

3.1 The patient case history: structure

Patient data analysis begins with the patient's case history, the organised record of who the patient is, why the patient has come to care, and what has happened before and during the present illness. Its structure is standard across clinical practice, and the clinical pharmacist must be able to read it fluently and find quickly the parts on which drug therapy decisions turn. The history opens with identification and demographic data: name, age, sex, weight and, where recorded, height, which together already condition drug selection and dosing assessment. The chief complaints follow, the symptoms that brought the patient to care, in the patient's own terms. The history of the present illness expands those complaints into a narrative: onset, course, character and severity of each symptom, aggravating and relieving factors, associated symptoms, and the treatment already received for this episode and its effect. The past medical and surgical history records previous diseases, operations, hospitalisations and injuries, with dates, because yesterday's disease is frequently today's contraindication, interaction or dosing limit. The medication history, the pharmacist's own contribution described in Section 2.1, sits within the case history and is read with it. The allergy history records agents that have caused reactions, with the reaction described. The family history records diseases of close relatives where they bear on the patient's risks. The social and personal history covers occupation, habits of direct pharmacological importance such as tobacco and alcohol use, diet where relevant, and the home circumstances into which discharge therapy must fit. The review of systems, a systematic enquiry across the body's systems, catches symptoms the narrative missed. The record then continues into physical examination findings, the provisional and working diagnoses, the investigation results of Sections 3.7 to 3.9 and Unit 4, the treatment chart, and the daily progress notes in which response to therapy is written.

Structure of the patient case history

THE ACCOUNT	THE CONTEXT	THE WORKING RECORD
Identification and demographic data Chief complaints History of the present illness Review of systems	Past medical and surgical history Medication history Allergy history Family history Social history	Physical examination Working diagnosis Investigations: Units 3 and 4 Treatment chart Daily progress notes

The pharmacist reads the whole record, and judges no prescription without its context

© 2026 PharmacoLearn, pharmacolearn.fyi

Figure: The structure of the case history. The pharmacist reads the whole record, and finds the drug therapy decisions in the medication, allergy, investigation and progress sections.

3.2 Significance of the case history in drug therapy management

The syllabus joins the structure of the case history to its significance in drug therapy management, best taught as the list of judgements that cannot be made without it. The diagnosis and its severity decide

whether each medicine on the chart has an indication at all, the first question of drug therapy review. The past medical history decides safety: a medicine safe in isolation may be contraindicated by earlier disease, may aggravate a coexisting condition, or may duplicate therapy the patient already receives for it. Organ function history, with its laboratory confirmation in Sections 3.8 and 3.9, conditions every dose assessment, since the medicines most likely to accumulate are prescribed to the patients least able to clear them. The allergy and reaction history is the standing defence against repeating a harmful exposure, and its quality, drug named, reaction described, date and severity noted, decides how much protection it gives. The medication history reveals the therapy already failing or succeeding before admission, the adherence pattern that explains an apparently drug resistant condition, and the over the counter and traditional products that interact invisibly unless the history captured them. The social history decides whether the planned regimen is deliverable at all: a schedule the patient cannot follow, a dose form the patient cannot handle, or a cost the patient cannot sustain will fail however correct it is pharmacologically.

3.3 Common medical abbreviations and terminologies

Clinical records are written in a compressed professional language of abbreviations and terminologies, and fluency in it is a safety skill and not a scholarly ornament, because a misread abbreviation becomes a medication error with no further help from anyone. The families the student must command are these. Frequency and timing terms for medicine administration, the Latin derived set in universal ward use, including once daily, twice daily, three times daily and at bedtime forms, and timing instructions in relation to meals and other medicines. Route abbreviations for the oral, intravenous, intramuscular, subcutaneous and other routes. Dose form and unit abbreviations for tablets, capsules, injections and the standard weights and volumes. Clinical observation and investigation shorthand, for blood pressure, pulse, temperature, respiratory rate, blood glucose and the common laboratory panels of this unit and Unit 4. And general ward terminology for states and events of care, admission, discharge, nil by mouth, as required, and the standard terms for diagnoses and procedures. Terminology proper, the precise naming of conditions, symptoms and findings, matters beside the abbreviations: the pharmacist who knows the standard terms, dyspnoea, oedema, pyrexia, oliguria and the rest of the working vocabulary, reads the progress notes as they were meant and counsels in accurate plain language. Ambiguous abbreviations, those with two current meanings or those on the error prone lists medication safety teaching maintains, are clarified with the writer and never resolved by guessing, and in the pharmacist's own writing the full term is preferred wherever an abbreviation could be misread.

3.4 Communication skills: verbal communication

Communication is the medium in which every service of Units 1 and 2 reaches the patient and the team, and the syllabus therefore teaches it as a clinical skill with a structure. Verbal communication is communication in words, spoken and written, and its quality is judged by four tests: accuracy, the message states the facts correctly; clarity, it is understood as intended, in the language and at the level the receiver commands; completeness, nothing the decision depends on is left out; and confirmation, the sender checks that the message received is the message sent. The spoken skills follow from those tests. Questioning technique is the foundation: open questions that invite the patient's account, closed questions that settle specific facts, and probing questions that follow an answer into needed detail, used in the order the medication history interview models. Listening is a skill and not a pause: the pharmacist attends to the whole answer, does not interrupt prematurely, notes the exact words used for symptoms and reactions, and summarises back what was heard, correcting misunderstanding while it is still cheap. Explanation is adapted to the listener: plain language for patients, with technical terms translated and checked, and precise professional language for the team, with problem, evidence and proposal stated in the manner of Section 1.12. Written communication, the record entries, endorsements and drug information responses of

this subject, obeys the same four tests with the added duty of permanence, since the written word is read later, by others, without its author present. Barriers should be named in the answer: language difference, jargon, the patient's anxiety, pain or confusion, hearing or speech difficulty, time pressure, and assumptions about what the other side already knows; each barrier has its counter, interpreters and family involvement with consent, teach back checking, written support, and the deliberate slowing of important conversations.

3.5 Non verbal communication and applications in patient care services

Non verbal communication is everything communicated without words, and in patient care it is read by patients continuously and believed preferentially when it conflicts with what is said. Its channels are standard: facial expression, eye contact and gaze, posture and orientation, gesture, proximity and touch, appearance, and the paralinguistic features of speech itself, tone, pace, volume and silence, which carry the emotional meaning of the words. The pharmacist's discipline follows from the uses patients put it to. Congruence comes first: a pharmacist who says a matter is important while visibly hurrying teaches the hurry, so attention is given fully for the time the interaction lasts, at the patient's physical level where possible, seated for a counselling conversation rather than standing over a bed. Observation is the second use, with direct clinical yield: the patient's non verbal behaviour is data, the wince that locates pain the patient minimises in words, the hesitation that marks the unasked question, the medicines left untouched, the nod that signals politeness rather than understanding, which is why Section 2.5 verifies comprehension by teach back and not by expression. Sensitivity to cultural and personal variation is the third discipline: eye contact, proximity and touch carry different meanings for different patients, and the pharmacist adjusts to the individual rather than applying one manner to all. The applications summarise the unit so far: in the history interview, non verbal attention earns the disclosures about adherence and traditional products that questions alone do not; in counselling, demonstration communicates what description cannot; on the ward round, presence, preparation and brevity communicate professional standing; and in recognising distress or deterioration at the bedside, observation is one more safety net under the patient.

3.6 Laboratory data interpretation: general principles

The second half of Unit 3 and the whole of Unit 4 teach laboratory data interpretation, and this section states the principles by which every panel in both units is read. A laboratory result is a measurement, not a verdict, and it is interpreted in a fixed order. First, against the reference interval the laboratory itself reports, intervals varying with method, population, age and sex, which is why these notes describe direction and significance of change rather than printing universal numbers. Second, as a pattern and a trend: panels are interpreted together, since single values mislead, and today's value is read against yesterday's, because direction and rate of change often matter more than position. Third, against the patient: symptoms, examination, diagnosis and the whole clinical picture of Section 3.1, laboratory medicine aiding clinical diagnosis in the syllabus's own phrase, and never replacing it. Fourth, and most distinctively for this subject, against the drug therapy: medicines cause laboratory change as intended effect and as adverse effect, they interfere with assays, and a laboratory abnormality in a treated patient is a drug related problem until the timing and the known effects of the medicines have been considered, which connects this unit to the vigilance work of Unit 2. Fifth, pre analytical cautions are held in mind: the wrong sample, wrong timing in relation to a dose or a meal, haemolysis and delay can manufacture abnormalities no patient has. The pharmacist's role is interpretive and advisory: to flag results that change the safety or efficacy of current therapy, to propose the monitoring a therapy requires, to detect drug induced changes early, and to put the laboratory picture before the prescriber in usable form.

Panel	Principal question it answers
Haematological tests	Is the blood count and character normal, and is marrow or bleeding affected?

Panel	Principal question it answers
Renal function tests	How well do the kidneys filter, and is drug clearance safe?
Liver function tests	Is there liver injury, cholestasis, or loss of liver function?
Cardiac tests	Is there heart muscle injury, heart failure, or cardiac risk?
Pulmonary, thyroid and fluid panels	How is ventilation, thyroid axis control, and water and ion balance?
Culture and sensitivity	Which organism is present, and which antimicrobials remain effective?

3.7 Haematological tests

Haematological tests examine the blood and its cellular components, and the panel is built around the complete blood count and its companions. Haemoglobin and the red cell measures, including red cell count, haematocrit and the red cell indices, describe the red cell mass and its character: a reduced haemoglobin defines anaemia, and the indices direct interpretation toward its family, small pale cells suggesting iron deficiency, large cells suggesting vitamin B12 or folate deficiency, with history and further tests separating the causes; a raised red cell mass raises the opposite questions of concentration and of true increase. The total and differential white cell counts describe the leucocytes: a raised total count with a shift toward neutrophils is the classic pattern of acute bacterial infection and inflammation, a raised lymphocyte pattern points differently, eosinophil increase raises allergy, parasitic disease and drug reaction among its causes, and a low white count raises marrow suppression, in which drug causes stand high on the pharmacist's list. The platelet count governs bleeding risk in one direction and thrombotic questions in the other, and a falling platelet count in a treated patient is a recognised drug effect pattern the reviewer must catch. The erythrocyte sedimentation rate and related inflammatory markers are non specific measures of inflammation, useful for trend and corroboration rather than for naming a disease. The coagulation tests, prothrombin time and its standardised international normalised ratio, and the activated partial thromboplastin time, describe the clotting system and are the monitoring instruments of anticoagulant therapy, read for efficacy direction and bleeding risk. Peripheral blood smear examination adds morphology, the shapes and inclusions counts cannot give.

3.8 Renal function tests

Renal function tests assess the kidney's work of filtration, excretion and regulation, and they hold a special place in this subject because renal function is the single most common patient variable that changes drug therapy. Serum creatinine is the routine filtration marker: produced by muscle at a fairly steady rate and cleared by filtration, a rising value signals falling filtration, with the cautions that it reflects muscle mass as well as kidney function, that it lags behind acute change, and that in older and smaller patients a modest value may conceal considerably reduced function, which is why estimated glomerular filtration rate and estimated creatinine clearance are calculated from it with age, sex and weight for drug dosing purposes. Blood urea rises with falling filtration but also with dehydration, high protein load and gastrointestinal bleeding, so it is read with creatinine and the clinical state. Urinalysis contributes what blood tests cannot: concentrating ability, protein and blood, casts and cells that localise disease within the kidney and urinary tract. Electrolyte measurement belongs partly here and is completed in Section 4.4. Measured clearances quantify filtration where estimation is unreliable, and imaging describes structure where function tests describe performance. The course patterns should be distinguished: acute kidney injury declares itself by rising creatinine and falling urine output over hours to days, commonly precipitated by illness, dehydration and nephrotoxic medicines acting together, in which review of every nephrotoxic and renally cleared medicine is an immediate intervention; chronic kidney disease is the slow, staged decline of filtration, in which the pharmacist's standing work is dose appropriateness and avoidance of accumulating medicines.

3.9 Liver function tests

Liver function tests are, in strictness, a panel of liver related measurements rather than tests of function alone, and the student interprets them by families, since the pattern across families localises the problem. The transaminases, alanine aminotransferase and aspartate aminotransferase, are enzymes released when hepatocytes are injured, so their elevation marks hepatocellular injury, the pattern of hepatitis, ischaemic injury and drug induced liver injury; in a treated patient a new transaminase rise is a drug causality question of the Unit 2 kind before it is anything else. Alkaline phosphatase and gamma glutamyl transferase belong to the cholestatic family: their elevation, especially together, points to impaired bile flow and biliary disease, with gamma glutamyl transferase helping to confirm that an alkaline phosphatase rise is hepatic rather than bony in origin. Bilirubin, reported total and in its fractions, measures the liver's handling of bile pigment: its rise produces jaundice and its pattern, unconjugated against conjugated, separates overproduction and uptake defects from hepatocellular and obstructive causes, read always with the enzyme families. Albumin and the prothrombin time are the true function tests: albumin is synthesised by the liver and falls in chronic liver disease, though also in malnutrition and protein loss, and the prothrombin time prolongs when synthesis of clotting factors fails, together measuring how much working liver remains, which is the information prognosis and drug dosing in liver disease both depend on. The pharmacist's reading discipline mirrors the renal one: liver tests condition the safety of hepatically metabolised and potentially hepatotoxic medicines, and drug induced liver injury is detected by holding the panel against the medication timeline, since its patterns imitate every natural liver disease and only the timeline and the response to withdrawal separate them.

*More free M.Pharm notes and unit wise PDFs at pharmacolearn.fyi
Free video lectures on the PharmacoLearn YouTube channel*