

Cardiovascular exam demonstration

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- General examination
- Look at the patient appearance and ask yourself does he looks well or unwell ?
Most important skill to learn

Frightened or distressed ?

Color: pale cyanosed grey sweaty

Hand	Face
Clubbing Splinter hemorrhage Skin temperature Tremor	Pallor Central cyanosis Malar rash Corneal arcus xanthomata

- Central cyanosis is an important sign. The most common CARDIAC cause is pulmonary edema .
- Certain specific physical signs to support certain Dx.
Hyperlipidemia risk factor in vascular disease and cause ?
 - ... palmar or tendon xanthomata
 - ... corneal arcus, creamy yellow discoloration at boundary of iris and cornea caused by precipitation of cholesterol crystals
 - ... xanthelasma yellow cholesterol plaques around eyelid and periorbital area

- Infective endocarditis

1. Splinter hemorrhage.

2. Roth's spot flame shaped retinal hemorrhage with cotton wool centre from emboli

3. Skin rash consisting of multiple petechiae in legs and conjunctiva

4. Finger clubbing

5. Microscopic hematuria.

Arterial pulses and Blood pressure

- Radial artery
- Brachial artery
- Carotid artery

The precordium

- The apex beat normally found in 5th left intercostal space (below 5th rib) medial to midclavicular line.

Examination sequence :

1. Inspect while sitting 45 degrees
2. Look for scars visible pulsation and chest deformity
3. Lay your whole hand flat over the precordium for general impression of cardiac activity
4. Locate apex beat by laying your fingers on chest parallel to rib spaces . Can't feel roll to left side
5. Assess character of apex beat and position
6. Feel for the right ventricle using heel of hand applied firmly to left parasternal position and ask to hold breath
7. Palpate for thrill at apex and both sides of diaphragm
8. If you hear a murmur feel again for a thrill using flat of fingers while patient in optimal position

Abnormal findings :

Pectus excavatum(post displacement of lower sternum)

Pectus carinatum(pigeon chest) displace heart and affect palpitation and auscultation

Midline sternotomy indicates previous CABG

Left submammary indicates mitral valvotomy

Infraclavicular scars indicates Pacemaker implants

Listening to the Heart

Bell low pitched sound such murmur of mitral stenosis

Diaphragm high pitched sound as normal and systolic murmurs

Normal heart sound : lub dub closure of valves

First hear at apex and identify two heart sounds .

Simultaneously feel carotid with your thumb , first heart sound precedes carotid and the second follows it.

1. The first and second heart sound
2. Extra heart sound (3rd and 4th)
3. Additional sound (clicks and snaps)
4. Pericardial rub
5. Murmurs in systole and diastole

Normal findings :

S1 closure of mitral and tricuspid at onset of ventricular systole. Best at apex

S2 closure of pulmonary and aortic at end of ventricular systole . Best at left sternal angle

Its louder and higher pitched than S1 and aortic louder than pulmonary

Physiological splitting of S2

Contraction of left ventricle slightly precedes right ventricle that's why aortic precedes pulmonary

Increases at end inspiration because the increased venous filling of right ventricle further delay pulmonary valve closure.
This split disappear in expiration.

Splitting is heard at left sternal angle using diaphragm
Lub d/dub inspiration lub dub expiration

S3 low pitched early diastolic sound heard with bell at apex.
Rapid ventricular filling immediately after opening of AV
valves
Normal in children young adults and pregnancy

Examination sequence

1. Explain that you wish to examine chest and ask for clothes removal above waist.
2. With the patient lying 45 degrees to horizontal, listen over precordium at base of heart apex upper left and right sternal edges with both bell and diaphragm. Also listen to carotid and the axilla.
3. At each site identify first and second heart sound with character and intensity, note any splitting of second heart sound
4. Concentrate in turn on systole (interval between S1 and S2) and diastole (S2 to S1) listen for added sound and murmurs
5. Roll the patient on to left side, listen at the apex using light pressure with bell , to detect mid diastolic and pre systolic murmur of mitral stenosis.
6. sit the patient up and forward and ask him to breathe out fully and then hold his breath.
7. Listen over the right second intercostal space and over left sternal edge with diaphragm for aortic regurgitation