current specialist toxicology information to frame the assessment and communicate essential data; do not improvise decontamination or antidote treatment.
6. Document the assessment, evidence, proposed action, responsible clinician and follow-up. Separate a student recommendation from an authorised treatment decision.
7. Retain the original observations and calculations. State deviations, missing information and the limits of the conclusion; do not replace measured values with expected results.

Observations and Record

Enter actual measurements or the supplied teaching data. Record the method, material identity, conditions and units.

Problem / evidence	Goal / priority	Proposed action / owner	Monitoring / follow-up
Safety or urgent issue	Define	Escalate appropriately	Specify
Effectiveness / adherence	Define	Discuss with team	Specify
Information gap	State	Obtain evidence	Review

Worked Example

Fictional case: a child may have swallowed an unknown volume of household liquid. Record product and container details and arrange urgent professional assessment; do not induce vomiting or give a home antidote.

The unknown amount remains unknown in the report; do not replace it with a guessed dose.

Result and Interpretation

• Deliver a call-record template, triage rationale and evidence-based referral plan.

Precautions

• Protect confidentiality and use actual units and timing.
• Check allergy, indication, organ function, interactions and the complete medicine list.
• Urgent clinical findings need timely clinical assessment; teaching notes do not replace care.

Viva Questions and Answers

Why identify the exact product?

Ingredients and concentration determine risk.

Can an unknown amount be treated as zero?

Uncertainty must be reported and assessed professionally.

Why avoid improvised home treatment?

It may worsen injury or delay appropriate care.

Laboratory Data Interpretation - Renal and Electrolyte Results

Practical 8 - Clinical pharmacy case practical

Aim

To interpret laboratory trends in the medicine and clinical context.

Principle

A laboratory value is interpreted with units, method, local reference interval, timing, baseline and clinical state. eGFR and creatinine clearance are related but not interchangeable for every medicine.

Materials and Requirements

- Fictional or approved de-identified case, medicine chart and laboratory record
- Current local policy, relevant product information and clinical guidance
- Pharmaceutical-care and communication worksheet
- Approved method or teaching-data pack and a dated record sheet

Procedure

1. Define the preparation or dataset, study question and method version. Record identities, units and the criteria to be used before examining the outcome.
2. Identify the question, patient-specific information and missing data. Use the supplied fictional record; do not create a prescription or administer a preparation.
3. Check identity, collection time, units and specimen issues before judging a result.
4. Compare current and prior kidney, electrolyte, blood-count or liver results as assigned; assess trends rather than one isolated number.
5. Relate abnormalities to symptoms, medicines, hydration and other causes and prioritise urgent review or repeat testing through the team.
6. Document the assessment, evidence, proposed action, responsible clinician and follow-up. Separate a student recommendation from an authorised treatment decision.
7. Retain the original observations and calculations. State deviations, missing information and the limits of the conclusion; do not replace measured values with expected results.

Observations and Record

Enter actual measurements or the supplied teaching data. Record the method, material identity, conditions and units.

Problem / evidence	Goal / priority	Proposed action / owner	Monitoring / follow-up
Safety or urgent issue	Define	Escalate appropriately	Specify
Effectiveness / adherence	Define	Discuss with team	Specify
Information gap	State	Obtain evidence	Review

Calculations

- Relative change (%) = (current - baseline)/baseline x 100

Worked Example

Fictional result rises from serum creatinine 1.0 to 1.8 mg/dL after an acute illness. This is an 80% rise, but classification, cause and medicine management require timing, baseline, clinical review and the appropriate kidney assessment.

Result and Interpretation

• Provide a trend table and a reasoned clinical-pharmacy query with monitoring priorities.

Precautions

• Protect confidentiality and use actual units and timing.
• Check allergy, indication, organ function, interactions and the complete medicine list.
• Urgent clinical findings need timely clinical assessment; teaching notes do not replace care.

Viva Questions and Answers

Why use the local interval?

Methods and populations can differ.

Can an abnormal result prove a drug cause?

Alternative causes and timing must be assessed.

Why record units?

Unit confusion can radically alter interpretation.

Laboratory Data Interpretation - Haematology and Liver Results

Practical 9 - Clinical pharmacy case practical

Aim

To interpret laboratory trends in the medicine and clinical context.

Principle

A laboratory value is interpreted with units, method, local reference interval, timing, baseline and clinical state. eGFR and creatinine clearance are related but not interchangeable for every medicine.

Materials and Requirements

- Fictional or approved de-identified case, medicine chart and laboratory record
- Current local policy, relevant product information and clinical guidance
- Pharmaceutical-care and communication worksheet
- Approved method or teaching-data pack and a dated record sheet

Procedure

1. Define the preparation or dataset, study question and method version. Record identities, units and the criteria to be used before examining the outcome.
2. Identify the question, patient-specific information and missing data. Use the supplied fictional record; do not create a prescription or administer a preparation.
3. Check identity, collection time, units and specimen issues before judging a result.
4. Compare current and prior kidney, electrolyte, blood-count or liver results as assigned; assess trends rather than one isolated number.
5. Relate abnormalities to symptoms, medicines, hydration and other causes and prioritise urgent review or repeat testing through the team.
6. Document the assessment, evidence, proposed action, responsible clinician and follow-up. Separate a student recommendation from an authorised treatment decision.
7. Retain the original observations and calculations. State deviations, missing information and the limits of the conclusion; do not replace measured values with expected results.

Observations and Record

Enter actual measurements or the supplied teaching data. Record the method, material identity, conditions and units.

Problem / evidence	Goal / priority	Proposed action / owner	Monitoring / follow-up
Safety or urgent issue	Define	Escalate appropriately	Specify
Effectiveness / adherence	Define	Discuss with team	Specify
Information gap	State	Obtain evidence	Review

Calculations

- Relative change (%) = (current - baseline)/baseline x 100

Worked Example

Fictional haemoglobin falls from 12 to 9 g/dL, a 25% decrease. Review timing, indices, symptoms, bleeding, marrow effects and other causes.

Liver enzymes and synthetic function answer different questions; interpret ALT/AST, bilirubin, albumin and coagulation context separately.

Assigned laboratory panel

• Review blood count with indices and platelets, plus the supplied liver chemistry and synthetic-function evidence; use local intervals and clinical context.

Result and Interpretation

• Provide a trend table and a reasoned clinical-pharmacy query with monitoring priorities.

Precautions

• Protect confidentiality and use actual units and timing.
• Check allergy, indication, organ function, interactions and the complete medicine list.
• Urgent clinical findings need timely clinical assessment; teaching notes do not replace care.

Viva Questions and Answers

Why use the local interval?

Methods and populations can differ.

Can an abnormal result prove a drug cause?

Alternative causes and timing must be assessed.

Why record units?

Unit confusion can radically alter interpretation.

Pharmaceutical Care Plan - Hypertension

Practical 10 - Clinical pharmacy case practical

Aim

To prepare a prioritised pharmaceutical care plan for the assigned fictional disease case.

Principle

A pharmaceutical care plan links patient information to medicine-related problems, agreed goals, evidence-based actions and measurable follow-up. Urgent triage precedes routine optimisation.

Materials and Requirements

- Fictional or approved de-identified case, medicine chart and laboratory record
- Current local policy, relevant product information and clinical guidance
- Pharmaceutical-care and communication worksheet
- Approved method or teaching-data pack and a dated record sheet

Procedure

1. Define the preparation or dataset, study question and method version. Record identities, units and the criteria to be used before examining the outcome.
2. Identify the question, patient-specific information and missing data. Use the supplied fictional record; do not create a prescription or administer a preparation.
3. Summarise symptoms, diagnoses, medicines, allergies, laboratory trends, adherence and the person goals.
4. Identify safety, effectiveness, untreated-need and access problems and rank them by urgency.
5. For each problem specify the objective, evidence, proposed action, clinician responsibility and reassessment time.
6. Present the case clearly and record which changes require authorised review rather than prescribing from the exercise.
7. Document the assessment, evidence, proposed action, responsible clinician and follow-up. Separate a student recommendation from an authorised treatment decision.
8. Retain the original observations and calculations. State deviations, missing information and the limits of the conclusion; do not replace measured values with expected results.

Observations and Record

Enter actual measurements or the supplied teaching data. Record the method, material identity, conditions and units.

Problem / evidence	Goal / priority	Proposed action / owner	Monitoring / follow-up
Assessment needs	Identify urgency and information gaps	Confirm measurement quality and home/ambulatory evidence as appropriate; review adherence and medicines that raise pressure.	Document clinical review

Problem / evidence	Goal / priority	Proposed action / owner	Monitoring / follow-up
Medicine-related care	Agree an individualised clinical goal	Agree an individualised blood-pressure goal with the clinician and support a feasible authorised regimen.	Authorised team review
Continuity and response	Measure the agreed response	Document plan and responsible clinician	Track validated pressure readings, adherence, adverse effects and relevant renal/electrolyte tests.

Worked Example

Fictional case: A 58-year-old has repeated clinic readings around 148/92 mmHg and reports missed tablets.

Assigned care priorities

• Confirm measurement quality and home/ambulatory evidence as appropriate; review adherence and medicines that raise pressure.
• Agree an individualised blood-pressure goal with the clinician and support a feasible authorised regimen.
• Track validated pressure readings, adherence, adverse effects and relevant renal/electrolyte tests.

Result and Interpretation

• Deliver a complete problem-goal-action-monitoring table and explain the rationale and uncertainty for each priority.

Precautions

• Protect confidentiality and use actual units and timing.
• Check allergy, indication, organ function, interactions and the complete medicine list.
• Urgent clinical findings need timely clinical assessment; teaching notes do not replace care.

Viva Questions and Answers

What makes a goal measurable?

A defined clinical or patient-reported endpoint and review time.

Why include patient priorities?

A feasible plan must reflect the person needs and preferences.

Why distinguish proposals from orders?

Treatment changes require the responsible authorised clinical decision.

Pharmaceutical Care Plan - Heart Failure

Practical 11 - Clinical pharmacy case practical

Aim

To prepare a prioritised pharmaceutical care plan for the assigned fictional disease case.

Principle

A pharmaceutical care plan links patient information to medicine-related problems, agreed goals, evidence-based actions and measurable follow-up. Urgent triage precedes routine optimisation.

Materials and Requirements

- Fictional or approved de-identified case, medicine chart and laboratory record
- Current local policy, relevant product information and clinical guidance
- Pharmaceutical-care and communication worksheet
- Approved method or teaching-data pack and a dated record sheet

Procedure

1. Define the preparation or dataset, study question and method version. Record identities, units and the criteria to be used before examining the outcome.
2. Identify the question, patient-specific information and missing data. Use the supplied fictional record; do not create a prescription or administer a preparation.
3. Summarise symptoms, diagnoses, medicines, allergies, laboratory trends, adherence and the person goals.
4. Identify safety, effectiveness, untreated-need and access problems and rank them by urgency.
5. For each problem specify the objective, evidence, proposed action, clinician responsibility and reassessment time.
6. Present the case clearly and record which changes require authorised review rather than prescribing from the exercise.
7. Document the assessment, evidence, proposed action, responsible clinician and follow-up. Separate a student recommendation from an authorised treatment decision.
8. Retain the original observations and calculations. State deviations, missing information and the limits of the conclusion; do not replace measured values with expected results.

Observations and Record

Enter actual measurements or the supplied teaching data. Record the method, material identity, conditions and units.

Problem / evidence	Goal / priority	Proposed action / owner	Monitoring / follow-up
Assessment needs	Identify urgency and information gaps	Assess urgently for deterioration; verify heart-failure type, weight trend, renal function, potassium and the full regimen.	Document clinical review

Problem / evidence	Goal / priority	Proposed action / owner	Monitoring / follow-up
Medicine-related care	Agree an individualised clinical goal	Escalate worsening symptoms; review disease-modifying treatment and diuretic response with the heart-failure team.	Authorised team review
Continuity and response	Measure the agreed response	Document plan and responsible clinician	Track symptoms, weight, volume status, pressure, kidney function and electrolytes against the clinician plan.

Worked Example

Fictional case: A 68-year-old with known heart failure reports increasing breathlessness and ankle swelling.

Assigned care priorities

• Assess urgently for deterioration; verify heart-failure type, weight trend, renal function, potassium and the full regimen.
• Escalate worsening symptoms; review disease-modifying treatment and diuretic response with the heart-failure team.
• Track symptoms, weight, volume status, pressure, kidney function and electrolytes against the clinician plan.

Result and Interpretation

• Deliver a complete problem-goal-action-monitoring table and explain the rationale and uncertainty for each priority.

Precautions

• Protect confidentiality and use actual units and timing.
• Check allergy, indication, organ function, interactions and the complete medicine list.
• Urgent clinical findings need timely clinical assessment; teaching notes do not replace care.

Viva Questions and Answers

What makes a goal measurable?

A defined clinical or patient-reported endpoint and review time.

Why include patient priorities?

A feasible plan must reflect the person needs and preferences.

Why distinguish proposals from orders?

Treatment changes require the responsible authorised clinical decision.

Pharmaceutical Care Plan - Acute Coronary Syndrome

Practical 12 - Clinical pharmacy case practical

Aim

To prepare a prioritised pharmaceutical care plan for the assigned fictional disease case.

Principle

A pharmaceutical care plan links patient information to medicine-related problems, agreed goals, evidence-based actions and measurable follow-up. Urgent triage precedes routine optimisation.

Materials and Requirements

- Fictional or approved de-identified case, medicine chart and laboratory record
- Current local policy, relevant product information and clinical guidance
- Pharmaceutical-care and communication worksheet
- Approved method or teaching-data pack and a dated record sheet

Procedure

1. Define the preparation or dataset, study question and method version. Record identities, units and the criteria to be used before examining the outcome.
2. Identify the question, patient-specific information and missing data. Use the supplied fictional record; do not create a prescription or administer a preparation.
3. Summarise symptoms, diagnoses, medicines, allergies, laboratory trends, adherence and the person goals.
4. Identify safety, effectiveness, untreated-need and access problems and rank them by urgency.
5. For each problem specify the objective, evidence, proposed action, clinician responsibility and reassessment time.
6. Present the case clearly and record which changes require authorised review rather than prescribing from the exercise.
7. Document the assessment, evidence, proposed action, responsible clinician and follow-up. Separate a student recommendation from an authorised treatment decision.
8. Retain the original observations and calculations. State deviations, missing information and the limits of the conclusion; do not replace measured values with expected results.

Observations and Record

Enter actual measurements or the supplied teaching data. Record the method, material identity, conditions and units.

Problem / evidence	Goal / priority	Proposed action / owner	Monitoring / follow-up
Assessment needs	Identify urgency and information gaps	Treat the case as a possible emergency; arrange immediate clinical assessment rather than completing routine counselling first.	Document clinical review

Problem / evidence	Goal / priority	Proposed action / owner	Monitoring / follow-up
Medicine-related care	Agree an individualised clinical goal	The emergency team determines diagnosis and acute treatment; supply allergy, antithrombotic, bleeding and medicine-history information promptly.	Authorised team review
Continuity and response	Measure the agreed response	Document plan and responsible clinician	After stabilisation review secondary prevention, access, adherence, adverse effects and cardiac follow-up.

Worked Example

Fictional case: A 61-year-old develops new persistent chest pressure with sweating.

Assigned care priorities

• Treat the case as a possible emergency; arrange immediate clinical assessment rather than completing routine counselling first.
• The emergency team determines diagnosis and acute treatment; supply allergy, antithrombotic, bleeding and medicine-history information promptly.
• After stabilisation review secondary prevention, access, adherence, adverse effects and cardiac follow-up.

Result and Interpretation

• Deliver a complete problem-goal-action-monitoring table and explain the rationale and uncertainty for each priority.

Precautions

• Protect confidentiality and use actual units and timing.
• Check allergy, indication, organ function, interactions and the complete medicine list.
• Urgent clinical findings need timely clinical assessment; teaching notes do not replace care.

Viva Questions and Answers

What makes a goal measurable?

A defined clinical or patient-reported endpoint and review time.

Why include patient priorities?

A feasible plan must reflect the person needs and preferences.

Why distinguish proposals from orders?

Treatment changes require the responsible authorised clinical decision.

Pharmaceutical Care Plan - Asthma

Practical 13 - Clinical pharmacy case practical

Aim

To prepare a prioritised pharmaceutical care plan for the assigned fictional disease case.

Principle

A pharmaceutical care plan links patient information to medicine-related problems, agreed goals, evidence-based actions and measurable follow-up. Urgent triage precedes routine optimisation.

Materials and Requirements

- Fictional or approved de-identified case, medicine chart and laboratory record
- Current local policy, relevant product information and clinical guidance
- Pharmaceutical-care and communication worksheet
- Approved method or teaching-data pack and a dated record sheet

Procedure

1. Define the preparation or dataset, study question and method version. Record identities, units and the criteria to be used before examining the outcome.
2. Identify the question, patient-specific information and missing data. Use the supplied fictional record; do not create a prescription or administer a preparation.
3. Summarise symptoms, diagnoses, medicines, allergies, laboratory trends, adherence and the person goals.
4. Identify safety, effectiveness, untreated-need and access problems and rank them by urgency.
5. For each problem specify the objective, evidence, proposed action, clinician responsibility and reassessment time.
6. Present the case clearly and record which changes require authorised review rather than prescribing from the exercise.
7. Document the assessment, evidence, proposed action, responsible clinician and follow-up. Separate a student recommendation from an authorised treatment decision.
8. Retain the original observations and calculations. State deviations, missing information and the limits of the conclusion; do not replace measured values with expected results.

Observations and Record

Enter actual measurements or the supplied teaching data. Record the method, material identity, conditions and units.

Problem / evidence	Goal / priority	Proposed action / owner	Monitoring / follow-up
Assessment needs	Identify urgency and information gaps	Assess current control, exacerbation risk, device technique and adherence; check the actual prescribed controller/reliever system.	Document clinical review

Problem / evidence	Goal / priority	Proposed action / owner	Monitoring / follow-up
Medicine-related care	Agree an individualised clinical goal	Arrange review of an appropriate inhaled-corticosteroid-containing strategy under current guidance and an individual action plan.	Authorised team review
Continuity and response	Measure the agreed response	Document plan and responsible clinician	Recheck symptoms, technique, reliever pattern, exacerbations and action-plan understanding.

Worked Example

Fictional case: A 22-year-old reports frequent reliever use and night symptoms with inconsistent inhaler technique.

Assigned care priorities

• Assess current control, exacerbation risk, device technique and adherence; check the actual prescribed controller/reliever system.
• Arrange review of an appropriate inhaled-corticosteroid-containing strategy under current guidance and an individual action plan.
• Recheck symptoms, technique, reliever pattern, exacerbations and action-plan understanding.

Result and Interpretation

• Deliver a complete problem-goal-action-monitoring table and explain the rationale and uncertainty for each priority.

Precautions

• Protect confidentiality and use actual units and timing.
• Check allergy, indication, organ function, interactions and the complete medicine list.
• Urgent clinical findings need timely clinical assessment; teaching notes do not replace care.

Viva Questions and Answers

What makes a goal measurable?

A defined clinical or patient-reported endpoint and review time.

Why include patient priorities?

A feasible plan must reflect the person needs and preferences.

Why distinguish proposals from orders?

Treatment changes require the responsible authorised clinical decision.

Pharmaceutical Care Plan - Type 2 Diabetes

Practical 14 - Clinical pharmacy case practical

Aim

To prepare a prioritised pharmaceutical care plan for the assigned fictional disease case.

Principle

A pharmaceutical care plan links patient information to medicine-related problems, agreed goals, evidence-based actions and measurable follow-up. Urgent triage precedes routine optimisation.

Materials and Requirements

- Fictional or approved de-identified case, medicine chart and laboratory record
- Current local policy, relevant product information and clinical guidance
- Pharmaceutical-care and communication worksheet
- Approved method or teaching-data pack and a dated record sheet

Procedure

1. Define the preparation or dataset, study question and method version. Record identities, units and the criteria to be used before examining the outcome.
2. Identify the question, patient-specific information and missing data. Use the supplied fictional record; do not create a prescription or administer a preparation.
3. Summarise symptoms, diagnoses, medicines, allergies, laboratory trends, adherence and the person goals.
4. Identify safety, effectiveness, untreated-need and access problems and rank them by urgency.
5. For each problem specify the objective, evidence, proposed action, clinician responsibility and reassessment time.
6. Present the case clearly and record which changes require authorised review rather than prescribing from the exercise.
7. Document the assessment, evidence, proposed action, responsible clinician and follow-up. Separate a student recommendation from an authorised treatment decision.
8. Retain the original observations and calculations. State deviations, missing information and the limits of the conclusion; do not replace measured values with expected results.

Observations and Record

Enter actual measurements or the supplied teaching data. Record the method, material identity, conditions and units.

Problem / evidence	Goal / priority	Proposed action / owner	Monitoring / follow-up
Assessment needs	Identify urgency and information gaps	Confirm the personalised target, symptoms, hypoglycaemia history, kidney trend, cardiovascular risk and current medicines.	Document clinical review

Problem / evidence	Goal / priority	Proposed action / owner	Monitoring / follow-up
Medicine-related care	Agree an individualised clinical goal	Discuss product- and indication-specific medicine suitability, adherence and lifestyle support with the team.	Authorised team review
Continuity and response	Measure the agreed response	Document plan and responsible clinician	Monitor agreed glycaemic measures, hypoglycaemia, kidney function, weight and complications screening.

Worked Example

Fictional case: A 55-year-old with type 2 diabetes has HbA1c 8.4% and eGFR 45 mL/min/1.73 m^2.

Assigned care priorities

• Confirm the personalised target, symptoms, hypoglycaemia history, kidney trend, cardiovascular risk and current medicines.
• Discuss product- and indication-specific medicine suitability, adherence and lifestyle support with the team.
• Monitor agreed glycaemic measures, hypoglycaemia, kidney function, weight and complications screening.

Result and Interpretation

• Deliver a complete problem-goal-action-monitoring table and explain the rationale and uncertainty for each priority.

Precautions

• Protect confidentiality and use actual units and timing.
• Check allergy, indication, organ function, interactions and the complete medicine list.
• Urgent clinical findings need timely clinical assessment; teaching notes do not replace care.

Viva Questions and Answers

What makes a goal measurable?

A defined clinical or patient-reported endpoint and review time.

Why include patient priorities?

A feasible plan must reflect the person needs and preferences.

Why distinguish proposals from orders?

Treatment changes require the responsible authorised clinical decision.

Pharmaceutical Care Plan - Peptic Ulcer Disease

Practical 15 - Clinical pharmacy case practical

Aim

To prepare a prioritised pharmaceutical care plan for the assigned fictional disease case.

Principle

A pharmaceutical care plan links patient information to medicine-related problems, agreed goals, evidence-based actions and measurable follow-up. Urgent triage precedes routine optimisation.

Materials and Requirements

- Fictional or approved de-identified case, medicine chart and laboratory record
- Current local policy, relevant product information and clinical guidance
- Pharmaceutical-care and communication worksheet
- Approved method or teaching-data pack and a dated record sheet

Procedure

1. Define the preparation or dataset, study question and method version. Record identities, units and the criteria to be used before examining the outcome.
2. Identify the question, patient-specific information and missing data. Use the supplied fictional record; do not create a prescription or administer a preparation.
3. Summarise symptoms, diagnoses, medicines, allergies, laboratory trends, adherence and the person goals.
4. Identify safety, effectiveness, untreated-need and access problems and rank them by urgency.
5. For each problem specify the objective, evidence, proposed action, clinician responsibility and reassessment time.
6. Present the case clearly and record which changes require authorised review rather than prescribing from the exercise.
7. Document the assessment, evidence, proposed action, responsible clinician and follow-up. Separate a student recommendation from an authorised treatment decision.
8. Retain the original observations and calculations. State deviations, missing information and the limits of the conclusion; do not replace measured values with expected results.

Observations and Record

Enter actual measurements or the supplied teaching data. Record the method, material identity, conditions and units.

Problem / evidence	Goal / priority	Proposed action / owner	Monitoring / follow-up
Assessment needs	Identify urgency and information gaps	Screen for alarm features and bleeding; verify ulcer diagnosis and the need for appropriate H. pylori testing.	Document clinical review

Problem / evidence	Goal / priority	Proposed action / owner	Monitoring / follow-up
Medicine-related care	Agree an individualised clinical goal	Refer concerning findings, review NSAID need and discuss evidence-based ulcer or eradication management after appropriate assessment.	Authorised team review
Continuity and response	Measure the agreed response	Document plan and responsible clinician	Track symptom resolution, bleeding warning signs, adverse effects and confirmation of eradication when indicated.

Worked Example

Fictional case: A 49-year-old has dyspepsia and regular nonprescription NSAID use.

Assigned care priorities

• Screen for alarm features and bleeding; verify ulcer diagnosis and the need for appropriate H. pylori testing.
• Refer concerning findings, review NSAID need and discuss evidence-based ulcer or eradication management after appropriate assessment.
• Track symptom resolution, bleeding warning signs, adverse effects and confirmation of eradication when indicated.

Result and Interpretation

• Deliver a complete problem-goal-action-monitoring table and explain the rationale and uncertainty for each priority.

Precautions

• Protect confidentiality and use actual units and timing.
• Check allergy, indication, organ function, interactions and the complete medicine list.
• Urgent clinical findings need timely clinical assessment; teaching notes do not replace care.

Viva Questions and Answers

What makes a goal measurable?

A defined clinical or patient-reported endpoint and review time.

Why include patient priorities?

A feasible plan must reflect the person needs and preferences.

Why distinguish proposals from orders?

Treatment changes require the responsible authorised clinical decision.

Pharmaceutical Care Plan - Iron-Deficiency Anaemia

Practical 16 - Clinical pharmacy case practical

Aim

To prepare a prioritised pharmaceutical care plan for the assigned fictional disease case.

Principle

A pharmaceutical care plan links patient information to medicine-related problems, agreed goals, evidence-based actions and measurable follow-up. Urgent triage precedes routine optimisation.

Materials and Requirements

- Fictional or approved de-identified case, medicine chart and laboratory record
- Current local policy, relevant product information and clinical guidance
- Pharmaceutical-care and communication worksheet
- Approved method or teaching-data pack and a dated record sheet

Procedure

1. Define the preparation or dataset, study question and method version. Record identities, units and the criteria to be used before examining the outcome.
2. Identify the question, patient-specific information and missing data. Use the supplied fictional record; do not create a prescription or administer a preparation.
3. Summarise symptoms, diagnoses, medicines, allergies, laboratory trends, adherence and the person goals.
4. Identify safety, effectiveness, untreated-need and access problems and rank them by urgency.
5. For each problem specify the objective, evidence, proposed action, clinician responsibility and reassessment time.
6. Present the case clearly and record which changes require authorised review rather than prescribing from the exercise.
7. Document the assessment, evidence, proposed action, responsible clinician and follow-up. Separate a student recommendation from an authorised treatment decision.
8. Retain the original observations and calculations. State deviations, missing information and the limits of the conclusion; do not replace measured values with expected results.

Observations and Record

Enter actual measurements or the supplied teaching data. Record the method, material identity, conditions and units.

Problem / evidence	Goal / priority	Proposed action / owner	Monitoring / follow-up
Assessment needs	Identify urgency and information gaps	Review reference ranges, bleeding, diet, pregnancy possibility and other causes; confirm the clinical diagnosis.	Document clinical review

Problem / evidence	Goal / priority	Proposed action / owner	Monitoring / follow-up
Medicine-related care	Agree an individualised clinical goal	Support investigation of the cause and clinician-selected replacement therapy, including tolerability and adherence.	Authorised team review
Continuity and response	Measure the agreed response	Document plan and responsible clinician	Track blood-count response, iron-status plan, symptoms and the underlying cause rather than only repeating supplements.

Worked Example

Fictional case: A 32-year-old has fatigue, haemoglobin 9 g/dL and ferritin 8 micrograms/L in the supplied record.

Assigned care priorities

• Review reference ranges, bleeding, diet, pregnancy possibility and other causes; confirm the clinical diagnosis.
• Support investigation of the cause and clinician-selected replacement therapy, including tolerability and adherence.
• Track blood-count response, iron-status plan, symptoms and the underlying cause rather than only repeating supplements.

Result and Interpretation

• Deliver a complete problem-goal-action-monitoring table and explain the rationale and uncertainty for each priority.

Precautions

• Protect confidentiality and use actual units and timing.
• Check allergy, indication, organ function, interactions and the complete medicine list.
• Urgent clinical findings need timely clinical assessment; teaching notes do not replace care.

Viva Questions and Answers

What makes a goal measurable?

A defined clinical or patient-reported endpoint and review time.

Why include patient priorities?

A feasible plan must reflect the person needs and preferences.

Why distinguish proposals from orders?

Treatment changes require the responsible authorised clinical decision.

Pharmaceutical Care Plan - Rheumatoid Arthritis

Practical 17 - Clinical pharmacy case practical

Aim

To prepare a prioritised pharmaceutical care plan for the assigned fictional disease case.

Principle

A pharmaceutical care plan links patient information to medicine-related problems, agreed goals, evidence-based actions and measurable follow-up. Urgent triage precedes routine optimisation.

Materials and Requirements

- Fictional or approved de-identified case, medicine chart and laboratory record
- Current local policy, relevant product information and clinical guidance
- Pharmaceutical-care and communication worksheet
- Approved method or teaching-data pack and a dated record sheet

Procedure

1. Define the preparation or dataset, study question and method version. Record identities, units and the criteria to be used before examining the outcome.
2. Identify the question, patient-specific information and missing data. Use the supplied fictional record; do not create a prescription or administer a preparation.
3. Summarise symptoms, diagnoses, medicines, allergies, laboratory trends, adherence and the person goals.
4. Identify safety, effectiveness, untreated-need and access problems and rank them by urgency.
5. For each problem specify the objective, evidence, proposed action, clinician responsibility and reassessment time.
6. Present the case clearly and record which changes require authorised review rather than prescribing from the exercise.
7. Document the assessment, evidence, proposed action, responsible clinician and follow-up. Separate a student recommendation from an authorised treatment decision.
8. Retain the original observations and calculations. State deviations, missing information and the limits of the conclusion; do not replace measured values with expected results.

Observations and Record

Enter actual measurements or the supplied teaching data. Record the method, material identity, conditions and units.

Problem / evidence	Goal / priority	Proposed action / owner	Monitoring / follow-up
Assessment needs	Identify urgency and information gaps	Verify the indication, actual weekly instruction, folate plan, interactions and blood-count/liver/kidney monitoring.	Document clinical review

Problem / evidence	Goal / priority	Proposed action / owner	Monitoring / follow-up
Medicine-related care	Agree an individualised clinical goal	Resolve any daily-versus-weekly discrepancy urgently with the prescriber; methotrexate for RA is generally once weekly.	Authorised team review
Continuity and response	Measure the agreed response	Document plan and responsible clinician	Review disease activity, function, infection or toxicity symptoms and the authorised monitoring schedule.

Worked Example

Fictional case: A 46-year-old with rheumatoid arthritis reports persistent joint symptoms and confusion about methotrexate days.

Assigned care priorities

• Verify the indication, actual weekly instruction, folate plan, interactions and blood-count/liver/kidney monitoring.
• Resolve any daily-versus-weekly discrepancy urgently with the prescriber; methotrexate for RA is generally once weekly.
• Review disease activity, function, infection or toxicity symptoms and the authorised monitoring schedule.

Result and Interpretation

• Deliver a complete problem-goal-action-monitoring table and explain the rationale and uncertainty for each priority.

Precautions

• Protect confidentiality and use actual units and timing.
• Check allergy, indication, organ function, interactions and the complete medicine list.
• Urgent clinical findings need timely clinical assessment; teaching notes do not replace care.

Viva Questions and Answers

What makes a goal measurable?

A defined clinical or patient-reported endpoint and review time.

Why include patient priorities?

A feasible plan must reflect the person needs and preferences.

Why distinguish proposals from orders?

Treatment changes require the responsible authorised clinical decision.

ABC Analysis of a Medication Inventory

Practical 18 - Clinical pharmacy case practical

Aim

To classify medicine inventory by annual consumption value using a defined ABC policy.

Principle

ABC analysis ranks annual spending, not clinical importance. Thresholds are local management choices; combine value classification with criticality and supply-risk assessment.

Materials and Requirements

- Fictional or approved de-identified case, medicine chart and laboratory record
- Current local policy, relevant product information and clinical guidance
- Pharmaceutical-care and communication worksheet
- Approved method or teaching-data pack and a dated record sheet

Procedure

1. Define the preparation or dataset, study question and method version. Record identities, units and the criteria to be used before examining the outcome.
2. Identify the question, patient-specific information and missing data. Use the supplied fictional record; do not create a prescription or administer a preparation.
3. Check item identity, pack-to-unit conversion, annual quantity and unit acquisition cost.
4. Calculate annual consumption value for each item and sort in descending value.
5. Calculate cumulative value percentages and apply the declared A/B/C cutoffs consistently, retaining boundary decisions.
6. Review stockouts, expiry, essentiality and procurement risk separately before recommending controls.
7. Document the assessment, evidence, proposed action, responsible clinician and follow-up. Separate a student recommendation from an authorised treatment decision.
8. Retain the original observations and calculations. State deviations, missing information and the limits of the conclusion; do not replace measured values with expected results.

Observations and Record

Enter actual measurements or the supplied teaching data. Record the method, material identity, conditions and units.

Problem / evidence	Goal / priority	Proposed action / owner	Monitoring / follow-up
Safety or urgent issue	Define	Escalate appropriately	Specify
Effectiveness / adherence	Define	Discuss with team	Specify
Information gap	State	Obtain evidence	Review

Calculations

- Annual value = annual units consumed x acquisition cost per unit
- Cumulative share (%) = cumulative ranked value / total value x 100

Worked Example

Illustrative annual values are 50,000, 30,000, 15,000 and 5,000 currency units: cumulative shares are 50%, 80%, 95% and 100%. Under an illustrative A-to-80%, B-to-95% policy, the first two are A, third B and fourth C.

Result and Interpretation

- Deliver a ranked inventory with formulas, cutoff policy and a risk-aware control recommendation.

Precautions

- Protect confidentiality and use actual units and timing.
- Check allergy, indication, organ function, interactions and the complete medicine list.
- Urgent clinical findings need timely clinical assessment; teaching notes do not replace care.

Viva Questions and Answers

Does C mean unimportant clinically?

No; a low-spend medicine may be vital.

Why convert pack units?

Costs and quantities must share the same unit basis.

Are ABC cutoffs universal?

They are defined by the organisation policy.

Hospital Formulary Inclusion Proposal

Practical 19 - Clinical pharmacy case practical

Aim

To write a justified hospital-formulary inclusion proposal.

Principle

Formulary evaluation compares clinical benefit, safety, evidence quality, alternatives, operational suitability and total cost in the local population. Acquisition price alone is incomplete.

Materials and Requirements

- Fictional or approved de-identified case, medicine chart and laboratory record
- Current local policy, relevant product information and clinical guidance
- Pharmaceutical-care and communication worksheet
- Approved method or teaching-data pack and a dated record sheet

Procedure

1. Define the preparation or dataset, study question and method version. Record identities, units and the criteria to be used before examining the outcome.
2. Identify the question, patient-specific information and missing data. Use the supplied fictional record; do not create a prescription or administer a preparation.
3. Define medicine, indication, proposed restrictions and the current comparator.
4. Appraise relevant comparative evidence, contraindications, interactions, monitoring and stewardship implications.
5. Assess preparation, storage, staffing, administration and total-budget consequences and document uncertainty.
6. Propose approval, restricted use or deferral with criteria and post-introduction review.
7. Document the assessment, evidence, proposed action, responsible clinician and follow-up. Separate a student recommendation from an authorised treatment decision.
8. Retain the original observations and calculations. State deviations, missing information and the limits of the conclusion; do not replace measured values with expected results.

Observations and Record

Enter actual measurements or the supplied teaching data. Record the method, material identity, conditions and units.

Problem / evidence	Goal / priority	Proposed action / owner	Monitoring / follow-up
Safety or urgent issue	Define	Escalate appropriately	Specify
Effectiveness / adherence	Define	Discuss with team	Specify
Information gap	State	Obtain evidence	Review

Worked Example

Illustrative medicine A costs 100 per course and B costs 130, but B may reduce an additional service cost. A decision requires valid comparative outcomes and complete local costs; the cheaper pack is not automatically the better choice.

Result and Interpretation

• Submit a decision-ready fictional committee brief with an evidence matrix and implementation plan.

Precautions

• Protect confidentiality and use actual units and timing.
• Check allergy, indication, organ function, interactions and the complete medicine list.
• Urgent clinical findings need timely clinical assessment; teaching notes do not replace care.

Viva Questions and Answers

Why define the comparator?

Benefit and cost are relative to an existing option.

What is restricted inclusion?

Use is limited to specified indications or authorised circumstances.

Why review after introduction?

Actual use and outcomes may differ from assumptions.

IV Admixture Calculations and Dispensing Records

Practical 20 - Clinical pharmacy case practical

Aim

To check IV-admixture calculations and prepare a simulated dispensing record.

Principle

Dose, concentration, final volume and infusion rate are distinct quantities. Compatibility, stability and aseptic preparation require exact drug, diluent, container, concentration and conditions, not a calculation alone.

Materials and Requirements

- Fictional or approved de-identified case, medicine chart and laboratory record
- Current local policy, relevant product information and clinical guidance
- Pharmaceutical-care and communication worksheet
- Approved method or teaching-data pack and a dated record sheet

Procedure

1. Define the preparation or dataset, study question and method version. Record identities, units and the criteria to be used before examining the outcome.
2. Identify the question, patient-specific information and missing data. Use the supplied fictional record; do not create a prescription or administer a preparation.
3. Use a fictional authorised order and placebo or paper record only, not a patient preparation.
4. Verify product, patient factors, units, diluent, final-volume basis and independent calculation checks.
5. Review current compatibility and stability information for the exact conditions and map qualified aseptic preparation, labelling and final checks.
6. Complete a simulated label and administration handover with authorised storage, beyond-use and rate information from the validated method.
7. Document the assessment, evidence, proposed action, responsible clinician and follow-up. Separate a student recommendation from an authorised treatment decision.
8. Retain the original observations and calculations. State deviations, missing information and the limits of the conclusion; do not replace measured values with expected results.

Observations and Record

Enter actual measurements or the supplied teaching data. Record the method, material identity, conditions and units.

Problem / evidence	Goal / priority	Proposed action / owner	Monitoring / follow-up
Safety or urgent issue	Define	Escalate appropriately	Specify
Effectiveness / adherence	Define	Discuss with team	Specify
Information gap	State	Obtain evidence	Review

Calculations

- Concentration = amount / final volume

• Infusion rate = final volume / prescribed duration

Worked Example

Illustrative fictional order: 500 mg in a final 100 mL gives 5 mg/mL. A specified 2 h infusion corresponds to 50 mL/h and 250 mg/h.

These arithmetic values are not a recommendation for any named medicine; displacement, compatibility and clinical suitability must be verified.

Result and Interpretation

• Deliver a checked calculation sheet and clearly marked simulation label; no material is for administration.

Precautions

• Protect confidentiality and use actual units and timing.
• Check allergy, indication, organ function, interactions and the complete medicine list.
• Urgent clinical findings need timely clinical assessment; teaching notes do not replace care.

Viva Questions and Answers

Why say final volume?

Added diluent volume may not equal the final preparation volume.

Does visual clarity prove compatibility?

Chemical instability or subvisible changes may still occur.

Can a calculation assign a beyond-use date?

Aseptic and stability evidence under the applicable process are needed.

Patient Information Leaflet - Oral Medicine

Practical 21 - Clinical pharmacy case practical

Aim

To write a clear, product-specific patient information leaflet.

Principle

Counselling connects an authorised treatment plan with the person ability, preferences and understanding. Teach-back checks the explanation rather than testing or blaming the person.

Materials and Requirements

- Fictional or approved de-identified case, medicine chart and laboratory record
- Current local policy, relevant product information and clinical guidance
- Pharmaceutical-care and communication worksheet
- Approved method or teaching-data pack and a dated record sheet

Procedure

1. Define the preparation or dataset, study question and method version. Record identities, units and the criteria to be used before examining the outcome.
2. Identify the question, patient-specific information and missing data. Use the supplied fictional record; do not create a prescription or administer a preparation.
3. Confirm the exact medicine/device and patient goals, language and health-literacy needs.
4. Explain purpose, use, timing, important precautions, missed-dose instructions from product-specific advice and when to seek help.
5. Demonstrate relevant measuring or device steps with a trainer and ask the person to explain or show use back in their own words.
6. Address storage, access and follow-up and document unresolved concerns.
7. Document the assessment, evidence, proposed action, responsible clinician and follow-up. Separate a student recommendation from an authorised treatment decision.
8. Retain the original observations and calculations. State deviations, missing information and the limits of the conclusion; do not replace measured values with expected results.

Observations and Record

Enter actual measurements or the supplied teaching data. Record the method, material identity, conditions and units.

Problem / evidence	Goal / priority	Proposed action / owner	Monitoring / follow-up
Safety or urgent issue	Define	Escalate appropriately	Specify
Effectiveness / adherence	Define	Discuss with team	Specify
Information gap	State	Obtain evidence	Review

Worked Example

Fictional session: the person can name the medicine but cannot describe when it is taken. Use a simple written schedule based on the authorised label, then repeat teach-back; do not invent a new dosing schedule.

Leaflet deliverable

• Use plain language: medicine purpose, exact authorised use, device or measuring directions, important adverse effects, urgent warning signs, missed-dose advice, storage and contact pathway.
• Use the actual approved product information and a readable layout. Test comprehension with a fictional reader and correct ambiguous wording.
• Do not include another patient name or create a universal instruction covering different formulations.

Assigned product type

• Oral medicine: verify the exact active, formulation and authorised label; cover use, measuring if liquid, missed-dose advice, important adverse effects and storage.

Result and Interpretation

• Deliver a counselling checklist, teach-back result and specific follow-up plan.

Precautions

• Protect confidentiality and use actual units and timing.
• Check allergy, indication, organ function, interactions and the complete medicine list.
• Urgent clinical findings need timely clinical assessment; teaching notes do not replace care.

Viva Questions and Answers

Why use teach-back?

It checks whether the explanation was understood.

Why verify the exact device?

Inhalers and other devices can require different technique.

How is adherence support personalised?

Identify the actual barrier and agree a practical solution.

Patient Information Leaflet - Inhaled Medicine

Practical 22 - Clinical pharmacy case practical

Aim

To write a clear, product-specific patient information leaflet.

Principle

Counselling connects an authorised treatment plan with the person ability, preferences and understanding. Teach-back checks the explanation rather than testing or blaming the person.

Materials and Requirements

- Fictional or approved de-identified case, medicine chart and laboratory record
- Current local policy, relevant product information and clinical guidance
- Pharmaceutical-care and communication worksheet
- Approved method or teaching-data pack and a dated record sheet

Procedure

1. Define the preparation or dataset, study question and method version. Record identities, units and the criteria to be used before examining the outcome.
2. Identify the question, patient-specific information and missing data. Use the supplied fictional record; do not create a prescription or administer a preparation.
3. Confirm the exact medicine/device and patient goals, language and health-literacy needs.
4. Explain purpose, use, timing, important precautions, missed-dose instructions from product-specific advice and when to seek help.
5. Demonstrate relevant measuring or device steps with a trainer and ask the person to explain or show use back in their own words.
6. Address storage, access and follow-up and document unresolved concerns.
7. Document the assessment, evidence, proposed action, responsible clinician and follow-up. Separate a student recommendation from an authorised treatment decision.
8. Retain the original observations and calculations. State deviations, missing information and the limits of the conclusion; do not replace measured values with expected results.

Observations and Record

Enter actual measurements or the supplied teaching data. Record the method, material identity, conditions and units.

Problem / evidence	Goal / priority	Proposed action / owner	Monitoring / follow-up
Safety or urgent issue	Define	Escalate appropriately	Specify
Effectiveness / adherence	Define	Discuss with team	Specify
Information gap	State	Obtain evidence	Review

Worked Example

Fictional session: the person can name the medicine but cannot describe when it is taken. Use a simple written schedule based on the authorised label, then repeat teach-back; do not invent a new dosing schedule.

Leaflet deliverable

• Use plain language: medicine purpose, exact authorised use, device or measuring directions, important adverse effects, urgent warning signs, missed-dose advice, storage and contact pathway.
• Use the actual approved product information and a readable layout. Test comprehension with a fictional reader and correct ambiguous wording.
• Do not include another patient name or create a universal instruction covering different formulations.

Assigned product type

• Inhaled medicine: use the exact device trainer and manufacturer instructions, assess preparation, inhalation manoeuvre, dose counter, cleaning and storage.
• Do not teach one generic technique for dry-powder and pressurised metered-dose inhalers. Explain controller/reliever roles for the actual prescribed plan.

Result and Interpretation

• Deliver a counselling checklist, teach-back result and specific follow-up plan.

Precautions

• Protect confidentiality and use actual units and timing.
• Check allergy, indication, organ function, interactions and the complete medicine list.
• Urgent clinical findings need timely clinical assessment; teaching notes do not replace care.

Viva Questions and Answers

Why use teach-back?

It checks whether the explanation was understood.

Why verify the exact device?

Inhalers and other devices can require different technique.

How is adherence support personalised?

Identify the actual barrier and agree a practical solution.

Clinical Study Protocol Preparation

Practical 23 - Regulatory documentation practical

Aim

To draft a review-ready fictional clinical study protocol.

Principle

A protocol connects the research question to participant protection, design, procedures, analysis and operational controls. Regulatory permission, ethics approval and registration are separate requirements.

Materials and Requirements

- Fictional product or study case and controlled document templates
- Current official requirements for the specified jurisdiction and product category
- Requirement-to-evidence and gap-assessment worksheet
- Approved method or teaching-data pack and a dated record sheet

Procedure

1. Define the preparation or dataset, study question and method version. Record identities, units and the criteria to be used before examining the outcome.
2. Define product category, intended use, jurisdiction, application type and the date of the regulatory check. Keep this as an offline training exercise with no filing, fees or real applicant information.
3. Define a scientifically justified question and one measurable primary endpoint, with a feasible and ethical comparator.
4. Specify design, eligibility, allocation, blinding and study schedule, including withdrawals and safety escalation.
5. Write a justified sample-size and analysis plan with missing-data handling, monitoring, data integrity and consent arrangements.
6. Map the protocol to the assigned jurisdiction and assemble the supporting dossier and review checklist.
7. Perform an independent consistency and completeness check. Record evidence, gaps, owners and the exact approval or permission still required.
8. Retain the original observations and calculations. State deviations, missing information and the limits of the conclusion; do not replace measured values with expected results.

Observations and Record

Enter actual measurements or the supplied teaching data. Record the method, material identity, conditions and units.

Requirement / dossier element	Document / evidence	Gap / responsible role	Readiness decision
Administrative scope	Identify	Assess	Record
Scientific / quality evidence	Map	Assess	Record
Submission / lifecycle	Validate	Assess	Record

Worked Example

Illustrative parallel-group question compares mean change in a defined validated endpoint. A proposed 100 participants per arm is a planning placeholder until supported by effect, variability, type-I error, power and attrition assumptions.

Required protocol sections

• Scientific rationale, objectives, population and primary/secondary endpoints.
• Design, comparator, allocation, blinding, eligibility, study visits and procedures.
• Intervention accountability and product quality; safety monitoring, stopping rules and reporting responsibilities.
• Sample-size justification, analysis population, estimand or question, missing-data and multiplicity handling as appropriate.
• Consent, privacy, participant care, compensation/insurance as required, ethics oversight and dissemination.

Assigned study design

• General protocol assignment: choose one justified design and identify local regulatory and ethics requirements before the study could begin.

Result and Interpretation

• Deliver a protocol synopsis, schedule of assessments, safety plan and requirement-to-document map.
• A complete training checklist is not an authorisation, licence or guarantee of acceptance.

Precautions

• Distinguish scientific content requirements from electronic-publishing rules.
• Recheck current forms, amendments, scope and local requirements at actual filing.
• Do not invent approval numbers, signatures, fees or deadlines.

Viva Questions and Answers

Why define the application type first?

It determines the legal route and required evidence.

Does a valid file format prove scientific adequacy?

Technical validation and substantive review are separate.

Why retain requirement versions?

Regulations and submission specifications can change.

Informed Consent Form Preparation

Practical 24 - Regulatory documentation practical

Aim

To prepare a clear participant information sheet and informed-consent record for a fictional study.

Principle

Informed consent is an understandable, voluntary process rather than only a signature. Ethics-approved information, capacity, language, questions and ongoing willingness are essential.

Materials and Requirements

- Fictional product or study case and controlled document templates
- Current official requirements for the specified jurisdiction and product category
- Requirement-to-evidence and gap-assessment worksheet
- Approved method or teaching-data pack and a dated record sheet

Procedure

1. Define the preparation or dataset, study question and method version. Record identities, units and the criteria to be used before examining the outcome.
2. Define product category, intended use, jurisdiction, application type and the date of the regulatory check. Keep this as an offline training exercise with no filing, fees or real applicant information.
3. Write study purpose, procedures, duration, foreseeable risks, potential benefits and alternatives in accessible language.
4. Explain voluntary participation, withdrawal without improper penalty, privacy and data use, care for injury and applicable compensation/insurance arrangements.
5. Provide study and independent ethics contacts and a process for questions, translation, witness or representative involvement when required.
6. Prepare version/date, participant and authorised consent-taker fields and a copy-for-participant record; use no real signatures in the exercise.
7. Perform an independent consistency and completeness check. Record evidence, gaps, owners and the exact approval or permission still required.
8. Retain the original observations and calculations. State deviations, missing information and the limits of the conclusion; do not replace measured values with expected results.

Observations and Record

Enter actual measurements or the supplied teaching data. Record the method, material identity, conditions and units.

Requirement / dossier element	Document / evidence	Gap / responsible role	Readiness decision
Administrative scope	Identify	Assess	Record
Scientific / quality evidence	Map	Assess	Record
Submission / lifecycle	Validate	Assess	Record

Worked Example

Fictional reader believes joining is required to keep routine care. Revise the explanation and check understanding before documenting consent; a signed form alone would not resolve the misunderstanding.

Result and Interpretation

- Deliver the information sheet, consent template and a process checklist for ethics review.
- A complete training checklist is not an authorisation, licence or guarantee of acceptance.

Precautions

- Distinguish scientific content requirements from electronic-publishing rules.
- Recheck current forms, amendments, scope and local requirements at actual filing.
- Do not invent approval numbers, signatures, fees or deadlines.

Viva Questions and Answers

Why define the application type first?

It determines the legal route and required evidence.

Does a valid file format prove scientific adequacy?

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Regulations and submission specifications can change.

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