The aim of the module is to enable the candidate to extend and consolidate clinical knowledge and skills gained at undergraduate level, and to develop an in-depth understanding of the application of that knowledge in a practice environment in relation to anaesthesia of small animal species.

**Assessment Strategy for this Module**

- It is suggested that this module could be assessed by the following methods:
  
  - A *case diary*, that documents the candidate’s experiences over the period that the module is being completed (a minimum of 90 days and no fewer than 50 general anaesthetics), includes critical commentaries upon at least some of the learning resources used, and describes the application of the learning process to a wide range of cases encountered in practice.
  
  - A *case book* of three cases, each of up 1,500 to 2,000 words in length. These cases should be selected to demonstrate the candidate’s ability to use the competences that have been acquired to cope with a challenging situation, rather than necessarily using classic “textbook cases” of particular conditions. And including comparative aspects with other cases and knowledge gained from other species as evidence of learning.
  
  - In addition, to achieve the post nominal “veterinary anaesthesia”, candidates will be required to undertake a practical examination involving clinical examination of an animal and discussion of appropriate anaesthesia, as well as a “spot test” (short answers to questions which would test knowledge and understanding of anaesthetic equipment and relevant clinical data such as ECG’s blood biochemistry results etc.)

**Module Content**

At the end of the module, candidates should be able to:

- Provide appropriate care for the unconscious patient, including support / maintenance of normal homeostasis

- Demonstrate a sound knowledge of the physiology, pharmacology and biophysics of relevance to anaesthesia

- Demonstrate knowledge of the anatomy of the thorax, abdomen, head and neck as they relate to anaesthesia
• Appreciate the impact of commonly encountered pathological processes in the various species, on the conduct of anaesthesia, and be able to appropriately modify the anaesthesia in light of these

• Understand the pharmacology and clinical use of drugs used for premedication and sedation

• Understand the pharmacology and clinical use of analgesic drugs (opioids, non-steroidal anti-inflammatories, local anaesthetic agents)

• Demonstrate familiarity with commonly performed regional nerve blocks

• Understand the pharmacology and clinical use of intravenous anaesthetic drugs, and their use in total intravenous techniques

• Appreciate how a generic anaesthetic machine and vaporizer function, and be able to perform appropriate safety checks

• Understand the pharmacology of the inhalational anaesthetic agents, and how this dictates their clinical use

• Understand the functional characteristics of anaesthetic breathing systems ("circuits")

• Understand the pharmacology and clinical use of neuromuscular blocking drugs

• Appreciate the advantages and disadvantages of intermittent positive pressure ventilation, and how this may be delivered

• Appreciate how the electronic monitoring systems used during anaesthesia function, and be able to interpret the information they provide

• Plan and deliver appropriate fluid therapy (including blood transfusion) for the range of patients encountered in small animal practice

• Provide appropriate anaesthesia for specific clinical situations, e.g. paediatric and geriatric anaesthesia, ophthalmological procedures, caesarean section etc

• Appreciate the unique characteristics of small mammals, birds, reptiles and fish which may complicate the anaesthetic process

• Recognise and deal with common anaesthetic emergencies

• Review and constructively criticise current literature on the speciality, to determine its relevance to their current practice

• Utilise their understanding of Evidence Based Medicine and Decision Analysis to develop practical treatment protocols for their patients
• Review the outcomes of at least part of their clinical work, using the process of clinical audit to improve performance

• Recognise when they require support from more experience anaesthetic colleagues for a particular case

SYLLABUS

Aspects of physiology related to anaesthesia, including current knowledge of the function of peripheral and autonomic nervous system, cardiovascular and respiratory systems and the transport of gases, the control of water, electrolytes, hydrogen ions and buffers in biological systems, hepatic and renal physiology and endocrinology.

Pharmacology: a knowledge of the actions of all drugs used in anaesthesia and supportive care including an understanding of pharmacokinetics and metabolism, the effects of change in composition of body fluids and transport across cell membranes.

Biophysics relevant to anaesthesia; Techniques of biological measurement used in clinical and experimental animals and interpretation of results including statistics.

Species specific anatomy (mainly dogs and cats but including an appreciation of small pet mammals and birds reptiles and fish): CNS, spinal cord and the main nerve trunks blocked in regional analgesic techniques and a knowledge of the anatomy of the thorax, abdomen, head and neck as they relate to anaesthesia.

Clinical small animal anaesthesia (including techniques and drugs) pre-operative clinical assessment, sedation, analgesia, premedication, intravenous anaesthesia, inhalational anaesthesia, induction and maintenance of general anaesthesia, monitoring during anaesthesia. Use of neuromuscular blocking agents. Ippv. Local and regional analgesic techniques

Relevant anaesthetic apparatus: basic understanding of anaesthetic machines, breathing circuits, vaporizers, monitoring equipment etc.

Knowledge of the pathophysiology of common diseases and disorders of small animals – (mainly dogs and cats but including an appreciation of small pet mammals and birds reptiles and fish ) as they affect anaesthesia, as well as the way anaesthesia may affect pathological processes, particularly those diseases which affect cardiovascular, respiratory and renal function and those which produce metabolic disturbances.