



## AUSTRALIAN AND NEW ZEALAND COLLEGE OF VETERINARY SCIENTISTS

### MEMBERSHIP GUIDELINES

#### *Medicine of Goats*

#### **INTRODUCTION**

These Membership Guidelines should be read in conjunction with the *Membership Candidate Handbook*.

#### **ELIGIBILITY**

Refer to the *Membership Candidate Handbook*.

#### **OBJECTIVES**

To demonstrate that the candidate has sufficient knowledge of and experience in the medicine of goats to be recognised as an advanced practitioner. Successful completion of Membership examination represents a middle-tier of knowledge, competence and experience in the medicine of goats.

#### **LEARNING OUTCOMES**

These guidelines relate to the discipline of general caprine medicine which includes veterinary care for companion and commercial goats which are likely to be encountered in practice in Australia and New Zealand including but not limited to:

- Angora goats
- Cashmere goats
- Dairy goats
- Meat goats including Boer goats
- Rangeland (feral) goats kept for commercial purposes
- Miniature, Pygmy, Nigerian Dwarf goats and pet goats

1. The candidate will have a **sound**<sup>1</sup> knowledge of:
  - a. caprine anatomy, physiology and pharmacology, including key differences in goats when using sheep products
  - b. chemotherapeutics, vaccines and biologics used for treatment, including key differences in goats when using sheep products
  - c. prevention and control and management of caprine diseases
  - d. caprine nutrition and husbandry, especially their influence on production factors
  - e. the aetiology, pathogenesis and pathophysiology of organ dysfunction in the goat
  - f. the clinical signs, diagnostic tests and procedures, differential diagnosis, treatment and control of disease conditions of all body systems including metabolic, genetic, nutritional, infectious, parasitic, and toxicological disorders in the goat
  - g. management practices to improve efficiency of commercial goat enterprises
  - h. key regulations concerning goat production e.g. biosecurity, milk and meat production.
2. Identify and understand the welfare and legislative issues relevant to goats and the provision of veterinary services
3. Infectious diseases of goats currently exotic to Australia and New Zealand but which could be of potential significance or importance to goat health if introduced. This includes how to prevent their introduction, the development a list of differential diagnoses to exclude such diseases and the legislative responses to exotic disease incursion.
4. Understand and be able to apply biosecurity principles as they relate to the management of goats.
5. Understand nutrition of goats and common nutritional disease, toxicities and deficiencies
6. The measures to reduce the public health significance of those diseases of the goat which are zoonotic
7. The candidate will be able to do the following with **sound**<sup>2</sup> expertise:
  - a. Collect, interpret and record clinical data in goat medicine cases including:
    - i. historical and physical examinations of the individual animal
    - ii. historical and physical examination of herd health and production problems
    - iii. the interpretation of laboratory results, including faecal egg count examination, interpretation of serological and virological tests as relates to infection status of the goat
    - iv. the interpretation of diagnostic imaging examinations including radiography and ultrasound imaging.
  - b. castration techniques
  - c. treatment for urolithiasis
  - d. aseptic collection of milk samples

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<sup>1</sup> **Knowledge levels:**

**Sound knowledge** – candidate must know all of the principles of the topic including some of the finer detail, and be able to identify areas where opinions may diverge. A middle level of knowledge.

**Basic knowledge** – candidate must know the main points of the topic and the core literature.

<sup>2</sup> **Skill levels:**

**Sound expertise** – the candidate must be able to perform the technique with a moderate degree of skill, and have moderate experience in its application. A middle level of proficiency.

**Basic expertise** – the candidate must be able to perform the technique competently in uncomplicated circumstances.

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- e. venipuncture
- f. nerve blocks – paravertebral, cornual, epidural, local infiltration
- g. faecal sampling for internal parasites and for bacterial diseases
- h. bronchoalveolar lavage
- i. ultrasonography – for pregnancy diagnosis, number of kids and reproductive disease and abnormalities.
- j. examination of external genitalia of male and female goats, including identification of hermaphrodites
- k. analyse the reproductive cycle of the doe and recommend an oestrus synchronization program
- l. stomach tubing of kids
- m. joint fluid aspiration
- n. cerebrospinal fluid collection
- o. disbudding & dehorning
- p. offer management advice to improve the efficiency of commercial goat enterprises
- q. analyse common clinical problems and make clinical judgements
- r. communicate effectively with clients and peers.

## EXAMINATIONS

For information on both the standard and the format of the Written and Oral examinations, candidates are referred to the *Membership Candidates Handbook*. The Membership examination has **two separate components**:

### 1. Written Examination (*Component 1*)

**Written Paper 1** (two hours): Principles of the Subject

**Written Paper 2** (two hours): Applied Aspects of the Subject

### 2. Oral Examination (*Component 2*)

**Oral** (one hour)

The written examination will comprise of two separate two-hour written papers taken on the same day. There will be an additional 15 minutes perusal time for each paper, during which no writing in an answer booklet is permitted. In each paper you are provided with six (6) questions to answer, worth 20 marks each, giving a total of 120 marks per paper. There is no choice of questions. Questions may be long essay type or a series of shorter answer sub-questions. Marks allocated to each question and to each subsection of questions will be clearly indicated on the written paper.

#### **Written Paper 1:**

This paper is designed to test the Candidate's knowledge of the principles of Goat Medicine as described in the Learning Outcomes using essay-style, short answer and note-point formats. Answers may cite specific examples where general principles apply, but should primarily address the theoretical basis underlying each example.

## **Written Paper 2:**

This paper is designed to (a) test the Candidate's ability to apply the principles of Goat Husbandry and Medicine to particular cases/problems or tasks and (b) test the Candidate's familiarity with the current practices and current issues that arise from activities within the discipline of Goat Medicine in Australia and New Zealand using essay-style, short answer and note-point formats.

## **Oral Examination:**

This examination requires the candidate to demonstrate achievement of the above-mentioned Learning Outcomes. Discussion will be predominantly based on case material.

The duration of this examination is approximately one (1) hour. Images and laboratory results are likely to be used during this examination. Six (6) brief cases, covering all types of goats, are presented with supporting questions asked verbally. The oral examination has a total of 60 marks with each case allocated 10 marks.

## **RECOMMENDED READING GOAT MEDICINE MATERIAL**

The candidate is expected to read widely within the discipline, paying particular attention to areas not part of their normal work experiences. This list of books and journals is intended to guide the candidate to some recommended references and other source material. Candidates also should be guided by their mentors. *The list is not comprehensive and is not intended as an indicator of the content of the examination.*

### **Recommended Textbooks<sup>3</sup>**

Harwood, David and Meuller, Karin, (2018) 'Goat Medicine and Surgery'. First Edition, CRC Press

Matthews, John (2016) 'Diseases of the Goat'. Fourth Edition, Wiley –Blackwell, Blackwell Publishing

Meat and Livestock Australia. 'Going into goats – Profitable Producers Best Practice Guide' –latest version and modules available from <https://www.mla.com.au/extension-training-and-tools/going-into-goats/the-going-into-goats-guide/>

### **Additional Goat Medicine Reference Materials**

These are listed on the Small Ruminant Chapter home page under goats – see <https://www.anzcvs.org.au/chapters/small+ruminant+chapter> or use [this link](#)

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<sup>3</sup> **Definitions of Textbooks**

**Recommended textbook** – candidates should own or have ready access to a copy of the book and have a sound knowledge of the contents.

**Additional references** – candidates should have access to the book and have a basic knowledge of the contents.

## **FURTHER INFORMATION**

For further information contact the College Office

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