

ASSESSING HEART MURMURS IN THE SMALL ANIMAL PATIENT

Erin Morrison, LVMT (Anesthesia and Analgesia)

OVERVIEW

- Terminology
- Anatomy Review
- Auscultation
- What is a Murmur?
- Veterinary Nurse's Role



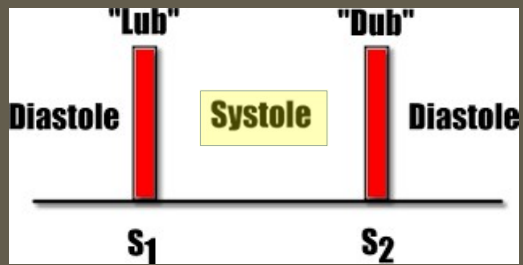
OVERVIEW

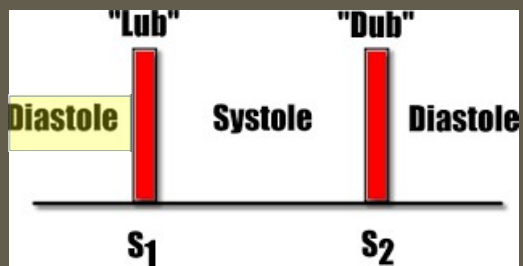
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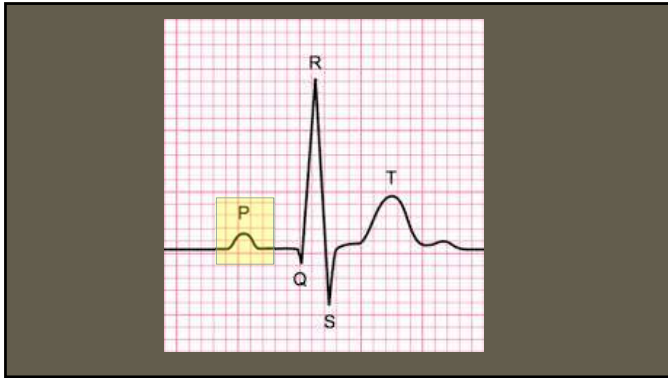


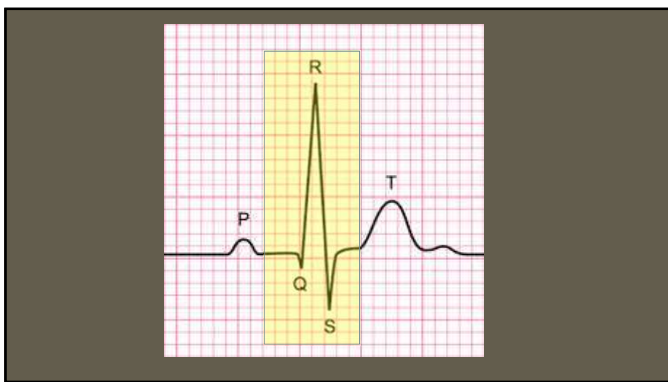
TERMINOLOGY

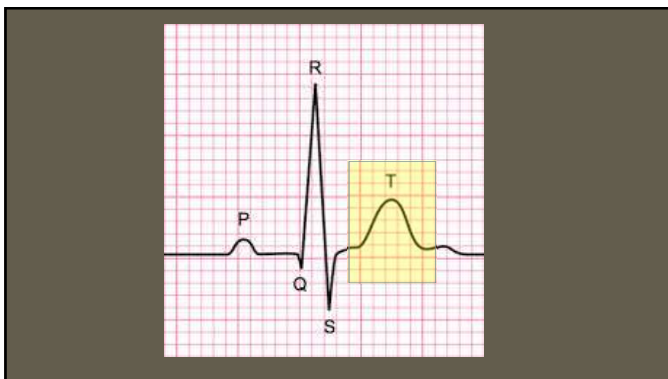
- Systole- Ventricular **CONTRACTION**
 - Ventricular **EJECTION**
- Diastole- Ventricular **RELAXATION**
 - Passive then active ventricular **REFILLING**











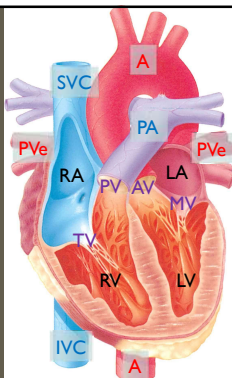
OVERVIEW

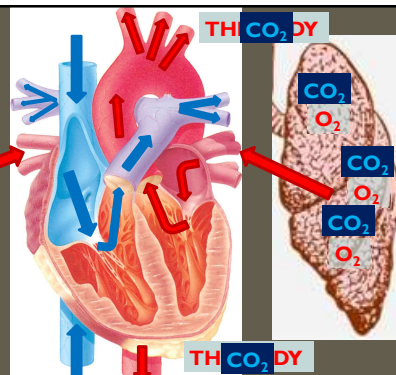
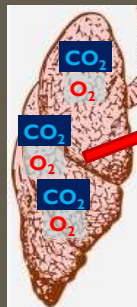
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Right Side

Left Side





TH

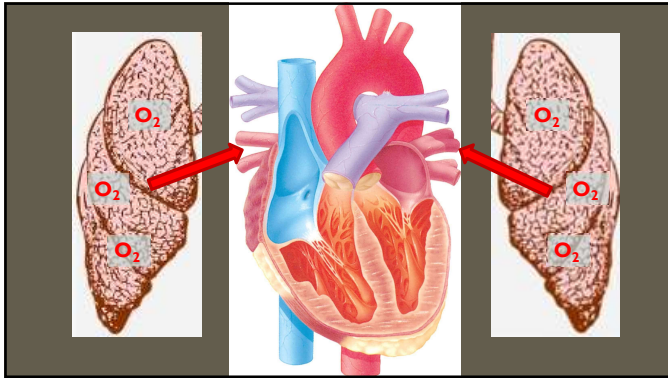
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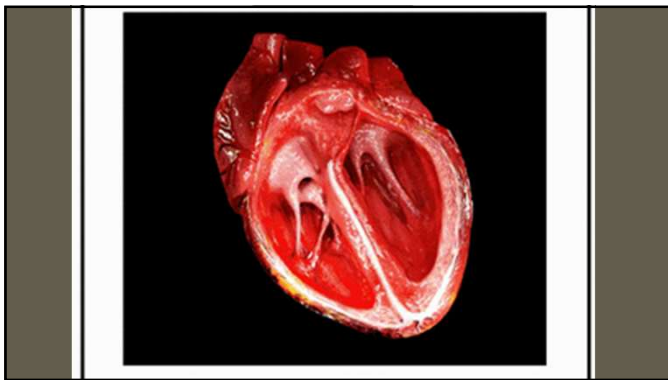
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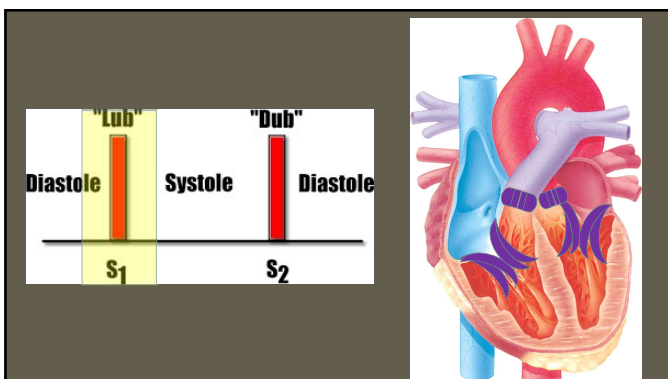
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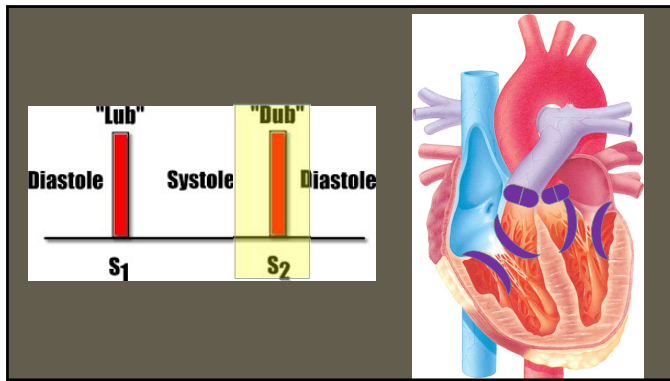
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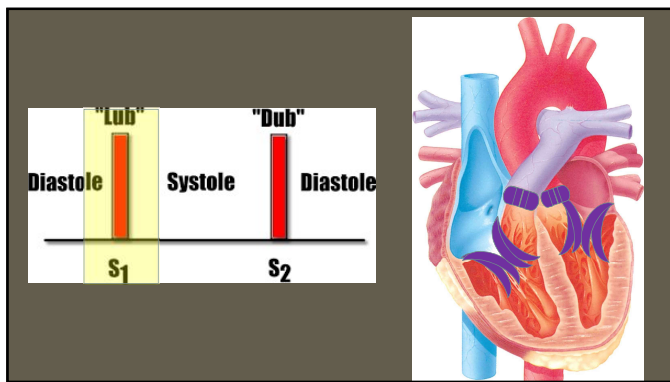
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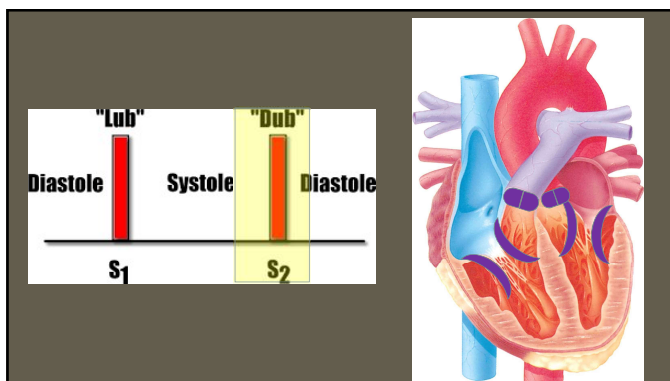


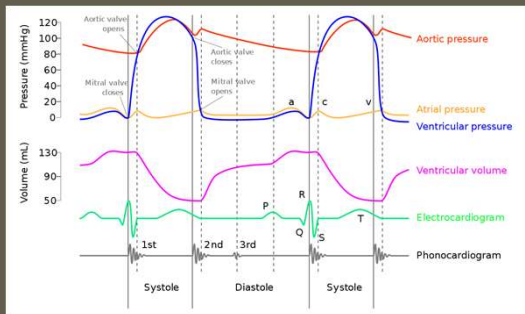


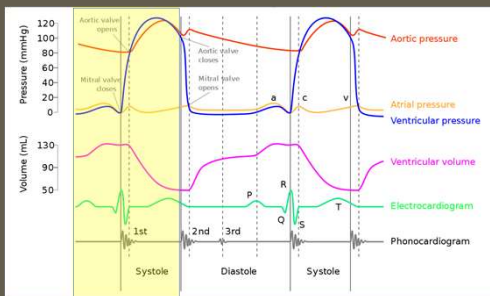


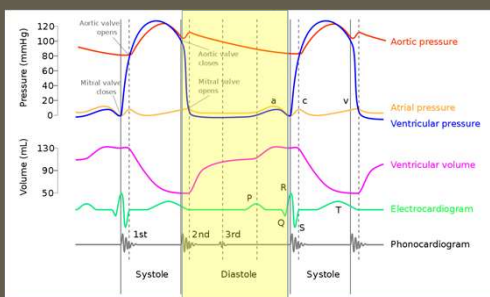












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Tubing

Ear Tubes

Ear Tips



Bell

- Low Frequency

Diaphragm

- High Frequency

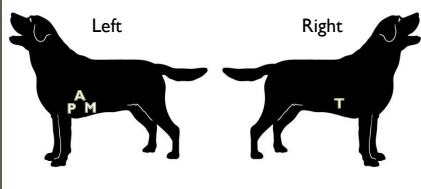


AUSCULTATION

- BE CONSISTENT
- Heart and Lungs
 - Rate
 - Rhythm
 - Sounds
 - Pulses



AUSCULTATION



AUSCULTATION

**BUT WAIT,
THERE'S
MORE!**

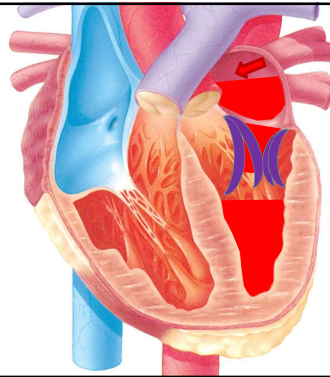


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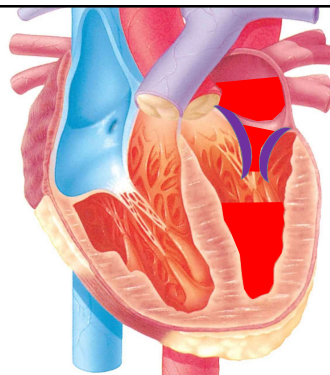


WHAT IS A MURMUR?



WHAT IS A MURMUR?

- Turbulent blood flow



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- **VETERINARY NURSE'S ROLE**



VETERINARY NURSE'S ROLE



I/VI	Barely audible, localized, intent listening to hear
II/VI	Low intensity, localized, easily heard
III/VI	Moderate intensity, more than one location, audible immediately
IV/VI	Loud intensity, radiates
V/VI	Loud intensity, palpable precordial thrill
VI/VI	Very loud, heard before stethoscope touches chest, palpable precordial thrill

VETERINARY NURSE'S ROLE

- Inform your clinician
- Is this murmur new?
- Is it worse?
- Offer a referral
- Client Education



TRIAGING HEART MURMURS

- Is this a puppy or kitten?
- Is this a new murmur?
- If it is an old murmur- is it louder?
- Is the patient in distress?
- Can you hear the murmur on both sides of the chest?

PUPPY/KITTEN

- Gallop Rhythm/ Systolic Click
- Innocent/Physiologic
- Patent Ductus Arteriosus
- Pulmonic/Subaortic Stenosis
- Mitral/Tricuspid Regurge
- Aortic Stenosis- L sided

PUPPY/KITTEN

I-II/VI

- Innocent/Physiologic Congenital
- Sub aortic Stenosis
- Pulmonic Stenosis
- Tricuspid Valve Dysplasia

>IV/VI

- More concerning
- PDA
- Sub-aortic stenosis
- Aortic Insufficiency
- RECOMMEND ECHO

YOUNG DOG, NEW MURMUR

- Acquired/ Previously undetected
- DCM
- MVD

- RECOMMEND ECHO
- Radiographs

YOUNG CAT, NEW MURMUR

- HCM

- RECOMMEND ECHO

OLD, SMALL BREED DOG

- L Systolic Murmur
- MVD
- Chest Radiographs
- Echo?
- BP
- Blood Work

OLD, LARGE BREED DOG

- L Systolic Murmur
- MVD
- DCM
- ECHO
- Chest Radiographs
- BP
- Blood Work

OLD CAT, NEW MURMUR

- L Systolic Murmur
- Hyperthyroidism
- Hypertension
- HCM
- BP
- Blood work, Thyroid



VETERINARY CARDIOLOGISTS

• <https://find.vetspecialists.com/>



REFERENCES

- Merck Veterinary Manual
- Cardiac Auscultation 101 - Terri DeFrancesco, DVM, DACVIM, DACVECC
- The Heart Part 1 by Crash Course
 - <https://youtu.be/X9ZZ6tcxArI>
- Google for pictures
