

<b>Reference Number</b>	C-VC.3
<b>Module Title</b>	Cardiovascular Therapeutics
<b>Category and Value</b>	C – 10 credits
<b>Study Hours</b>	100

## **Introduction**

This module on Cardiovascular Therapeutics can be taken from a small animal or large animal perspective and will cover therapeutic and management options for veterinary patients, including drug therapy, non-pharmacological therapy, surgical options and other management considerations for cardiovascular patients. This module will extend and consolidate clinical knowledge and skills gained at undergraduate level, to allow application of this knowledge to the management of veterinary patients. The candidate will be able to evaluate critically their own standards of practice and develop strategies for continuous improvement in the future.

This is a required module for those wishing to obtain a Certificate in Advanced Veterinary Practice (Veterinary Cardiology).

## **Aims**

The aim of this module is to:

1. Increase the student's depth of knowledge and understanding of the therapeutic management of cardiovascular disorders in veterinary species.
2. Develop the student's knowledge and understanding of how to reduce deleterious effects of procedures such as anaesthesia and other interventions on the cardiovascular system and to manage any complications that occur.

## **Learning Outcomes**

1. Apply clinical reasoning skills and evidence-based medicine in the management of cardiovascular disease, including the pharmacology and clinical application of the major drug groups, relevance and utility of non-pharmacological therapy and the surgical options available.
2. Critically evaluate the effects of fluid therapy, anaesthetics and other systemic agents on the cardiovascular system.
3. Critically evaluate the principles and application of cardiopulmonary resuscitation.
4. Critically appraise the literature relevant to clinical cases in the topics covered and how the literature can be used to inform practice.
5. Critically reflect on the appropriate case for onward referral.

## **Module Content**

Therapeutic management options for cardiovascular patients including appropriate selection for individual animals after consideration of patient and owner factors such as compliance, comorbidities, potential side effects, availability, ethical considerations, financial implications.

Drug therapy: basic mechanism of action and clinical utility of the following classes of drugs

- Diuretics
- ACE inhibitors and other modulators of the RAAS
- Inodilators such as pimobendan
- Positive inotropes
- Negative inotropes
- Bronchodilators and antitussives
- Antiarrhythmic agents typically used in veterinary medicine for treating supraventricular and ventricular arrhythmias in small and large animals.
- Anti-thrombotic and anti-coagulant medications applicable to cardiovascular patients
- Novel agents used for cardiovascular diseases (e.g. rapamycin)

Non-pharmacological therapy

- Nutraceuticals
- Diet
- Exercise
- Other managemental or therapeutic tools (e.g oxygen supplementation).

Surgical options for treatment / management of cardiovascular defects (congenital and acquired disease). An awareness of but not necessarily in-depth knowledge of:

- Interventional minimally invasive catheter-based procedures
- Open heart surgery options (including mitral valve repair)
- The role of cardiac pacemakers for the treatment of cardiac rhythm disturbances.

An awareness of and knowledge of how and when to perform pericardiocentesis.

Effect of fluid therapy, anaesthetics and other systemic agents on the cardiovascular system.

Cardiopulmonary resuscitation: team-based approach, advance planning, techniques and medications employed, post-resuscitation monitoring.

Other cardiovascular therapies, for example:

- Treatment of bacterial endocarditis
- Treatment of septic pericarditis
- Treatment of aortic thromboembolism
- Treatment of systemic hypertension
- Treatment of pulmonary hypertension with emphasis on the cardiovascular causes/effects of pulmonary hypertension.

### **Assessment Strategy**

Module providers are responsible for deciding on assessment strategies and methods, subject to accreditation by RCVS.