

## Telehealth Pulmonary Presenting

### 1. SCOPE

- 1.1. Marshfield Clinic Health System Telehealth Presenters

### 2. DEFINITIONS & EXPLANATIONS OF TERMS

#### 2.1. Definitions

- Rales: A crackle most often heard on inspiration and tends to be brief and non-continuous and is caused by the passage of air throughout the small airways in the lungs that have become sticky with fluid, mucous, or pus. If the rales are coarser and lower pitched, this may indicate the origin as higher in the respiratory tree
- Rhonchi: Deeper, more pronounced rumbling during expiration and likely to be continuous and less discrete than rales. Rhonchi tend to clear with coughing, whereas, rales do not. Rhonchi are caused by the passage of air through a larger airway obstructed by thick secretions, new growth, or external pressure. The sibilant rhonchi arise from smaller bronchi; the sonorous arise from larger bronchi as in tracheobronchitis.
- Wheeze: Is a continuous, high-pitched, musical and/or whistling and is heard throughout inspiration and expiration. If wheezing is heard bilaterally, it may be caused by bronchospasms of asthma or acute and chronic bronchitis.
- Friction Rub: Occurs outside of the respiratory tree and has a dry, crackly, grating, low-pitched sound that is heard on inspiration and expiration. If the friction rub is heard over the heart or lungs, it is caused by inflamed, toughened surfaces that rub together. Friction rub over the pericardium suggest pericarditis, whereas, a friction rub over the lungs may indicate pleurisy.
- High-pitched sounds are called sibilant
- Lower pitched sounds are called sonorous
- Edema: 1+= slight pitting; no visible change in the shape of the leg (skin indents 2mm), 2+= somewhat deeper pitting; no marked change in the shape of the leg (skin indents 4mm), 3+= pitting is deep; leg is full and swollen (skin indents 6mm), 4+= pitting is very deep; leg is very swollen (skin indents 8mm +).
- Aortic valve: is at the second right intercostal space at the sternal border.
- Pulmonic valve: is at the second left intercostal space at the sternal border.
- Tricuspid valve: is at the fifth left intercostal space at the sternal border.
- Point of Maximal Impulse (PMI)/Mitral Valve: is at the apex; fifth left intercostal space at the midclavicular line
- Epigastric area: is at the tip of the sternum

- SaO<sub>2</sub>: oxygen saturation, measures the degree to which oxygen is bound to hemoglobin
- Codec: is the clinical video conferencing system

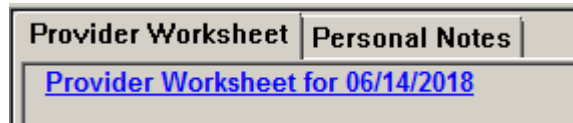
### 3. PROCEDURE BODY

All clinical staff responsible for the presenting of patients to Pulmonary Services or any provider who may need a component of a pulmonary history or physical exam shall be proficient in providing pulmonary exam data via Telehealth technologies and be appropriately trained while working within scope of practice

#### 3.1. Pre-Consult Preparation

- [Telehealth Core Presenting Procedure](#)
- Vital Signs: Be sure to select the appropriate provider and the necessary package that coincides with the visit
  - Weight
  - Blood Pressure
    - Refer to [ACO Blood Pressure Screening Process](#)
  - Resting oxygen saturation with oxygen on if patient is on oxygen
  - Temperature
- Assess pulse and oxygen levels before, during, and after exercise, with oxygen if patient is on oxygen unless otherwise specified by provider, at which time SaO<sub>2</sub> would also be measured without oxygen. Document the results in the Provider Worksheet in Dashboard.
  - Patient should keep pulse oximeter on during the entire process. The pulse oximeter is applied to a finger while the patient is sitting. Note: Accuracy can be affected by decreased peripheral perfusion, ambient light, I.V. dyes, nail polish, deeply pigmented skin, cold extremities, hypothermia, and patients in sickle cell crisis, jaundice, severe anemia, and use of antibiotics such as sulfas.
    - Pulse
    - SaO<sub>2</sub> while resting/sitting
    - SaO<sub>2</sub> after walking 350 feet or 6 minutes and/or any distance the patient can tolerate
    - Immediately after walking when the patient sits down in the Telehealth exam room.
    - After one minute of rest
- Peak Flow Readings times three, assessing the number of liters per minute the patient can exhale. For the best results, the patient needs to:
  - Stand and exhale the air out of their lungs.

- Take a deep breath (expanding their rib cage as much as possible and hold it)
- Seal their lips tightly around disposable mouth piece of the peak flow meter and exhale as fast and as forcefully as they are able. Similar to the first puff to blow up a balloon
- Repeat three times
- Record all three results in Provider Worksheet AND under Vitals in Dashboard



### 3.2. Provider Directed Physical Exam

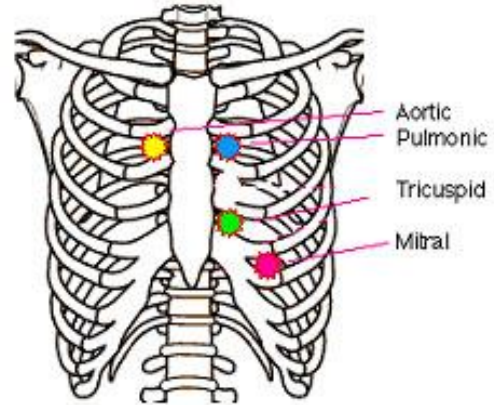
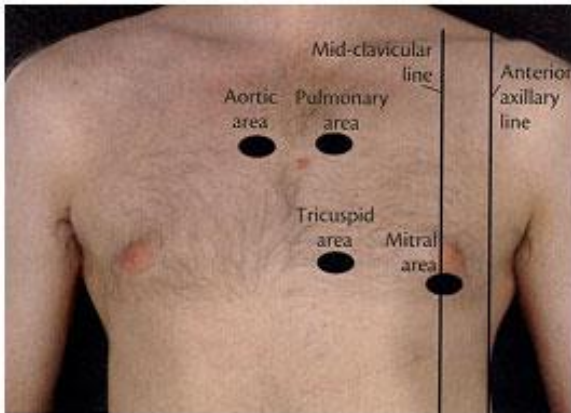
#### a. Lungs

- Position patient so his or her posterior side is to the room camera
- Place limited pressure with the digital stethoscope at the six posterior lung fields for two complete breaths or until prompted by provider to switch landmarks.
- Begin with upper lobes of lung, moving the diaphragm of the stethoscope in a ladder-like pattern, from one side to the other. This will allow the provider to identify patterns of breath sounds and compare symmetric areas of the lungs.
- Position patient with anterior side facing the room camera. Use the digital stethoscope to auscultate two anterior lung fields or until prompted by provider to switch landmarks

#### b. Heart

- Position patient's anterior side to room camera and apply limited pressure to the digital stethoscope to auscultate in the four landmarks below
  - Aortic valve
  - Pulmonic valve
  - Tricuspid valve
  - Mitral Valve/Point of Maximal Impulse (PMI)

PROCEDURE



- Watch the provider for cues to move to the next landmark.

### c. Edema Assessment

- Look for swelling of the hands, feet, face, calves, and arms and note:
  - Is it unilateral or bilateral
  - How far edema goes up
- If present, hold hand held video camera at 30 to 45 degree angle to show area with swelling and press on the area with swelling (ankles, mid-calf, etc.) for 10 seconds and release. You may check for edema from knee down, or feet up
  - Assess severity of Edema. (1-4+) pitting



- Asses for weeping of fluid due to edema
- Patients may get so edematous that they will have a serous type drainage from little/almost pinhole openings in the legs
- Report findings to provider during visit

### 3.3. Post Physical Exam

- a. See [Telehealth Core Presenting Procedure](#)

3.4. Post Consult Considerations

a. See [Telehealth Core Presenting Procedure](#)

**4. ADDITIONAL RESOURCES**

4.1. References:

- Bickley, L.S. and Szilagy, P.G. (2007). Bates' guide to physical examination and history taking (9th ed.). Philadelphia: Lippincott Williams & Wilkins.

**5. DOCUMENT HISTORY**

Version No.	Revision Description
1.0	Transfer to Document Control
2.0	Removed Marshfield Clinic Logo, Updated Quick Part in Header, Reformat of Section 2.

**6. DOCUMENT PROPERTIES**

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