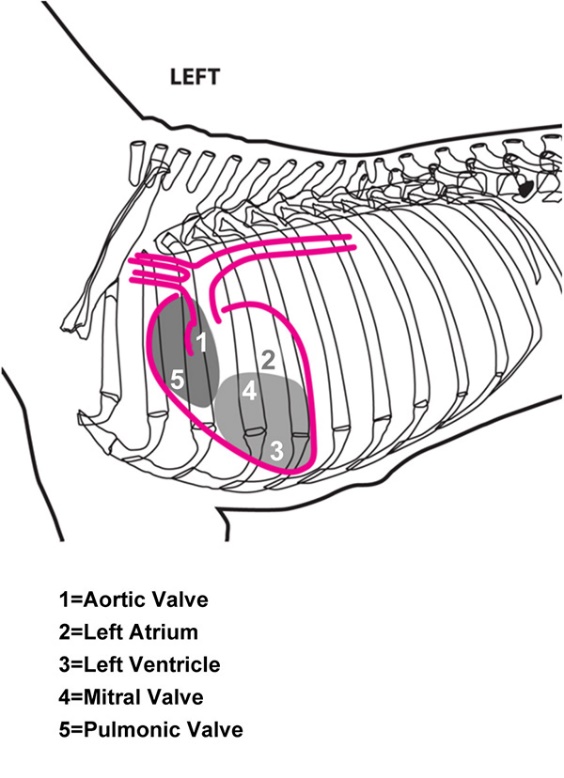
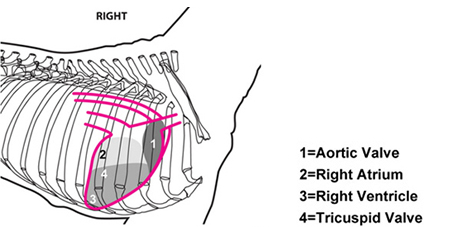
Cardiopulmonary Auscultation

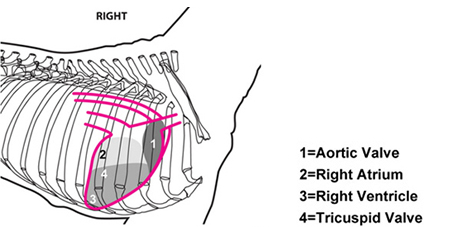


Where to listen on left side?



Where to listen on right side?



Where to listen?



**P**

**A**

**M**

Left Side



**A**

**T**

Right Side

How do you listen to lungs?

* Examine the respiratory movements to ensure that there are no abnormalities.
* Measure the respiratory rate of the dog (number of breaths over 15 seconds X 4). Normal respiration rate for a dog is 10-30 respirations/minute.
* Auscultate the tracheal bifurcation at the level of the mid-thorax (8th intercostal space). Ensure the mouth is closed to prevent panting sounds.
* Auscultate sounds of the thorax dorsally, ventrally, cranioventral, craniodorsal and caudodorsally, as well as the trachea and larynx.
* By auscultating the upper and lower respiratory tract, the abnormal breath sounds can be localised.

Resting Heart and Breathing Rates

|  |  |  |
| --- | --- | --- |
| Species | Beats/min | Breaths/min |
| Human | 60-100 | 12-20 |
| Dog | 70–120 | 10-30 |
| Cat | 120–140 | 16-40 |
| Horse | 28–40 | 10–14 |
| Dairy Cow | 48–84 | 26-50 |
| Sheep | 70–80 | 16–34 |
| Pig | 70–120 | 32–58 |
| Ferret | 180-250 | 33-36 |
| Rabbit | 120-150 | 30-60 |
| Guinea Pig | 200–300 | 42-105 |
| Mouse | 450–750 | 80-230 |

\*Always evaluate by rate, character and position for both cardio and respiratory auscultation!

Heart Abnormalities

* Atrial fibrillation - rapid and irregular beat
* Mitral regurgitation - whoosh sound caused by backward flow of blood through faulty mitral valve
* Mitral valve click - sharp whoosh sound caused by a prolapsed mitral valve being pulled back suddenly by the chordae tendineae
* Patent Ductus Arteriosus (PDA) – constant whoosh sound caused by blood from a persistent fetal blood vessel moving blood from the aorta to pulmonary artery
* Pulmonic stenosis - extra sound caused by obstruction of flow from the right ventricle of the heart to the pulmonary artery
* Subaortic stenosis (SAS) - whoosh sound caused by the flow of blood from the left ventricle being restricted under the aortic valve

* Ventricular Septal Defect (VSD) – whoosh on second heart sound caused by turbulent flow into the left ventricle from the left atrium

Respiratory Abnormalities

* Wheeze – course whistling sound that varies in pitch and caused by narrowing of airway anywhere from the trachea to lungs.

* Monophonic wheeze – same as above, but the sound has the same pitch when breathing in and out
* Pleural friction rub- clicking sound caused by layers of the inflamed pleural membrane rubbing against each other
* Stridor - a high pitched vibrating noise caused by obstruction of the trachea or larynx
* Stertor - heavy snoring or gasping heard on inspiration
* Crackles – popping or crackling sounds heard on inspiration caused by a buildup of fluid, mucus or pus in the small airways
* Pulmonary edema – gurgling or crackling sound heard at the end of inspiration caused by fluid accumulation in the tissue and air spaces of the lungs

The Stethoscope



⮘ Earpiece

⮘ Binaural piece

(Ear tubing)

⮘ Flexible tubing

⮘ Chest piece

(diaphragm)

Stem ⮚

Earpiece Placement

