



**AUSTRALIAN AND NEW ZEALAND  
COLLEGE OF VETERINARY SCIENTISTS**

**MEMBERSHIP GUIDELINES**

*Animal Welfare*

**INTRODUCTION**

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

**ELIGIBILITY**

Refer to Section 2 of the *Membership Candidate Handbook*.

**OBJECTIVES**

To demonstrate that the candidate has sufficient knowledge of and experience in animal welfare to be able to give sound advice to colleagues on options to assess and improve animal welfare as well as to manage issues and challenges commonly encountered in this field.

Membership of the College is an official recognition of a veterinary surgeon's knowledge and experience in a designated field of veterinary science. Membership is an indication to the profession and the general public of an advanced practitioner, representing a middle-tier of knowledge, competence and experience in a specific area of veterinary practice. Membership is not a specialist qualification.

**LEARNING OUTCOMES**

This subject is described in the following learning outcomes and covers animal welfare of all species of animals which are defined in Australian, New Zealand and/or International laws, regulations and agreements. These may include domestic animals such as cattle, sheep, goats, pigs, poultry, horses and companion animals, laboratory, zoo and feral animals, wildlife, fish and cephalopods.

**1. Definition of animal welfare**

The candidate will have a **sound** knowledge of -

- a. WOAHA (formerly known as OIE), AVMA, NZVA approaches to defining animal welfare.
- b. Animal welfare vs animal rights – differences and similarities on a continuum.
- c. Definition of sentience, its evidence and limitations, and application to a range of species.

## 2. History of animal welfare

The candidate will have a **basic** knowledge of -

- a. Domestication and use of animals including the development of agriculture.<sup>1</sup>
- b. Moral philosophy and animals, key philosophers (Descartes, Hume, Bentham, Kant, Singer) and their influence.
- c. Changing societal views and the concept of social license.
- d. Religion and animal welfare
- e. Public perception and how this can impact animal welfare.

## 3. Animal welfare science

The candidate will have a **sound** knowledge of -

- a. Concepts of animal welfare
  - i. Biological functioning, naturalness (telos) and affective state
  - ii. Animal wellbeing, animal suffering, animal distress
  - iii. Scientific approaches to assessing animal welfare, use and limitations.
- b. Psychological and physiological aspects of both positive and adverse states
  - i. Behaviour – behaviour changes that indicate both positive and negative states, impact of housing and husbandry, motivation, self-awareness, self-consciousness and cognition in animals.
  - ii. Physiological – stress and its scientific evaluation
  - iii. Pain pathways, perception and response
  - iv. Relationships between disease and welfare

## 4. Environment and human factors associated with animal welfare

The candidate will have a **sound** knowledge of -

- a. Human-animal relationships
  - i. Human-animal bond
  - ii. Animal training programs eg service dogs, horse training, and the importance of positive reinforcement training versus punishment based methods
  - iii. Use of technology such as wearable collars, electronic ear tags, recording rumen boluses, and strap on activity recorders eg HOB0 loggers
  - iv. Influence of stockpersons, animal attendants and technicians, on animal welfare and in particular the importance of training and competence in low stress handling – across all animal sectors and industries
  - v. The link between animal abuse and domestic violence (not just a companion animal issue) and potential indicators of deliberate animal abuse

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<sup>1</sup>**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 major literature.

- b. Environment factors
  - i. Impact of cage, aquarium and pen design, building layouts and design, transport vehicles, provision of feed and water, enrichment, novel environments
  - ii. Welfare challenges of both intensive and extensive farming
  - iii. Inappropriate housing for small companion animals including pocket pets, birds, fish and reptiles.
  - iv. Stocking densities, issues with both group housing and isolation

## 5. The ethics of animal use

The candidate will have a **basic** knowledge of -

- a. Animal welfare concerns vs ethical concerns
- b. Practical ethical frameworks for assessing harm/benefit.
- c. Use of animals in research, testing and teaching (RTT) and consideration of the 3Rs

## 6. Legislation and animal welfare

The candidate will have a **sound** knowledge of -

- a. Animal welfare legislation (Acts and Regulations) in Australia and New Zealand and their implementation including enforcement.
- b. Animal welfare codes of practice/standards and guidelines
- c. The legislative basis for the use of animals in research, testing and teaching.

The candidate will have a **basic** knowledge of -

- d. Relevant government committee structures
- e. International legislation
- f. International guidelines and standards (eg WOAAH)
  - i. Terrestrial Animal Health Code guidelines (WOAH)
  - ii. Animal welfare within quality assurance schemes

## 7. Welfare assessment

The candidate will have a **sound** knowledge of -

- a. Theories of welfare assessment
- b. Concept of 'a good life'
- c. Assessment frameworks, eg 5 freedoms, 5 domains
- d. Welfare indicators – outcome measures vs resource measures
- e. Welfare assurance programs – legislated and commercial

## 8. Veterinary aspects of animal welfare

The candidate will have a **sound** knowledge of -

- a. Pain and stress recognition
- b. Recognition and assessment of positive affective states
- c. Pharmacokinetics of pain relief
- d. Euthanasia and killing - selection of methods and assessment of humaneness.
- e. Reducing welfare impacts of routine husbandry procedures eg disbudding and including vet clinic visits, also genetic or husbandry alternatives to these procedures where possible
- f. Advising on breeding programs, fitness for breeding and management of animals with hereditary problems, including programs that include genetic modification.

## 9. Veterinary profession's role in animal welfare

The candidate will have a **basic** knowledge of -

- a. Animal welfare in veterinary clinical practice (EBVM).
- b. Advocacy roles and how this differs from activism.
- c. Advisory roles, with a particular focus on working with animal owners and animal guardians, and other stakeholders (e.g. industry, government) to achieve human behaviour change in relation to the care of animals.
- d. Leadership within the profession and the wider community.
- e. Animal welfare during adverse events (including natural disasters), and for biosecurity.
- f. Veterinary professional ethics, including legal and code of professional conduct requirements.

## 10. Contemporary animal welfare issues

The candidate will have a **basic** knowledge of -

- a. Contemporary animal welfare issues:
  - i. Production animals – live export, intensive production, genetic selection eg for excessive growth rates, surplus young animals, transport, end of life management, painful procedures, mother/young separation, emerging industries eg dairy sheep, shade and shelter.
  - ii. Companion animals – overpopulation, breeding standards and breeding for extreme features, palliative care, cancer treatments, hoarding, heroic overservicing, pocket pets, care of reptiles, fish and birds.
  - iii. Wildlife (captive, native, introduced) – pest management, environmental degradation, land clearing, urbanization, disease control, impact adverse events and climate change.
  - iv. Sport, entertainment, and exhibitions – rodeos, racing, circuses, live-baiting, wastage of animals, hunting, fishing, zoos.
  - v. Access to veterinary services – shortage of veterinarians, provision of after-hours services, tele-consultations, corporatization of practices, insurance, cost of veterinary services, impacts of COVID.
  - vi. Climate change – likely impacts on animal welfare.
- b. An understanding of how to evaluate an issue from various viewpoints including but not limited to animal welfare science, and with due consideration of contributing factors that may not be animal related.

## EXAMINATIONS

For information on the required standard and format for both the Written and Oral examinations, candidates are referred to the *Membership Candidate 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 approximately)

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. The exam includes a series of questions which require an essay-type response. Each exam is worth a total of 120 marks and all questions must be answered. Allocated marks to each question/sub question will be clearly indicated.

### **Written Paper 1:**

This paper is designed to test the candidate's knowledge of the principles of animal welfare as described in the Learning Outcomes. Where questions relate to general principles, answers may cite specific examples, but should primarily demonstrate an understanding of the underlying theoretical basis.

### **Written Paper 2:**

This paper is designed to (a) test the candidate's ability to apply the principles of animal welfare to particular cases/problems or tasks and (b) test the candidate's familiarity with the current practices and issues that arise from activities within the discipline of animal welfare in Australia and New Zealand.

### **Oral Examination:**

The oral examination will be predominantly based on scenarios. The duration of this examination is approximately one (1) hour. Scenarios are presented with supporting questions asked verbally in a face-to-face setting. The exam is worth a total of 100 marks. Marks and time allocated for each scenario will be explained at the start of the examination.

## RECOMMENDED READING MATERIAL

The candidate is expected to research the depth and breadth of the knowledge of the discipline. This list is intended to guide the candidate to some major references and source material. The list is not comprehensive and is not intended as an indicator of the content of the examination.

### Recommended Texts and Resources

Appleby, M.C., Olsson, I.A.S. and Galindo, F., (Eds.). (2018). *Animal Welfare*. 3<sup>rd</sup> Edition Wallingford, UK, CAB International.

Broom, D.M (2021). Broom and Fraser's *Domestic Animal Behaviour and Welfare*. 6<sup>th</sup> Edition CABI Publishing.

Sandøe, P., and Christiansen, S.B. (2008). *Ethics of Animal Use*. John Wiley and Sons.

Wathes, C.M., Corr, S.A., May McCulloch, S.P., and Whiting, M.C. (2012) *Veterinary and Animal Ethics*. Proceedings of the 1st International Conference on Veterinary and Animal Ethics. UFAW. Wiley-Blackwell.

Webster, J. (2022). *Animal Welfare: Understanding Sentient Minds and Why it Matters*. Wiley-Blackwell

Yeates, J. (2013). *Animal Welfare in Veterinary Practice*. UFAW Animal Welfare Series. Wiley-Blackwell.

### Recommended Resources for Legislation

#### *Australian State and Territory Animal Welfare Legislation and Codes of Practice.*

It is recommended that the candidate refer to the legislation and codes for their own particular state or territory.

The following article on the RSPCA Knowledge base contains links to all Australian State/Territory animal welfare legislation (accessed February 1, 2023). What is the Australian legislation governing animal welfare? (<https://kb.rspca.org.au/knowledge-base/what-is-the-australian-legislation-governing-animal-welfare/>)

The Australian Animal Welfare Strategy (legacy website) (<http://www.australiananimalwelfare.com.au/>) [accessed February 1, 2023] \

Morton R and Whittaker AJ. (2022) *Understanding Subordinate Animal Welfare Legislation in Australia: Assembling the Regulations and Codes of Practice*. *Animals* 12(18)2437

National Health and Medical Research Council (2013) *Australian code for the care and use of animals for scientific purposes*, 8th edition. Canberra: National Health and Medical Research Council.

#### *New Zealand Animal Welfare Legislation*

Information on Animal Welfare Act 1999 and associated legislation: [Animal Welfare Act 1999 No 142 \(as at 01 October 2022\), Public Act Contents – New Zealand Legislation](#)

MPI Animal Welfare Website: [Animal welfare | NZ Government \(mpi.govt.nz\)](#)

NAWAC website: [Home | NAWAC](#)

NAEAC website: [Home | NAEAC](#)

## Additional reading material

These are conference proceedings, other non-refereed publications and other journals that would offer some information in the subject area including differing points of view, but are not required reading.

## Ethics

Hampton, J.O., Jones, B. and McGreevy, P. (2020). Social License and Animal Welfare: Developments from the Past Decade in Australia. *Animals* 2020, 10, 2237; doi:10.3390/ani10122237

Kipperman, B. and Rollin, B.E. (2022). Ethics in Veterinary Practice: Balancing Conflicting Interests. DOI:10.1002/9781119791256

## Physiological and Psychological Aspects of Welfare

Mellor, D.J. (2017). *Operational details of the Five Domains Model and its key applications to the assessment and management of animal welfare*. *Animals* 7(8), 60;

Ataallahi M, Nejad JG, Park KH. Selection of appropriate biomatrices for studies of chronic stress in animals: a review. *J Anim Sci Technol*. 2022 Jul;64(4):621-639. doi: 10.5187/jast.2022.e38.

## Environment and Human Factors

Fisher, M. (2019). *Animal Welfare Science, Husbandry and Ethics: The Evolving Story of Our Relationship with Farm Animals*. 5m Publishing.

Mellor D.J. et al (2020). The 2020 Five Domains Model: Including Human–Animal Interactions in Assessments of Animal Welfare. *Animals* 2020, 10, 1870; doi:10.3390/ani10101870

National Animal Ethics Advisory Committee. *Good Practice Guide for the Use of Animals in Research, Teaching and Testing*. [Good-Practice-Guide-Jan-2022.pdf \(naeac.org.nz\)](#)

Sommerville, R. (2021). *Changing Human Behaviour to Enhance Animal Welfare*. CABI  
Grethe H (2017) *The Economics of Farm Animal Welfare* (annualreviews.org)

Fernandes, J.N.; Hemsworth, P.H.; Coleman, G.J.; Tilbrook, A.J. Costs and Benefits of Improving Farm Animal Welfare. *Agriculture* **2021**, *11*, 104. <https://doi.org/10.3390/agriculture11020104>

## Veterinary Aspects

AVMA Guidelines for the Euthanasia of Animals 2020 edition ([Guidelines-on-Euthanasia-2020.pdf \(avma.org\)](#))

Heistand KM (2022). *The autonomy principle in companion animal medicine: A critique*. *Front. Vet. Sci.* 9:953925. doi: 10.3389/fvets.2022.953925

Littlewood, K. E. and Beausolei, N. J. (2021). Two Domains to Five: Advancing Veterinary Duty of Care to Fulfil Public Expectations of Animal Welfare Expertise. *Animals* 2021, 11, 3504. <https://doi.org/10.3390/ani11123504>

Lloyd, J.K.F. Minimising Stress for Patients in the Veterinary Hospital: Why It Is Important and What Can Be Done about It. *Vet. Sci.* **2017**, *4*, 22. <https://doi.org/10.3390/vetsci4020022>

McGreevy, P.; Berger, J.; De Brauwere, N.; et al Using the Five Domains Model to Assess the Adverse Impacts of Husbandry, Veterinary, and Equitation Interventions on Horse Welfare. *Animals* **2018**, *8*, 41. <https://doi.org/10.3390/ani8030041>

Stull et al (2018). *Barriers and next steps to providing a spectrum of effective health care to companion animals*. *Journal of the American Veterinary Medical Association* 253 (11): 1386-1389

### Other References in areas that might be of interest

Abdul Rahman, S. (2017). 'Religion and Animal Welfare - An Islamic Perspective', *Animals* 7(2) 11, doi:10.3390/ani7020011

Coghlan, S. (2018). Strong patient advocacy and the fundamental ethical role of veterinarians, *Journal of agricultural and environmental ethics*, vol. 31, no. 3, pp. 349-367

Fleming, P.A.; Wickham, S.L.; Dunston-Clarke, E.J.; et al Review of Livestock Welfare Indicators Relevant for the Australian Live Export Industry. *Animals* **2020**, *10*, 1236. <https://doi.org/10.3390/ani10071236>

Hartcher K, Jones B 2017 The welfare of layer hens in cage and non-caged systems. *World Poultry Science Journal* doi:10.1017/S0043933917000812

Jenny Gray (2018) Challenges of Compassionate Conservation, *Journal of Applied Animal Welfare Science*, 21:sup1, 34-42, DOI: 10.1080/10888705.2018.1513840

Knight, A. Phillip, C and Sparks, P. (2022). *Routledge Handbook of Animal Welfare*. Routledge. <https://doi.org/10.4324/9781003182351>

Packer RMA, O'Neill DG, Fletcher F, Farnworth MJ (2019) Great expectations, inconvenient truths, and the paradoxes of the dog-owner relationship for owners of brachycephalic dogs. *PLoS ONE* 14(7): e0219918. <https://doi.org/10.1371/journal.pone.0219918>

Palmer AL, Rogers CW, Stafford KJ, Gal A and Bolwell CF (2021) Risk-Factors for Soft-Tissue Injuries, Lacerations and Fractures During Racing in Greyhounds in New Zealand. *Front. Vet. Sci.* 8:737146. doi: 10.3389/fvets.2021.737146

Polgár Z, Blackwell EJ, Rooney NJ. Assessing the welfare of kennelled dogs-A review of animal-based measures. *Appl Anim Behav Sci.* 2019 Apr;213:1-13. doi: 10.1016/j.applanim.2019.02.013.

RSPCA. (2020). The impact of climate change on the welfare of animals in Australia: Research Report. [Climate-Change-and-Animal-Welfare-RSPCA-Australia-Research-Report-May-2020.pdf](#)

### Journals

Animal Welfare ([Animal Welfare | Cambridge Core](#))

Animals ([Animals | An Open Access Journal from MDPI](#))

Australian Veterinary Journal

New Zealand Veterinary Journal



## Information Resource Centres

Animal Welfare Science and Bioethics Centre, Massey University New Zealand  
([https://www.massey.ac.nz/massey/learning/departments/centres-research/animal-welfare-scienceand-bioethics-centre/animal-welfare-science-and-bioethics-centre\\_home.cfm](https://www.massey.ac.nz/massey/learning/departments/centres-research/animal-welfare-scienceand-bioethics-centre/animal-welfare-science-and-bioethics-centre_home.cfm))

Animal Welfare Science Centre, Melbourne Australia (<http://www.animalwelfare.net.au>)

ANZCCART (<http://www.adelaide.edu.au/ANZCCART/>)

Centre for Animal Welfare and Ethics (<https://veterinary-science.uq.edu.au/centre-animal-welfareand-ethics>)

Ethics First (<https://www.ethicsfirst.co.uk>)

One Health Commission ([onehealthcommission.org](http://onehealthcommission.org))

One Welfare ([About One Welfare - One Welfare \(onewelfareworld.org\)](http://AboutOneWelfare-OneWelfare(onewelfareworld.org)))

RSPCA Australia (<http://kb.rspca.org.au/>)

The Animal Welfare Collaborative ([theanimalwelfarecollaborative.org](http://theanimalwelfarecollaborative.org))

Universities Federation for Animal Welfare (UFAW) (<http://www.ufaw.org.uk/>)

World Small Animal Veterinary Association (WSAVA)

*WSAVA Animal Welfare Guidelines for companion animal practitioners and veterinary teams*  
<https://wsava.org/wp-content/uploads/2019/12/WSAVA-Animal-Welfare-Guidelines-2018.pdf>

## FURTHER INFORMATION

For further information contact the College Office:

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