

Clinical Scenario:

56 year old male on an airplane. Experiencing cough, chest pain and fever 3 hours into the flight. The flight attendant now has to ask the patient questions based on the presenting complaints. The logic tree will go through the following:

1. Patient complaint
 2. Match complaint with keywords identified in the questionnaire to choose the appropriate questionnaire (these keywords have not been added yet but will be)
 3. The AI will ask the appropriate questions from the questionnaires
 4. Redundant questions will not be asked
 5. The clinical note will then be generated in SOAP format:
 - a. S – Subjective complaints (what the patient says)
 - b. O – Objective – what is found on examination
 - c. A – Assessment
 - d. P - Plan
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In-Flight Patient Evaluation Simulation

Scenario: Technician-Patient Interview Using Intake Questionnaires

Technician Role: ChatGPT

Patient Complaints: Chest Pain, Cough, Fever

Process Overview

This simulation demonstrates how a trained technician would evaluate a patient on an airplane using structured intake questionnaires. The patient presents with **three complaints**: chest pain, fever, and cough. The technician selects and uses the following questionnaires from the intake package:

- **Chest Pain – Technician Intake Questionnaire**
- **Cough – Technician Intake Questionnaire**
- **Fever or Flu-like Symptoms – Technician Intake Questionnaire**

The technician proceeds with one question at a time. The patient answers each question in sequence. The technician concludes with a SOAP note summarizing the clinical assessment.

Technician Evaluation Transcript

Chest Pain Questionnaire

Technician: When did the chest pain start?

Patient: About 1 hour ago

Technician: Can you point to exactly where the pain is located?

Patient: In the front part of my chest

Technician: Can you describe what the pain feels like — for example, is it sharp, dull, pressure-like, burning, or something else?

Patient: It is dull and achy

Technician: Does the pain move anywhere else — like to your arm, neck, jaw, back, or stomach?

Patient: It goes into my jaw

Technician: On a scale of 0 to 10, where 0 is no pain and 10 is the worst pain imaginable, how would you rate it right now?

Patient: Right now it is about a 5 and has gone down from a 8

Technician: Did anything bring on the pain — like exertion, stress, or a meal?

Patient: It happened after I ate the in-flight meal

Technician: Have you ever had this type of chest pain before? If so, when?

Patient: No

Technician: Do you have any medical conditions like high blood pressure, high cholesterol, diabetes, or a history of heart disease?

Patient: I have diabetes and high blood pressure

Technician: Do you take any medications regularly? If yes, which ones (or what are they for)?

Patient: No I don't

Technician: Are you experiencing any other symptoms along with the chest pain — such as shortness of breath, nausea, sweating, dizziness, or feeling faint?

Patient: I have some nausea and sweating

Cough Questionnaire

Technician: When did your cough start?

Patient: 2 days ago before the flight

Technician: Is your cough dry, or are you bringing up any mucus or phlegm? If so, what color is it?

Patient: It produces some phlegm

Technician: What color is the phlegm — clear, white, yellow, green, or bloody?

Patient: It is clear

Technician: Have you had any chest pain or discomfort specifically related to coughing — like soreness or a sharp pain when you cough?

Patient: It is sore when I cough

Technician: Are you experiencing any shortness of breath or wheezing when you breathe?

Patient: No

Fever or Flu-like Symptoms Questionnaire

Technician: Have you had a fever in the last few days or today? If yes, do you know the highest temperature you've had?

Patient: 37.5 degrees Celsius

Technician: Do you have chills, body aches, or feel unusually tired or weak?

Patient: Some chills

Technician: Have you been in contact with anyone recently who was sick — for example, with a cold, flu, or COVID-like illness?

Patient: I was around some people in the airport 2 days ago who were coughing

Technician: Have you had any recent travel outside of your home country or exposure to crowded or high-risk environments? (Besides this current flight)

Patient: No

SOAP Note – In-Flight Technician Assessment

S – Subjective:

Passenger reports chest pain that began approximately 1 hour ago after eating the in-flight meal. Describes the pain as dull and achy, located in the front chest and radiating to the jaw. Initially 8/10 in intensity, now 5/10. Also reports associated nausea and sweating. Denies similar episodes in the past. Medical history includes diabetes and hypertension; not on any medications. Additionally, the passenger reports a productive cough for the past 2 days, producing clear phlegm, and soreness with coughing. Denies shortness of breath or wheezing. Passenger notes a low-grade fever (37.5°C) and some chills. Reports possible exposure to coughing individuals at the airport 2 days ago.

O – Objective:

(In a real setting, vitals and physical exam would be recorded here. Onboard, objective data may be limited to observational findings.)

- Appears uncomfortable
- Diaphoretic (sweaty)
- No observed respiratory distress
- No cyanosis or pallor noted

- Chest pain appears non-pleuritic but radiates to jaw — cardiac origin cannot be ruled out

A – Assessment (Provisional):

- Chest pain, possibly cardiac in origin (due to radiation to jaw, nausea, diaphoresis, and risk factors: diabetes, hypertension)
- Viral or post-viral bronchitis with low-grade fever and productive cough
- At-risk patient due to chronic conditions and atypical presentation of possible acute coronary syndrome (ACS)

P – Plan (In-Flight):

- Notify onboard medical personnel or seek physician consultation immediately
- Ensure patient is seated with oxygen available if needed
- Monitor for worsening symptoms: increased pain, breathlessness, loss of consciousness
- Recommend urgent evaluation with ECG and cardiac enzymes at nearest facility upon landing
- Advise against further in-flight meals or exertion

Questionnaire 1: Chest Pain – Technician Intake Questionnaire

Section 1: Presenting Symptom

“What brings you in today?”

- ☐ Chest pain
- ☐ Chest tightness or pressure
- ☐ Discomfort in chest, neck, jaw, shoulder, or arm
- ☐ Burning or aching in chest

“When did the pain start?”

- ☐ Just now ☐ Within the last hour ☐ 1–6 hours ago ☐ Yesterday ☐ Several days ago

“How would you describe the pain?”

- ☐ Pressure ☐ Sharp ☐ Burning ☐ Aching ☐ Stabbing ☐ Squeezing ☐ Cramping ☐ Heavy

“Where do you feel the pain?”

- ☐ Center ☐ Left ☐ Right ☐ Upper ☐ Lower ☐ Radiates to: _____

“How long does it last?”

- ☐ Seconds ☐ Minutes ☐ Constant ☐ Comes and goes

“What makes it better or worse?”

☐ Better with rest ☐ Worse with movement ☐ Worse when breathing ☐ Worse after eating ☐ No clear pattern

Section 2: Associated Symptoms

“Are you experiencing any of the following with the chest pain?” (check all that apply)

- ☐ Shortness of breath
- ☐ Nausea or vomiting
- ☐ Sweating
- ☐ Dizziness or lightheadedness
- ☐ Palpitations
- ☐ Pain with deep breathing or coughing
- ☐ Calf pain or swelling
- ☐ Recent long travel or immobility
- ☐ Fatigue
- ☐ Fever or chills
- ☐ Heartburn or burping

Section 3: Red Flag Screening (Narrative Style with Risk Factors)

“Let me ask a few important questions to help us rule out any serious causes.”

Cardiac Risk Factors:

“Do you have any of the following?”

- ☐ History of heart disease (angina, heart attack, stents, bypass surgery)
- ☐ High blood pressure
- ☐ High cholesterol
- ☐ Diabetes
- ☐ Smoking (current or past)
- ☐ Family history of early heart disease (men <55, women <65)

Pulmonary Embolism (DVT/PE) Risk Factors:

“Have you had any of the following?”

- ☐ Recent surgery or hospitalization
- ☐ Prolonged immobility (e.g., long flight, bed rest)
- ☐ Swollen or painful leg
- ☐ Personal or family history of blood clots
- ☐ Use of estrogen-containing medications (birth control, hormone therapy)
- ☐ Active cancer or recent cancer treatment

Urgent Red Flags – Are you currently experiencing any of these?

- ☐ Sudden or severe chest pain
- ☐ Crushing, pressure-like pain that radiates to the arm, neck, or jaw

- ☐ Shortness of breath at rest or with minimal activity
- ☐ Lightheadedness or fainting
- ☐ Sweating with chest pain
- ☐ Calf pain or leg swelling with chest pain
- ☐ Chest pain with known cardiac or clotting risk factors

Exertional Chest Pain –

“Do you feel chest pain or tightness when walking, climbing stairs, or exerting yourself physically?”

☐ Yes ☐ No

→ “If yes, does the pain improve or go away when you stop and rest?”

☐ Yes ☐ No

→ “Has this happened before during activity?”

☐ Yes ☐ No

☐ First time

→ “How much activity brings it on (e.g., walking 1 block, running, climbing stairs)?”

Section 4: GI or Musculoskeletal Features

“Does the pain...”

- ☐ Get worse with movement, position, or palpation?
- ☐ Get worse after eating or lying down?
- ☐ Improve with antacids?

Section 5: Technician Notes for Physician Review

- If red flag symptoms or risk factors present → immediate physician review
- If pain is exertional and improves with rest → concern for angina / cardiac ischemia
- Suspect ACS, PE, aortic dissection, or GI/MSK depending on full picture
- Document vitals, oxygen saturation, ECG if available, and response to medications

Section 6: Additional Comments

“Would you like to share anything else about your chest pain?”

(Free-text narrative – patient or technician-written)

Questionnaire 2: Fever – Technician Intake Questionnaire

Section 1: Presenting Symptom

“What brings you in today?”

- ☐ Fever
- ☐ Chills
- ☐ Sweating
- ☐ Feeling hot or flushed
- ☐ Feeling unwell / malaise

“How high has your temperature been?”

- ☐ Not measured
- ☐ Less than 38°C (100.4°F)
- ☐ 38–39°C (100.4–102.2°F)
- ☐ Over 39°C (102.2°F)

“How long have you had the fever?”

- ☐ Less than 24 hours
- ☐ 1–3 days
- ☐ 4–7 days
- ☐ More than 1 week

“Is the fever constant or does it come and go?”

- ☐ Constant
- ☐ Comes and goes
- ☐ Not sure

Section 2: Associated Symptoms

“Do you have any of the following symptoms with your fever?” (check all that apply)

- ☐ Cough
- ☐ Sore throat
- ☐ Nasal congestion
- ☐ Ear pain
- ☐ Shortness of breath
- ☐ Chest pain
- ☐ Abdominal pain
- ☐ Nausea / vomiting
- ☐ Diarrhea
- ☐ Burning or pain with urination
- ☐ Rash
- ☐ Joint pain
- ☐ Neck stiffness
- ☐ Headache
- ☐ Confusion
- ☐ Seizures

Section 3: Infection Screening

“Have you been in contact with anyone who is sick or has a known infection?”

☐ Yes ☐ No ☐ Not sure

→ If yes, describe: _____

“Have you recently been in a hospital, long-term care, or healthcare setting?”

☐ Yes ☐ No

“Have you recently had any surgeries, dental work, or procedures?”

☐ Yes ☐ No

→ If yes, specify: _____

“Have you recently had any insect bites or animal exposures?”

☐ Yes ☐ No

→ If yes, specify: _____

“Have you traveled recently, especially outside the country?”

☐ No ☐ Yes – within Canada ☐ Yes – international

→ If yes, where? _____

→ Date of return: _____

Section 4: Risk Factors

“Do you have any of the following?” (check all that apply)

- ☐ Diabetes
- ☐ Cancer
- ☐ Autoimmune disease
- ☐ Taking steroids or immunosuppressive medications
- ☐ HIV/AIDS
- ☐ Implanted devices (e.g., pacemaker, prosthetic joint)
- ☐ Intravenous drug use
- ☐ Recent dental infection
- ☐ Open wounds or skin infections

Section 5: Red Flags

“Are you experiencing any of the following?” (check all that apply)

- ☐ Fever lasting more than 7 days
- ☐ Confusion or altered mental status
- ☐ Severe headache with neck stiffness
- ☐ Rash with purple spots or bruising
- ☐ Difficulty breathing
- ☐ Severe abdominal pain
- ☐ Vomiting with blood or black stools

- ☐ Very low or very high blood pressure (if known)
- ☐ Seizure
- ☐ Recent travel to malaria-endemic areas

Section 6: Technician Notes for Physician Review

- Red flag symptoms present?
- Known immunocompromised status or exposure risk?
- Prompt physician for consideration of labs (CBC, cultures), imaging, or urgent referral

Section 7: Additional Comments

“Would you like to share anything else about your fever or how you've been feeling?”

(Free-text narrative – patient or technician-written)

Questionnaire 3: Cough – Technician Intake Questionnaire

Section 1: Presenting Symptom

“What brings you in today?”

- ☐ New cough
- ☐ Chronic cough (>8 weeks)
- ☐ Recurrent episodes of cough

“How long have you had this cough?”

“Is the cough dry or productive?”

- ☐ Dry
- ☐ Produces mucus/phlegm

“Do you have any of the following symptoms?”

(check all that apply)

- ☐ Fever
- ☐ Sore throat
- ☐ Shortness of breath
- ☐ Wheezing
- ☐ Chest pain
- ☐ Nighttime coughing

- ☐ Heartburn or sour taste in mouth
- ☐ Recent cold or flu
- ☐ Unintentional weight loss
- ☐ Coughing up blood

Section 2: Asthma and COPD Screening

“Have you ever been diagnosed with asthma or COPD?”

- ☐ No
- ☐ Asthma
- ☐ COPD
- ☐ Both
- ☐ Not sure

If yes:

“Do you remember when you were diagnosed?”

“Do you know how the diagnosis was made?”

(e.g., breathing tests, ER visit, specialist, etc.)

“Have you ever received asthma education from a nurse, doctor, or clinic?”

- ☐ Yes ☐ No ☐ Not sure

“In the past 12 months, have you had any of the following for your asthma or COPD?”

(check all that apply)

- ☐ Visit to the Emergency Room
- ☐ Hospital admission
- ☐ Treatment with prednisone
- ☐ Need to use rescue inhaler more than 3 times a week
- ☐ Missed work/school due to breathing issues

Section 3: Asthma Control Screening

If patient has asthma:

“Let’s go through the Asthma Control Test (ACT). Please answer based on the past 4 weeks.”

1. How often did your asthma prevent you from getting as much done at work, school or home?
☐ All the time (1) ☐ Most of the time (2) ☐ Some of the time (3) ☐ A little of the time (4) ☐ None of the time (5)
2. How often have you had shortness of breath?
☐ More than once a day (1) ☐ Once a day (2) ☐ 3–6 times a week (3) ☐ Once or twice a week (4) ☐ Not at all (5)

3. How often did your asthma symptoms wake you up at night or earlier than usual in the morning?
☐ 4 or more nights/week (1) ☐ 2–3 nights/week (2) ☐ Once a week (3) ☐ Once or twice (4) ☐ Not at all (5)
4. How often have you used your rescue inhaler or nebulizer medication?
☐ 3+ times/day (1) ☐ 1–2 times/day (2) ☐ 2–3 times/week (3) ☐ Once a week or less (4) ☐ Not at all (5)
5. How would you rate your asthma control?
☐ Not controlled at all (1) ☐ Poorly controlled (2) ☐ Somewhat controlled (3) ☐ Well controlled (4) ☐ Completely controlled (5)

ACT Total Score: _____ /25

(Score ≤19 suggests **poor control**)

Section 4: Risk Factors

“Do you have any of the following risk factors for chronic or serious lung disease?”

- ☐ Current smoker
- ☐ Former smoker
- ☐ Exposure to second-hand smoke
- ☐ History of frequent lung infections
- ☐ Occupational exposure to dust/fumes
- ☐ Known history of tuberculosis or lung scarring

Section 5: Technician Notes for Physician Review

- Red flags: cough >8 weeks, hemoptysis, weight loss, night sweats, known lung disease
- If asthma/COPD present: attach ACT score and prompt for medication review
- Consider spirometry, chest x-ray, or referral per physician protocol

Section 6: Additional Comments

“Would you like to tell us more about your cough in your own words?”

(Free-text narrative – patient or technician-written)