



Exploration of patients with respiratory diseases: complains, anamnesis, inspection. Palpation of the rib cage. Comparative percussion of the lungs

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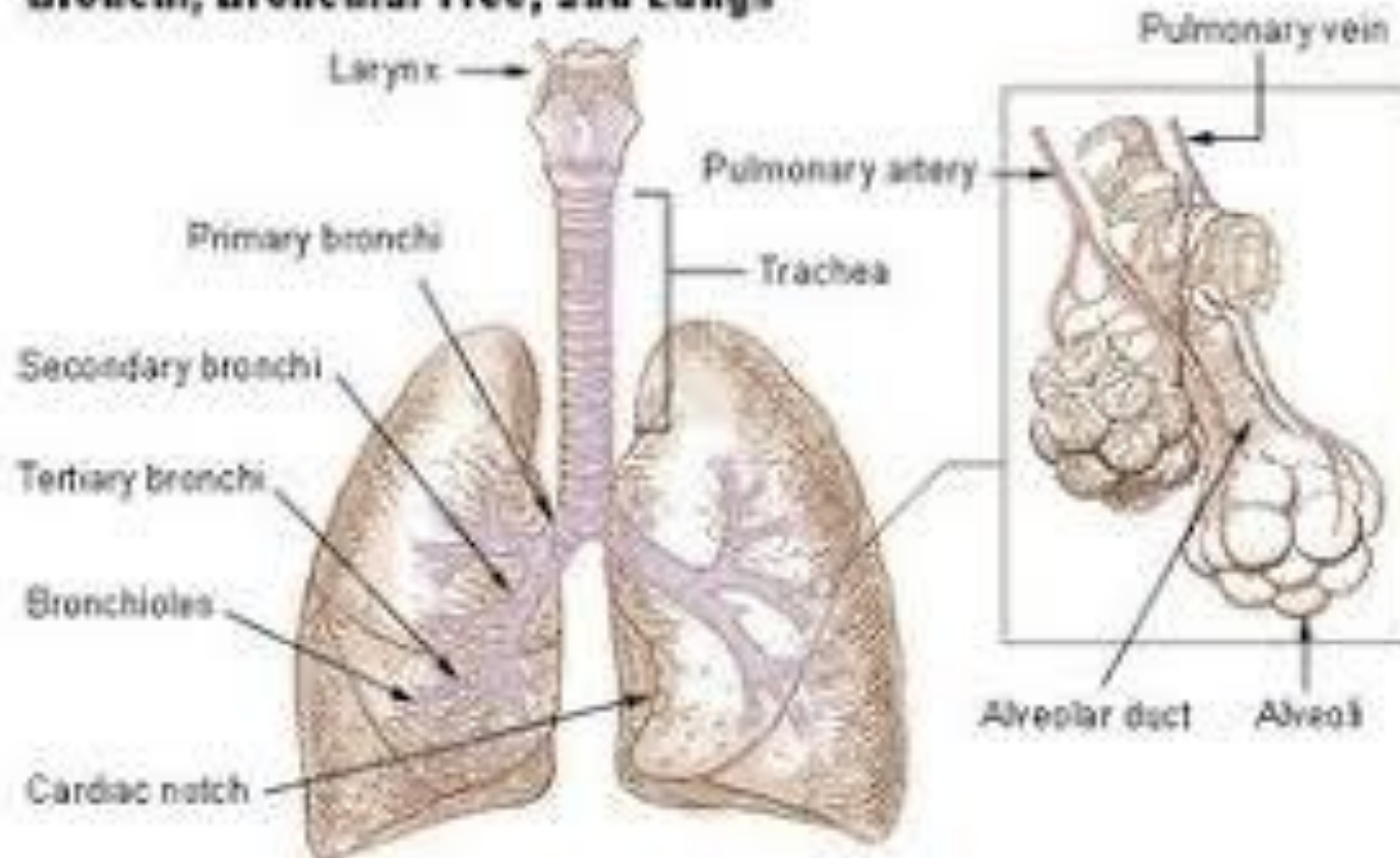


<https://www.youtube.com/watch?v=zdkYujPkeqo>

Pentru examinare

Anatomy of the lungs

Bronchi, Bronchial Tree, and Lungs



Assessment of the lungs and thorax

- **These same steps are very popular today in assessment of all systems of the body. These steps are designed to take the doctor through the assessment in a logical and organized sequence. You first start with a very general inspection and history of the patient; then your exam becomes more detailed as you begin to examine the interaction of all body systems.**
- **Visual Inspection - is the first step of the examination. This is a very important part of the exam, since many abnormalities can be detected by merely inspecting the thorax as the patient is breathing**

Assessment of the lungs and thorax

- **Palpation - is the first step of the assessment, where we will touch the patient. Many breathing difficulties can be seen during this step. Some systemic problems can be detected during this part of the exam as well as just mechanical breathing problems.**
- **Percussing - is usually helpful only in a limited capacity to the examiner, as we will discuss later.**
- **Auscultation - is the process of listening to the breath sounds with the use of a stethoscope. In this text, we will describe the characteristics of normal and common abnormal breath sounds.**

Patient history

- Following is a guide to the history-taking process. (Lehrer, 1990). The history is very important to obtain before you begin your examination. The nursing history may repeat some of the same items that the medical history has obtained but the nurse will have different objectives in mind when asking questions and gathering data, The following guide can be used to obtain information from the patient
- Reason for Hospitalization (medical diagnosis from chart)
- Family Medical History
- Family history (TB, allergy, asthma, smoking)
- Social history of family
- Occupational history

Patient history

- Type of work patient is engaged in; are they exposed to air or chemical pollutants
- Exposure to exotic animals, birds; pigeons, parrots, parakeets
- Consider the part of the country they are from; some diseases are endogenous

Patient history

- General Patient Medical History
- Major medical problems; heart, GI, GU, respiratory surgery, etc.
- Allergy
- Childhood diseases

Patient history

- Specific Medical History (patient complaints at hospitalization)
- Pain – pulmonary pain, pleural pain, muscular pain, cardiac pain, describe in detail.
- Cough – type of cough, type and character of sputum, blood in sputum
- Hemoptysis
- Dyspnea – ask circumstances surrounding trouble breathing
- Hoarseness
- Wheezing

Inspection

The examiner then estimates the patient's respiratory rate by observing how many times the patient breathes in and out within the span of one minute. Adults normally breathe about 14 to 20 times per minute, while infants may breathe up to 44 times per minute.

Inspection

After obtaining the patient's respiratory rate, the examiner looks for any signs of respiratory distress, which may include:

Cyanosis, a bluish tinge of the extremities (peripheral cyanosis), or of tongue (central cyanosis-1)

Pursed-lip breathing

Accessory muscle use, including the scalene and intercostal muscles

Diaphragmatic breathing, paradoxical movement of the diaphragm outwards during inspiration

Intercostal indrawing (2)

Decreased chest–chest movement on the affected side

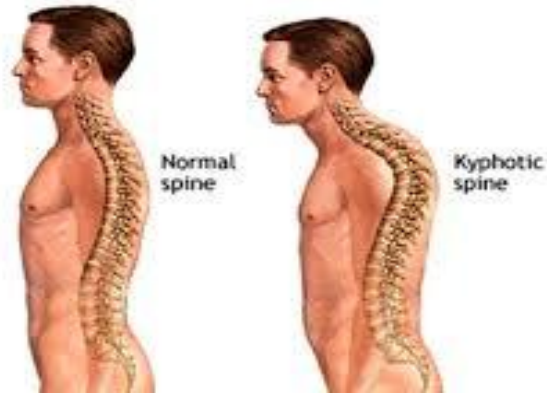
An increased jugular venous pressure, indicating possible right heart failure



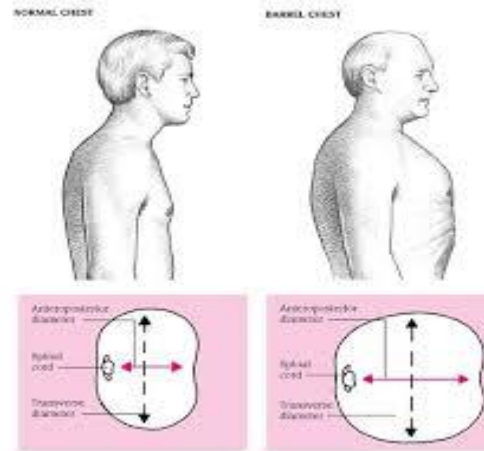
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The anterior and posterior chest wall are also inspected for any abnormalities, which may include:



Kyphosis, abnormal anterior-posterior curvature of the spine



Barrel chest, bulging out of the chest wall; normal in children; typical of hyperinflation seen in chronic obstructive pulmonary disease (COPD)



Scoliosis, abnormal lateral curvature of the spine



Pectus excavatum, sternum sunken into the chest



Pectus carinatum, sternum protruding from the chest

The patient's breathing pattern

A patient with metabolic acidosis will often demonstrate a rapid breathing pattern:

Kussmaul breathing -Rapid breathing helps the patient compensate for the decrease in blood pH by increasing the amount of exhaled carbon dioxide, which helps prevent further acid accumulation in the blood.

Cheyne–Stokes respiration is a breathing pattern consisting of alternating periods of rapid and slow breathing, which may result from a brain stem injury.

Chest retractions may be observed in patients with asthma. During intercostal retractions, the skin between the ribs appears to sink in as the intercostal muscles (the muscles between the ribs) aid in respiration. These are signs of respiratory distress.

In addition to measuring the patient's respiratory rate, the examiner will observe

The physician then typically inspects the fingers for cyanosis and clubbing



A respiratory examination, or lung examination

- is performed as part of a physical examination in response to respiratory symptoms such as shortness of breath, cough, or chest pain, and is often carried out with a cardiac examination.
- The four steps of the respiratory exam are inspection, palpation, percussion, and auscultation of respiratory sounds, normally first carried out from the back of the chest

Palpation

- Palpation is the use of physical touch during examination. During palpation, the physician checks for areas of tenderness, abnormalities of the skin, respiratory expansion and fremitus.
- To assess areas of tenderness, palpate areas of pain, bruises, or lesions on the front and back of the chest. Bruises may indicate a fractured rib, and tenderness between the ribs may indicate inflamed pleura.

Palpation

- Palpate any abnormal masses or structures on the front and back of the chest. Abnormal masses or sinus tracts may point to infections. To observe chest wall expansion on the back of the chest, place palms on the patient's back with fingers parallel to the ribs and thumbs at the 10th ribs. Move hands towards each other to raise some skin on either side of the spine. Instruct the patient to inhale and observe the movement of the thumbs on the patient's back. Repeat the process with each hand on the lower margin of the ribcage at the front of the chest to further observe chest expansion. Asymmetry in chest expansion may be due to disease of lung or pleura.

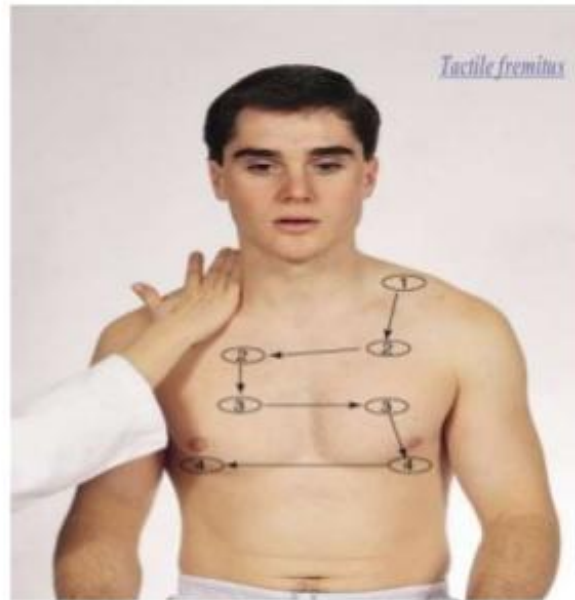
Palpation

- Place the bony parts of the palm around the borders of the patient's scapulae while he or she says "ninety-nine" or "one one one" to test for fremitus. Repeat the sequence on the front of the chest. A decrease in fremitus may be observed if the patient has a soft voice, obstructed bronchus, COPD, pneumothorax, or other disease or injuries that may obstruct the vibrations of the larynx

Palpation

Anterior thorax

- Palpate the anterior chest
- Palpate the anterior chest for respiratory excursion
- Palpate the tactile fremitus



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Chest percussion

Percussion is the act of tapping on the surface of the body in order to assess the structures that lie beneath the skin.



Chest percussion

Percussion over different body tissues results in five common "notes"

1. Resonance: Loud and low pitched. Normal lung sound.
2. Dullness: Medium intensity and pitch. Experienced with fluid.
3. Hyper-resonance: Very loud, very low pitch, and longer in duration. Abnormal and can result from asthma or emphysema
4. Tympany: Loud and high pitched. Common for percussion over gas-filled spaces.
5. Flatness: Soft and high pitched.

Percussion of lungs



