Adult History & Physical Examination

AARC Approved for 1 CRCE Credit Hour

A practical respiratory care approach

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COURSE OBJECTIVE

Learning Objective

Elicit and explain the significance of findings from a patient history and physical examination.

History → Observe → Examine → Interpret

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Medical History

The assessment begins before the stethoscope comes out

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MEDICAL HISTORY

Start With the Story

Who is the patient?

Age • occupation • living situation • relevant demographics

Why are they here?

Chief complaint • current condition • source and reliability of history

What is the context?

Past history • medications • exposures • family and social history

The goal is a focused history, not a checklist for its own sake.

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HISTORY TAKING

Chief Complaint vs. HPI

Chief complaint

The patient's primary reason for seeking care — ideally in their own words.

"I can't catch my breath."

History of present illness

The details that describe how the current problem developed and what it feels like.

When? How severe? What triggers it? What else occurs with it?

HISTORY OF PRESENT ILLNESS

A Simple Framework: PQRST

P	**Provocation / Palliation**	What brings it on? What makes it better?
Q	**Quality / Quantity**	What does it feel like? How much?
R	**Region / Radiation**	Where is it? Does it move?
S	**Severity**	How bad is it? How much does it limit activity?
T	**Timing**	When did it start? How long? How often?

WHAT CHANGES THE CLINICAL PICTURE?

Past Medical History

- Prior respiratory and cardiac disease
- Previous hospitalizations, surgery, or intubation
- Current medications, including recent changes
- Allergies and adverse reactions
- Immunization history when relevant
- Baseline oxygen, PAP, inhaler, or nebulizer use

SOCIAL HISTORY

Smoking, Vaping & Substance Exposure

Ask specifically. Avoid assumptions.

Tobacco

Current or former?
How much? How long?
Calculate pack-years.

Vaping / inhaled products

Nicotine, THC, other products
Frequency and duration

Other substances

Alcohol and recreational drugs
Route of administration matters

Neutral, specific questions usually produce better information.

LOOK FOR PATTERNS

Family History

Respiratory / inherited clues

Asthma
Early emphysema or alpha-1 antitrypsin deficiency
Cystic fibrosis or bronchiectasis
Hemoglobin disorders
Other inherited conditions

Cardiometabolic clues

Premature cardiovascular disease
Diabetes
Renal disease
Neurologic disease
Cause and age of death in close relatives

Family history changes probability; it rarely makes the diagnosis by itself.

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THE EXPOSURE MAY BE THE DIAGNOSIS

Occupational & Environmental History

Construction / demolition	Silica • asbestos • dust
Agriculture / birds	Organic antigens • hypersensitivity pneumonitis
Manufacturing / flavorings	Fumes • chemicals • occupational bronchiolitis
Healthcare	Aerosols • disinfectants • latex • infectious exposure
Home / hobbies	Mold • hot tubs • woodworking • pets / birds

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LOOK BEYOND THE LUNGS

Review of Systems

Respiratory complaints may originate outside the respiratory system.

Cardiovascular

edema • palpitations • syncope

GI

reflux • aspiration risk • weight loss

Neurologic

weakness • altered mental status • headache

Constitutional

fever • chills • night sweats • fatigue

Musculoskeletal

chest wall limitation • pain • weakness

Allergic / immune

rhinitis • exposures • systemic disease

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Cardiopulmonary Symptoms

Turn the complaint into useful clinical information

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CHARACTERIZE IT

Cough

Duration

Acute, subacute, or chronic?
New or baseline?

Character

Dry or productive?
Day, night, positional?
Triggers?

Context

Smoking / vaping
ACE inhibitor
Infection • reflux • asthma

A cough is a symptom. Its pattern helps identify the cause.

ASK WHAT THE PATIENT CAN DO

Dyspnea

"How short of breath are you?" is less useful than:

"What activity could you do a month ago that you cannot do today?"

Exertional

Only with exercise?
With ordinary activity?

At rest

Dyspnea while sitting or speaking?

Positional

Orthopnea? Number of pillows?
Worse upright?

DESCRIBE WHAT IS ACTUALLY PRESENT

Sputum & Hemoptysis

Amount	Scant, moderate, copious — and change from baseline
Character	Mucoid, purulent, thick, frothy
Timing	Morning? Throughout the day? New onset?
Blood	Streaking vs. frank hemoptysis — quantify when possible
Associated findings	Fever, weight loss, chest pain, dyspnea

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CARDIOPULMONARY SYMPTOMS

Other Clues That Matter

Chest discomfort

Onset • quality • location
Relation to breathing or exertion

Edema / syncope

Peripheral edema
Faintness or loss of consciousness

Systemic symptoms

Fever • chills • night sweats
Weight loss • fatigue

Upper airway

Hoarseness • stridor
Noisy breathing • snoring

Neurologic

Headache • confusion
Personality or mental-status change

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APPLY WHAT YOU KNOW

Mini-Case 1: The History Tells the Story

67-year-old with increasing shortness of breath

- Dyspnea gradually worsening over several years
- 45-pack-year smoking history
- Chronic morning cough with sputum
- Now has difficulty walking to the mailbox
- Sleeps on one pillow
- No fever or chills

What matters most?

What additional questions would you ask?

What diagnosis is moving higher on your list?

Next: Physical Examination

Observe first. Then examine. Then put the findings together.

PHYSICAL EXAMINATION

The Exam Starts Before You Touch the Patient

General appearance

Comfort • distress • body habitus

Breathing

Rate • depth • pattern • effort

Interaction

Speech • attention • mental status

Observation is continuous — not a single step in the exam.

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NEUROLOGIC STATUS

Level of Consciousness

Why it matters in respiratory care

- Hypoxemia can alter mental status
- Hypercapnia can cause headache, confusion and somnolence
- A change from baseline may be an early warning sign

Glasgow Coma Scale

Eye opening	1–4
Verbal response	1–5
Motor response	1–6
Total score:	3–15

Trend the patient, not just the number.

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VITAL SIGNS

Numbers Need Context

Respiratory rate	Heart rate	Blood pressure	SpO_2
Rate • rhythm • depth	Rate • rhythm • strength	Perfusion • hemodynamics	Oxygenation trend

A "normal" SpO_2 does not tell you whether ventilation is adequate.

Trend + clinical appearance + history = useful vital signs

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INSPECTION

Look for Increased Work of Breathing

Position	Upper airway	Muscles	Speech
Tripod • unable to lie flat	Nasal flaring • stridor	Accessory muscle use • retractions	Full sentences or only a few words?

The patient may show you the severity before the monitor does.

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APPLY WHAT YOU KNOW

Mini-Case 2: Look at the Patient First

24-year-old with asthma arrives in the ED

- RR 34/min • HR 128/min
- SpO_2 89% on room air
- Sitting upright with nasal flaring
- Accessory muscle use
- Speaks only 2–3 words at a time
- Appears anxious

Before auscultation...

What does the physical examination already tell you?

Which changes would make you worry the patient is tiring?

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HEAD & NECK

Focused Findings That Change the Picture

Face / color	Pupils	Trachea	Neck veins
Cyanosis • pallor • diaphoresis	Size • equality • reactivity	Midline or displaced?	Jugular venous distention

Do not overinterpret one sign, ask whether it fits the rest of the patient.

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TRACHEAL POSITION

Toward or Away?

Volume loss can pull toward

Atelectasis
Fibrotic volume loss

Pressure / volume can push away

Large tension pneumothorax
Large mass or effusion

Tracheal deviation supports the diagnosis, do not wait for it.

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ABDOMEN & EXTREMITIES

Respiratory Clues Outside the Chest

Abdominal motion

Paradox may suggest diaphragmatic dysfunction or fatigue

Edema

Consider right heart failure / volume overload

Clubbing

Think chronic pulmonary, cardiac or systemic disease

Perfusion

Temperature • capillary refill • skin moisture

Important update: clubbing is not simply a sign of “chronic hypoxemia.”

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CHEST EXAMINATION

Four Techniques — One Clinical Picture

1 Inspect	2 Palpate	3 Percuss	4 Auscultate
Configuration • symmetry • pattern	Expansion • tenderness • fremitus	Resonance • dullness • hyperresonance	Air movement • breath sounds • added sounds

Each step should confirm, challenge, or refine what you already suspect.

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CHEST INSPECTION

Configuration & Ventilatory Pattern

Configuration

- Symmetry of chest movement
- Increased AP diameter / hyperinflation
- Pectus excavatum or carinatum
- Kyphosis / scoliosis
- Trauma, scars or deformity

Pattern

- Rapid and shallow breathing
- Prolonged expiration
- Irregular or periodic breathing
- Deep, rapid breathing
- Apnea or abnormal pauses

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PALPATION

Chest Expansion & Tactile Fremitus

Chest expansion

Compare sides for symmetry.

Reduced movement can localize a problem

Tactile fremitus

↑ with lung consolidation
↓ with pleural fluid, pneumothorax or hyperinflation

Update: atelectasis does not automatically mean increased fremitus.

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PERCUSSION

What Is Under the Chest Wall?

Resonant	Dull	Hyperresonant	Tympanitic
Expected over normally aerated lung	Consolidation or pleural fluid	More air: emphysema or pneumothorax	Very air-filled space; interpret cautiously

Percussion is supportive — combine it with the rest of the exam.

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APPLY WHAT YOU KNOW

Mini-Case 3: Sudden Deterioration

Mechanically ventilated trauma patient

- Sudden severe hypoxemia
- Hypotension and tachycardia
- Unequal chest expansion
- Absent breath sounds on the right
- Right chest hyperresonant
- Rapidly worsening distress

What is your concern?

What diagnosis best connects these findings?

Would you wait for tracheal deviation or a chest x-ray?

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AUSCULTATION

Technique Matters

Do

- Quiet environment when possible
- Stethoscope directly on skin
- Ask for slow, deep breaths if tolerated
- Compare symmetric locations
- Listen to the entire chest — especially posterior bases

Describe

- Air entry / intensity
- Location
- Timing: inspiratory or expiratory
- Added sounds
- Change after cough or treatment

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NORMAL BREATH SOUNDS

Know What Belongs Where

Tracheal	Bronchial	Bronchovesicular	Vesicular
Very loud, high-pitched Over the trachea	Loud / tubular Normally central	Intermediate Near major bronchi	Soft / low-pitched Peripheral lung fields

Bronchial-quality sounds in the peripheral lung may suggest consolidation.

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ADVENTITIOUS SOUNDS

Use Clear, Current Terminology

Crackles	Wheeze	Rhonchus	Stridor
Discontinuous Fine or coarse	Continuous musical sound Usually expiratory	Low-pitched continuous sound May change with cough	Harsh upper-airway sound Often inspiratory

Update: wheezes and rhonchi are generally described as distinct continuous sounds.

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AUSCULTATION

A Sound Is a Clue - Not a Diagnosis

Crackles can occur with

- Pulmonary edema
- Pneumonia
- Fibrotic lung disease
- Atelectatic regions

Wheeze can occur with

- Asthma
- COPD
- Airway edema
- Other airway narrowing

Reduced / absent sounds

- Pleural effusion
- Pneumothorax
- Severe airflow limitation
- Obstruction / poor ventilation

Never diagnose from one breath sound.

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REPORTING

Make the Finding Reproducible

Instead of:

“Abnormal breath sounds.”

Try:

“Fine inspiratory crackles at the right posterior base; unchanged after cough.”

Type + timing + location + intensity + response to cough/therapy

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APPLY WHAT YOU KNOW

Mini-Case 4: Put the Exam Together

76-year-old with increasing dyspnea and fever

- Productive cough • RR 28/min
- SpO_2 88% on room air
- Reduced right lower chest expansion
- Dullness to percussion at right base
- Inspiratory crackles at right lower lobe
- Bronchial-quality breath sounds in the same area

What pattern do you see?

Which diagnosis best fits the combined history + inspection + percussion + auscultation?

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CHANGE ONE FINDING

Does Your Assessment Change?

Same patient — but now the right chest is hyperresonant and breath sounds are absent.

Dull + crackles + bronchial sounds

Think increased density / consolidation

Hyperresonant + absent sounds

Think increased pleural air / pneumothorax

Physical assessment is pattern recognition.

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SUMMARY

From History to Clinical Picture

1. History	2. Observe	3. Examine	4. Interpret
Complaint • timeline • exposures • baseline	Appearance • work of breathing • mental status	Inspect • palpate • percuss • auscultate	Combine findings • trend • reassess

The strongest assessment comes from findings that agree with one another.

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KEY TAKEAWAY

Assess the Patient - Not an Isolated Finding

History gives context.
Physical examination provides clues.

Clinical judgment comes from putting those clues together.

Then reassess as the patient changes.

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The End

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