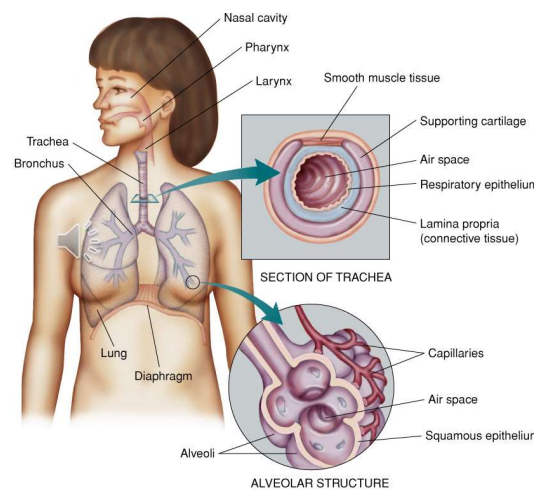




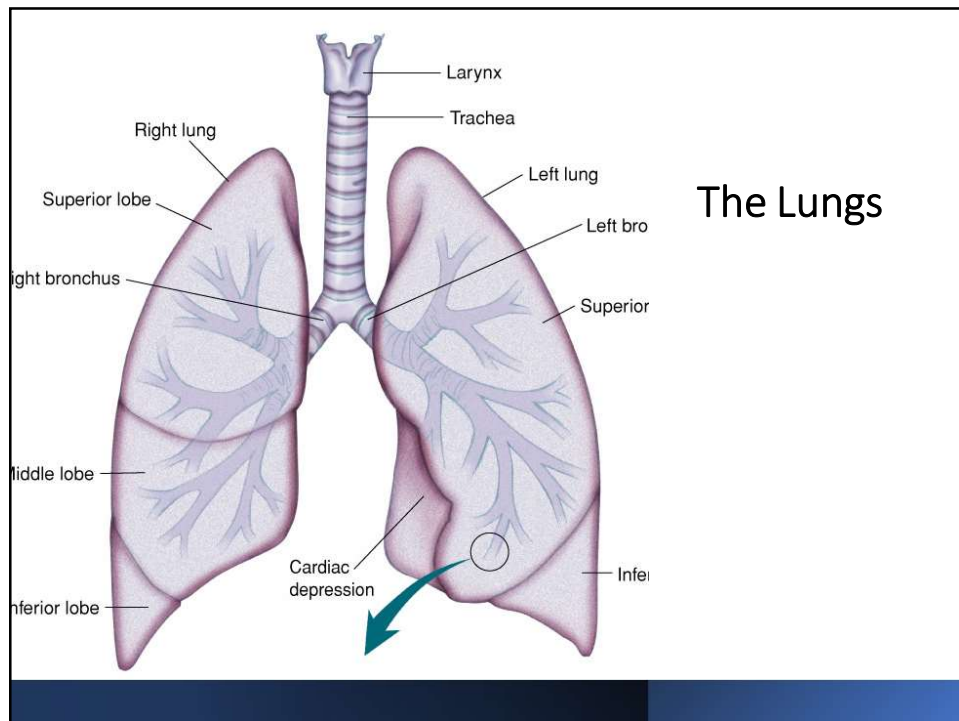
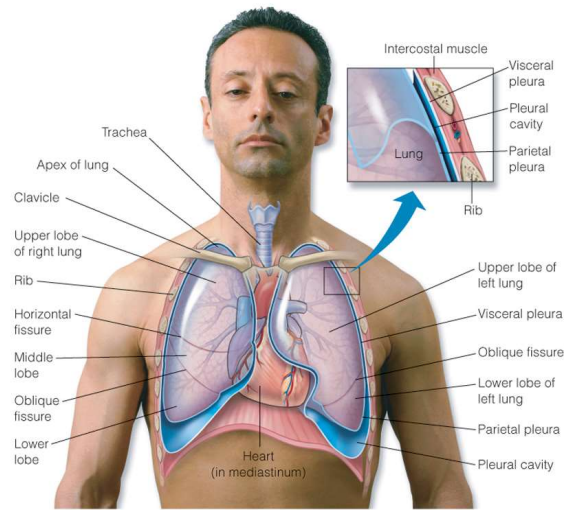
Respiratory Examination in older people

Respiratory System

- Study the anatomy that you see in this diagram and consider what could go wrong.
- Think of normal and abnormal findings



Lungs & Surrounding Structures



The Lungs

Anatomy and physiology

The respiratory tract extends from the nose to the alveoli and includes not only the air-conducting passages also but the blood supply



The primary purpose of the respiratory system is gas exchange, which involves the transfer of oxygen and carbon dioxide between the atmosphere and the blood.

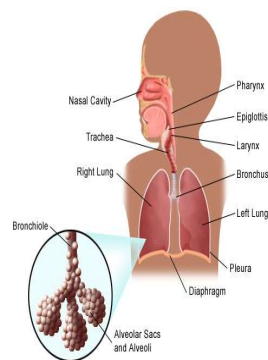


The respiratory system is divided into two parts: the upper respiratory tract and the



lower respiratory tract

- The nose
- pharynx
- larynx,
- and trachea.



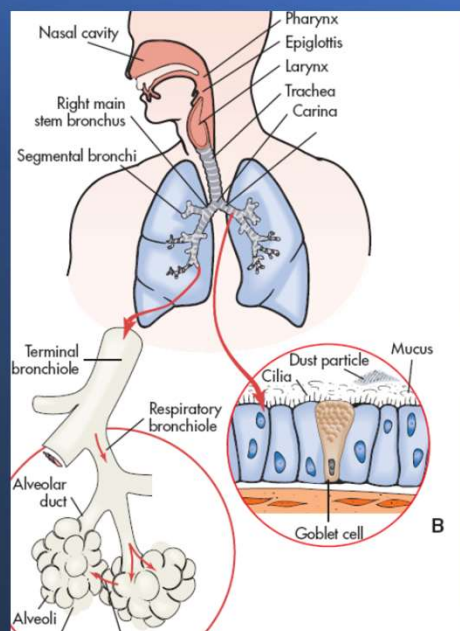
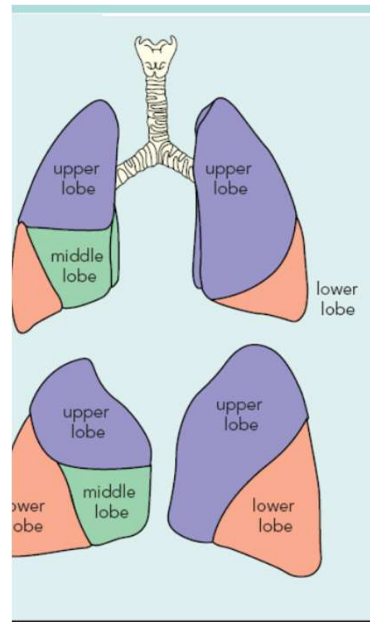
- The upper respiratory tract includes

The lower respiratory tract consists of

- the bronchi,
- Bronchioles
- alveolar ducts
- and alveoli
- With the exception of the right and left main-stem bronchi, all lower airway structures are contained within the lungs.

- The right lung is divided into three lobes (upper, middle, and lower)
- the left lung into two lobes (upper and lower)
- The structures of the chest wall
- (ribs, pleura, muscles of respiration) are also essential

The lobes of the Lung



Physiology of Respiration

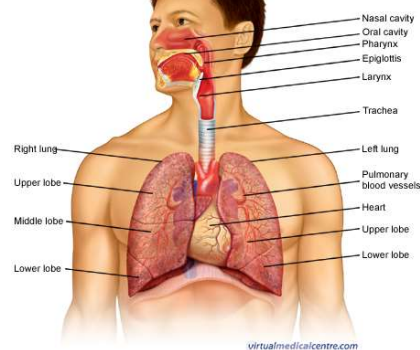
- **Ventilation** involves *inspiration* (movement of
- air into the lungs) and *expiration* (movement of air out of the
- lungs). Air moves in and out of the lungs because intrathoracic
- pressure changes in relation to pressure at the airway opening.
- Contraction of the diaphragm and intercostal and scalene muscles
- increases chest dimensions, thereby decreasing intrathoracic
- pressure. Gas flows from an area of higher pressure (atmospheric)
- to one of lower pressure (intrathoracic)

Four main
stages for all
examinations:

1. Inspection
 2. Palpation
 3. Percussion
 4. Auscultation
- Don't always need to progress in a linear way

Respiratory anatomy:

- Image courtesy of www.myvmc.com



Hands and nails:

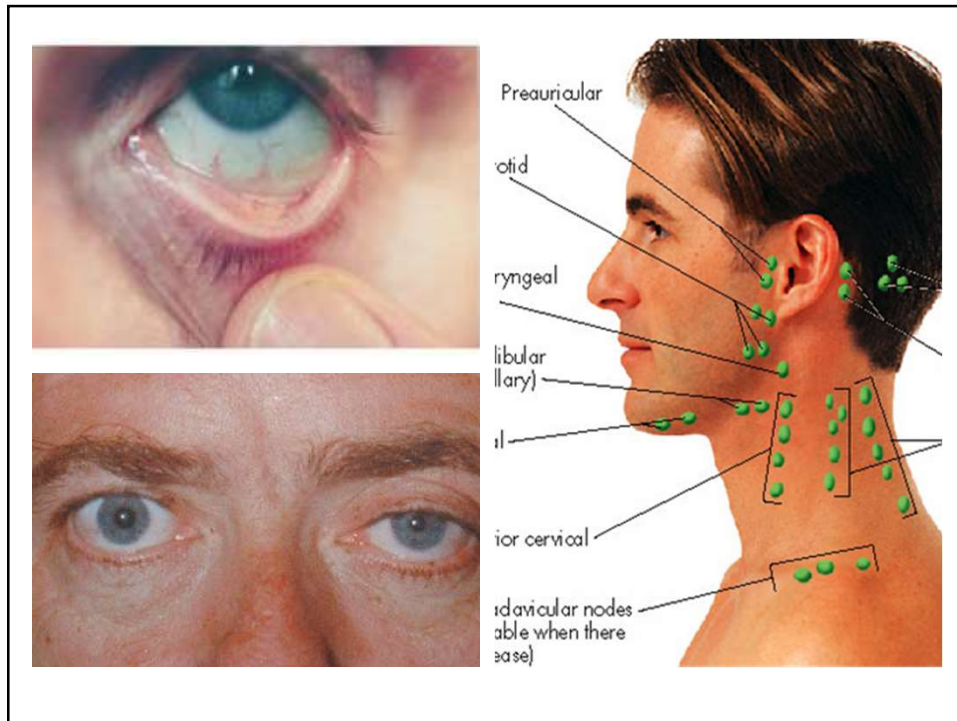
- Nicotine stains
- Clubbing
- Peripheral cyanosis
- Muscle wasting
- Flapping tremor
- CRT
- Pulse rate, volume, rhythm, character



Face and neck:

- Pallor
- Central cyanosis
- Horner's syndrome
- Pursed lip breathing
- JVP
- Lymph nodes – palpate
- Trachea - palpate

- Palpate the lymph nodes and trachea at some stage in your examination
- Move on to the chest wall
- Can start at front or back of chest but more likely to find signs at the back
- Chest expansion
- Tactile vocal fremitus



Chest wall:


- Shape of the chest
- Scars
- Deformities
- Kyphosis and scoliosis
- Radiotherapy tattoos
- Prominent veins
- Movement of chest wall
- Accessory muscles and intercostal withdrawing

Changes in Older Patients in Chest wall physiology

1. **Decreased Chest Wall Compliance:** The chest wall becomes stiffer and less elastic with age. This reduced compliance can affect the ability of the chest wall to expand and contract during respiration, leading to decreased lung volumes and increased work of breathing.
 2. **Increased Thoracic Kyphosis:** Older individuals often develop an increased curvature of the thoracic spine known as thoracic kyphosis. This structural change alters the shape of the rib cage, reducing its ability to expand and limiting the movement of the diaphragm during breathing.
 3. **Loss of Muscle Strength:** Age-related loss of muscle mass and strength, known as sarcopenia, can affect the respiratory muscles involved in breathing. The weakening of the respiratory muscles, including the diaphragm and intercostal muscles, can result in reduced respiratory muscle force generation and impaired ventilation.
- **Altered Rib Cage Configuration:** The rib cage may undergo changes in shape and orientation with age. The ribs may become more rigid and less mobile, resulting in reduced chest wall excursion during respiration. This alteration in rib cage

Changes in Chest Wall as we Age

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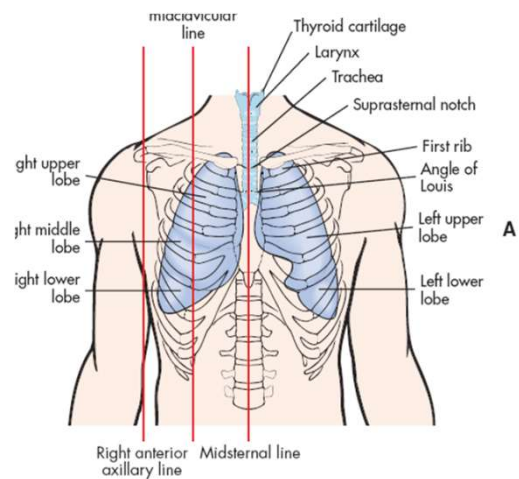
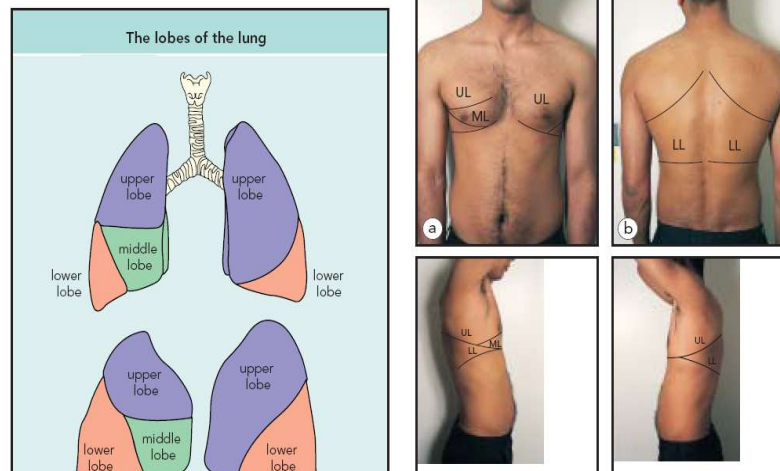


Equipment Needed

- A Stethoscope
- A Peak Flow Meter

Surface markings of the lobes of the lung:
 (a) anterior, (b) posterior, (c) right lateral and (d) left lateral.
 (UL, upper lobe; ML, middle lobe; LL, lower lobe).

Fig. 5.2 Normal radiograph: posteroanterior view (left) and right lateral view (right).





Preparing Patient for Examination

1. Gather Necessary Equipment: Ensure you have the appropriate equipment on hand, including a stethoscope, pulse oximeter, measuring tape, and a sphygmomanometer for blood pressure measurement. Additional equipment, such as a peak flow meter or spirometer, may be required depending on the nature of the assessment.
2. Create a Comfortable Environment: Ensure the examination room is warm, well-lit, and provides privacy. Older patients may have reduced mobility, so ensure the patient is positioned comfortably and can easily access the examination table or chair.
3. Communicate with the Patient: Establish good rapport with the patient and explain the purpose and procedure of the examination. Address any concerns they may have and encourage them to ask questions. Obtain their consent before proceeding with the examination.

Preparing older patient for Examination

1. Positioning: Older individuals may have mobility limitations or difficulty lying flat. Adjust the positioning to accommodate their comfort and capabilities. This may involve performing the examination while the patient is sitting upright or in a position that minimizes discomfort.
2. Communication: Older individuals may have hearing impairments or cognitive changes that can affect communication. Speak clearly and use simple, concise language. Ensure the patient understands the instructions and encourage them to ask questions or express any concerns.
3. Respiratory Effort and Breath Sounds: Older individuals may exhibit reduced respiratory muscle strength and decreased chest wall compliance. Observe for signs of increased work of breathing, use of accessory muscles, or abnormal breathing patterns. Lung sounds may be less clear due to age-related changes, such as diminished breath sounds or an increased prevalence of adventitious sounds like crackles.



Other considerations

1. Respiratory Rate: It's important to consider age-specific norms and assess for any signs of tachypnea or bradypnea that may indicate respiratory distress or dysfunction.
2. Oxygen Saturation: Older individuals may have lower baseline oxygen saturation levels, so it's crucial to understand the individual's baseline and assess for any significant deviations that may require intervention.
3. Cough Assessment: Assess the frequency, characteristics, and impact of cough, as well as any sputum production or hemoptysis. Note any changes in symptoms or concerns.
4. Functional Assessment: Assess their ability to perform activities of daily living, including mobility, self-care, and exercise tolerance. Functional limitations can impact respiratory function and overall health.
5. Comorbidities and Medications: Older individuals often have multiple comorbidities and take multiple

Inspection

- Tracheal deviation (can suggest of tension pneumothorax)
- Chest wall deformities]
- Kyphosis - curvature of the spine - anterior-posterior
- Scoliosis - curvature of the spine - lateral
- Barrel chest - chest wall increased anterior-posterior; normal in children; typical of hyperinflation seen in COPD




Thoracoplasty
with secondary
changes in the
spine.



Pectus excavatum



Kyphosis



Signs of respiratory distress

- Increased Respiratory Rate:
- Shortness of Breath or Difficulty Breathing:
- Use of Accessory Muscles
- Cyanosis
- Decreased Oxygen Saturation
- Agitation or Restlessness:
- Altered Mental Status
- Fatigue or Weakness
- Increased Heart Rate:
- Increased Respiratory

- 'pink puffer'.
- Note the pursed-lip breathing

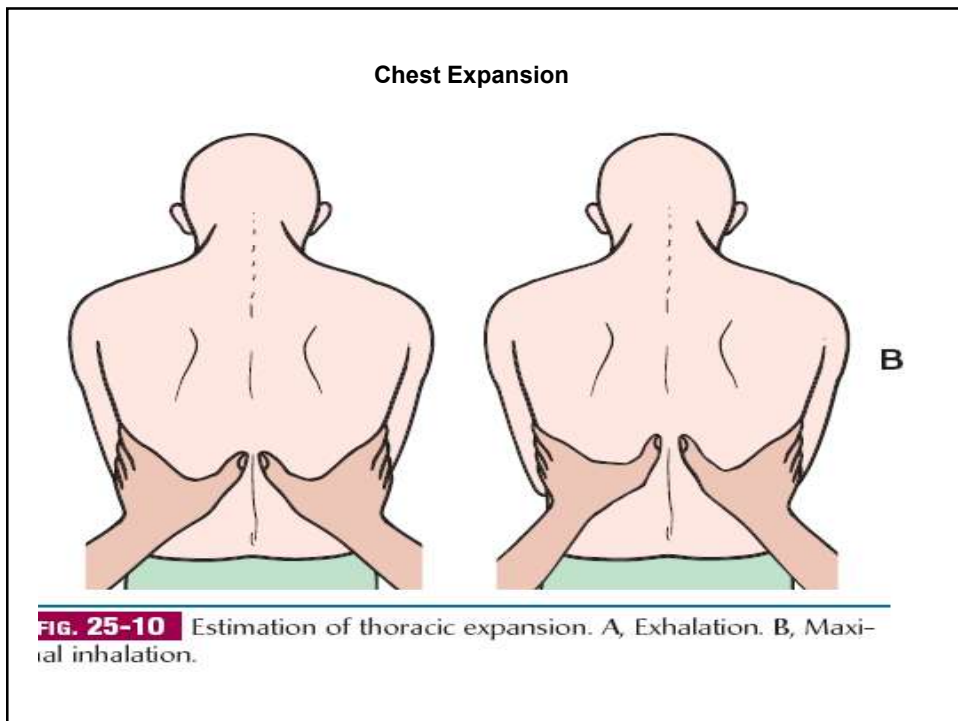
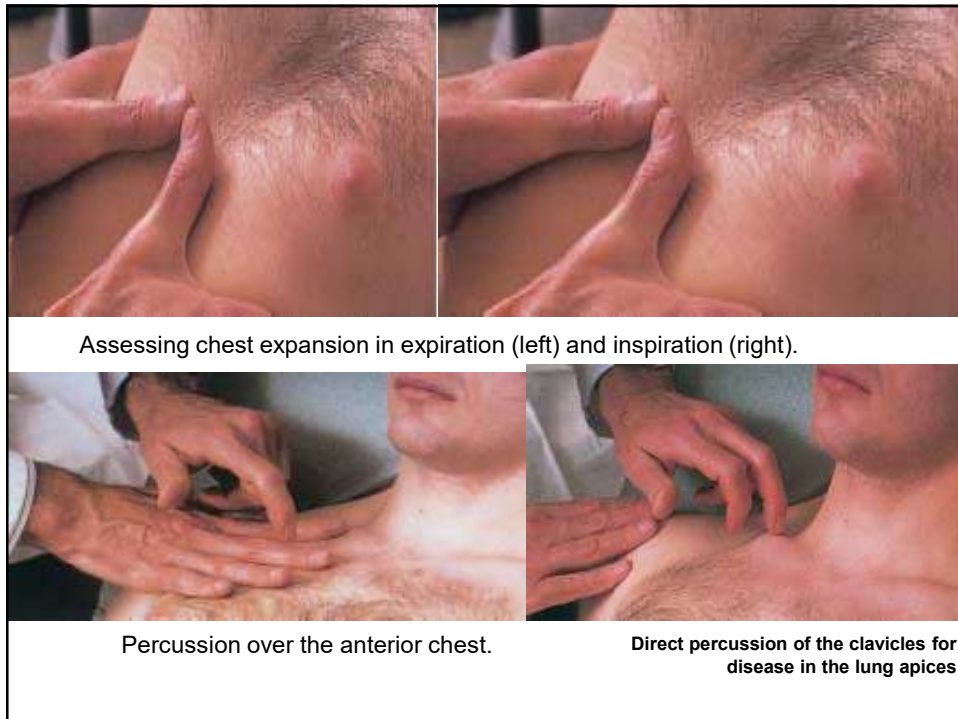


'blue bloater'
showing ascites
from marked cor
pulmonale.



Chest
expansion:





- Asymmetrical chest expansion is abnormal
 - The abnormal side expands less and lags behind the normal side
 - Any form of unilateral lung or pleural disease can cause asymmetry of chest expansion
- Global expansion decrease

Chest Expansion

Tactile Fremite

- **Tactile fremitus**

is vibration felt by palpation. Place your open palms against the upper portion of the anterior chest, making sure that the fingers do not touch the chest. Ask the patient to repeat the phrase “ninety-nine” or another resonant phrase while you systematically move your palms over the chest from the central airways to each lung’s periphery. You should feel vibration of equally intensity on both sides of the chest. Examine the posterior thorax in a similar manner. The fremitus should be felt more strongly in the upper chest with little or no fremitus being felt in the lower chest

Tactile Fremitus

Ask the patient to say "ninety-nine" several times in a normal voice.

Palpate using the ball of your hand .

You should feel the vibrations transmitted through the airways to the lung .

Increased tactile fremitus suggests consolidation of the underlying lung tissues

Voice Transmission (tactile fremitus, vocal resonance)

- Asymmetrical voice transmission points to disease on one side.
- Increased:
 - Any situation where bronchial breathing is heard the sounds become loud, sharp and distinct: Bronchophony.
 - In extreme situations, the whispered words come clearly and distinctly: Whispering pectoriloquy.
- Decreased: A quantitative decrease in voice transmission could be due to any other form of lung or pleural disease.
- Qualitative Alteration:
 - A qualitative alteration of voice transmission is noted over consolidation and along the upper margin of pleural effusion: Egophony
 - The sound is like a nasal twang or goat bleating.



Tactile Fremitus in the older patient



In younger individuals, tactile fremitus can provide valuable information about the transmission of sound waves through the lungs and help identify abnormalities such as consolidation or areas of increased density. However, in older patients, factors such as increased chest wall stiffness, decreased muscle tone, and loss of lung elasticity can affect the reliability and interpretation of tactile fremitus.



Additionally, older patients may have coexisting conditions or anatomical variations that further limit the usefulness of tactile fremitus. For example, osteoporosis or kyphosis can lead to structural changes in the thoracic spine, impacting the transmission of vibrations. Conditions such as emphysema, where lung tissue is hyperinflated and less dense, may also affect the assessment of tactile fremitus.

Voice Transmission

Bronchophony

Whispering Pectoroliquy



Normal Whisper



Egophony



Percussion: Decreased or Increased Resonance is Abnormal

- Dullness
 - Decreased resonance is noted with pleural effusion and all other lung diseases
 - The dullness is flat and the finger is painful to percussion with pleural effusion
- Hyper resonance: Increased resonance can be noted either due to lung distention as seen in asthma, emphysema, bullous disease or due to Pneumothorax
- Traube's space



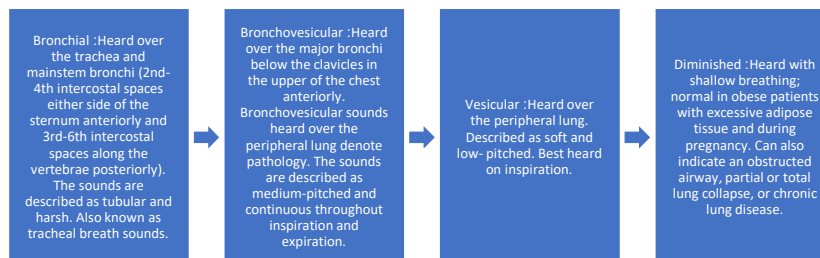
Auscultation



5.47 Auscultation of the chest using the diaphragm.

- To assess breath sounds, ask the patient to breathe in and out slowly and deeply through the mouth.
- **Begin at the apex of each lung and zigzag downward between intercostal spaces . Listen with the diaphragm portion of the stethoscope.**

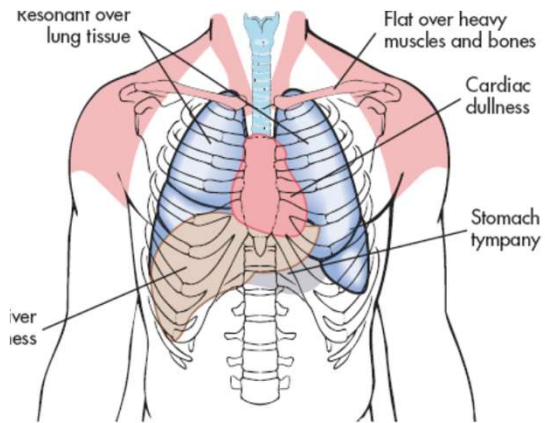
Normal Breath Sounds



Percussion:

- Resonant = normal!
- Hyperresonant vs resonant
- Resonant vs dull
- Dull vs stony dull
- Fluid
- Consolidation
- Collapse
- Pneumothorax





25-12 Diagram of percussion areas and sounds in the anterior

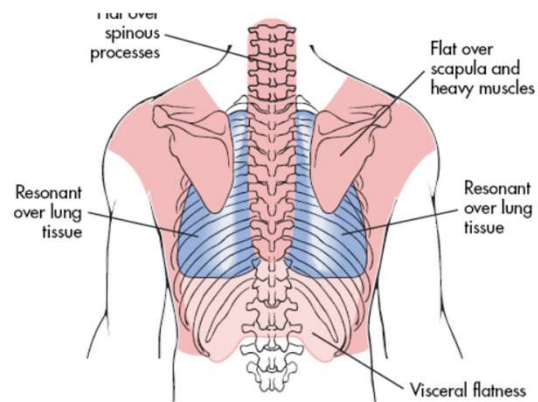
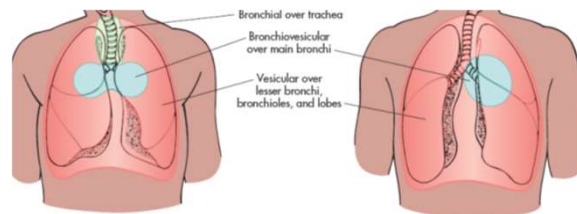


FIG. 25-13 Diagram of percussion areas and sounds in the posterior side of the chest. Percussion proceeds from the lung apices to the lung bases, comparing sounds in opposite areas of the chest.

Normal
auscultatory
sound



Auscultation

<https://www.youtube.com/watch?v=nokZ5sNt3fA&list=PLKSV1ibO86qgE2y9cMqNFmh6LfOa8RM&index=8>

Breath Sounds: Diminished or Absent



Intensity of breath sounds, in general, is a good index of ventilation of the underlying lung.



Breath sounds are markedly decreased in emphysema.



Symmetry: If there is asymmetry in intensity, the side where there is decreased intensity is abnormal.



Any form of pleural or pulmonary disease can give rise to decreased intensity.



Harsh or increased: If the intensity increases there is more ventilation and vice versa.

Breath Sounds in Older Patient

Assess the patient for breath sound abnormalities (e.g., crackles [rales], rhonchi, wheezes), shortness of breath, dyspnea, [cyanosis](#), increasing temperature, and a deteriorating level of consciousness).

These are indicative of silent aspiration. For example, elder patients are at higher risk for silent aspiration since their sphincter fails to close completely between swallows.

Respiratory Rate and Lung Sounds

Monitor baseline vital signs, including the level of consciousness and orientation. In addition, watch out for a heart rate greater than 100 bpm and a respiratory rate higher than 24 breaths per minute. Auscultate lung fields for adventitious sounds. Be aware, however, that crackles (rales) may be a normal finding when heard in the lung bases.

Acute changes in mental status are indicative signs of infection in older individuals. Other signs of infection include increased heart rate and respiratory rate. Adventitious breath sounds may or may not be present until the late stages of the illness.

- Bronchial breathing anywhere other than over the trachea, right clavicle or right inter-scapular space is abnormal.
- In consolidation, the bronchial breathing is low pitched and sticky and is termed tubular type of bronchial breathing.
- In cavitary disease, it is high pitched and hollow and is called cavernous breathing. You can simulate this sound by blowing over an empty coke bottle.

Bronchial

- Rhonchi are long continuous adventitious sounds, generated by obstruction to airways.
- When detected, note whether it is generalized or localized, during inspiration or expiration, and the pitch.
- Diffused rhonchi would suggest a disease with generalized airway obstruction like asthma or COPD.

Rhonchi

- Localized rhonchi suggests obstruction of any etiology e.g., tumor, foreign body or mucous.
- Mucous secretions will disappear with coughing, so would the rhonchus.
- Expiratory rhonchi implies obstruction to intrathoracic airways.
- Asthmatics can also have inspiratory rhonchi while it is uncommon in COPD.

Rhonchi

- Normal parietal and visceral pleura glide smoothly during respiration.
- If the pleura is roughened due to any reason, a scratching, grating sound, related to respiration is heard.
- You can hear the sound by compressing harder with the stethoscope and making the patient take deep breaths.
- It is localized and can be palpable.

Pleural Rub

- Loud audible inspiratory rhonchi is called a stridor.
- Inspiratory rhonchi in general, implies large airway obstruction.



Stridor

Crackles

- Interrupted adventitious sounds are called crackles.
- Make a notation about timing, intensity, effect with respiration, position, coughing and character.
- Timing and Intensity Crackles heard only at the end of inspiration are called fine crackles.
 - When the surfactant is depleted, the alveoli collapse. Air enters the alveoli at the end of inspiration.
 - This sound is generated as the alveoli pop open from it's collapsed state.

Crackles

- When the crackles are heard at the end of inspiration and the beginning of expiration the fluid or secretions are probably in respiratory bronchioles: medium crackles.
- If the crackles are heard throughout it implies the secretions are in bronchi: coarse crackles.

Breath Sounds

- Breath sounds in older patients can differ from those in younger patients due to age-related changes in the respiratory system. Here are some general differences to keep in mind:
1. Decreased Breath Sounds: Older individuals may exhibit decreased breath sounds due to changes in lung elasticity and diminished air movement. This can result in softer breath sounds overall.
 2. Diminished Vesicular Sounds: Vesicular breath sounds, which are normally heard over the peripheral lung fields, may be less prominent in older patients. The intensity of vesicular sounds can be reduced due to changes in lung parenchyma and decreased air flow.
 3. Increased Transmission of Upper Airway Sounds: With age, the transmission of upper airway sounds, such as tracheal and bronchial sounds, may be enhanced. This can result in relatively louder tracheal or bronchial breath sounds compared to vesicular sounds.

Breath Sounds in Older Individuals

- Increased Prevalence of Adventitious Sounds: Older patients are more likely to have adventitious breath sounds, such as crackles (rales) or wheezes. These abnormal sounds may be related to age-related lung changes, underlying respiratory conditions, or comorbidities.
- Increased Prevalence of Comorbidities: Older patients often have a higher incidence of respiratory conditions, such as chronic obstructive pulmonary disease (COPD), asthma, or heart failure. These conditions can contribute to the presence of abnormal breath sounds and impact the overall quality of breath sounds during auscultation.
- Variability in Lung Conditions: Older patients may present with a variety of lung conditions, ranging from normal aging changes to chronic respiratory diseases or age-related complications. This can result in a wide range of breath sound characteristics and patterns.

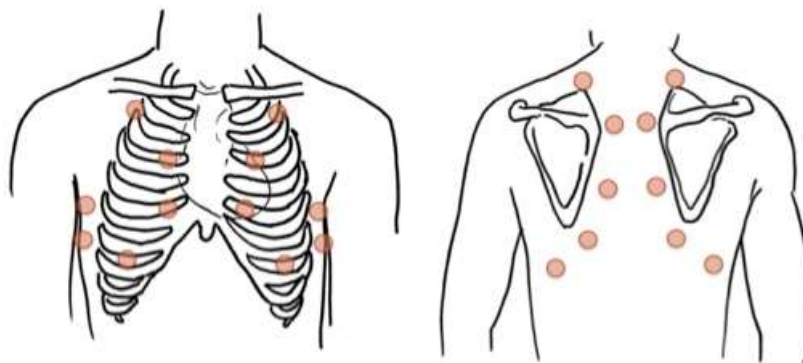
Auscultate the lungs for adventitious sounds

When people get older, lung elasticity decreases. The lower portion of the lung is not sufficiently aerated resulting in the occurrence of crackles (usually heard in individuals 75 years of age and above).

This sign alone does not imply the presence of a disease condition.

Crackles (rales) that do not clear with coughing in an individual with no additional symptoms such as increased temperature, increasing anxiety, changes in sensorium, and increasing respiratory depth are considered benign.

Stethoscope placement for lung auscultation



History Taking in a respiratory condition- consider these areas

- Presenting Complaint
- The history of Presenting Complaint
- Past Medical History, Surgical History and Gynae/sexual History (if relevant)
- JAMITHREADSCMH
- Allergies : Drugs, Food, Other. Consider latex
- Medication History
- Immunisations

Auscultation- you can always call these 'added sounds' or think of these

- **Stridor**
 - High pitched, "crowing"
 - Upper airway restriction
- **Wheezing**
 - "Whistling"
 - Usually more pronounced on exhalation
 - Generalized: narrowing, spasm of the smaller airways
 - Localized: foreign body aspiration

Crackles (Rales)

Fine, "crackling"

Fluid in smaller airways, alveoli

Rhonchi

Coarse, "rumbling"

Fluid, mucus in larger airways

6
8

Common near patient tests

Pulse oximetry

- Why is this important. What factors can affect readings.
- Is it relevant in patient with smoke inhalation. Why?

Peak Flow Meter

- Why?
- When should it be done?
- How?
- Are paed and adults the same?

Spirometry-the Gold standard

- What is the relevance of spirometry?
- How does it help in asthma and COPD?
- What is the relevance of FEV1,FVC,VC?



- **Don't just go through the motions of doing the examination**

- Think about
 - - WHAT you're looking for
 - - And WHAT it means
- at each stage of the examination
- Be methodical

Assessing Older Patients

- Respiratory assessment in older patients should follow the usual protocols, including looking for the standard signs of a blocked airway. Patients may need suction when:
- Oxygen saturation drops on a pulse oximeter.
- There is a clear obstruction in the airway.
- The patient is hoarse, has a barking cough, or is unable to clear their own airway.
- There is a suspected obstruction, or the patient requests suction.

Considerations before suctioning

- Before beginning suction, it's critical to visualize the airway. As with all patients, you must be able to see what you are doing. Special considerations for geriatric populations include:
- Looking for broken or missing teeth, which can make obtaining a seal more difficult
- A rigid neck and less muscle tone
- Dementia that impedes communication, increases combativeness, and potentially causes panic
- Bridges, dentures, and other oral hardware that may break loose and obstruct the airway

Monitoring older patients

- Gas exchange and respiratory function in geriatric patients may be compromised due to age-related changes such as decreased lung elasticity, reduced chest wall compliance, and decreased respiratory muscle strength. These changes can result in decreased lung capacity, impaired [cough](#) reflex, and increased susceptibility to respiratory infections.
- **Monitor and record the following during admission and routinely thereafter: respiratory rate, depth, and pattern; breath sounds, cough, sputum, and mental status.**
Provides baseline data for subsequent assessments of the patient's [respiratory system](#).

Monitoring Older Patients

- **Assess subtle changes in the patient's behavior or mental status e.g., anxiety, disorientation, hostility, and restlessness. Check oxygen levels using pulse oximetry (higher than 92%)**
These changes in the sensorium can indicate decreasing oxygen levels.
- To comprehensively monitor pulse oximetry, the haemoglobin (Hgb) must be determined.
- Patients with low haemoglobin levels can have a higher pulse oximetry level and still exhibit acute confusion or restlessness.
- This happens as a result of diminished haemoglobin to deliver oxygen through the body.

Nursing older patients

- **Encourage breathing and coughing exercises. Instruct patient in the use of incentive spirometry if applicable.**
These measures provide alveolar expansion and remove the secretions from the bronchial tree, resulting in optimal gas exchange.
- **Encourage increased fluid intake (greater than 2.5 litres daily) unless contraindicated by a renal or cardiac condition.**
Adequate hydration promotes the mobilization of secretions.
- **Treat hyperthermia immediately, reduce pain, lessen pacing activity, and decrease anxiety.**
These measures decrease the demand for increased oxygen consumption.
- **Teach the patient the use of support devices such as nasal cannulas or oxygen masks.**
Knowledge about these medical devices promotes adherence to the treatment.

Preventing ASpiratios

- Aspiration, a common concern in geriatric patients, occurs when foreign substances, such as food or fluids, enter the airway and lungs instead of the digestive tract. This can lead to respiratory complications, such as [pneumonia](#), and pose significant health risks for older adults.
- **Evaluate the patient's swallowing reflex by putting your thumb and index finger on both sides of the laryngeal prominence and instruct the patient to swallow. Assess the gag reflex by gently touching one side and then the other palatal arch with a tongue blade. Record these findings.**
The ability to swallow and an intact gag reflex are important to avoid aspiration and choking before the patient puts foods/fluids in the mouth.
- **Monitor food intake. Record the patient's food consumption (including amount and consistency), where the patient puts food in the mouth, how the patient manipulates or chews prior to swallowing, and the duration of time before the patient swallows the food bolus.**
This information can be useful for some caregivers during the succeeding feedings.
-

Patients with dementia

- **Put the patient in an upright position with the chin tilting down slightly during eating or drinking, and place pillows on the side to maintain the upright position.**
This position lessens the possibility of choking and aspirating by closing off the airway and promoting a gravitational flow of foods and fluids into the stomach and through the pylorus.
- **Make sure that the patient's denture fits properly and stays in place.**
Chewing well decreases the risk of choking.
- **Instruct patients with dementia to chew and swallow with every bite. Watch out for retained food between the sides of the mouth.**
A patient with dementia tends to forget to chew and swallow.
- **Allow sufficient time for the patient to finish eating and drinking.**
Usually, patients with swallowing problems need twice as much time for eating and drinking as those whose swallowing is intact.
- **Allow someone to stay with the patient during meals or fluid intake.**
Promotes safety in case of choking or aspiration.
- **Encourage breathing and coughing exercise every 2 hours while awake and every 4 hours during the night.**
These measures facilitate lung expansion and help avoid infection.

If aspiration occurs, do the following measures:

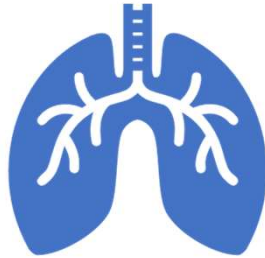
- **Assess indications of a complete airway obstruction based on the American Heart Association (AHA) guidelines such as signs and symptoms of poor air exchange, cyanosis, and inability to speak or breathe.**
Complete airway obstruction requires immediate intervention.
- **Assess for any alterations in the breathing pattern and respiratory rate every 1-2 hours following a suspected aspiration.**
This assessment helps determine that a change in the patient's condition has occurred.
- **Encourage a patient with partial airway obstruction to forcefully cough as possible.**
This measure will relieve and clear the airway.
- **Suction the airway using a large-bore catheter (e.g., Yankauer or tonsil suction tip) for unconscious or nonresponsive patients with partial airway obstruction.**
Suctioning will remove the obstruction.
- **For either a complete or partial aspiration, notify the health care provider and get a request for a [chest x-ray](#) examination.**
X-ray findings and results will confirm if food or fluids obstruct the airway.
- **Institute nothing by mouth (NPO) status until a diagnosis is established.**
NPO will lessen the risk to the patient.
- **Anticipate the use of antimicrobial agents.**
A possibility of the occurrence of aspiration [pneumonia](#).

Swallowing

- **Monitor the patient during swallowing.**
This evaluation will help assess the patient's swallowing ability without choking. Deficiencies may require aspiration precautions.
- **Monitor the patient for choking or coughing before, during, or after swallowing.**
Choking or coughing can happen within a few minutes following food or fluid placement in the mouth and indicates the aspiration of material into the airway.
- **Check for a wet or gurgling sound upon speaking after the patient swallow.**
Wet-sounding speech may signal a pulmonary aspiration and can indicate restricted or absent gag and swallow reflex.

How is asthma different in older adults?

- Most people with asthma experience their first symptoms at a young age. But asthma can develop for anyone at any age. It is not uncommon for adults in their 70s or 80s to develop asthma symptoms for the first time. When asthma does occur at a later age, the symptoms are much like those experienced by anyone else. The most common causes of an asthma flare up are a respiratory infection or virus, exercise, allergens, and air pollution (an irritant). People who have asthma may experience wheezing, cough, shortness of breath, and chest tightness.
- Asthma creates a much greater risk for older adults because they are more likely to develop respiratory failure as a result of the asthma, even during mild episodes of symptoms.
- **Did you know . . . Older patients with mild asthma symptoms can have the same level of breathing difficulty as younger asthma patients experiencing a severe asthma episode?**
- Unlike asthma in younger persons, asthma in older adults rarely goes into remission. Instead, asthma is more likely to remain a potentially serious, and many times, a disabling disease.

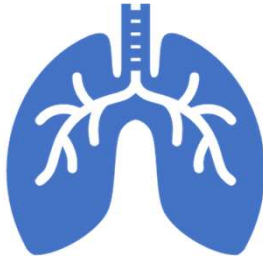


COPD

- Age-related changes in the respiratory system, including decreased lung elasticity, reduced chest wall compliance, and altered gas exchange, can affect lung function in older patients with COPD. Older individuals may have decreased lung reserve and may experience more severe symptoms and limitations in pulmonary function compared to younger individuals with COPD.
- Older patients with COPD may exhibit atypical symptoms or underreport their symptoms. They may present with more subtle or nonspecific symptoms, such as fatigue, weight loss, or decreased exercise tolerance, which can be mistakenly attributed to the normal aging process or other comorbidities. This can lead to delayed diagnosis and treatment initiation.

Polypharmacy

- Medication Interactions: Older patients with respiratory conditions often have comorbidities and may be prescribed multiple medications for various health concerns. The use of multiple medications increases the risk of potential drug interactions, where one medication may interfere with the effectiveness or increase the side effects of another medication. Careful consideration and monitoring are necessary to minimize the risk of adverse interactions.
- Adverse Drug Reactions: Older patients are more susceptible to adverse drug reactions due to age-related changes in drug metabolism, organ function, and increased sensitivity to medications. Respiratory medications, such as bronchodilators, corticosteroids, or antibiotics, can have side effects that can be amplified in older individuals. It is crucial to regularly assess the patient for any signs of medication-related adverse effects and adjust the treatment regimen as needed.
- Medication Adherence: Polypharmacy can lead to complex medication regimens, which can be challenging for older patients to manage. Factors such as cognitive decline, vision or hearing impairment, dexterity issues, or difficulty understanding instructions can contribute to medication non-adherence. Simplifying medication regimens, providing clear instructions, and using aids like pill organizers can help improve adherence and treatment outcomes.



- **Inhaler Technique:** Inhalers are commonly used for the treatment of respiratory conditions. However, older patients may have difficulty using inhalers correctly due to cognitive impairment, reduced hand-eye coordination, or physical limitations. It is important to assess and teach proper inhaler technique, ensuring that patients are using their inhalers effectively to receive the full benefit of the medication.
- **Individualized Treatment:** Older patients with respiratory conditions may require individualized treatment plans that consider their specific needs, preferences, and goals of care. This includes taking into account factors such as overall health status, comorbidities, functional abilities, and potential risks and benefits of treatment options. A comprehensive assessment by healthcare professionals is essential to tailor the treatment approach for optimal outcomes.
- **Regular Medication Review:** Periodic medication review is crucial in older patients to assess the ongoing appropriateness and necessity of each medication. This helps identify potential redundancies, opportunities to simplify regimens, and minimize polypharmacy. Collaboration between healthcare providers, including pharmacists and primary care physicians, is important in conducting comprehensive medication reviews.

Keep in mind . . . Short-term use of oral steroids are helpful to treat acute asthma symptoms, or flare ups; however, long-term use of oral steroids is usually avoided in older asthma patients. Over time, oral steroids can cause severe side effects, such as weakening of bones, ulcers, or high blood pressure.

Increased risk of pneumonia in older patients who are on inhaled corticosteroids.

Special considerations treating asthma in older patients

- complicated by the fact that so many older people take multiple medications for various health conditions. Some asthma medications can react with those other treatments, causing unpleasant side effects. In addition, other medications may actually worsen asthma symptoms.
- Secondly, older patients are more likely than younger patients to have mental confusion or memory problems. This may be the result of normal aging or of an illness, such as Alzheimer's disease. Whatever the cause, these problems can make it difficult for certain older patients to follow treatment instructions — especially if that person takes medications for a variety of health conditions.
- Additionally, many asthma medications come in the form of an L-shaped metered dose inhaler which requires a certain degree of manual coordination and dexterity. Older people are more likely to have difficulty with this type of medication device, and in using it, may not receive the correct dose. Treatment with a dry powder inhaler or oral medications can help older asthma patients avoid problems with use of L-shaped inhalers.

Writing it down:

- To document in the notes, you need to make it clear what you examined and what you did or didn't find
 - Develop your own system, no hard and fast rules
- For example, a normal examination:
 - No pallor, clubbing, cyanosis or lymphadenopathy
 - Trachea central
 - Chest expansion normal
 - Percussion resonant throughout
 - Biventricular breath sounds both lung fields
 - nil added





Try and put it all
together...

Form a differential diagnosis



Final Notes

1. Comprehensive Assessment
2. Differential Diagnosis
3. Functional Assessment
4. Frailty Evaluation
5. Patient-Centered Approach
6. Collaboration and Multidisciplinary Care
7. Follow-up and Monitoring
8. Ethical Considerations



Remember, this summary provides a broad overview, and clinical judgment should be applied when performing the cardio-respiratory examination of older patients. Each patient's unique circumstances, medical history, and clinical presentation should be taken into account to provide individualised and patient-centred care.

Summary





- Do not underestimate the importance of a comprehensive history.
- Be aware of red flags
- Keep up to date with current evidence
- Remember to safety net and give worsening care advice.

Any
questions?





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