

Telehealth Cardiology Presenting

1. SCOPE

- 1.1. MCHS Telepresenter
- 1.2. Facilities and departments included in the scope listed above are further defined in the [Scope Definition Resource Guide](#) if not specifically outlined above.

2. DEFINITIONS & EXPLANATIONS OF TERMS

2.1. Abbreviations

- LPN – Licensed Practical Nurse
- MA – Medical Assistant
- MCHS – Marshfield Clinic Health System
- RN – Registered Nurse
- JVD – Jugular Vein Distention
- PMI – Point of Maximum Impulse

2.2. Definitions

- Aortic valve – is at the second right intercostal space at the sternal border.
- Bruit – pulsative blowing sound that occurs with stenosis or occlusion of an artery
- Codec – refers to the clinical video conferencing device or software. Sometimes used interchangeably with Polycom.
- Corneal arcus – whitish opaque ring around junction of cornea and sclera.
- Cyanosis – decreased oxygenation/hypoxia.
- 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 +).
- Epigastric area – is at the tip of the sternum.
- 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.
- JVD – reflects right arterial pressure, giving providers' important clinical indicator of cardiac function and right heart hemodynamics. JVD is evaluated best from

the right internal jugular vein, because the right internal vein has a more direct anatomic channel into the right atrium.

- JVD – is at the apex; fifth left intercostal space at the midclavicular line.
- Pulmonic valve – is at the second left intercostal space at the sternal border.
- Pulses – 3+= bounding, hyperkinetic, 2+= normal, 1+= weak, thready, hypokinetic, 0= absent
- 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.
- Secondary aortic – is at the third left intercostal space at the sternal border.
- Telepresenter – a RN, LPN or MA who is trained to use technology, such as digital stethoscope, otoscope, examination camera, etc, to facilitate comprehensive exams under provider guidance
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- Tricuspid valve – is at the fifth left intercostal space at the sternal border.
- 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
- Xanthelasma – are yellow lipid lesions on the eyelids associated with hyperlipidemia.

3. PROCEDURE BODY

The following document provides guidance for all clinical staff responsible for the presenting of patients to Cardiology Services or any provider who may need a component of a cardiac history/physical exam. The presenter will be proficient in providing cardiac exam data via Telehealth technologies while working within scope of practice.

3.1. Pre-consult preparation

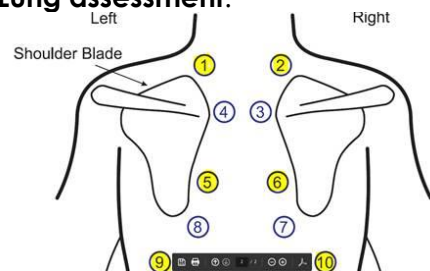
a. See [Core Telepresenting Procedure](#)

- Vitals: Be sure to select the appropriate provider and the necessary package that coincides with the visit.
 - Weight
 - Pulse
 - Blood Pressure

3.2. Provider Directed Physical Exam:

- a. **Ears assessment:** use the fiber optic hand held otoscope to view both ear canals
- b. **Mouth assessment:** use the hand held camera to show the provider the mouth
- c. **Eye exam assessment:** Using the hand held camera, or room video camera zoom in on the eyes.
 - Xanthelasma
 - corneal arcus
 - pale conjunctivae- associated with anemia
 - cyanotic conjunctivae
 - petechiae on conjunctivae

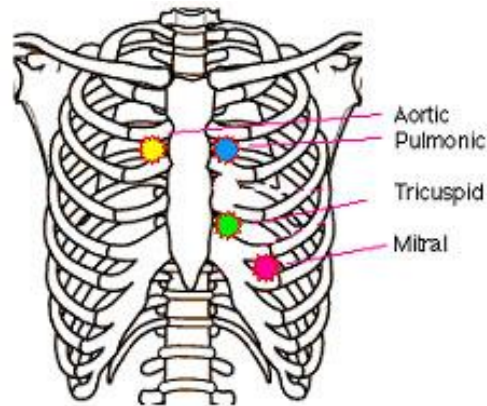
d. Lung assessment:



- 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

e. **Heart assessment:**

- 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)



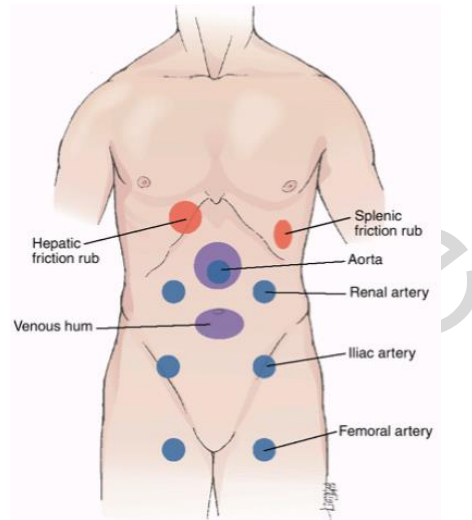
- Watch the provider for cues to move to the next landmark.

f. **Abdominal assessment:** be prepared to use both room camera and hand held camera.

- **Aortic Aneurysms (AA) Assessment:** RN only
 - Pan room camera out to display patient lying supine on exam table.
 - Press firmly and deep into the upper abdomen, slightly left of the midline, and identify the aortic pulsations. In people older than 50, try to assess the width of the aorta by pressing deeply in the upper abdomen with one hand on each side of the aorta.
 - Report any dilation of the aorta to the provider. Normal aorta width is not more than 3cm for persons age 50 or >; average width is 2.5cm (not including the thickness of the abdominal wall).
- **Renal Artery Stenosis Assessment**
 - Gently place stethoscope on the abdomen. Hold digital stethoscope lightly against the abdomen over the two renal arteries by listening for

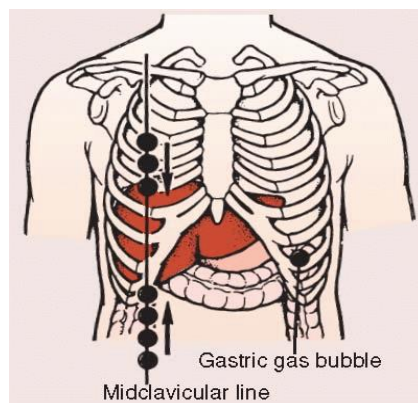
bruits (rushing sound) in each upper quadrant, adjacent to and above the umbilicus.

- For the hypertensive patient, the provider will listen carefully over the center epigastrium and posterior flank for a bruit (rushing sound) in the arterial tree



□ **Hepatomegaly Assessment:** RN only to perform assessment

- Place your fingers from your right hand on the RUQ, with fingers parallel to midline.
- Push deeply down under the right costal margin
- Ask patient to breath slowly and with every exhalation, move your palpating hand up 1 or 2 cm
- The liver will normally descend 2-3cm with inspiration. This maneuver can help guide placement of your hands for palpating the liver border
- It is normal to feel the edge of the liver on your fingertips as the diaphragm pushes down during inhalation but often times the liver is not palpable and you feel nothing firm



g. **Carotid Pulse Assessment:**

- Have the patient sit at a 90-degree angle on

the edge of the exam table or laying supine with the head elevated 30-degrees.

- Place the digital stethoscope on the lower third of the neck, medial to the sternomastoid muscles.
- Provider will listen to carotid pulses bilaterally. NEVER palpate or press both carotids at the same time.

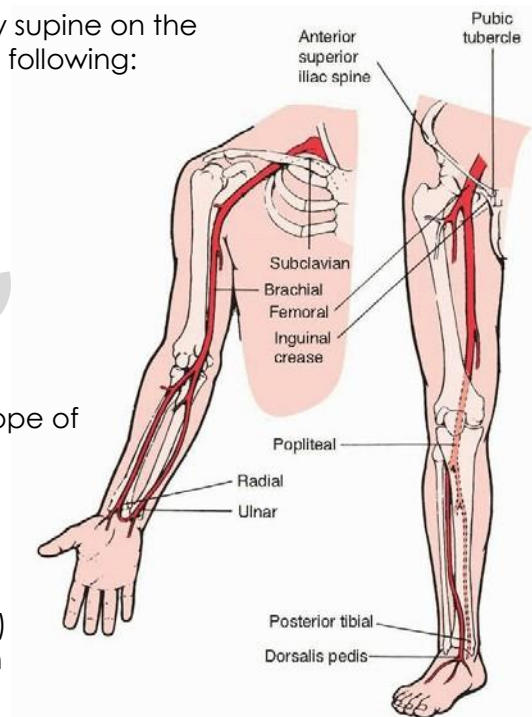
h. **Peripheral Assessment:** Have patient lay supine on the exam table so provider can assess the following:

- Inspect the arms and legs for:

- size
- swelling/edema
- symmetry
- discoloration
- wounds
- ulcers

- Palpate pulses bilaterally: If within scope of practice

- Radial pulses
- Femoral pulses
- Dorsalis pedis pulses. Feel the dorsum of the foot (not the ankle) just lateral to the extensor tendon of the great toe.



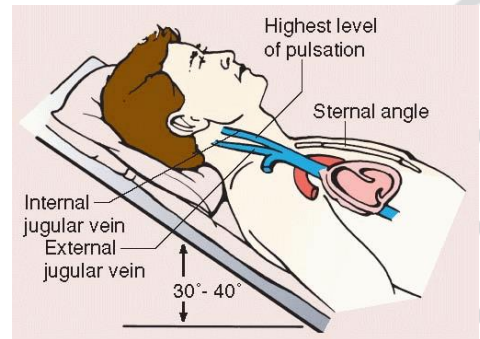
- Use hand held camera to zoom in on any skin discoloration, wounds, ulcers, surgical sites, and swelling.

i. **Edema:** With the hand held camera, be prepared to show the provider edema

- Provider will assess for swelling of the hands, feet, face, calves, and arms and note:
 - Is it unilateral or bilateral
 - How far up the leg does it go?
 - If present, press on the area with swelling (ankles, mid-calf, etc.) for 10 seconds and release.
 - Severity of Edema. (1-4+) pitting.
- Use hand held video camera to present real time assessment of edema.
 - 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.
- Be prepared to conduct a live exam with the hand held camera to assess the following: incisions, wounds, ulcers.



- Provider will assess for weeping of fluid due to edema.
 - Patients may get so edematous that they will have serous type drainage from little/almost pinhole openings in the legs.
- j. **JVD assessment:**
 - Instruct the patient to sit upright at a 90-degree angle.
 - Request patient to lie supine with the head elevated 30-45 degrees. Hyperextension or flexion may stretch or kink the vein.
 - Apply moderately firm pressure with the palm of your hand over the patient's right upper abdominal quadrant for 30-60 seconds. If jugular venous pressure increases, the vein will appear more prominent.



- 3.3. Post Physical Exam: See [Telehealth Core Presenting](#)
- 3.4. Post Considerations: See [Telehealth Core Presenting](#)

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.
- 4.2. Supporting documents available:
- [Telehealth Core Presenting](#)

5. DOCUMENT HISTORY

Version No.	Revision Description
1.0	Conversion from Policy Handbook to Document Control. Was Procedure #2276.3
2.0	2.12 added- Sharon Dvoran 1/12/18. Changed MC name to MCHS. 2/20/18 SD
3.0	Removed Marshfield Clinic Logo, Updated Quick Part in Header, Updated Scope Statement with MCHS, Added MCHS to Section 2, Reformat of Section 2. Updates per Julianne Elsen.

6. DOCUMENT PROPERTIES

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