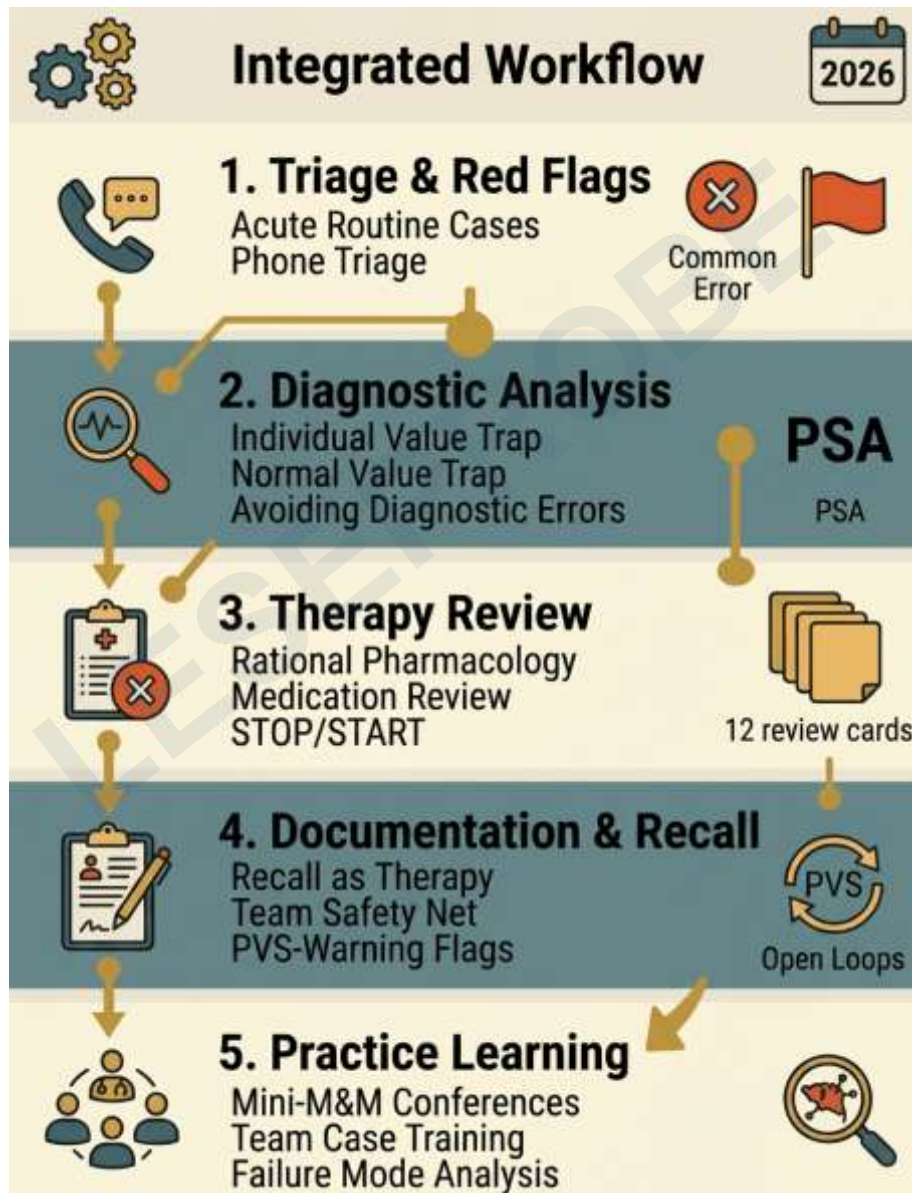


ClinicalOS – The clinical operating system for general practice

Volume 11

Case Training and Error Prevention in general practice



*Focus: Case-based analysis, diagnostic
& therapeutic errors, team learning*

“It’s not about knowing more, but making more confident decisions.”

Guiding principle of Manual 11 · ClinicalOS Manual series for general practice

About this sample

Volume 11 - Case Training and Error Prevention

This curated sample contains 27 pages from a 181-page volume. Target: approximately 15%, including the notice and end page. It includes the extracts listed below. Original page numbers are retained; gaps are intentional. This overview and the PDF bookmarks cover the included sections. Printed cross-references may refer to the complete volume.

- Introduction
- A1 - Why errors in general practice arise differently
- B2 - Hyperglycaemia is not always type 2
- E1 - Follow-up is treatment
- H1 - Case-based training in teams

The original notices on use and responsibility also apply to this sample.

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Dr Götz Huber, MD

The Clinical Operating System for General Practice

Volume 11: Case Training and Error Prevention in general practice

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Note on Translation, Content, Use and Liability

This English edition is a translation of the original work written in German. The concept, structure, and core medical content of ClinicalOS were originally developed for German general practice and the German healthcare system, to provide practising GPs, trainee GPs, healthcare assistants (HCAs) and medical students with a structured, practice-oriented learning and reference resource. The content is based on current medical literature, guideline-based sources and practical experience in general practice.

During the linguistic adaptation, references to guidelines, clinical practices and regulatory frameworks in other English-speaking settings were taken into account and highlighted where relevant and feasible; in some areas, differences from German recommendations are also presented explicitly. However, the translation does not constitute a systematic adaptation of every medical, therapeutic or regulatory aspect to all English-speaking countries. Professional guidelines, marketing authorisations, approved dosages, prescribing procedures, reimbursement rules and regulatory requirements may vary between countries;

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The contents of this manual do not replace an individual medical assessment and should not be construed as binding treatment recommendations. Diagnostic and therapeutic decisions must always be made on a case-by-case basis for each individual patient, taking into account the full clinical picture and the currently valid guidelines. **Doctors bear full and ultimate medical responsibility:** any use of content from this manual — whether as a text module, SOP or treatment recommendation — requires independent professional review by the treating doctor. **AI-supported or digitally generated content cannot and must not replace medical judgement.**

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LESEPROBE

Part A – Fundamentals of error prevention in GP practice

A1 · Why errors arise differently in general practice

A2 · The Manual 11 case structure

A3 · The six most common modes of failure for GP's

Introduction: Concept, Complementarity and Rationale for Use

Not about knowing more, but about making more confident decisions.

Key thesis of Manual 11 – GP quality under the pressures of everyday life

1. What Manual 11 is about – and what it is not about

The quality of GP practice cannot be defined solely by knowledge of guidelines. It is demonstrated by whether a GP, under the typical pressures of a busy surgery – with time constraints, gaps in information, routine habits and conflicting patient wishes – can nevertheless recognise dangerous scenarios, ask the right questions and put the necessary safety net in place.

Manual 11 is therefore not just another GP-related manual. It is a training manual for decision-making quality among GP's. It does not show what one ought to know, but rather where that knowledge systematically fails under everyday conditions.

The basic premise is this: errors in general practice rarely arise from a lack of knowledge. They arise from cognitive traps, systemic mechanisms and gaps in processes that recur with reliable regularity – and which can therefore also be identified and interrupted with reliable regularity.

Guiding principle of Manual 11

Manual 11 never starts with knowledge – but with the error.

Not: 'What should one know about heart failure?'

But: "At what point in the care process does the typical error occur in a patient with heart failure – and how can it be prevented?"

The difference is not a didactic one – it is a clinical one.

2. Manual 11 in the ClinicalOS Manual Series – Complementarity and Distinction

The ClinicalOS Manual Series is designed as a coordinated system. The first ten manuals systematically build up the knowledge base, Decision-Making Architecture, diagnostic logic, treatment pathways, team organisation and patient communication. Manual 11 brings the series full circle: it is the stress test manual for the entire system.

Manual	Title	Function	Relationship to Manual 11
Manual 1	Decision-Making Architecture	How can GP decisions be structured in abstract terms?	Manual 11 applies this architecture to real-world error patterns
Manual 2	Rational Diagnosis	How do you make diagnoses systematically and in an evidence-based manner?	Manual 11 shows where diagnostic logic breaks down under the pressures of everyday practice
Manual 4	Patient Management	Treatment algorithms for common conditions	Manual 11 highlights where treatment decisions lead to medication errors
Manual 7	Team processes	How does a GP practice function as an organisation?	Manual 11 highlights where team processes can lead to safety gaps
Manual 8	Patient Communication	How do you communicate in everyday situations?	Manual 11 highlights where communication errors have clinical consequences
Manual 10	Organ-specific knowledge/knowledge base	What medical knowledge is essential?	Manual 11 provides the direct answer: where does this knowledge fall short?
Manual 11	Case Training and Error Prevention	Where and why does the overall system fail?	A synthesis and stress test of all previous manuals

Manual 11 can be used in isolation – and is designed so that each chapter stands on its own. However, it achieves its full effect when used in conjunction with the rest of the manual series: anyone familiar with the diagnostic logic from Manual 2 will gain a deeper understanding of why the chapter on the ‘normal value trap’ (C2) is so often relevant. Anyone who has read Manual 7 will see concrete gaps in team processes in the HCA chapters (Part F) rather than abstract rules.

3. What Manual 11 achieves – and what it is not

Manual 11 IS ...
... a structured error training manual for GPs and trainee doctors
... a collection of realistic case scenarios, organised by error mechanism – not by organ
... a tool for developing clinical pattern recognition under the pressures of everyday practice
... a team-learning tool: mini M&Ms, healthcare assistant notes, PMS modules and practice rules
... a safety net handbook: specific warning signs, timeframes, escalation thresholds
... an AI-supported error detection system (Phase 3): structured risk analysis for each case

Manual 11 is NOT ...
... a substitute for guideline-based specialist literature (that is Manual 10)
... a comprehensive list of differential diagnoses (that is Manual 2)
... a pharmacology handbook (that is Manual 4)
... a reference work organised by organ system (deliberately so: errors do not occur in terms of organs)
... an academic review article – but rather a practical training format

4. The philosophy of error in Manual 11

Manual 11 is based on a key empirical observation from research into GP-related general practice and patient safety: most serious errors in general practice are predictable.

They do not arise by chance, nor through ignorance, nor through negligence. They arise from six systematically recurring error mechanisms that are found in all aspects of GP practice:

Failure Mode Type	Description	Typical situation
Type 1	Routine trap	Issues are often resolved too quickly – exceptions are not actively sought out
Type 2	Single-value trap	A single laboratory result or finding obscures the overall picture of the patient
Type 3	Normal value trap	Normal readings are reassuring despite a dangerous clinical picture – the measured value takes precedence over the symptom
Type 4	The pitfall of residual diagnosis	Functional / psychological / trivial causes are attributed too early without a full assessment
Type 5	Prescription-over-process trap	Prescription replaces follow-up – open loop remains open
Type 6	Open-loop trap	Findings, checks or referrals are not closed

These six failure mode types form the conceptual core of Manual 11. Anyone who knows their own preferred failure mode can interrupt it – before any damage occurs. That is the training and learning objective of the Manual.

5. Manual 11 as an AI-supported error detection system

Beyond its role as a book, Manual 11 is designed as a real-time clinical decision-making model. The underlying error detection system – the ‘Clinical Decision Risk Engine’ – structures every patient case into five automated verification steps:

Step	Check content	Result
1 – Red-flag scan	Immediate assessment: chest pain, dyspnoea, neurological deficits, syncope, sepsis, suicidal ideation	● Emergency pathway / continue
2 – Systemic Risk Scan	Polypharmacy, discharge, 116117 referral, anticoagulation, age >75 + multimorbidity	Risk: high / medium / low
3 – Error cluster assignment	Matching with Manual 11 error structure: Which error mechanism is most likely?	Error cluster number
4 – Error mode identification	Omission / Over-diagnosis / System delay / Medication error / Documentation error	Error mode identified
5 – Countermeasure Engine	Immediate action, stop rule, HCA instruction, PMS documentation record	Specific course of action

The system generates a standardised output for each case:

Output format: Clinical Decision Risk Engine (example)
RISK: ● Medium
ERROR CLUSTER: 8 (fall) + 21 (diuretics/dehydration)
ERROR MODE: Medication error + undertriage
COUNTERMEASURE: Check for orthostatic dysregulation + immediate medication review
HCA TRIGGER: ECG + blood pressure (supine/standing) + fall screening
SAFETY POINT: Do not assume it is merely a mechanical fall – always consider medication
Case: 72-year-old patient, dizziness, fell yesterday, on diuretics + beta-blockers

This error detection system forms the conceptual basis on which Manual 11 is built. It is not a substitute for medicine – it identifies where medicine typically fails.

6. Target groups and user profiles

Target group	Primary use	Recommended entry point
Trainees / junior GPs	Systematic working through: learning case structure, internalising error patterns	Part A (Fundamentals), then organised by topic based on current cases
Experienced female GPs	Quick reference: targeted look-up for specific case types or clusters of errors	Go directly to the relevant chapter via the subject index or error mechanism
Medical students on their clinical placement in general practice	Basic structure of GP-related decision-making logic – with case examples	Part A + Part B, then all red-flag chapters
Healthcare assistants (HCA) and practice team	Healthcare assistant note, team rules, patient record modules, stop signals on the telephone	Part F (team processes) + healthcare assistant (HCA) boxes in every chapter
Quality circles / continuing professional development groups	Mini M&M cases as a basis for discussion, team reflection	Part H (Practical Learning), mini M&M boxes in each chapter

7. Structure and logic of use

Manual 11 is organised according to error mechanisms – not according to organ systems. This decision is deliberate: errors do not occur in terms of organs. A documentation error concerning a chronic condition affects diabetologists and cardiologists alike. An incorrect decision during telephone triage is a practice process error, regardless of the patient's symptoms.

Chapter structure – each chapter follows the same 12-point outline
1. Opening scene – a real-life, everyday case, illustrating the moment when the error occurs
2. Failure mechanics – why does this error occur systematically?
3. Typical incorrect decisions – table: What / Why it is plausible / Actual risk
4. Decision rule – concise core rule with decision tree
5. Case studies – three key scenarios: routine case / borderline case / dangerous exceptional case
6. PMS short module – a documentation template suitable for copy-and-paste
7. Healthcare assistant (HCA)/team guidelines – action-oriented rules for registration and telephone calls
8. Safety net – specific warning signs with timeframes and contact procedures
9. Mini M&M – chain of errors with a breakpoint and team question
10. Practical rules – 2–4 easy-to-remember mnemonic phrases
11. Appendix reference – reference to long modules, cards, digital tools
12. References – Vancouver style, verifiable sources only

This framework is not bureaucracy – it is safety architecture. Each of the twelve items addresses a specific learning function: the introductory scene triggers recognition, the failure mechanics explain the underlying system, and the PMS module makes what has been learnt immediately applicable.

8. How to make the most effective use of this manual

Recommendations for use
When studying on your own: Read the introductory scene – and stop. What would your first reaction have been?
Only then: read the failure mechanics and decision rule. Compare with your own instinctive reaction.
In the quality circle: Use mini M&M cases as discussion topics. Read the team question aloud and discuss it.
In day-to-day practice: Copy PMS modules directly into your own PMS – ready-made documentation templates.
For the healthcare assistant team: Laminate the healthcare assistant information boxes and display them by the telephone or at the reception desk.
As a quick reference: The practice rules at the end of each chapter (2–4 sentences) summarise the key points.
Digitally: Use the error detection engine (Chapter H3) as an AI assistant for real-time case analysis.

9. A final remark on dealing with uncertainty

GP's are structurally linked to uncertainty. This is not a weakness – it is the inherent logic of primary care. In no other medical specialism does a GP make more decisions with less prior information, less time and, at the same time, higher patient expectations.

Manual 11 does not aim to eliminate uncertainty. It aims to organise uncertainty: to make it recognisable when it becomes dangerous, how it should be communicated, and what safety net is necessary when a decision is made under conditions of uncertainty.

In general practice, uncertainty is normal – it becomes dangerous when it is not managed.

This is the first sentence of Chapter A1. It is also the principle that underpins this manual as a whole.

References and conceptual foundations

 References (Vancouver style)
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A1 – Why errors in general practice arise differently

Core principle: *Uncertainty is normal in general practice – it becomes dangerous when it is not managed.*

1. Opening scene

It is Thursday afternoon, 4.30 pm. The practice has already seen 38 patients. The next patient, a 52-year-old regular, complains of “that back pain again”. The doctor has known him for years, is aware of his chronic lower back pain, and has already carried out imaging tests twice. The diagnosis is obvious. He writes a prescription and recommends heat and exercise. Three days later, the A&E department calls: acute aortic syndrome.

The mistake was not a lack of knowledge about aortic dissection. The mistake was that familiarity had suppressed the ‘stop’ question.

2. Failure mechanics

GP-related errors differ fundamentally from those in hospitals: they almost never arise from a lack of specialist knowledge, but rather from the structural conditions of general practice, which systematically encourage certain errors in reasoning.

Why errors in general practice arise differently:

Influencing factor	Error mechanism
High caseload / time pressure	Pattern matching rather than thorough investigation
Low prevalence of serious conditions	Rare conditions are systematically underestimated
Multiple concerns per consultation	The first concern sets the framework for all subsequent ones
Long-term care / familiarity	Previous diagnoses become a blind spot
Fragmentation / interfaces	Findings from the GP’s surgery, the laboratory and the hospital get lost
Openness regarding the course of the condition	Patients describe symptoms imprecisely – those who ask questions find out more
Patients’ wishes & pressure to comply	Prescriptions sometimes replace follow-up care
PMS reality	Open loops are invisible in the system if no one sets them

Relevance to Manual 11: This chapter does not focus on what rare diagnoses are – but rather on why the GP-related context systematically makes it difficult to recognise dangerous exceptions. Those who understand the mechanism can implement targeted countermeasures.

3. Typical Errors in Decision-Making

Wrong decision	Why it seems plausible	Actual risk
Regular patient with back pain → immediate prescription	Known diagnosis, time is short, patient expects a prescription	Aortic syndrome, vertebral metastasis, fracture overlooked
"The lab results were normal last week" → no further checks	Normal lab results are reassuring; documentation is in place	Acute deterioration (AKI, sepsis) goes unrecognised
"Psychological distress" cited as the explanation for physical symptoms	Known mental health condition, plausible causality	Organic causes (anaemia, hypothyroidism, malignancy) are overlooked
Finding 'noted' in the patient record, not followed up	A quick glance between two patients, a sense of having ticked it off	Lack of escalation or follow-up; loop remains open

4. Decision rule

The three-second pause question

Before the patient leaves the room, pause for three seconds and ask:

✓ Core rule – The three-second stop question
1. Does today's complaint fit with what I know about this patient? 2. Is there any finding, question or piece of information that I haven't taken into account? 3. What is my safety net in case I am wrong? <i>"In general practice, uncertainty is normal – it only becomes dangerous if it is not managed."</i>

5. Case-based training – Three key cases

Case 1: Routine case – back pain in a regular patient

Initial situation: 47-year-old female patient, known to have chronic lower back pain, experiencing increased pain today following gardening. No radiating pain, no numbness, no trauma. Typical pain on movement.

Classification: Routine case – pain on movement in a patient with a known condition.

Immediate assessment: New symptoms? Red flags? (Night sweats, unintentional weight loss, incontinence, fever) → All negated.

Today's management: Analgesia, advice on movement; if no improvement within 2 weeks, follow-up appointment.

Failure mode avoided: ✓ 'Stop' question asked → Red flags actively ruled out.

Case 2: Borderline case – back pain + night-time pain

Initial presentation: 58-year-old patient, known history of low back pain, more severe than usual today; mentions in passing that he is no longer able to sleep at night due to the pain. No trauma; thoracic spine more affected than lumbar spine.

Classification: Borderline case – night-time pain is an alarm symptom, which tips the balance in the classification.

Immediate assessment: Unintentional weight loss? History of tumours? ESR/CRP? Prioritise imaging.

Today's management: Urgent MRI of the thoracic and lumbar spine, laboratory tests (ESR, CRP, PSA, complete blood count). No prescription issued today.

Failure mode avoided: ✓ Familiarity did not override the 'stop' question.

Case 3: Dangerous exception – aortic syndrome

Initial situation: 52-year-old patient, long-standing low back pain, today “worse again”. However, the pain began suddenly, was shooting in nature, and radiates into the abdomen. The patient appears pale.

Red flag – aortic syndrome

Sudden onset + tearing nature + radiating to the abdomen/chest → call an ambulance/immediate admission

Do not wait and see, do not administer analgesics, do not continue the consultation – call the ambulance service immediately

Failure mode avoided: ✓ Change in the nature of the pain recognised despite a known diagnosis.

6. PMS short module

PMS module – Chapter A1

Patient presents with [leading symptom]. Red flags actively assessed: [yes/no, findings if applicable]. Known diagnosis [X] taken into account. New symptoms / change in nature of pain: [yes/no]. Decision: [prescription / diagnostic tests / referral / follow-up appointment]. Safety net: Patient informed about warning signs [specify], contact in the event of [deterioration / new symptom]. Follow-up appointment: [date / condition].

7. Note for healthcare assistants/team

Healthcare assistant (HCA) rules – Chapter A1

If a patient with a known diagnosis calls and says it is “just the same as always” → Ask about: onset (sudden?), nature (different from usual?), accompanying symptoms (fever, dizziness?)

If a patient describes newly onset or very severe pain → always refer to a doctor; do not issue a standard prescription

If a regular patient has not improved for >3 weeks → Offer a follow-up appointment straight away

8. Safety net

Warning signs that the patient may notice:

- Sudden increase in pain or a change in the nature of the pain (sharp, burning)
- Pain radiating to the chest, abdomen or legs
- Numbness or weakness in the legs
- Fever > 38.5 °C
- Unexplained weight loss
- Pain severe enough to wake you up at night

Timeframe: Immediate visit to A&E if there is a change in condition. Follow-up appointment in 2 weeks if there is no improvement. Contact the surgery directly if the condition worsens before the appointment.

9. Mini-M&M

! Mini-M&M – The routine trap

1. A patient with a history of back pain comes in – the doctor has known him for 10 years
2. Pain today is “worse than usual” – doctor writes a prescription without asking about the nature of the pain
3. The patient does not mention the sudden onset because he believes the doctor already knows
4. 3 days later: acute aortic syndrome – A&E

Pausing points:

- Stop question: “How did it start this time?” would have identified the change in severity
- The healthcare assistant could have asked about a sudden onset during the telephone consultation

Team question: Do we have a rule in our practice about when to ask for further details, even with known patients?

10. Practice policies

✓ Practice rules – Chapter A1

Rule 1: Familiarity is no safety net – even regular patients need stop questions.

Rule 2: A change in the nature of a familiar symptom is always a warning sign.

Rule 3: What was ‘normal’ yesterday does not rule out ‘dangerous’ today.

Rule 4: Do not issue a prescription without a brief assessment of the context – even during the 38th consultation of the day.

11. Reference to the Appendix

→ Appendix A: Template for ‘stop questions’ card (laminable for the consultation room)

→ Appendix A: Failure-mode table (blank for completion by the team)

12. References

📖 References

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B2 – Hyperglycaemia is not always type 2

When glucose levels, weight loss and ketones are misinterpreted

Key rule: Weight loss, ketones and acute symptoms halt the type 2 pathway.

1. Opening scene

A 28-year-old slim patient presents with fatigue. On enquiry: intense thirst, frequent urination, 5 kg weight loss in a few weeks. Random glucose 220 mg/dl, HbA1c only moderately elevated. The routine response: “Early-stage type 2 diabetes. Lifestyle advice, metformin, follow-up in three months.”

That would be dangerous. In a young, slim patient presenting with polyuria, polydipsia and weight loss, the first considerations must be insulin deficiency, type 1 diabetes, LADA or early-stage ketoacidosis.

2. Failure mechanics

Hyperglycaemia is common. Type 2 diabetes is common. This is precisely what creates the routine trap: the common type 2 pathway is initiated before dangerous non-routine scenarios have been ruled out.

Thought process: Elevated glucose → Type 2 diabetes → Lifestyle/metformin/monitoring → Weight loss, ketones, vomiting not checked → DKA/HHS/insulin deficiency diagnosed too late.

3. Typical misjudgements

Misjudgement	Why it seems plausible	Actual risk
Young, slim patient → Type 2 pathway + metformin	Type 2 is more common than type 1, HbA1c not extremely high	LADA, Type 1, early-stage DKA
SGLT2 inhibitor, vomiting, glucose 165 → ‘gastrointestinal’	Glucose ‘not that high’	Euglycaemic DKA overlooked
Glucose 480, confusion → immediate outpatient insulin	High glucose must be treated promptly	Hyperosmolar hyperglycaemic state (HHS), complication due to incorrect insulin administration
Steroid-induced diabetes → no monitoring	Patient has no history of diabetes	Steroid-induced hyperglycaemia is escalating

4. Decision rule – The ‘insulin deficiency before type 2’ rule

✓ Core rule
If glucose levels are elevated, first check: 1. Is the person acutely ill? (vomiting, abdominal pain, confusion, Kussmaul breathing, dehydration) 2. Are there signs of insulin deficiency? (young/slender, weight loss, rapid onset, ketones) 3. Are there any medication-related pitfalls? (SGLT2 inhibitors, steroids, diuretics) 4. Are there any special patient groups? (pregnancy, frailty, CKD, infection) “Elevated glucose plus weight loss, vomiting, ketones or SGLT2 inhibitors does not constitute routine diabetes.”

5. Case-based training – Three key cases

Case 1: Routine case – suspected type 2 diabetes with full investigation

Initial situation: 56-year-old overweight patient, random glucose level of 198 mg/dl at a routine check-up. No weight loss, no polyuria/polydipsia, no vomiting, no medication-related pitfalls.

Classification: Classic type 2 presentation following exclusion of all red flags.

Current approach: Confirmation via HbA1c, fasting glucose, renal function, fasting lipids. Structured Type 2 pathway with lifestyle advice and follow-up.

Failure mode avoided: ✓ Red flags actively ruled out – only then proceed with routine pathway.

Case 2: Borderline case – SGLT2 inhibitor and vomiting

Initial situation: 58-year-old female patient, type 2 diabetes on empagliflozin. Has had nausea, vomiting and abdominal pain for the past 24 hours. Self-measured glucose 165 mg/dl. Says: “My blood sugar isn’t actually that high.”

Assessment: Euglycaemic DKA scenario. Glucose is not a reassuring parameter.

Red flag – SGLT2 inhibitor + vomiting + abdominal pain

Suspend SGLT2 inhibitor, check for ketones; if abdominal pain/severe weakness/ketones present → hospital

Do not be reassured by a moderate glucose level

Failure mode avoided: ✓ Medication history checked; glucose level not used as a reason to give the all-clear.

Case 3: Dangerous exception – Elderly female patient, glucose 480, confusion

Initial situation: 78-year-old female patient, known to have type 2 diabetes. Confused, dehydrated, glucose 480 mg/dl. Son calls: “Should I give her insulin?”

Red flag – suspected hyperglycaemic hyperosmolar state (HHS)

Confusion + dehydration + glucose >400 → call the ambulance service; do not treat as an outpatient

No insulin from a family member – risk of hypoglycaemia and incorrect dose

HHS mortality approx. 10–15% – do not attempt outpatient treatment

6. PMS short module

PMS Quick Reference Guide

Patient with glucose [X] mg/dl. Red flag assessment: weight loss [], ketones [], vomiting/abdominal pain [], young/slender [], SGLT2 inhibitors [], steroids [], confusion/dehydration [], pregnancy [].
Classification: [Type 2 routine / suspected insulin deficiency / suspected ketoacidosis / suspected hyperglycaemic hyperosmola (HHS)].
Management: [structured outpatient care / referral to diabetes clinic on the same day / admission to hospital today].
Safety net: Warning signs of vomiting, abdominal pain, confusion → immediate referral to A&E.

7. Note for healthcare assistants/team

Note for healthcare assistants/team

If a relative calls: patient with diabetes and confusion/poor general condition → contact a doctor immediately; do not recommend insulin over the phone

If a patient on an SGLT2 inhibitor calls reporting vomiting/nausea → always inform a doctor; do not book a standard gastroenteritis appointment

In the event of newly detected high blood glucose in a young/slender patient → same-day doctor’s appointment, do not request a prescription

8. Safety net

⚠ Safety net – warning signs

Vomiting, abdominal pain, altered consciousness → go to A&E immediately
Glucose > 350 mg/dl despite treatment → see a doctor on the same day
Whilst taking SGLT2 inhibitors: vomiting + abdominal pain → report immediately, stop taking the medication
Rapid or shallow breathing (panting) → go to A&E immediately

9. Mini M&Ms

! Mini M&M

1. 26-year-old female patient, glucose 240, fatigue, weight loss
 2. GP's surgery: "Early-stage type 2 diabetes" – metformin, follow-up in 3 months
 3. 5 days later, A&E: diabetic ketoacidosis
 4. Type 1 diabetes, diagnosed too late
- Pause: Age, slim build and weight loss should have raised the question of insulin deficiency

Team question: Do we have a practice rule for hyperglycaemia in young, slim patients?

10. Clinical guidelines

✓ Clinical guidelines

Rule 1: Elevated glucose does not automatically mean type 2 – always check for red flags.
Rule 2: Weight loss + hyperglycaemia = insulin deficiency until proven otherwise.
Rule 3: DKA can occur whilst on SGLT2 inhibitors even with normal glucose levels.
Rule 4: Confusion + high glucose = hospitalisation, not outpatient insulin therapy.

11. Reference to Appendix

- Appendix B: Glucose Red Flag Chart (Hyperglycaemia Triage)
- Appendix D: SGLT2 Sick-Day Rules – Patient Information

12. References

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Part E – Documentation and Recall

Manual 11 | Part E – Documentation and Recall E1 / E2

Recall is therapy | IGeL and elective diagnostics

Closing open loops – managing diagnostics under medical supervision

E1 – Follow-up is treatment: When a missed follow-up appointment is no accident

1. Opening scene

A patient has a moderately elevated PSA level. The findings are discussed. 'I'll note down the date for a follow-up test.' Three months later: no recall, no entry in the patient record system. The patient does not come in of their own accord. The loop remains open.

Second scenario: Thiamazole treatment for hyperthyroidism. No PMS flag for symptoms of agranulocytosis. The patient develops a fever and a sore throat. Call to the surgery – appointment for an infection assessment in 4 days. Blood count delayed.

Manual-11-Core: E1

A recall is not a voluntary service – a recall is an integral part of treatment.

No recall = open therapeutic loop = safety risk.

Anyone who leaves control to the patient shifts the responsibility – but not the risk.

2. Failure mechanics

Error path: recall gap

Findings / Treatment → 'Patient attends as required' → no PMS entry → no appointment → no recall
→ Patient does not attend → Loop remains open → Findings missed / complication goes unnoticed

3. When is a follow-up mandatory?

Category	Recall Indication	Time limit
Medication with a risk profile	SSRIs, thiamazole, MTX, opioids, benzodiazepines	1–2 weeks / as per regimen
Abnormal findings	PSA, ferritin, glucose, abnormal blood count	Based on relevance to findings
Watch-and-wait approach	Fatigue, unexplained abdominal discomfort, headache	Fixed appointment, not 'as required'
STI / Early test	Window period not yet over	Before first test result
Chronic condition	Diabetes, hypertension, CHD	Guideline-based

4. Decision rule

Recall decision rule

Any situation in which a negative outcome could occur WITHOUT the practice being aware of it requires a recall.

Question: 'If the patient does not attend in 3 months' time – will this be noticed here?'

If not: Set up a recall, book an appointment, create a patient record entry.

5. Case-based training – Three key cases

Case 1: Early STI test – Recall before results

A patient self-tests for HIV following a potential high-risk exposure. The test is too early. Results process: The results are communicated. However, the follow-up test (confirmation window) is not arranged.

PMS short text E1-A

Early STI test [date]. Result delivery method: [channel]. Retest due to diagnostic window arranged for [date].

Message to patient: 'Today's results are reassuring, but not yet definitive. That is why we have scheduled the follow-up appointment straight away.'

Practice rule: For STI early tests, the follow-up test is organised before the first results are available.

Case 2: Starting SSRIs without an early check-up

Patient on SSRIs, follow-up after six weeks. After ten days: akathisia and self-harm impulses. She does not attend – because she believes she must wait six weeks.

Wrong path E1-B

SSRI started → effect after 4–6 weeks → follow-up after 6 weeks → risk window in weeks 1–2 unmonitored

Practice rule: Follow-up appointments should be based on risk, not on when the effect sets in.

Case 3: Thiamazole without warning recall

Dangerous exception

Female patient with hyperthyroidism, starting thiamazole. No PMS flag for symptoms of agranulocytosis.

Sore throat + fever: Appointment for infection assessment in 4 days. Blood count delayed. Risk of agranulocytosis.

Rule: For thiamazole/carbimazole/PTU: warning flag in the patient record system (PMS), written patient information, healthcare assistant (HCA) card.

Fever/sore throat = blood count TODAY – not in 4 days.

6. PMS summary

Thionamide therapy started on [date]. Warning signs explained: fever, sore throat, mouth ulcers.

PMS flag set. In case of fever/sore throat: consultation on the same day + differential blood count.

7. Cross-referenced examples: recall loops

Situation	Open loop	Recall rule
Moderately abnormal PSA	Follow-up 'at some point'	Date + findings plan + communication channel
Fatigue, laboratory results normal	Wait and see without an appointment	Appointment + symptom diary + red flag network
First episode of hyperglycaemia	Dietary advice without follow-up HbA1c	HbA1c check-up date + diabetes screening
Tumour marker test declined	Fear of cancer persists	Alternative plan + warning signs + follow-up appointment

8. healthcare assistant note

HCA recall standard

For every medication with a risk profile, the healthcare assistant (HCA) checks: Has a follow-up appointment been booked?

For laboratory results, a healthcare assistant (HCA) checks: Has the patient been informed? Are there any follow-up actions required?

Healthcare assistant (HCA) card: Recall list for high-risk medicines (SSRIs, thiamazole, MTX, opioids)

9. Practice Rules

Practice Rules for Recalls

1. A recall is part of treatment – not an optional service.
2. For any abnormal findings: inform the patient + take appropriate action + schedule a recall.
3. High-risk medicines: warning flag in the patient record system (PMS) + healthcare assistant (HCA) card.
4. Watch-and-wait strategy: always with an appointment, never 'as required'.
5. 'Seen' in the patient record system does not constitute a completed diagnostic pathway.

Part H – Practical learning, mini M&M sessions, Digital Tools & AI

H1 – Case-based training in teams

Learning comes through repetition, not from reading something just once.

1. Opening scene

Thursday morning, 7.50 am, before the first patient. The doctor has decided to briefly discuss a case from the previous week with the team today: a 67-year-old female patient with newly diagnosed atrial fibrillation had waited three days for her lab results – because the follow-up protocol was unclear. In the end, everything turned out fine.

But the doctor knows: it could have turned out differently.

The team meeting begins – and, as always, ends after eight minutes with organisational matters. The case is not discussed. No rule is formulated. No PMS module is updated.

Two weeks later, an almost identical situation arises again.

Manual 11 Core:

The mistake was not that nobody was competent.

The mistake was that nobody had been trained in what to do in this situation.

Training does not come from reading something once – but from structured repetition within the team.

2. Failure mechanics

The quality of GP-related care is often seen as an individual knowledge issue. Manual 11 views it as a team training issue.

Thought process – Why team training fails:

A critical event occurs

-> A meeting is planned but postponed

-> No structured format -> Discussion remains at an organisational level

-> The error is not analysed -> No rule is derived

-> PMS module is not adapted

-> The error is repeated in the next similar situation

The three most common training pitfalls within a team:

- The 'knowledge without practice' trap: The team knows the theory, but lacks routines for day-to-day practice.
- The 'time trap' illusion: Short sessions (3×5 minutes) are perceived as unfeasible, even though they take less time than having to deal with the same error again.
- Blame-avoidance barrier: Team discussions about mistakes are avoided because the right format is lacking – not because the team does not want to learn.

Relevance to Manual 11: This chapter provides training on how to establish a structured, accessible and non-blaming approach to learning from mistakes within a GP team.

3. Typical wrong decisions

Wrong decision	Why it seems plausible	Actual risk
"We've all heard this before."	Knowledge is already present – a discussion seems redundant.	Knowledge without practice does not lead to routine action. In an emergency, the automatic response is missing.
"We don't have time for that."	Team meetings are already packed with organisational matters.	Without a structured, short-form format, the same mistake will be repeated. In the long run, this costs more time.
"The doctor does that / the healthcare assistant (HCA) does that."	Roles appear to be clearly defined.	Process gaps arise precisely in the grey area between roles – and are never identified.
"We'll deal with it if there's a genuine mistake."	The opportunity to learn is deferred to exceptional situations.	Near-misses are more common and more instructive. Without a near-miss culture, a near-miss becomes actual harm.

4. Decision-making rule – The 3×5-minute team rule

Every team meeting intended to respond to a critical moment follows this format:

Phase	Time	Question / Task	Outcome
1. Case presentation	5 mins	What happened? Who was involved? What was the moment when things almost went wrong?	Shared understanding of the initial situation
2. Error analysis	5 mins	Where was the gap? What was the failure mode? What could have been identified earlier?	Identifying the mechanism – without assigning blame
3. Practice rule	5 mins	What are we changing? A new rule, a PMS module, an HCA card or a team agreement?	Concrete outcome: rule formulated and documented

Quick rule:

15 minutes of structured team training prevents what would otherwise cost 15 hours of error follow-up management.

Key framework conditions:

- The format is not optional – it is standard practice. Once a week or once a month, firmly scheduled in the calendar.
- No blame game: the focus is always on the process, never on the individual.
- The outcome is always a rule, a building block or a team agreement – no minutes without follow-up.

5. Case-based training – three key cases

Case 1 – Routine case: Team meeting following a non-critical incident

Initial situation	
Case study	A patient with newly diagnosed hypothyroidism was discharged with a TSH test and a prescription for L-thyroxine. Three weeks later, she asks at reception: 'I'm due for a follow-up, aren't I?' No follow-up appointment has been entered in the patient record system.
Classification	Routine case – a common scenario. No harm done, but an unresolved issue. An ideal training case.
Immediate clarification	Who was assigned the follow-up task? Had a standard follow-up protocol for new thyroid treatments been communicated?
Current procedure	3×5-minute format: Discuss the case -> Identify the gap (no standard procedure for recall following initial thyroid prescription) -> Practice rule: New TSH check after 6–8 weeks = automatic recall request by healthcare assistant (HCA).
Failure mode avoided	Open-loop trap. Had the check not taken place, underdosing would have gone undetected for months.

Case 2 – Borderline case: Case discussion following a near-miss

Initial situation	
Case study	A patient who had recently restarted SSRI treatment and had a known history of bipolar disorder in remission had his next follow-up appointment scheduled for six weeks' time. During the first week, he called to complain of insomnia and increased drive – the healthcare assistant (HCA) noted 'will contact us if symptoms persist' and hung up. A week later, he arrived in a hypomanic state.
Assessment	A borderline case involving a serious near-miss. Had a 'healthcare assistant (HCA) stop' rule been in place, the call would have been recognised as a warning sign.
Immediate clarification	What exactly did the healthcare assistant ask over the phone? Was there a healthcare assistant checklist for early monitoring of SSRIs? Was the bipolar disorder diagnosis visible in the patient's medical record?
Current approach	3×5 format: Discuss the case in detail (no fault of the healthcare assistant (HCA) – she lacked the necessary protocol) -> Identify the mechanism (missing telephone protocol for early SSRI monitoring) -> New PMS module:

Initial situation	
	'SSRI initiation: HCA checklist with stop questions for the first telephone contact after 7–10 days'.
Failure mode avoided	The 'prescription-over-process' trap. Starting SSRIs is not the end – it is the start of a risk window.

Case 3 – Dangerous exceptional case: systemic team failure

Initial situation	
Vignette	Three different doctors at the practice document safety nets in different ways: one uses free text, one uses abbreviations, and one does not document them at all. During a patient handover meeting, it becomes unclear whether a warning signs discussion has taken place.
Classification	Systemic team error. Not an individual failure – lack of practice standards.
Immediate clarification	Does the practice have a mandatory documentation format for safety nets? Is it integrated into the practice management system or left to the discretion of the individual?
Current approach	No immediate action required. Instead: team exercise at the next meeting – each person documents the same case closure. Compare results -> jointly develop a PMS module -> determine who will enter the data.
Failure mode avoided	Open-loop trap + documentation errors. Individual discretion in system tasks leads to inconsistency and handover risks.

6. PMS short module

PMS module – team training record
Team case [date, code]. Scenario discussed: [brief description].
Identified failure mode: [e.g. open loop / missing MFA rule / unclear documentation].
Outcome of the training: [new rule / amended PMS module / healthcare assistant (HCA) card created].
Responsible for implementation: [person / date]. Next review: [date].

Note: This record does not need to be formal – a brief entry in a shared document or directly in the PMS is sufficient. What matters is the outcome, not the record.

7. HCA/Team Note

Healthcare assistant (HCA) and team – guidelines for case-based training
If, following an incident, the doctor says 'we'll discuss this next week' -> book the appointment immediately in the team calendar.
If a new rule is established during a team meeting -> create a healthcare assistant (HCA) card or update an existing one.
If a healthcare assistant (HCA) is unsure how to respond during a telephone call -> this is a training signal, not a personal mistake.
If the same problem occurs a second time -> check the PMS module: is a standard missing?
If a meeting lasts only 5 minutes -> that's enough time for a failure mode. No more time is required.

8. Safety net

Warning signs – When team training isn't working

The same type of error occurs repeatedly at short intervals -> No training has taken place or the rule has not been embedded.

New staff members develop their own systems -> No practical wiki, no onboarding standard.

Team meetings always end without any concrete outcome -> the format is lacking or there is a time constraint.

PMS modules are used differently by different people -> lack of standardisation.

If the same type of error recurs within 4 weeks: immediate special meeting for a 15-minute team analysis. No postponement.

9. Mini M&M

Mini M&M – team training session not held

What happened? A patient who had recently started taking an anticoagulant following atrial fibrillation had not attended a follow-up appointment after 6 weeks. The recall appointment had not been recorded.

Why? The rule regarding follow-up appointments after the initial prescription of anticoagulants had never been formalised.

Why? Following a similar near-miss three months earlier, the issue had been raised but not formalised as a standard procedure.

Pause for thought: The first incident three months ago should have led to a rule being established. The team had the opportunity – but the format was missing.

Team question: Which event in the last four weeks deserved a practice rule – and actually got one?

10. Practice rules

Practical Rules H2 – Case-based training in a team

Rule 1: 15 minutes of team training once a week or once a month is standard practice – not optional.

Rule 2: No team meeting ends without at least one clearly defined rule, a building block or a task.

Rule 3: Near-misses are more valuable than actual mistakes – because they enable learning without causing harm.

Rule 4: Training is not at the discretion of individuals – it belongs in the practice calendar.

11. Reference to the appendix

Appendix A: Blank template for team case report (3×5-minute format)

Appendix H: Mini-M&M template for team meetings (also suitable for digital use)

Chapter H1: Mini M&M – Fundamentals of the blame-free learning format

Chapter E1: Recall is Therapy – Open Loops and Practice Organisation

12. References

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