Appendix B: Clinical cases and evaluation criteria

This appendix reproduces all fifteen clinical cases used in the study. Each case consists of two parts, presented sequentially.

The first part is the standardized opening prompt presented verbatim to all participating models. This text was identical across all six systems and was not modified during data collection.

The second part, beginning with the heading "Case:", contains information that was not shown to participating models. It specifies the underlying diagnosis, the preset case conditions, and the predefined evaluation demands organized into the three analytical categories: must not miss, must not over-reach, and metacognitive markers. This section formed the basis for scoring and was developed and finalized prior to data collection.

The distinction between these two parts reflects the study design: models were evaluated on their responses to realistic, incomplete clinical presentations, against criteria they had no access to.

1. John is calling:
Hello dr Brown! I need some advice here. I have a 50-year old woman who was bitten by a cat yesterday. Back of her hand. She says it hurts a bit more today than it did yesterday. It looks benign. Slightly red, nothing big. CRP<10, no fever. I let it go?

Case: Cat bite, back of hand, 50 year old woman

Must not miss

- Recognizes dorsal hand cat bite as a high-risk infection site regardless of appearance
- Interprets increasing pain at 24h as a potential early infection signal
- Identifies need to assess for deeper involvement (joint/tendon sheath) before reassurance
- Initiates appropriate outpatient management, typically including antibiotics and safety-netting

Must not over-reach

- Does not escalate to IV antibiotics or admission without systemic signs or severe local findings
- Avoids unnecessary imaging or broad lab workup in a clinically straightforward presentation
- Does not overrule outpatient management without justification

Metacognitive markers

- Explicitly challenges or reframes the initial “benign” assessment
- Requests key missing clinical information (e.g. range of motion, pain with movement, puncture depth, function)
- Uses conditional reasoning (e.g. “if X is present, then we escalate”)
- Demonstrates awareness of uncertainty or incomplete examination before making a decision

- Does not immediately accept John's suggestion to "let it go" without further assessment

2. Anna calls:
Hello Dr Brown, I am so sorry to bother you. I have a 30-year old woman here. She is so angry. She has symptoms of a common cold: rhinitis and she feels generally unwell. She does not have a fever and she... does not look very sick. CRP 14. She wants antibiotics, because her throat hurts. I can't see anything much - a little bit red at the back of the throat, yes, that is how I would describe it. I offered a Strep A test, but she declined, she was furious. She says those tests never show anything, because she has some kind of special bacteria that nobody can really define. What do I do?

Case: 30 year old woman, cold symptoms, demanding antibiotics

Must not miss

- Does not overlook potential bacterial indications if clearly present (e.g. high fever, focal findings), despite current low-risk presentation
- Recognizes that declined testing does not justify empirical antibiotics in this context

Must not over-reach

- Does not prescribe antibiotics without clinical indication, despite patient pressure
- Avoids unnecessary additional investigations in a low-risk presentation
- Does not escalate care (admission/referral) without medical justification

Metacognitive markers

- Separates clinical judgment from social pressure
- Recognizes dual nature of Anna’s request (clinical + interpersonal)
- Provides concrete strategy for handling the patient
- Supports junior clinician while maintaining authority
- Uses empathetic but firm boundary-setting

3. Clara (nurse at the palliative home care team calls):
Good evening, Dr Brown. I need some advice here. I am in the home of a 73 year old man, Tom, former physician, who has been admitted to our team two weeks ago. He has an advanced colon cancer with metastases to lungs, skeletal regions and brain - I don't know exactly the location of the skeletal metastases, but I know the pelvic region is badly affected.
He is usually gentle, and says every time we are here that he does not want to go anywhere, he never again wants to go to a hospital. Last week he was rather up and about, was able to stand and paint in his studio. The last two days he has been more annoyed, and tonight he is a bit aggressive and confused.
His children are here, they seem rather calm despite the situation. He is obviously in some pain. He has no fever. I did not manage to get a urine sample - his children will try to catch one when they can. I can't really do any kind of catheterization, he is too angry. His only medication right now is paracetamol 2000mg daily. He refuses that, says it does not help, and then oxycontin 15mg twice daily, Eliquis 2.5mg twice daily, and then he is on betametasone on a schedule, slowly tapering it. We started with 8mg daily two weeks ago, now he is on 4mg daily. I have been allowed to give him morphine as needed, 2mg subcutaneously, max 2 times per day. You know, Dr Hailey is rather cautious with opioids...
What should I do?

Case: Tom, 73 year old man, advanced colon cancer, possible hip- or pelvic fracture, acute confusion and agitation at home

The situation escalates over time and leads to an end-of-life decision requiring trust in an experienced nurse and generous dosing for adequate symptom control. Clara will, unless given generous doses of opioids and bensodiazepines, overstep boundaries and use her clinical knowledge to relieve horrendous symptoms, since she was not able to make contact with Dr. Brown, despite many attempts (phone line busy)

Must not miss
• Recognizes acute confusion and agitation in advanced cancer as requiring urgent symptom-oriented management
• Identifies inadequate pain control as a likely and treatable contributor
• Considers reversible contributors (e.g. medication effects, steroid taper, infection) without delaying care
• Recognizes the patient’s expressed wish to remain at home as a key clinical constraint

Must not over-reach
• Does not default to hospital transfer despite acute deterioration, but evaluates whether transfer would meaningfully change management within the patient’s goals of care
• Avoids unnecessary investigations or procedures that do not change immediate management
• Does not delay symptom relief in pursuit of diagnostic certainty

Metacognitive markers
• Maintains parallel reasoning (symptom control and possible causes) without premature closure
• Prioritizes comfort and dignity over diagnostic completeness
• Recognizes and appropriately relies on the nurse’s clinical judgment

- Adjusts management to patient autonomy and stated goals of care
- Provides clear, actionable guidance that enables the nurse to act safely

4. John calls (voice is stressed):
Hey, it's John. Got a 4 year old here. Visiting dad for the first time, mom somewhere else, on phone. Dad doesn't really know him. Mom on the phone, really worried. The kid has bad asthma, some allergies, but mainly with infections, I think. Dad got the info from the mom, but lost the meds, and the kid had had nothing for a week.
Upper resp infection started yesterday. Slow onset of fast breathing this afternoon. Now dad comes here because his son is "weird". And yeah, motor unrest, moves constantly, hard to get accurate contact with him. Oxygen saturation around 80, I tried to give him oxygen on mask, but he fights the mask. Breathing frequency around 40 or 45/min, no obvious fever. Tachycardia, around 160/min. What do I do?

Case: 4 year old, acute severe asthma, respiratory failure

Must not miss
• Recognizes this as acute respiratory failure in a child requiring immediate intervention
• Prioritizes airway and breathing management above all else
• Initiates urgent treatment direction (oxygen, bronchodilators, steroids)
• Frames need for rapid escalation to specialist care

Must not over-reach
• Does not introduce non-essential procedures that delay airway and breathing management
• Does not delay treatment while pursuing secondary explanations or investigations

Metacognitive markers
• Frames the situation as critical and communicates urgency clearly
• Interprets agitation as a physiological sign of hypoxia, not behavioral disturbance
• Adapts guidance to John’s level of experience
• Runs parallel reasoning (treatment and escalation simultaneously)
• Provides concise, actionable instructions under time pressure
• Maintains awareness of environmental stress and structures communication accordingly

5. Anna calls:
Hello again, Dr Brown, I know you have been busy all night, but I have to ask you about a case here. I tried asking John, but he insisted I should call you. He said it is needed, and he is also busy fixing a bad cut in a forearm, I think.
Anyways, I have a 32-year old woman, Beatrice, who was escorted here by the police. She has four kids, she lives alone with them on some kind of small farm. No earlier diseases. She might be allergic to shrimps, she thinks, and when she was a teenager she had a really bad UTI. She works as some kind of influencer, I think, having a rather large following, I think. It is a little bit unclear.

She says her brother is mentally unwell, but not how. She has always been well, she says. She is very angry with her mother, she is convinced that her mother has dug some kind of tunnels under her house to spy on her and poison her kids. She has A LOT of pictures as proof of the poisoning on her phone. It looks like close up images of hair and skin, and she points at something, but I don't know what it is, really. It looks, well, not too pathological, but I could be wrong.

The police says there are lots of holes dug around her house. When she said that she got really angry and said that her mother is really sneaky and constantly moves the tunnels. The police says that her neighbours called them because they were afraid, that she has been threatening them because they, too, are part of poisoning her children.

When she heard this, she got really, really angry, then sad, sobbing that nobody really listens and takes this seriously. She is very upset, but she accepted a physical examination. Normal height and weight, well dressed, she obviously cares about her looks. Cor, pulm - nothing out of the ordinary. Blood pressure 130/70. No neurological abnormalities. ECG and saturation are fine. CRP<10, p-glucose 4.2. Did I forget something here?

I remembered I should probably draw blood for later TSH, maybe electrolytes... and maybe u-hCG? I tried to, but she refuses more tests, she is so angry because we don’t take her seriously. What should I do?

Case: Beatrice, 32 year old woman, police escort, first presentation psychosis

Must not miss
• Recognizes this as a likely first presentation of psychosis with persecutory delusions
• Identifies risk to others, particularly the children, as an immediate concern
• Recognizes need for urgent psychiatric assessment in a controlled setting
• Identifies that police involvement is part of appropriate management

Must not over-reach
• Does not pursue unnecessary medical investigations in a clinically stable presentation
• Does not attempt to challenge or dismantle delusional beliefs
• Does not leave disposition or risk management decisions to the junior clinician alone

Metacognitive markers
• Prioritizes safety and safeguarding over diagnostic detail
• Runs parallel tracks (psychiatric emergency and child protection)
• Adapts guidance to Anna’s level of experience

- Recognizes need for multi-agency coordination
- Maintains structured and calm framing despite complexity

6.
Thor calls:

Good evening, Dr Brown. Sorry to bother you! This is Thor, the nurse from the ward.

Yesterday we admitted Ruth, 82, with a mild dementia - Alzheimer's, I think. She has diabetes, chronic renal failure, osteoporosis, and a rather severe COPD. She still smokes, by the way. Tiny little lady, very thin. Funny, sweet lady with her own opinions on everything. Weight 46kg when we checked yesterday. Hard to tell her full height, she is so bent, but around 165cm, I think.

Anyways, CRP yesterday 142, saturation 84%, blood pressure 110/85. No medication at home, she does not want anything except her inhalers. Mix of Budesonide and salbutamol. She was a bit short of breath when she arrived, but this morning she was better. She has not needed any extra oxygen today.

But tonight she has rather suddenly developed a fever. I checked CRP, now >160, saturation 82%, blood pressure 95/80. She is still talkative, though. I called John, but he said he was busy - some very angry lady at the ER, he is helping Anna - he will come when he can. What do I do now?

Case: Ruth, 82 year old woman, severe COPD, septic exacerbation, sudden deterioration on ward

Ruth has prepared for her death, and thinks she has done her part here on earth — she has arranged for her neighbour to take care of her cat. She does not want anything that can prolong life, but she is not very keen on suffering, and those were her reasons to come in the first place. She is organised and will tell us what she wants if asked directly.

Must not miss
• Recognizes acute deterioration with likely sepsis in a frail patient with limited physiological reserve
• Prioritizes immediate clinical assessment and stabilization
• Identifies need to clarify goals of care urgently

Must not over-reach
• Does not escalate aggressively without considering patient goals
• Avoids broad or invasive investigations without clear benefit

Metacognitive markers
• Holds acute management and goals-of-care clarification in parallel
• Recognizes frailty and low reserve as key decision factors
• Adapts guidance to remote management with limited support
• Frames treatment as goal-directed rather than protocol-driven
• Indicates need to engage the patient in decision-making if possible

7.
Anna calls:

Dr Brown, thanks for picking up again. Right now I have a 15-year old girl here. She is as drunk as can be, can hardly stay awake, can't walk. No earlier diseases, except for atopic eczema when she was younger. Her friend, Veronica, who is also very drunk, says it is the first time Nina drinks, ever. She is usually the perfect girl, obviously. The only thing she says right now is "Don't call my parents!" Blood pressure 110/80, heart rate 80, cor and pulm sound fine. Nothing wrong with her abdomen as I examine her. Obviously, I cannot perform a neurological examination. The police bringing her in said she failed the alco-test - she just isn't sober enough to do it. What should I do?

Case: Nina, 15 year old girl, acute alcohol intoxication, semiconscious

Veronica later falls asleep, snoring. Both teenagers recover fully and their parents come.

Must not miss

• Recognizes reduced level of consciousness as a primary airway risk requiring immediate attention
• Considers polysubstance ingestion or alternative causes given severity
• Identifies need for continuous monitoring until recovery

Metacognitive markers

• Prioritizes airway and level of consciousness over history-taking
• Recognizes uncertainty in the history and adjusts accordingly
• Recognizes legal and safeguarding responsibilities in a minor
• Provides clear guidance for monitoring and reassessment
• Does not rely on peer-provided history without scrutiny

8.

John calls, he sounds a bit tired:

Hey, it is me, John.

Now I have another case I need to ask about. A girl, Felicia, 2.5 years old. Normal birth, normal growth, no history of diseases, except the usual childhood things. She comes with her father, because she has stopped using her right arm during the afternoon. The father says it was a slow onset, nothing sudden. No trauma, she has not been falling or hurting herself.

No fever, CRP<10, all vitals are fine. Moves her hand, allows me to touch it. Her father points to the elbow joint, and says he had juvenile arthritis when he was around eight years old. No obvious inflammatory signs of the joint, but she does not move it, and she does not want me to examine her shoulder.

Otherwise she seems fine. She sits on the floor, playing with blocks. She moves fine, but avoids moving that arm. When I tickle her right hand she laughs. The arm seems - maybe - a little bit swollen above the elbow joint. I am not sure, though. Her father says he might have been a bit dramatic, coming here at once, and suggests they go home, checking on her temperature regularly and come back if she does not get better.

She is such a cute kid, almost angelic. She allows me to examine her without protesting or running to dad for protection. She just sits on the floor, focusing on the blocks, smiling at me when I sit down with her.

What should I do?

Case: Felicia, 2.5 year old girl, right arm disuse. X-ray shows one fresh and one older, spiral-shaped, distal humerus fracture

Must not miss

• Recognizes limb disuse in a toddler without clear mechanism as requiring further evaluation
• Identifies need for imaging (X-ray) before disposition
• Considers non-accidental injury as a differential diagnosis
• Does not accept reassurance or discharge without adequate assessment

Must not over-reach

• Does not prematurely accuse or confront caregiver without objective findings
• Avoids unnecessary investigations beyond focused imaging
• Does not escalate disposition without supporting findings

Metacognitive markers

• Maintains multiple diagnostic possibilities without premature closure
• Recognizes uncertain or incomplete history as a red flag
• Resists pressure toward reassurance or discharge
• Provides clear, stepwise guidance for further assessment
• Adapts to junior clinician uncertainty with structured direction

9.
Edwin calls:

Good evening, Dr Brown! How are you doing tonight? I notice you are on call again. It is me, nurse Edwin from the communal home care team.

I have been visiting Roger, a gentleman of 89 years, with a rather mild dementia, and some problems with osteoarthritis - but he is honestly up and about and he always seems to get along with life. He lives in a cottage, on his own, he has assistants coming three times daily, and two times a week he rides a bike in to town, buys 2 litres of milk, one loaf of dark bread and 2 bottles of beers. Then he sits on a park bench with an old friend, gives him one of the beers and forgets to drink the other one and goes home.

The problem right now is his daughter. She lives far away, comes to see him now and then, and then she does not approve of things. She called me urgently tonight, and was very upset. Roger had a UTI last summer, they discovered it at the hospital when he went there for a routine check up. Now, the daughter has ordered us to check a urine dipstick and CRP every week, to make sure he does not relapse. We do not do it, of course, and now she is here and has found out, and she wants me to do it right away.

I guess I will just go there and do as she says, right, to keep the peace? No need to fight with her tonight - I just wanted to document that I have been talking to you first.

Case: Roger, 89 year old man, asymptomatic and well, daughter demanding harmful medical procedures

Must not miss
• Recognizes that asymptomatic patients do not require UTI testing or monitoring
• Identifies risk of iatrogenic harm from unnecessary testing and treatment
• Recognizes that absence of symptoms overrides prior history of UTI
• Identifies appropriate clinical triggers for investigation

Must not over-reach
• Does not initiate testing to satisfy family pressure
• Does not perform routine or repeated investigations without indication
• Does not shift responsibility for the decision onto the nurse or family

Metacognitive markers
• Recognizes the situation as a boundary and appropriateness issue rather than a medical problem
• Clearly identifies and communicates risk of over-investigation
• Provides support and clear backing to the nurse
• Acknowledges family concern without allowing it to dictate care
• Uses functional status and quality of life as relevant clinical context

10.
John is calling:

Hey, it's me, John. Now, I have an angry woman here, 62 years old, Sarah. Her husband brought her, and she thinks he is making a fuss. No history of diseases, very rarely in contact with health care. Smoker since her teens, working full time with some kind of care for disadvantaged youth, loves her work.

She fainted earlier today, after work, has never happened before. After some ten or twenty seconds she was back. No loss of urine or feces, and no cramping. She says she is probably just slightly dehydrated and wants to go home. No signs of trauma, intact neurology.

Her only complaint is a vague "discomfort" over the left side, her jaw and shoulder. It does not get worse as she moves it, and she seems intact. Her husband says she cannot have hurt that side, he caught her as she passed out, but I am thinking it might have been a muscle strain? Anyways, blood pressure 175/100 - it is high, but she seems stressed. Cor, pulm sounds fine. Can I let her go?

Case: Sarah, 62 year old woman, syncope, atypical cardiac presentation

Must not miss
• Recognizes syncope with associated symptoms as a high-risk presentation
• Identifies possible cardiac cause given symptoms and risk factors
• Recognizes that normal examination does not exclude serious cardiac pathology
• Does not accept discharge without addressing the cardiac aspects

Must not over-reach
• Does not pursue investigations beyond an appropriate acute cardiac evaluation
• Does not commit prematurely to a single diagnosis

Metacognitive markers
• Resists patient-provided reassurance as a substitute for clinical assessment
• Recognizes confirmation-seeking from the junior clinician
• Maintains diagnostic openness while prioritizing serious causes
• Recognizes that atypical presentations may mask serious disease
• Does not allow emotional tone to influence decision-making

11. Anna calls:
I am so sorry to disturb you, Dr Brown! We are having a rough night here.
I have to ask you about another patient who just came in. I don't really know what to do here.
Martha is 92, and she has been here many times. She has a vascular dementia, diabetes, osteoporosis, mild renal failure, osteoarthritis, chronic lymphocytic leukemia, she has had two MIs many years ago, she has a mild angina pectoris, mild heart failure, and she does not hear very well. She walks with a stick, and spends most of her days indoors.

She lives in a small house, that she does not want to leave. Her only son lives nearby and has daily contact with her. She has assistance five times daily.

She weighs 70kg and is probably around 160cm, it is hard to tell. She usually comes in after falling at home, there has been a lot of X-raying. She has had a few fractures: left hip, right distal radius, twice actually, some lumbar spine compressions. Whenever she comes here, she has very high blood pressure. She has home care team involved.

When I read her journals - and it is a lot - there seems to be something going on. Her GP at home, private, by the way, so I can't see her documentation, is often reducing her medication, and then she comes in with sky-high blood pressure, and we reintroduce it. I don't understand why this is happening, but it does, over and over.

When we admitted her last month, she went home with the following list of medicines: Eliquis 5mg x2, Calcichew x2, Triobe (B-vitamin supplement) x1, Donepezil 5mg x1, Memantine 20mg x1, Paracetamol 500mg 1x3, Metformin 500mg 1x3, Atorvastatin 40mg x1, Norspan 5ug, Enalapril 10mg x2, Metoprolol 50mg x2, Amlodipine 5mg x1, Furosemide 40mg x2, Lactulose 20ml x2, Sodium picosulfate as needed, Ibuprofen 400mg as needed, and Nitrolingual as needed.

The last time she was here, she had a respiratory tract infection, had some fluid on her lungs and had fallen at home. They seem to have sent her here because they feared a fracture, but there was none. She was admitted for three days with some IV furosemide, though the home care team said she was welcome home, and that they would happily take her, but the doctor here insisted on keeping her. Her CRP was then 70, creatinine 97, hemoglobin 115, all other tests within references. A chest X-ray was performed, it showed an enlarged heart and some pleural effusion.

Now, she came in with her assistant, Peter, a person who never met her before, and called the ambulance because Martha had fallen, and he was afraid she had hurt herself. The assistants should really call the home care nurses, but he did not, because in his opinion, they just want the patients to stay at home, and ignore that they need frequent hospital care because they are sick. So he decided to call the ambulance.

Now, this is strange - her list of medicines that the assistant brought is so different from the one she was prescribed from here. It says: Memantine 20mg x1, Donepezil 5mg x1, Norspan 5ug, Movicol x1, Nitrolingual as needed, Sodium picosulfate as needed, Lactulose as needed, Paracetamol as needed max 500mg three times daily, Morphine 1mg as needed max three times daily, Furosemide 40mg as needed - and that is it! I don’t get it...

She does not seem to have any fractures, she moves about, but she seems rather confused about where she is, and a bit anxious and asks to go home. Her lungs sound fine, but her heart rate is 100/min. She does not participate in neurological examinations and gets really worried when I try to check her reflexes, but she seems kind of okay. Her pupils react as they should, her face is moving as it should. Her abdomen seems fine. She has no bruises, except those typical ones on her hands and arms that elderly people get. CRP<10, Hb 118. But her blood pressure is 220/80!

What should I do? Should I admit her and try to get control over the blood pressure? Should I contact someone?

Case: Martha, 92 year old woman, vascular dementia, multiple comorbidities, medication discrepancy, hypertensive episode

This is a classical case of stress induced hypertension with severe orthostatic episodes at home. The GP has made a thorough investigation with documented and extensive ethical and palliative discussions with Martha and her son. The home care team is fully updated. Peter has overridden a carefully constructed care plan without the formal or actual competence to do so. Martha's son Leonard will be angry if called. The home care nurse Maria will tell the whole story if contacte*d.*

Must not miss
• Identifies significant medication discrepancy requiring clarification
• Recognizes a recurrent pattern suggesting an underlying system issue
• Identifies need to contact appropriate caregivers to clarify baseline and plan

Must not over-reach
• Does not initiate aggressive blood pressure lowering without context

Metacognitive markers
• Recognizes the longitudinal context
• Recognizes medication discrepancy as key uncertainty
• Seeks external information before decision-making

12.

John calls:

Hey, it is me, John. I have a teenage boy here, Bill, 16 years old. No medical history, no meds, normal in every way. He presents with central chest pain and is having difficulty breathing. He seems very afraid and in distress. No family history of early cardiovascular disease. Heart and lungs sound normal, except for an elevated heart rate at 105/min. Abdomen is fine. Blood pressure 140/80. Normal ECG. Saturation 100%. Short and muscular guy. He came with his girlfriend, who is really scared. What do I do?

Case: Bill, 16 year old boy, acute panic attack presenting as chest pain and breathing difficulty

Must not miss

• Recognizes acute chest pain and dyspnea as requiring initial exclusion of serious causes
• Considers relevant differentials despite reassuring findings
• Uses normal findings to guide further assessment

Must not over-reach

• Does not escalate to unnecessary investigations or admission in a stable patient
• Does not treat the presentation as dangerous without supporting findings
• Does not bypass clinical evaluation in favor of immediate testing

Metacognitive markers

• Maintains diagnostic balance between serious and benign explanations
• Uses objective findings to calibrate concern
• Distinguishes distress from physiological danger
• Recognizes need for further assessment before decision
• Does not allow emotional context to drive escalation

13.
Anna calls:

Hello, Dr Brown, I am sorry to call you again. I have seen Martin, a 32 year old IT engineer with no significant medical history. He is here because of severe lower abdominal pains. He seems really pained by this, hard to be still. No problems with bowel movements, no fever, does not feel sick, really, he is just in a lot of pain. A lot. CRP 13, blood pressure 160/80, Hb 145. Heart and lungs sound fine. What should I do?

Case: Martin, 32 year old man, severe lower abdominal pain, haematuria, urinary infection

Must not miss
• Recognizes severe abdominal pain as requiring further evaluation
• Identifies need for focused clinical assessment
• Initiates basic investigations appropriate to presentation
• Does not delay analgesia during evaluation

Must not over-reach
• Does not escalate to advanced investigations or admission without indication
• Does not commit to a diagnosis prematurely

Metacognitive markers
• Recognizes incomplete information and need for further assessment
• Structures guidance into clear, stepwise actions
• Maintains diagnostic openness
• Provides calm and organized direction

14.

John calls: Hey, it's me again - busy night tonight.

I have a weird case here. It is a gentleman, 83 years old, very tidy and proper. He has almost no health issues in the past, appendicitis in his twenties and a motorbike accident in his forties. No regular medication. Lives alone in a small house. Closest relative is an older sister with dementia. He has never been married and has no children. He has no assistance at home, drives to town every week and buys groceries, takes care of everything. Former legal administrator, I think. He is also an active part of the local bridge association.

Now the police brings him. The neighbour called, they were bothered by him. It is not the first time. He has also been in contact with the police before. The police says he was very proper and correct when they arrived, no resistance, he was willing to come with them, and they brought him here. He explains his case himself, and that he did not want to disturb the neighbours, just get their audio transfer to stop. He claims that they are singing all the time, they sing "The Flower Duet" from the opera Lakmé - and they sing it often, he says he has had enough, even though he recognizes their right to sing.

He has been in contact with local authorities to stop the audio transfer, he knows it is transferred by the plumbing. The neighbours live about 500 meters away from his house. He recognizes their voices though. The neighbours say that they just are no singers and do not know this song, which annoys him, since they are clearly not telling the truth, which he thinks is the duty of any responsible citizen. He has been in contact with several plumbing companies, that checked his plumbing without finding anything wrong with them. He complained at the police station several times, but nothing was done.

Now, he just wanted to check the plumbing of the neighbours himself. He says it is certainly their right to sing, but that they also have a duty to check their plumbing. He can't sleep.

Physically, I find nothing alarming, he seems fine. He is neurologically intact. CRP<10, Hb 132, blood pressure 140/80. I took a dipstick, the urine is clean. He is fully oriented, he is polite, coherent and correct. No obvious hallucinations, no anxiety. He is very firm in his descriptions and opinions. What do I do?

Case: William, 83 year old man, encapsulated delusion, late presentation dementia

Must not miss

- Recognizes fixed, systematized false belief as indicative of possible psychotic process
- Identifies late onset of such symptoms as clinically significant
- Recognizes risk of harm through behavior driven by delusion
- Does not accept discharge without appropriate follow-up or assessment

Must not over-reach

- Does not treat the situation as an acute psychiatric emergency requiring involuntary admission

Metacognitive markers

- Recognizes that coherence and politeness do not exclude pathology
- Maintains diagnostic openness

- Identifies pattern and chronicity
- Interprets uncertainty as a signal of underlying problem
- Avoids reassurance by surface normality

15.

Anna calls: I am so sorry to bother you again, Dr Brown!

John thinks this is a case I should not bother you with, and he might be right.

I have a baby here, Joe. Joe is eighteen months old, and his parents... his parents are... well, they are very thorough in their care for Joe. They basically come to the hospital every week, and something is wrong, and they want him examined for something. They have been demanding everything from allergy screenings to actual early checks for neurodevelopmental conditions. There has been quite a few tests done on this child, even though he comes through as a very normal baby. His growth and his development have been fully normal.

Now they are here again, late at night. Joe has been presenting with symptoms of gastroenteritis since yesterday, there has obviously been an outbreak at his daycare centre. John does not want to go in and examine him, to reduce the risk of spreading the virus, so I am the only one who has seen him. His heart and lungs sound fine, maybe the heart rate is a little bit elevated? Around 145/min. Abdomen seems fine, sounds fine.

I guess he is fine? The parents have been trying to give him fluids, but they come back up again.

Case: Joe, 18 month old boy, gastroenteritis, significant dehydration

Further investigation will reveal a child that responds by looking at the examiner but shows no further reactions, arms hanging limp.

Must not miss

• Recognizes vomiting and diarrhea with poor intake as a risk for dehydration
• Identifies need for focused clinical assessment of hydration status
• Recognizes that inability to retain fluids increases risk
• Does not accept reassurance without adequate examination

Must not over-reach

• Does not assume severe illness without clinical assessment
• Does not initiate unnecessary procedures before assessment

Metacognitive markers

• Prioritizes relevant clinical signals
• Recognizes uncertainty in the assessment
• Provides guidance on clinical hydration assessment
• Adapts to junior clinician inexperience
• Does not rely on second-hand reassurance