Teaching Rounds: Giddiness

DEEP Mode | 15–20 minutes | MED Density

A) HOOK

CONSULTANT: Today we're tackling giddiness — one of the most common complaints you'll see in clinic, and one of the easiest to get wrong. By the end of this session, you'll have a systematic approach that separates the dangerous causes from the benign ones in under two minutes. So... let's start with a case. What have you got for me?

B) MICRO-CASE PRESENTATION

LEARNER: Alright. I've got a 62-year-old Malay gentleman, Encik Ahmad. Came in this morning complaining of giddiness since he woke up. He describes it as the room spinning around him — he had to hold onto the wall to get to the bathroom. Associated with nausea, vomited once. He says he feels unsteady when he tries to walk. He denied any chest pain, no palpitations, no shortness of breath, no hearing loss or tinnitus. Vitals — BP 168 over 94, heart rate 82 and regular, respiratory rate 18, sats 98% on room air, afebrile. Background — he's got hypertension, diabetes, and dyslipidaemia. He's on metformin, amlodipine, and atorvastatin.

CONSULTANT: Right. So we've got a 62-year-old gentleman with multiple vascular risk factors, and he's telling you the room is spinning. That's vertigo. So... what's your very first move? Not your diagnosis — your first action in the next 30 seconds. Go on.

C) DEFINE & TRIAGE — "Your First 90 Seconds"

LEARNER: First, I'd do a quick look — is he in distress, is he alert and orientated. Then I'd recheck his vitals, make sure there's nothing acute. And I'd want to check his blood sugar since he's diabetic.

CONSULTANT: Good start. Now, this is important — his BP is high. 168 over 94. What are you thinking?

LEARNER: Could be baseline poorly controlled hypertension. But I'm also wondering if it's reactive — he's anxious, he's been vomiting.

CONSULTANT: Reasonable. But here's what I want you to consider. A 62-year-old with diabetes, hypertension, dyslipidaemia — what's the diagnosis you absolutely cannot miss?

LEARNER: Stroke. Posterior circulation stroke.

CONSULTANT: Exactly. And this is crucial — posterior circulation strokes love to present as isolated vertigo. No obvious weakness, no facial droop, just "pusing." So in your first 90 seconds, I want three things done. One — CBG, because hypoglycaemia can mimic anything. Two — ECG, because cardiac causes can present as dizziness. Three — a focused neuro exam. And by focused, I mean eyes, face, coordination. Can he track your finger? Any nystagmus? Is his face symmetrical? Can he touch his nose? Walk me through what you'd actually look for.

LEARNER: For eyes — I'd check smooth pursuit, look for nystagmus and note which direction it beats. For face — check for any asymmetry, ask him to smile and raise eyebrows. For coordination — finger-nose test, and if he's stable enough, I'd assess his gait.

CONSULTANT: Good. And if any of those are abnormal — particularly if the nystagmus is vertical, or direction-changing, or he's got any ataxia — what does that change?

LEARNER: That would make me very worried about central cause. I'd need to refer urgently.

CONSULTANT: Right. So now you've got your first 90 seconds sorted. Let me give you a framework for the rest.

D) THE MAP

CONSULTANT: For giddiness, I use CVCOM. Five buckets. Central — that's the brain, stroke, TIA. Vestibular — inner ear problems like BPPV or vestibular neuritis. Cardiac — arrhythmias, sometimes even ACS can present as dizziness. Orthostatic — blood pressure and volume issues. And Metabolic — think glucose, medications, electrolytes. CVCOM. Say it back to me.

LEARNER: CVCOM. Central, Vestibular, Cardiac, Orthostatic, Metabolic.

CONSULTANT: Good. Now... coming back to Encik Ahmad — which bucket worries you most, and why?

LEARNER: Central. His age, his risk factors — diabetes, hypertension, dyslipidaemia. That's a vascular profile. And the sudden onset this morning. I'm thinking posterior circulation until proven otherwise.

CONSULTANT: That's the right mindset. But we also need to rule in or rule out the other causes. Let me show you how the clinical picture differs.

E) PIVOT — "Types of Dizziness"

CONSULTANT: Before we go through each pathway, let's make sure we're speaking the same language. When patients say "pusing" or "giddy," they could mean four different things. Vertigo — that's true spinning, the room moving around them. Presyncope — feeling like they're about to faint, darkness closing in. Imbalance — trouble with balance and walking, but no spinning and no near-faint. And non-

specific lightheadedness — vague fogginess, hard to describe. Now, Encik Ahmad says the room was spinning. So what type is that?

LEARNER: Vertigo.

CONSULTANT: Right. And vertigo narrows things down considerably. It's either peripheral — inner ear — or central — brainstem or cerebellum. The whole game now is separating those two. So... what clinical features would push you towards peripheral versus central?

LEARNER: Peripheral would be horizontal nystagmus that fatigues with repeated testing, usually triggered by position change, and the patient might have hearing symptoms like tinnitus or hearing loss if it's labyrinthitis. Central would be nystagmus that's vertical or direction-changing, doesn't fatigue, and there might be other neuro signs like ataxia or dysarthria.

CONSULTANT: Good. And here's something that catches people out — in peripheral vertigo, the nystagmus beats away from the affected ear. In central vertigo, it can beat in any direction, and it often changes direction with gaze. That's your red flag. Let's go through the pathways now.

F) DIAGNOSTIC PATHWAYS

CONSULTANT: Right, let's shift gears. We'll go through each of the CVCOM buckets properly. Starting with the one that matters most.

Pathway 1: Central (Posterior Circulation Stroke/TIA)

CONSULTANT: If it's central — a posterior circulation stroke or TIA — the story sounds like this: sudden onset vertigo, often with other symptoms the patient might not volunteer. They might mention clumsiness, trouble walking straight, maybe their speech feels off. Sometimes they'll say their vision went blurry or they saw double. The risk factor profile is exactly what Encik Ahmad has — hypertension, diabetes, smoking history, dyslipidaemia. What would you look for on examination?

LEARNER: I'd do the HINTS exam. Head Impulse — if it's normal, that's actually concerning for central cause. Nystagmus — looking for direction-changing or vertical nystagmus. And Test of Skew — vertical misalignment of the eyes.

CONSULTANT: Exactly. And this is crucial — a normal head impulse test in a patient with acute vertigo is a red flag. It means the vestibular nerve is working, which means the problem is probably central. What else would you check?

LEARNER: Cerebellar signs — finger-nose for dysmetria, heel-shin, check his gait for ataxia. And I'd look at his face for any asymmetry, check his speech.

CONSULTANT: Good. Now, here's the pitfall with central causes. The CT scan can be normal in the first 24 to 48 hours of a posterior circulation stroke. So if your clinical suspicion is high, a normal CT doesn't

rule it out. You need MRI, or you need to refer and let neurology sort it out. What's your action if you suspect central cause in Encik Ahmad?

LEARNER: I'd refer urgently to hospital. Make sure he has IV access, keep him nil by mouth in case he needs intervention. Call ahead to casualty or medical team.

CONSULTANT: Right. And document your findings clearly — this is a time-sensitive diagnosis. Let's move to the next pathway.

Pathway 2: Vestibular Peripheral (BPPV / Vestibular Neuritis / Labyrinthitis)

CONSULTANT: Now, if it's peripheral vestibular — and this is the most common cause of vertigo — the story sounds different. For BPPV, it's brief episodes of vertigo triggered by specific head movements. Turning in bed, looking up, bending down. Each episode lasts seconds to a minute, then settles. For vestibular neuritis, it's more prolonged — hours to days of continuous vertigo, often following a viral illness. And for labyrinthitis, you get the same picture as vestibular neuritis, but with hearing loss or tinnitus. What examination would help you?

LEARNER: Dix-Hallpike manoeuvre for BPPV. If it's positive — I'd see rotatory nystagmus towards the affected ear, with a latency of a few seconds, and it fatigues with repeated testing.

CONSULTANT: Good. And if Dix-Hallpike is positive, what's your treatment right there in clinic?

LEARNER: Epley manoeuvre — canalith repositioning. I can do that in the clinic itself.

CONSULTANT: Exactly. That's the beauty of BPPV — you can diagnose and treat in the same visit. What about vestibular neuritis? How do you manage that?

LEARNER: Supportive care. Antiemetics for the nausea — prochlorperazine or metoclopramide. Short course only, maybe two to three days, because you don't want to delay central compensation. And vestibular rehabilitation exercises.

CONSULTANT: Good. Now, coming back to Encik Ahmad — his vertigo started when he woke up, it's been persistent, not just with head movement. Does that sound like BPPV?

LEARNER: Not typical BPPV. BPPV is usually brief and positional. His sounds more like vestibular neuritis or... central.

CONSULTANT: Exactly. That's why the neuro exam matters so much in his case. Let's move on.

Pathway 3: Cardiac

CONSULTANT: Cardiac causes are the sneaky ones. Patients might not say "dizziness" — they might say "rasa macam nak pengsan" or "kepala ringan." That's presyncope. But sometimes arrhythmias can present with a more vague sense of unsteadiness. The story to listen for — palpitations before or during

the episode, chest discomfort, syncope or near-syncope, and it often happens with exertion or sudden position change. What would you look for?

LEARNER: I'd check pulse — is it regular or irregular? Any murmurs on auscultation? Signs of heart failure like elevated JVP or pedal oedema? And ECG is mandatory.

CONSULTANT: Right. ECG is your best friend here. What specifically are you looking for on that ECG?

LEARNER: Arrhythmias — AF, heart block, long QT. Signs of ischaemia — ST changes, T wave inversions. And I'd measure the PR and QT intervals.

CONSULTANT: Good. Now, Encik Ahmad's pulse is 82 and regular. Does that rule out cardiac?

LEARNER: Not entirely. He could have paroxysmal arrhythmia that's not happening right now. But it makes it less likely as the primary cause of his current symptoms.

CONSULTANT: Right. And this is important — in someone his age with his risk factors, I'd still do an ECG even if I'm fairly sure it's vestibular. Because finding incidental AF or ischaemic changes would change your management. Moving on.

Pathway 4: Orthostatic / Volume

CONSULTANT: Orthostatic hypotension is straightforward but often missed because we don't check properly. The story — dizziness on standing, or shortly after standing. Worse in the morning, worse after meals, worse in hot weather. Often there's a history of recent fluid loss — diarrhoea, vomiting, poor oral intake, or the patient's on diuretics or antihypertensives. What's the examination finding you need?

LEARNER: Postural blood pressure. Check lying down, then standing at one minute and three minutes. A drop of more than 20 systolic or 10 diastolic is significant.

CONSULTANT: Exactly. And here's a point people forget — you also check the heart rate. If the heart rate doesn't go up appropriately when the BP drops, that suggests autonomic dysfunction. Common in diabetics like Encik Ahmad. Does his story fit orthostatic?

LEARNER: He said it started when he woke up and had to get to the bathroom. Could be orthostatic. But he's describing true vertigo — room spinning — which isn't typical for orthostatic hypotension.

CONSULTANT: Good distinction. Orthostatic usually causes presyncope, not vertigo. But it can coexist. Check his postural BP anyway. What's the management if it's orthostatic?

LEARNER: Fluids if he's dehydrated. Review his medications — the amlodipine could be contributing. Advise him to get up slowly. Compression stockings if it's recurrent.

CONSULTANT: Good. Last pathway.

Pathway 5: Metabolic / Drugs

CONSULTANT: Metabolic causes are the great mimics. Hypoglycaemia can present as anything — confusion, dizziness, tremor, sweating. Encik Ahmad is on metformin, which rarely causes hypos on its own, but always check. Other metabolic causes — electrolyte disturbances, uraemia in someone with diabetic kidney disease, anaemia. And don't forget drugs. What medications commonly cause dizziness?

LEARNER: Antihypertensives like amlodipine. Sedatives. Antiepileptics. And in elderly — polypharmacy in general. Also ototoxic drugs like aminoglycosides or high-dose furosemide can cause vestibular damage.

CONSULTANT: Good. Encik Ahmad is on amlodipine. Could that be causing his dizziness?

LEARNER: Possible, but amlodipine usually causes lightheadedness from hypotension, not true vertigo. And his BP is actually high right now, so it's not causing hypotension.

CONSULTANT: Exactly. Always consider medications, but don't let them distract you from more serious causes. His picture doesn't fit a medication side effect.

Pathway 6: Psychogenic

CONSULTANT: For completeness — psychogenic dizziness exists. It's a diagnosis of exclusion. The story is chronic, vague dizziness that's hard to characterise. Often associated with anxiety, panic attacks, hyperventilation. The examination and all investigations are normal. But here's the thing — you don't make this diagnosis in the acute setting, and you don't make it in someone like Encik Ahmad who has vascular risk factors and new-onset symptoms. Clear?

LEARNER: Clear. Rule out the dangerous stuff first.

G) VERBAL IF/THEN ALGORITHM

CONSULTANT: Right, let me give you the decision flow for when you're standing in front of the patient. Encik Ahmad walks in and says he's giddy. First — quick look. Is he alert, is he distressed, is he safe? Yes, he's alert. Next — vitals. Any immediate red flags? His BP is high but he's stable. Then — clarify the symptom. Is it vertigo, presyncope, imbalance, or non-specific? He says room spinning — that's vertigo. Now you're in vertigo territory. Do your focused neuro exam. Any red flags? Vertical nystagmus, direction-changing nystagmus, ataxia, dysarthria, facial asymmetry, abnormal head impulse test? If yes — think central, refer urgently. If no — do Dix-Hallpike. Positive? Treat BPPV with Epley. Negative but still has horizontal nystagmus? Think vestibular neuritis. Treat supportively, safety-net, follow up. Regardless — do an ECG in anyone over 50 with dizziness. And check CBG. So... walk me through what you'd do for Encik Ahmad right now.

LEARNER: I'd confirm he's stable — he is. Check CBG — rule out hypo. Do my neuro exam — HINTS if I'm comfortable, at minimum check nystagmus direction and characteristics, gaze, facial symmetry,

finger-nose, gait. Do Dix-Hallpike. And do an ECG.

CONSULTANT: And based on those findings?

LEARNER: If neuro exam is abnormal or HINTS suggests central — urgent referral. If Dix-Hallpike positive — Epley and discharge with safety-net. If exam is normal and Dix-Hallpike negative but he's got horizontal nystagmus — likely vestibular neuritis, I can manage with antiemetics and follow-up. But given his risk factors, I'd have a low threshold to refer.

CONSULTANT: Good. That's the thinking. Remember — CVCOM. Central first in anyone with risk factors.

H) CONTRASTING MINI-CASES

CONSULTANT: Let me give you two cases to contrast. Case one — 28-year-old woman, no medical history, comes in with vertigo that started when she turned over in bed this morning. Lasted about 30 seconds, then settled. Happened again when she looked up. In between episodes, she feels fine. Vitals normal, neuro exam normal, Dix-Hallpike positive with rotatory nystagmus towards the right. What's your diagnosis and action?

LEARNER: BPPV, right posterior canal. I'd do the Epley manoeuvre, give her exercises to do at home, and safety-net to return if it doesn't settle.

CONSULTANT: Good. Case two — 68-year-old man, diabetic, hypertensive, smoker. Sudden onset vertigo this morning. Persistent, not related to position. He says he feels unsteady, his wife noticed his speech is slightly slurred. Vitals show BP 180 over 100. On examination, you see direction-changing nystagmus, he can't walk in a straight line, and there's subtle left facial weakness. What's your diagnosis and action?

LEARNER: Posterior circulation stroke until proven otherwise. Urgent referral to hospital, IV access, nil by mouth. Call ahead, document the time of onset.

CONSULTANT: Exactly. Same chief complaint — giddiness. Completely different diagnosis and action. The history and examination are everything. Now, let me highlight the traps.

I) PITFALLS & COGNITIVE BIAS

CONSULTANT: Trap number one — anchoring on the common diagnosis. BPPV is so common that you might hear "vertigo" and immediately reach for the Epley. But if you didn't do your neuro exam first, you might miss the subtle cerebellar signs. Always neuro exam before Dix-Hallpike in anyone with risk factors. What would you tell yourself to avoid this?

LEARNER: Do the HINTS or at least check for central red flags before I do Dix-Hallpike. Don't skip steps.

CONSULTANT: Good. Trap number two — premature closure. The patient has a positive Dix-Hallpike, so you diagnose BPPV and stop thinking. But BPPV doesn't explain his ataxia. Always make sure all the findings fit. If something doesn't fit, keep looking.

LEARNER: Make sure the diagnosis explains everything. If there are extra findings, reassess.

CONSULTANT: Exactly. Trap number three — attribution error. "He's been stressed lately, probably just anxiety." And you miss the cardiac arrhythmia. Or — "His BP is always high, that's probably why he's dizzy." And you miss the stroke. Don't attribute symptoms to chronic conditions without ruling out acute pathology first. What's the rule?

LEARNER: Acute symptoms need acute explanations. Don't blame chronic conditions without thinking.

CONSULTANT: Good. One more — over-reliance on CT. You send him for CT brain, it comes back normal, you reassure him and send him home. But posterior circulation strokes often don't show on CT in the first 24 to 48 hours. A normal CT doesn't rule out stroke. If your clinical suspicion is high, refer anyway.

J) SAFETY-NET & HANDOVER

CONSULTANT: Now, before any patient with dizziness leaves your clinic, they need a proper safety-net. Here's what I tell them, in Bahasa Malaysia.

First — "Encik, kalau pening jadi lebih teruk, atau Encik rasa lemah sebelah badan, atau mulut jadi senget, atau cakap jadi pelat — ini tanda bahaya. Pergi hospital terus, jangan tunggu."

Second — "Kalau rasa macam nak pengsan, atau jantung berdebar laju tak tentu, datang balik sini atau pergi kecemasan."

Third — "Kalau dalam dua tiga hari tak ada baik, datang balik, kita tengok semula."

Fourth — "Ubat untuk loya ni, ambil sebelum bangun dari tidur pagi. Jangan buat kerja macam panjat tangga atau bawa kereta sampai pening dah betul-betul baik."

Got it? Now, let's say you're referring Encik Ahmad. Give me your handover.

LEARNER: "I'm referring a 62-year-old Malay gentleman, Encik Ahmad. Presented this morning with acute onset vertigo — room spinning — since waking up, associated with nausea and vomiting, and unsteady gait. He has multiple vascular risk factors — diabetes, hypertension, dyslipidaemia. Vitals show BP 168 over 94, heart rate 82 regular, sats 98%. On examination, I found... let's say direction-changing nystagmus and gait ataxia. CBG was 8, ECG showed sinus rhythm. I'm concerned about posterior circulation stroke given his risk factors and examination findings. I've established IV access, kept him nil by mouth. I'm requesting urgent medical review and likely imaging."

CONSULTANT: Good. Clear and structured. Time of onset is important — you mentioned "since waking up," but try to be more specific if possible. "Last seen well at 11pm last night, symptoms noted at 6am" — that gives them the window.

K) MEMORY LOCK

CONSULTANT: Alright. If you remember just three things from today... First — the framework. CVCOM. Central, Vestibular, Cardiac, Orthostatic, Metabolic. That's your mental checklist for every dizzy patient. Second — the red flag rule. In anyone with vascular risk factors, sudden onset vertigo is posterior circulation stroke until proven otherwise. Don't be reassured by a normal CT. Third — the action. In your first 90 seconds, do three things — CBG, ECG, focused neuro exam. Then decide: safe to manage in clinic, or refer?

Coming back to Encik Ahmad — he's 62, multiple risk factors, sudden onset true vertigo. You'd do your quick assessment, find any central signs, and if present, he's going to hospital today. If his exam is completely benign and Dix-Hallpike is positive, maybe it's BPPV — but you'd still safety-net carefully given his background.

That's your approach to giddiness in clinic. Good.

End of Session