

# How to Auscultate Heart Sounds

1. The right-handed examiner is positioned at the right side of the patient, the left-handed examiner at the left side.
2. Be consistent with each examination. Start at the aortic area and inch your way to each auscultation area, ending with the mitral area or move in reverse order.
3. Use the diaphragm and then the bell, or use in reverse order. Often, heart sounds are better heard if the patient breathes out and holds the expiration.
4. Identify and evaluate S1. It is normally loudest in the mitral area and may be split in the tricuspid area.
5. Identify S2. It is loudest in the aortic and pulmonic areas. A physiologic splitting of S2 is usually audible in the pulmonic area and is accentuated by inspiration.
6. Listen for extra sounds in systole (between S1 and S2) and then in diastole (between S2 and S1).
7. If an abnormality is heard, the entire chest surface is re-examined to determine where it is heard loudest and to identify the farthest site where it is still heard.

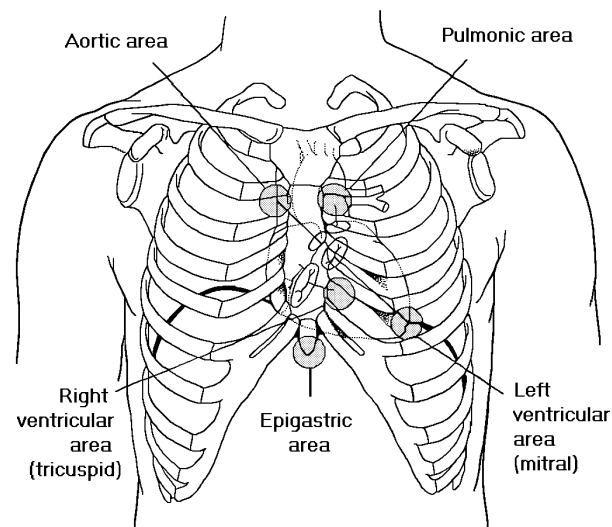
## Abnormal Heart Sounds

The third heart sound (S3) resembles the word "ken-tuc-ky." It is heard during diastole. If the right ventricle is noncompliant, the sound will occur in the tricuspid area. If the left ventricle is noncompliant, then it occurs in the mitral area.

The fourth heart sound (S4) resembles the word "ten-nes-see." It occurs late in diastole. It is heard in the tricuspid or mitral area when there is resistance to filling of the ventricle.

S3 and S4 are better heard with the bell of the stethoscope, with the patient lying on the left side.

## Auscultation Areas



## Snaps and Clicks

An opening "snap" is almost always associated with the murmur of mitral stenosis. It is heard early in diastole along the left sternal border. An ejection click indicates aortic stenosis. It occurs after the first heart sound.

## Rub

To detect a pericardial friction rub, use the diaphragm of the stethoscope to auscultate the third left intercostal space along the lower left sternal border. Listen for scratchy, harsh or squeaking sounds that occur even when the patient holds his breath. To enhance the sound, have the patient forcefully expire while leaning forward. This is called Mohammed's sign.

## Charting a Murmur

Murmurs are described by their timing, location, radiation, pitch, quality and intensity.