Initial Treatment of Life Threatening Congestive Heart Failure (CHF)
Initial treatment of acute CHF should include injectable furosemide, oxygen and butorphanol sedation if needed. Administer pimobendan if the patient can tolerate oral medication. These patients require 24-hour care and may benefit from specialty referral. Stabilize the patient before transport is considered.

Complicating Airway Disease
The presence of some respiratory conditions may complicate classification of dogs with heart disease.
This is especially problematic in distinguishing class B2 from class C dogs. Collapsing trachea, mainstem bronchial compression due to left atrial enlargement, chronic bronchitis or pulmonary hypertension may cause symptoms similar to those of congestive heart failure. These include coughing, tachypnea or symptoms related to airway obstruction. These patients may require additional diagnostic testing and/or therapeutic trials. See www.cardiaceducationgroup.org for additional details.

CANINE CARDIAC DIAGNOSTIC SCHEME
ABCDs of Canine Cardiology
Updated January 2014

About the Cardiac Education Group (CEG)
The Cardiac Education Group is a registered not-for-profit organization of board-certified veterinary cardiologists from both academia and private practice that offers independent recommendations for the evaluation and treatment of canine heart disease. The group is committed to providing resources and information on the diagnosis, treatment and management of heart disease and heart failure in dogs and cats in order to promote detection and diagnosis with greater accuracy and confidence.

The CEG Mission
The CEG offers educational recommendations and resources that will help veterinarians diagnose, treat and manage heart disease and heart failure in dogs and cats, improving the lives of companion animals with heart disease.

The CEG promotes and facilitates:
- Educational activities to increase veterinarians’ skills and confidence in diagnosing, treating and managing heart disease and heart failure.
- Tools and resources to help veterinarians detect and diagnose heart disease earlier and with greater accuracy.
- Recommendations to ensure dogs with heart failure receive optimal care and treatments to promote longevity and quality of life.
- On-line resources for veterinarians.
- Collaboration among pet owners and veterinarians pertaining to canine heart health.

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Current recommendations: January 2014

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HEART FAILURE STAGES

A. Dogs with no structural disease but high risk for developing heart disease
   - Patient history
   - Yearly auscultation
   - Screening programs for selected breeds

B. Dogs with structural heart disease that have not yet developed clinical signs of heart failure
   - Patient history
   - Cardiac and pulmonary auscultation
   - Thoracic radiographs
   - Blood pressure
   - Electrocardiogram (ECG) when cardiac arrhythmia is evident during clinical examination
   - NT-proBNP increases over time are associated with progression of MMVD
   - Echocardiography for definitive diagnosis of underlying structural heart disease
   - 24 hour ambulatory (Holter) electrocardiogram (ECG) for evaluation of heart rhythm disturbances
   - Ambulatory event monitor electrocardiogram (ECG) for evaluation of syncope
   - Clinical lab tests: serum biochemistries, PCV/TS (or CBC) and urinalysis (prior to initiating any therapy)

C. Dogs with past or current clinical signs of heart failure
   - Patient history
   - Cardiac and pulmonary auscultation
   - Thoracic radiographs
   - Cardiac and pulmonary auscultation
   - Ambulatory event monitor electrocardiogram (ECG) for evaluation of syncope
   - 24 hour ambulatory (Holter) electrocardiogram (ECG) for evaluation of heart rhythm disturbances
   - Clinical lab tests: serum biochemistries, PCV/TS (or CBC) and urinalysis (prior to initiating any therapy)

D. Dogs with end-stage disease with clinical signs of heart failure refractory to standard therapy
   - Patient history
   - Cardiac and pulmonary auscultation
   - Thoracic radiographs
   - Blood pressure
   - Electrocardiogram (ECG) when cardiac arrhythmia is evident during clinical examination
   - NT-proBNP increases over time are associated with progression of MMVD
   - Echocardiography for definitive diagnosis of underlying structural heart disease
   - 24 hour ambulatory (Holter) electrocardiogram (ECG) for evaluation of heart rhythm disturbances
   - Ambulatory event monitor electrocardiogram (ECG) for evaluation of syncope
   - Clinical lab tests: serum biochemistries, PCV/TS (or CBC) and urinalysis (prior to initiating any therapy)

DIAGNOSTICS

- Blood pressure
- Thoracic radiographs
- Echocardiography for definitive diagnosis of underlying structural heart disease
- Ambulatory event monitor electrocardiogram (ECG) for evaluation of syncope
- Clinical lab tests: serum biochemistries, PCV/TS (or CBC) and urinalysis

CEG RECOMMENDATIONS

- No treatment
- Client education
- Annual re-evaluation

- Standard Treatment: Furosemide, Pimobendan, ACEI
- Diuretics
- Beta blockers or other therapies
- Ventricular arrhythmias – Digoxin
- Exercise as tolerated, avoid prolonged strenuous activity

- Standard Treatment: Furosemide, Pimobendan, ACEI & Spironolactone
- Pimobendan, beta blockers or other therapies
- Other therapies may be helpful but consultation with a cardiologist is strongly recommended
- For more information visit www.cardiaceducationgroup.org

- Blood pressure
- Thoracic radiographs
- Cardiac and pulmonary auscultation
- Ambulatory event monitor electrocardiogram (ECG) for evaluation of syncope
- Clinical lab tests: serum biochemistries, PCV/TS (or CBC) and urinalysis

Red text: ESSENTIAL diagnostic procedures
Black text: Diagnostic procedures to consider

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