Incidental Heart Murmur Learning Objectives

- List the criteria for innocent murmurs in puppies
    - Not exceed a grade 2/6
    - Not persist beyond 6mo of age
    - Should not be associated with any clinical signs
    - Systolic
    - May go away with a change in position/posture
- Identify the difference between dogs and cats when it comes to the likelihood of heart disease based upon identification of heart murmurs
    - Adult dogs with a heart murmur typical have some sort of abnormality whereas cats can have a systolic murmur auscultated in hospitals and shelters and be completely healthy
    - Cats can also have heart disease without having a murmur
- Develop a plan for evaluation of small dogs with incidental heart murmurs
    - Left apical systolic murmur (99% chance this is MMVD)
        - Thoracic rads may be the best option since medical therapy is not warranted in the absence of left atrial enlargement
- Develop a plan for evaluation of large dogs with incidental heart murmurs
    - Left apical systolic murmur
        - Most likely DCM, possibly MMVD
        - DCM cannot be diagnosed without an echo
        - Thoracic rads are unlikely to yield much if there are no clinical signs
- Develop a plan for evaluation of cats with incidental heart murmurs
    - Look for other clinical signs or pertinent history
        - Hyperthyroidism
        - Systemic hypertension
        - Nutritionally-mediated dilated cardiomyopathy (taurine deficiency)
    - Echo is the gold standard for diagnosing heart dz

- ECG – ventricular premature complexes or atrial fibrillation may be suggestive
- Thoracic rads to screen for cardiomegaly and left atrial enlargement
- NT-proBNP elevation is supportive

- Identify the utility and of cardiac biomarkers in the evaluation of incidental heart murmurs
  - Echo is the only definitive screening test for SAS and PS in healthy dogs
  - NT-proBNP is the most stable and most informative biomarker
    - Released in response to myocardial stretch/stress
    - Can have false positives with renal disease
  - Cardiac troponin I – most important in myocarditis
    - Released by damage of cardiomyocytes
  - These markers cannot be used to dictate therapy or diagnose the type/extent of the disease by can increase suspicion