






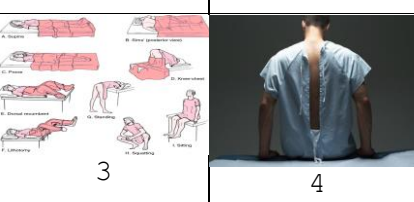

Respiratory Examination

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Respiratory examination


Cardiac examination is an essential part of the respiratory assessment and vice versa.





#	Subject steps	Pictures	Notes
A	Preparation: <u>Pre-exam Checklist:</u> WIPE		Very important.
1	W ash your hands.		✓ Wash your hands in front of the examiner or bring a sanitizer with you.
2	I ntroduce yourself to the patient, confirm patient's ID, explain the examination & take consent.		
3	P ositioning of the patient and his/her Privacy.		✓ (Position the patient in a 90 degree sitting position) and uncover his/her upper body.
4	E xposure. full exposure of the trunk.		
B	Examination: <u>General appearance:</u> (ABC2DEVs)	A B C D E	
1	A ppearance: young, middle aged, or old, and looks generally ill or well. ✓ Observe the patient's general appearance (age, state of health, nutritional status and any other obvious signs e.g. jaundice, cyanosis, dyspnea).		✓ Begin by observing the patient's general health from the end of the bed. ✓ Around the bed I can't see any medications, O2 mask, or chest tube (look at the lateral sides of chest wall), metered dose inhalers, and the presence of a sputum mug.
2	B ody built: normal, thin, or obese	The patient looks comfortable and he doesn't appear short of breath and he doesn't obviously use accessory muscles or any heard wheezes. To determine this, check for:	
3	C onnections: such as nasal cannula (mention the medications), nasogastric tube, oxygen mask, canals or nebulizer, Holter monitor, I.V. line or cannula (mention the medications).	✓ Dyspnea: Assess the rate, depth, and regularity of the patient's breathing by counting the respiratory rate, range (16–25 breaths per minute). ✓ Signs of COPD: By looking to see whether the accessory muscles of respiration are being used, or if there's pursed-lips breathing. Patients with severe COPD may feel more comfortable leaning forwards with their arms on their knees.	
4	C olor: jaundiced, pale, or cyanosed.	✓ Character of the cough (Ask the patient to cough several times.). o Sputum: Comment on colour, volume and type (purulent, mucoid or mucopurulent), and the presence or absence of blood.	
5	D istress: in pain, respiratory (using accessory muscles), or neurological (abnormal movements) distress.	o Stridor: A rasping or croaking noise loudest on inspiration, due to a foreign body, a tumor, infection, or inflammation.	
6	E lse: mental functions: consciousness, alertness, and orientation.	✓ Hoarseness - Audible breathing	





7	Vital signs: 1) Pulse rate 2) Blood pressure (BP) 3) Temperature 4) Respiratory rate	Rate: counting over 30 seconds, normally 60-100. Rhythm: regular or irregular. Synchronization by comparing with the other side (radio radial or radio femoral delay). Character and volume: determined from the carotid. Blood pressure (BP) Normal BP defined as a systolic reading less the 140, and diastolic reading less than 90. □ Temperature: Normal body temperature ranges from 36.6-37.20C. □ Respiratory rate: It is traditional to count it while taking the pulse. The normal rate at rest should not exceed 25 beat per minute (range 16-25).
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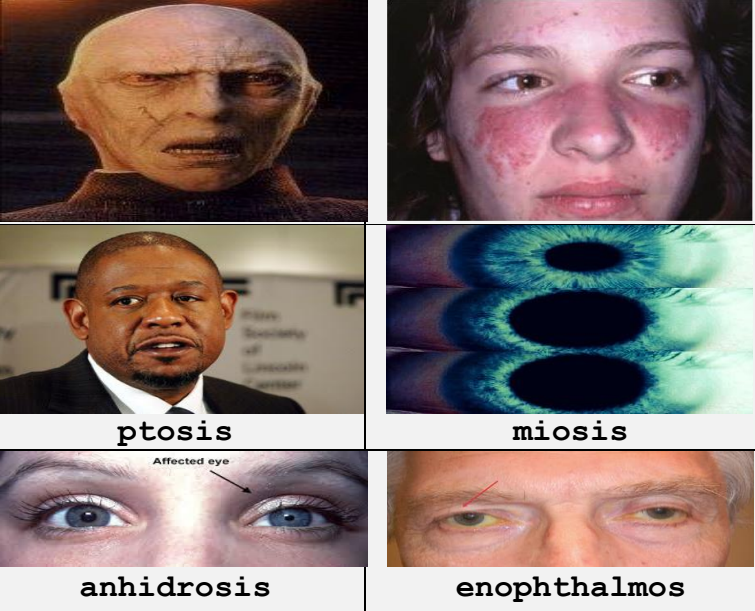



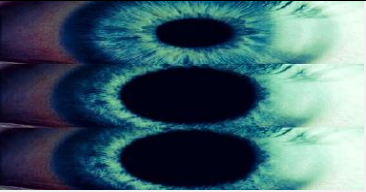




Example: The patient looks well, lying comfortably on the bed, not distressed. The patient has a good body shape, not obviously using his accessory muscles, there is no heard wheezes and he is not connected to I.V lines, oxygen mask or chest tubes.



C	Head to toes From peripheral to central or other wise. In the exam, if the examiner tells you to examine the chest, start locally from the chest than move peripherally if you have time. If your examiner asks you to examine the chest not “Respiratory Examination” then start locally from the chest, and then move peripherally if you have time. (Chest+ others)	
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1	The hand:	
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a	Dorsum: <ul style="list-style-type: none"> • Muscle wasting. • Symmetrical warm • Pigmentations & erythema marginatum • Skin lesion (including scars). • Tendon xanthomata (hyperlipidemia). 		
			 <p style="font-size: small;">Panel A: Interdigital xanthoma</p>

b	Palm: <ul style="list-style-type: none"> • Signs of a respiratory disease, or nicotine staining. • Palmar erythema: liver cirrhosis, polychromia, pregnancy. • Pigmentation of palmar breves: Addison's diseases but may be normal in Asians and black. • Pallor of palmar creases anemia becomes clearer with hyperextend fingers. 		
			

c	Nail: <ul style="list-style-type: none"> • Clubbing • Signs of <u>splinter hemorrhage</u>. • Leukonychia: hypoalbuminemia, liver disease, or nephritic syndrome. • Koilonychias: iron deficiency anemia. 		
			
d	Flapping tremor (due to accumulation of toxins). (Asterixis)		CO2 retention. Hepatic encephalopathy. Renal failure.
e	Pulse: Radial puls. Both sides.	https://www.youtube.com/watch?v=E-LKF_pUWDA	Rate, Rhythm, Volume and the Character of the pulse.
2	The head:		
Face			
a	Face: Mitral faces; rosy, flushed cheeks and dilated capillaries: long standing MS. Eye: <ul style="list-style-type: none"> • jaundice: (in the sclera liver disease, hemolytic anemia. • Pallor (in the conjunctiva): anemia. • Xanthelasma (in the periorbital regions: hyperlipidemia, primary biliary cirrhosis. • ptosis, miosis, anhidrosis or enophthalmos 		
		 <p style="text-align: center;">ptosis</p>	 <p style="text-align: center;">miosis</p>
		 <p style="text-align: center;">anhidrosis</p>	 <p style="text-align: center;">enophthalmos</p>
b	Nose: <ol style="list-style-type: none"> 1- Nasal septum deviation 2- Nasal polyps or discharge 		

c	Mouth: <ul style="list-style-type: none"> • Central cyanosis. • Peripheral cyanosis • Oral hygiene (Diseased teeth). • Dryness of the mouth: dehydration. • Any lesion, e.g. ulcer, bleeding. • Congested tonsils or pharynx 		
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d	Special smell: <ul style="list-style-type: none"> • Sweet smell "fetor hepaticus": liver disease. • Ammoniacal fish breathe" uremic fetor" renal failure. • Cigarette smell in smokers.
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Neck

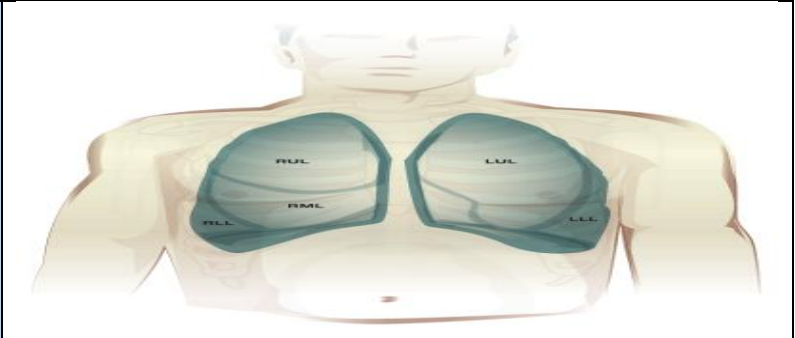
a	Jugular venous pressure and the jugular venous pulse: <ul style="list-style-type: none"> ▪ Assess the jugular venous pressure and the jugular venous pulse form using a torch (bilaterally).
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Examination of the Neck Veins
<https://www.youtube.com/watch?v=AWxbAg0E3E4>
Measuring JVP
<https://www.youtube.com/watch?v=MZKSkVSbH8k>
Measuring JVP
<https://www.youtube.com/watch?v=1-2NsEg7-n8>

b	Carotid pulse: Check the Carotids for a bruit (by bell side and do it bilaterally),
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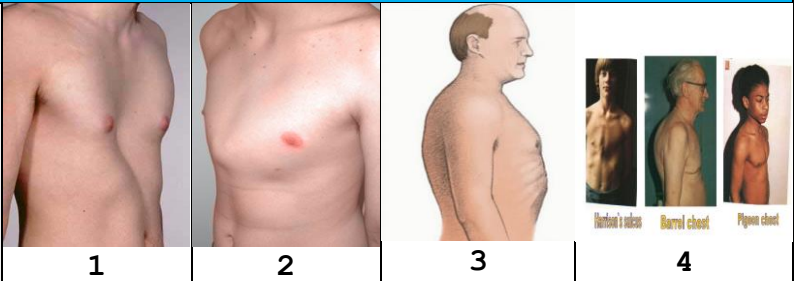
<https://www.youtube.com/watch?v=Tv8Jgk9p6VU>

3	Chest examination (Front)
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A: Inspection

a	Shape and deformities: <ol style="list-style-type: none"> 1. Pectus excavatum 2. Pectus carinatum 3. Barrel shaped 4. Harrison's sulcus
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<p>b</p>	<p>Scars: Don't forget to compare one side to the other</p> <ul style="list-style-type: none"> ▪ Lateral thoracotomy (mitral valve) ▪ Midline sternotomy (CABG) ▪ Tracheostomy 	
<p>c</p>	<p>Devices: Chest tube "at the lateral sides"</p>	
<p>d</p>	<p>Type of breathing:</p> <ul style="list-style-type: none"> • Abdominothoracic (males) • Thoracoabdominal (females). 	
<p>e</p>	<ul style="list-style-type: none"> ▪ Movement of the chest wall: look for asymmetry of chest wall movement. ▪ Apex beat: Visible or not (with the aid of torch). ▪ Skin Lesions: Erythema and thickening from chemotherapy ▪ Subcutaneous emphysema: Diffuse swelling of the chest wall and the neck → pneumothorax. 	

B: Palpation.
Ask the patient if he has any pain before starting.

<p>a</p>	<p>Trachea:</p> <ul style="list-style-type: none"> ▪ Check if the trachea is centrally located. ▪ Tracheal tug: ask the patient to take deep breath? your finger will be pulled down in severe airway obstruction. 	<p style="text-align: right;">Tracheal position</p> <p style="text-align: right;">GELNYMEDICS.com</p> <p>Trachea will be pulled to the site of lesion in lung collapse, interstitial pulmonary fibrosis (IPF). It will be pushed away from the site of the lesion in the presence of a tumor, pleural effusion, or tension Pneumothorax. Comment (if there is no deviation); trachea is centrally located. "If deviated to the left it's either right lung pneumothorax or left lung collapse"</p>
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b **Symmetrical chest expansion:** I will put my hand around your chest and I want to take deep breath looking for any asymmetry of the chest.

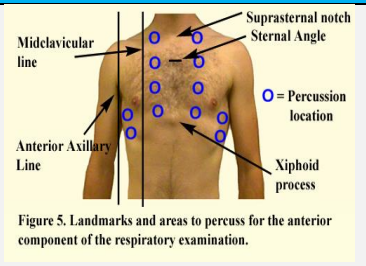


- c**
- **Check if the apex beat is palpable:** located in the 5th intercostal space in mid-clavicular line which is normal
 - **Tactile vocal Fremitus:** Do NOT miss the laterals
 - **Palpate the ribs:** Localized pain suggests a rib fracture, which may be secondary to trauma or sometimes the result of severe and prolonged coughing.



C: Percussion: Comment on the sound produced

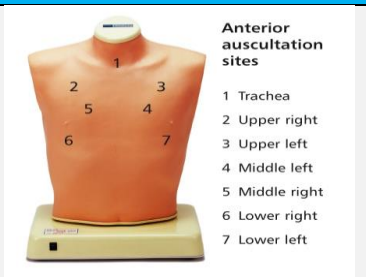
- **Percuss the chest:** Normally it is resonant and symmetrical in both sides.
- **Liver dullness resonant below level of the liver,** it is a sign of hyperinflation, usually due
- **Cardiac dullness may be decreased in emphysema or asthma.**



<https://www.youtube.com/watch?v=48nzLXnEHv>
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D: Auscultation: Do NOT miss the laterals

1. Ask the patient to take deep breaths through the mouth.
2. Follow the same areas of percussion: Normally it is vesicular breathing, which is symmetrical in both sides, with no added sounds, crackles or wheezing.
3. Give a comment about breath sound or any abnormal sounds.
4. Intensity of the breath sounds: Added sounds
5. Vocal resonance.
6. Whispering Pectoriloquy test: The most sensitive test for consolidation. Normally his/her voice will not be clear. Ask the patient to whisper " 1, 2, 3. .etc.", normally his/her voice will not be clear. In case of consolidation, the voice becomes very clear.



<https://www.youtube.com/watch?v=43edNi0NkSg>

<https://www.youtube.com/watch?v=08OC7EiqBKQ>

- ✓ Ask the patient to bend forward and to hold his breath in expiration. Using the stethoscope's diaphragm, listen at the left sternal edge in the fourth intercostal space for the mid-diastolic murmur of aortic regurgitation.
- ✓ Ask the patient to turn onto his left side and to hold his breath in expiration. Using the stethoscope's bell, listen in the mitral area for the mid diastolic murmur of mitral stenosis.
- ✓ Listen over the carotid arteries for any bruits.

4	Chest examination (Back)	
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A: Inspection

<ul style="list-style-type: none"> ▪ Shape, symmetry, scars, erythema and chest tube. ▪ Deformities: Scoliosis; curved chest, or S-shaped. Kyphosis; K-shaped, seen from the side. Kyphoscoliosis both deformities together, seen in patients with poliomyelitis. ▪ Movement of the chest wall. 	
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B: Palpation. The golden rule: remove the Scapula

<ul style="list-style-type: none"> ▪ Chest expansion. ▪ Tactile vocal fremitus. ▪ Palpate the regional lymph nodes. 	
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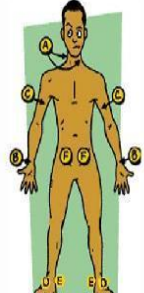


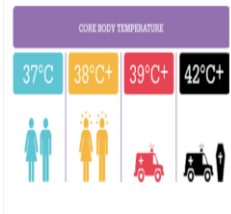







C: Percussion. Don't forget to compare one side to the other

Percuss the same areas as the front.	
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D: Auscultation

<ul style="list-style-type: none"> ▪ Auscultation. ▪ Vocal resonance. ▪ Whispering Pectpriloquy test. 	
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5	<p>The back:</p> <p>Inspection for (scars, deformity)-Percussion and auscultation of the lung bases. - crackles / pulmonary oedema – left ventricular failure - Sacral edema. - Ascites.</p>	
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6	<p>The lower limb:</p> <ul style="list-style-type: none"> Any change in the nails, dorsal, or the sole of the foot (clubbing) . Peripheral pulses: popliteal, posterior tibial, and dorsalis pedis pulses. Bilaterally. Lower limb edema. 	 <p>A. Carotid B. Radial C. Brachial D. Dorsalis Pedis E. Posterior Tibial F. Femoral</p>		
7	<p>To complete the examination: Tell the examiner that "I will conclude my examination by examining the sputum, temperature and oxygen saturation. Request a Chest X-ray. Perform peak flow assessment. Cardiac and abdominal examination</p> <p>PEMBERTON'S SIGN: Ask the patient to <u>lift the arms over the head and wait for one minute.</u> Note the development of <u>facial plethora, cyanosis, inspiratory stridor and no pulsatile elevation of the JVP.</u> This occurs in <u>superior vena caval obstruction.</u></p>			
			 <p>peak flow assessment</p>	 <p>Full Cardiac Examination</p>
8	<p>After the examination:</p> <ul style="list-style-type: none"> Ensure that the patient is comfortable. Make explanations to the patient, answer his/her questions and discuss management plan. If necessary, order diagnostic investigations. Dispose of sharps and waste material according to infection control standards. Wash hands. Document the procedure. 			

Respiratory Examination: (8:25)

<https://www.youtube.com/watch?v=GmLvehqi6Yo>

For any question please feel free to contact us on:

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