



## Behavioural Medicine Sub-Speciality of ECAWBM

### Examination brochure

INFORMATION FOR CANDIDATES TAKING THE ECAWBM (BM) EXAMINATION IN 2020

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**This document contains information to help you prepare for the 2020 certifying examinations.**

For additional information or if you encounter any problems please contact the exam committee chairperson, Ludovica Pierantoni ([ludovica.pierantoni@gmail.com](mailto:ludovica.pierantoni@gmail.com)).

## **01. JURISDICTION**

All Behavioural Medicine (BM) sub-speciality examinations are within the jurisdiction of the BM Examination committee of the ECAWBM.

## **02. GOAL OF THE EXAMINATION**

The aim of the BM examination is for candidates to demonstrate that they have sufficient training, experience, knowledge in Veterinary Behavioural Medicine to meet the criteria for Diplomate status of the ECAWBM. Successful candidates will become certified EBVS European Veterinary Specialists® in Behavioural Medicine.

## **03. SCOPE OF THE EXAMINATION**

The scope of the examination is to assess the knowledge and clinical skills of candidates applying for the veterinary board certification in small animal behaviour by the ECAWBM-BM; therefore, the exam is based on the learning outcomes of the ECAWBM-BM residency programs. The candidates will also be expected to have a practical working knowledge of recent literature on veterinary behavioural medicine as detailed in the reading list (Appendix IV).

## **04. PROCEDURE FOR ENTERING EXAMINATION**

To be eligible to sit the examination, candidates must have had their credentials approved by the Credentials committee. A non-refundable examination fee applies to apply for the examination.

Candidates must notify the Credentials committee of their intention to sit the examination and provide evidence of completing the above activities no later than four (4) months before the date of the examination.

## 05. STRUCTURE OF THE EXAMINATION

The examination is divided into 4 sections:

### 5.1 SECTION 1: MULTIPLE CHOICE QUESTIONS (MCQ)

This part of the examination comprises 100 MCQs on general behaviour science and clinics (Section 1-A); 100 MCQs on specific animal species of which 35 dog related, 35 cat related and 30 related to other species like horses, donkeys, rabbits, parrots etc (Section 1-B). Both sections will consist of single best answer format with 3 distractors (incorrect or less good options) without negative marking. There will be no choice of questions.

#### 5.1.1 Section 1-A:

The aim of the section on general behaviour sciences and clinics is to test candidates' knowledge and understanding of concepts relating to the medical and biological sciences that underpin clinical practice of behavioural medicine (History and ethology; Behavioural biology; Pharmacology; Learning and cognition; General medicine and diagnostic evaluation; Clinical animal behaviour problems; Research and statistics; Animal welfare – Low stress handling; Diplomates Role in the veterinary profession; Species-specific topics; Emerging topics in animal behaviour; Ontogeny, phylogenic adaptive and mechanistic basis to behaviour; Ethological systems and processes, Psychological processes and systems, Regulation and control of behaviour, Human Animal Interactions, Animal welfare science, Animal learning and training science, Neuro-endocrinological basis of behaviour, Clinical procedures).

#### 5.1.2 Section 1-B:

The aim of the questions on species-specific behaviour and clinics is to test the candidates' knowledge and understanding of concepts relating to Normal (feral) behaviour; Behavioural development and problem prevention; Social behaviour and communication; Sexual behaviour; Parental behaviour, Feeding and drinking behaviour, Most common behaviour problems, differential diagnoses. Age related problems, Training and management, Emotional problems; Repetitive behaviours; Biological therapies; Environmental enrichment; Training, obedience and control; Miscellaneous behaviours;

Particular emphasis will be given to the candidates' ability to demonstrate clinical judgement when presented with a case scenario.

This part of the examination will also test the following skills of the candidates: Memory Only; Memory-Plus Application; Ability to Interpret Cause-and-Effect Relationships; Ability to Justify Methods and Procedures.

The blueprint below documents how many MCQs will be assigned to specific body systems and spheres of knowledge within the examination.

Candidates will be encouraged to provide feedback on specific questions in particular to identify any difficulties in comprehension they have encountered, and these comments will be considered in the examination assessment process. The multiple-choice questions will be presented in a paper format.

## 5.2 SECTION 2: SHORT CLINICAL CASES AND SCENARIOS

This part of the examination consists of open-ended Short Answer Questions (SAQs) and Long Answer Questions (LAQs) relating to clinical cases and scenarios (dog, cat and species of choice). The aim of this part of the examination is to screen the candidate's clinical skills (e.g history taking, differential diagnosis, management, drug selection, etc.).

The ECAWBM is aware that there is still a lack of uniformity on the way to label and classify behaviour problems. In human medicine, similar issues have been the subject of discussion and the competence of candidates in motivating their diagnoses (knows how – shows how) has been found to be far more important than the ability to label a disease (Ilgen 2016)<sup>1</sup>. The exam will be designed to avoid as much as possible those classification-related discrepancies.

## 5.3 SECTION 3: CRITICAL REVIEW OF A SPECIALTY JOURNAL ARTICLE

This part of the examination consists of a critical review of an original research paper, published in the last 5 years. Candidates will be asked to perform an analysis of: relevance of the study to the field of veterinary behaviour; hypothesis and goal; appropriateness of methods used to test the hypothesis (including statistics); validity of results and if they confirm/reject the hypothesis; is the conclusion supported by the results.

## 5.4 SECTION 4: OBJECTIVE CASE MANAGEMENT (OCM)

This part of the examination is aimed at screening the clinical skills of the candidate: (performance) in investigating a behavioural problem, as well as screening their abilities to perform clinical cases in practice.

Each candidate will be individually examined by two examiners. A series of practical scenarios will be presented to assess the candidate's skills to deal with real situations.

This part of the examination is based on the OSCE approach (Objective Structured Clinical Examination), which is extensively used in life sciences, including veterinary Medicine.

Depending on the number of candidates, the examiners will schedule the time for the examination with each candidate, always within the time frame allocated for this part of the examination.

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<sup>1</sup> Ilgen JS, Eva KW, Regehr G.(2016) What's in a Label? Is Diagnosis the Start or the End of Clinical Reasoning? J Gen Intern Med. 2016 Apr;31(4):435-7. doi: 10.1007/s11606-016-3592-7. Epub 2016 Jan 26.

## 5.5. LANGUAGE

The exam will be conducted in English. Candidates who are not native English speakers have the option of having a translator fluent in their own language attend the examination. If you would prefer to have a translator present, then please indicate this on the application for the examination.

## 06. MARKING CRITERIA AND PROCESS

6.1. In order to pass the exam, candidates must achieve a pass mark in each of the sections. As described in the constitution of ECAWBM, candidates that fail individual components of the Examination must retake only the failed components. However, candidates must re-take all the parts they have not yet passed each time they attempt to complete the examination. All parts must be completed within 8 years of the initial application. The maximum number of reapplications to sit parts or all of the examination is 3.

6.2. The minimum score to pass each section of the exam is 70% of the maximum potential score for that section. The 70% pass mark for each component is absolute; there is no opportunity to compensate in other components for one failed component.

6.3. Candidates will pass the examination once they have achieved a pass mark in all five components.

6.4. For the written parts of the exam, the evaluation will be performed by using pre-established answer models.

6.5. For grading the OCM part of the examination at least two examiners will be present during the examination. The evaluation will be performed by using pre-established answer models.

6.6. Relevant notes and justifications for the marks attributed will be made of each element of the examination. These will be available for scrutiny on the request of the candidate or in case of an appeal against an adverse decision.

**Appeals:** for details of the Appeals process, please refer to the ECAWBM constitution.

## 07. SPECIAL REQUESTS

7.1. The ECAWBM is committed to allowing all candidates for examinations access to equitable assessment procedures. If a candidate believes that the circumstances, locations or systems of the examination procedures (written, oral and / or practical) do not allow them to fully display their professional knowledge, skills and behaviours, they are strongly encouraged to submit a request for variation of assessment procedures.

7.2. Requests for variation of assessment procedures should be made in the form of a draft plan which must:

- Be directed to the Chair of the Examinations Board (Behavioural medicine) and submitted with a candidates notification of intention of sit the examinations.
- Must have a letter from the candidates health professional (Doctor, Ophthalmologist, Psychiatrist, Psychologist, Optometrist, Audiologist, Occupational Therapist etc) outlining the measures

requested to enable to candidate to fairly undertake the examinations. This letter needs to include specific areas where changes to standard practices are requested. Some examples may include:

- Large print examination papers.
- Increased lighting.
- Extra reading time.
- Use of a scribe or keyboard or other data entry device.
- Extra toilet breaks or rest periods.
- Wheel chair access.
- Ergonomic furniture.
- Measures to allow increased audibility.

7.3. A plan will be developed in consultation with the candidate. This plan will take into account:

- The contents of the professionals' letter of support.
- Costs, locations and timeframes.
- Fairness to the other candidates in the examination system.

## **08. ORGANISATION OF THE EXAMINATION**

8.1. The candidate will be sent written notification of:

- The dates and venue of the examination,
- The names of the examiners,
- A personal identification number.

8.2. Once notified of the names of the examiners, candidates must not contact these examiners on matters relating to the examinations, either before or after the examination. Any questions relating to the examination must be addressed to the Chair of the Examination Committee.

8.3. Should a candidate contact an examiner about the examination after their announcement as an examiner, the Chair of the Examination committee may suspend the examination process for that candidate until satisfied that such contact was not an attempt to influence the conduct or outcome of the examination.

8.4 The personal identification number is only known to the candidate and the ECAWBM BM Board Chair. The Examination Committee members do not have access to this number until the entire examination has been marked. Under no circumstances should this personal identification number be divulged. Candidates must bring this number with them to the examinations as they will need to identify their answer sheet anonymously.

8.5 Candidates will be expected to make their own travel and accommodation arrangements.

8.6. Candidates must complete all components of the examination and will not be informed of the outcome of any component until all four components are complete and results ratified by the examinations committee.

## **09. MISCONDUCT OF CANDIDATES FOR EXAMINATION**

9.1. The highest standard of conduct is expected of candidates seeking Membership or Fellowship of the College. On their applications for examinations Candidates are required to read and sign an agreement to be bound by the College's rules, regulations and guidelines.

9.2. Participating in any improper conduct such as cheating, attempt to cheat, assisting others to cheat, participating therein is a serious violation and will result in the College disqualifying the candidate's paper and other disciplinary action as may be deemed appropriate, including, but not limited to, forfeiture of examination fees and/or exclusion from the College. This includes before during and after the examinations.

9.3. Candidates must not give or receive assistance of any kind during the examination. During the examinations Candidates are expected to behave with integrity and follow all proper and reasonable instructions whether given in writing or by any College Officer including examination Invigilators and Observers.

9.4. Examples of improper conduct include but are not limited to:

- Attempting to gain unfair advantage by ascertaining the content of the examination before the examination period.
- Sharing information about the content of the examination during the period in which Candidates have been requested not to disclose it.
- Sharing or attempting to share answers with other Candidates during the examination.
- Attempting to obtain assistance with answering questions by any means including the use of notes or phones.
- Presenting false information in the application or any other documentation.
- Failing to follow the proper and reasonable instructions of College Officers.

9.5. The Examination Committee will investigate any irregularity or suspected violation of examination discipline, and a determination by the Examination Committee will be made regarding the matter.

## **10. ADMINISTRATION OF THE EXAMINATION AND COMMUNICATION OF RESULTS**

10.1. The examination committee will write an examination report consisting of the final evaluation of each candidate's examination performances

10.2. The examination committee will communicate the results of the examinations in a written form to the Chair of the BM Executive Group. The Chair of the Executive Group will then contact the candidates and notify them of the results of their examinations.



10.3. Results of the examination will be reported within four (4) weeks to all candidates. Results will indicate whether the candidate passed or failed each of the components of the examination. Candidates who failed will receive a document from the Chair of the Examination Committee indicating their performance on the various topic areas within the examination.

10.4. The ECAWBM board will store the manuscript of unsuccessful candidates for six (6) years after the candidate's first examination attempt. No copies of either question will be sent to the candidate.



## APPENDIX I LEARNING OUTCOMES

The residency programme should include training in the following areas (the topics listed are intended to give the candidate a better understanding of the key aspects - the lists will be expanded with experience):

The candidate should demonstrate knowledge of the following:

- *Principles of ethology*: Domestication: the process and its effects on behaviour. Ethology of domestic companion animals, their social behaviour and communication (including perceptual abilities), and behavioural ontogeny.
- Interactions between animals and humans.
- *Animal welfare science*: ethological, psychological and physiological concepts; physiological and behavioural indicators of welfare in vertebrate animals; welfare considerations in management, welfare issues in training and in clinical practice.
- *Theory of animal learning*: habituation; sensitisation, classical conditioning, operant conditioning, insight and social learning. An understanding of where and how these processes occur within the mammalian brain. Animal cognition and concepts of consciousness. Theory underlying the development of learned problem behaviours. The application of learning theory in practical training and re-training situations.
- *Functional anatomy and physiology of the vertebrate nervous and endocrine systems*: This should include an understanding of how endocrine changes influence behaviour; the neurobiological processes by which behaviours develop, including the structures and pathways involved in emotions; and an understanding of how diet and ageing processes influence behavioural development.
- *Genetics*: An understanding of how genetic factors influence behaviour, including differences between species and breeds, as well as individual differences.
- *Psychopharmacology* and other biological therapies (e.g. pheromones, nutraceuticals): This should include knowledge of the classes of drugs used in clinical animal behaviour, and the individual drugs within each class group. The sites of action, pharmacodynamics, side-effects and contra-indications should be understood, as well as an overview of how each agent influences the dynamics of different biological pathways.
- *Family psychology*: including attitude theory, processes of inter-personal relationships, grief and bereavement. Counselling skills; facilitation and maintenance of behavioural change. Ethical issues, professionalism in relationships with clients.
- *Clinical procedures*: taking case-histories, methods for effective communication with clients and professionals. Applying principles of ethology and learning to techniques for diagnosis and treatment of common problems. Assessing effectiveness of treatments, approaches to extended treatment and follow-up.
- *Animal law*: legal obligations of owners, legal implications of providing behavioural advice, professional liability. Legislation in relation to animal welfare, and injury to humans. The legal process applying in *at least one* European country, plus an understanding of the processes of European courts.
- *Interaction between health and behaviour in vertebrates*. Understanding of the behavioural consequences of medical disorders, and the influence of pathological conditions on learning and

behaviour. An understanding of the medical differentials for behavioural presentations, and also an understanding of the influence of environmental stressors on the development of disease. –

- *Behavioural medicine, animal welfare and public health*. The impact of dog bites; feral and stray animals.
- *Research methodology*: experimental design, qualitative and quantitative analysis and critical evaluation of data. Evidence based medicine.

## APPENDIX II EXAMPLES OF QUESTION FORMATS AND COMMENTS

### MULTIPLE CHOICE QUESTIONS

The MCQs are designed to test knowledge, synthesis of information and clinical judgement. Clearly the realities of practice dictate that the selection of diagnostic tests and treatments is often constrained by financial considerations but, for the purposes of this examination, candidates are encouraged to select their answer on the basis of best medical practice and to assume that there are no specific financial constraints unless mentioned within individual questions.

All MCQs will be of single best answer format with 3 distractors (incorrect or less good options). This means that you must select the one option that you consider the best answer to the question. The distractors are likely to be options that are not necessarily completely wrong but the correct answer will be one that the majority of evidence or opinion in the current literature supports.

### EXAMPLES OF QUESTION FORMATS

Questions will consist of a “stem”, i.e. a clinical scenario with the related question, a SINGLE CORRECT answer (the right answer), and 3 “distractors” (incorrect choices to “distract” from the best choice).

*1) An autopsy on a recently deceased dog indicated a diencephalic lesion in the nuclei lateral to the lateral ventricles and internal capsule. A lesion in this area would be most likely to affect which type of learning?*

- a. Perceptual learning
- b. Classical conditioning
- c. Instrumental learning
- d. Long-term potentiation

Carlson, Neil R. Learning and Spatial Plasticity In: Physiology of Behaviour. Boston: Pearson, 2004: p. 439-441.

*2) A lab technician plays music while cleaning animal cages. One day a rat's cage falls off a shelf onto the floor right after the technician turns his radio on a new rock station. Each day thereafter, the rat scurries around the cage in distress whenever the technician turns the radio on. The follow week, the rat is included in a neuroscience study and the technician observes that the rat no longer reacts fearfully to the radio. The research study most likely involved:*

- a. Glucose infusion bilaterally into the cingulate cortex
- b. Stimulation of the right orbitofrontal cortex
- c. Bilateral excision of the caudate nuclei
- d. Bilateral ablation of the central nucleus of the amygdala

## SHORT CLINICAL CASES AND SCENARIOS

Essays questions (SAQs and LAQs) will cover topics relating to the pathophysiology of disease, disease treatment and prevention, diagnostic tests, drug therapy and other current behavioural medicine topics. Essay questions will be constructed in a series of linked short and long answer questions, some of which may request the production of a list, table or diagram.

## OBJECTIVE CASE MANAGEMENT SECTION

This section of the examination is designed to test the clinical competency of the candidate. Specific recommendations for preparation cannot be made beyond the clinical experience gained from participation in a residency program. You will be given time to review the case material before the exam begins: the examiners will then expect you to answer a series of pre-determined objective questions.

**APPENDIX III GENERAL COMMENTS ON EXAM PREPARATION.**

The entire examination will emphasize information taken from the current veterinary literature. Selected information will also be taken from the current human and general biomedical literature. With respect to the veterinary literature, current veterinary textbooks and papers published in refereed journals should be the primary study area. Candidates are advised to prepare for the examination by a systematic review of recent textbooks and periodicals. Your mentors can help you select appropriate study material. WE CANNOT DEFINE CONCLUSIVELY THE BODY OF KNOWLEDGE NECESSARY TO PASS THIS EXAMINATION – the following list is ONLY A GUIDELINE.

## APPENDIX IV READING LIST

The ECAWBM has developed the Suggested Reading List for individuals applying for membership to serve as a general reading list of behavioural information. Strongly suggested readings are indicated by an asterisk (\*). The intent of this more specific list is to help guide Candidates towards the more pertinent books that will assist them in preparing for the examination.

This list is not intended to suggest that the Candidate should read every book on ethology or every book on learning theory, but rather to demonstrate the breadth and scope of veterinary behaviour. Neither list should be construed as a commitment regarding specific examination material.

For the purposes of studying for the ECAWBM examination, it is suggested that a Candidate review texts pertaining to general principles of behaviour as well as species specific material, then use other books to fill in clinical information.

Current texts in the fields of internal medicine, neurology (Lorenz or Chrisman et al), and neuroscience (Bear et al or Kandel et al) should also be reviewed with emphasis on veterinary behaviour. More timely material, available in periodicals listed below, should be consulted as well. Refer to the general reading list for additional references.

Learning Theory, Cognition			
AUTHOR/EDITOR	TITLE AND PUBLISHER WEBSITE	YEAR	*
Chance P	<i>Learning and Behaviour</i> , (7th Edition). Cengage.	2013	
Forkman, B.A	<i>Learning and Cognition, Ethology of Domestic Animals</i> CABI	2002	*
Hauser M	<i>Wild Minds: What Animals Really Think</i> , www.henryholt.com	2001	
Mackintosh N	<i>Animal learning and cognition</i> , Academic Press	2013	
Mazur J	<i>Learning and Behaviour</i> (7th edition) Pearson	2012	*
McGreevy P. & Boakes, R.	<i>Carrots and Sticks. Principles of Animal training</i> . CUP. ISBN 0 521 68691 1	2007	
Reisberg D	<i>Cognition: Exploring the Science of the Mind</i> (5th edition) www.wwnorton.com	2012	
Reznikova Z	<i>Animal Intelligence: from individual to social cognition</i> Cambridge University Press	2007	
Schwartz B, Robbins SJ	<i>Psychology of Learning and Behaviour</i> (5th edition)	2001	



	www.wwnorton.com		
Wasserman EA, Zentall TR (eds)	<i>Comparative Cognition: Experimental Explorations of Animal Intelligence</i> www.oup.com/us	2009	

<b>Neurology/Neuroscience/ Physiology/Endocrinology</b>			
<b>AUTHOR/EDITOR</b>	<b>TITLE AND PUBLISHER WEBSITE</b>	<b>YEAR</b>	<b>*</b>
Bear MF, Connors B, Paradiso M, <i>et al</i>	<i>Neuroscience—Exploring the Brain (3rd edition)</i> www.lww.com	2006	*
Carlson NR	<i>Physiology of Behaviour (11th edition);</i> Allyn and Bacon Publishers	2012	*
Chrisman CL, Mariani C, Platt S	<i>Neurology for the Small Animal Practitioner</i> Teton New Media	2002	
Kandel ER, Schwartz JH, Jessell TM	<i>Principles of Neural Science (5th edition)</i> McGraw Hill Medical	2012	
Lorenz MD, Kornegay JN	<i>Handbook of Veterinary Neurology (5th edition),</i>	2010	
Nelson RJ	<i>An Introduction to Behavioural Endocrinology (4rd edition),</i> www.sinauer.com	2012	*
Nelson RJ	<i>Biology of Aggression;</i> Oxford University Press, www.oup.com/us	2005	
Panksepp Jaak	<i>Affective Neuroscience The foundations of human and animal emotions</i> Oxford University Press,	2006	
Platt S, Olby N	<i>BSAVA manual canine and feline neurology</i>	2013	

<b>Pharmacology</b>			
<b>AUTHOR/EDITOR</b>	<b>TITLE AND PUBLISHER WEBSITE</b>	<b>YEAR</b>	<b>*</b>

Crowell-Davis SL, Murray T	<i>Veterinary Psychopharmacology</i> www.blackwellprofessional.com	2005	*
Sadock, Kaplan HI, Sadock BJ	<i>Pocket Handbook of Psychiatric Drug Treatment (4th edition),</i> Williams & Wilkins, www.lww.com	2013	
Schatzberg AF, Nemeroff CB	<i>The American Psychiatric Publishing Textbook of Psychopharmacology (4th edition)</i> American Psychiatric Press www.appi.org/	2009	
Schwartz S	<i>Psychoactive Herbs in Veterinary Medicine</i> www.blackwellprofessional.com	2005	
Stahl SM	<i>Stahl's Essential Psychopharmacology: Neuroscientific Basis and Practical Applications (3rd edition),</i> Cambridge Univ. Press (also online edition), www.cambridge.org/us/medicine/stahl/	2013	*
Stahl SM	<i>The Prescriber's Guide (5th edition)</i> http://www.cambridge.org/us/catalogue/	2014	

<b>Clinical Texts</b>			
<b>AUTHOR/EDITOR</b>	<b>TITLE AND PUBLISHER WEBSITE</b>	<b>YEAR</b>	<b>*</b>
Beaver BV	<i>Canine Behaviour : Insights and Answers (2nd edition)</i> www.elsevier.com	2008	
Beaver BV	<i>Feline Behaviour (2nd edition)</i> www.elsevier.comhttp://www.iowastatepress.com	2003	
Hart BL, Hart LA, Bain MJ	<i>Canine and Feline Behavioural Therapy (2nd edition)</i> www.blackwellprofessional.com	2006	
Horwitz D, Mills D, Heath S	<i>BSAVA Manual of Canine and Feline Behavioural Medicine (2nd edition)</i>	2010	
Horwitz D, Neilson J	<i>Blackwell's Five Minute Behaviour Consult: Canine and Feline Behaviour, 2th ed</i> www.blackwellprofessional.com	2017	
Landsberg GM, Hunthausen WL, Ackerman L	<i>Behavioural Problems of the Dog and Cat (3rd edition),</i> www.elsevier.com	2012	
Overall KL	<i>Manual of Clinical Behavioural Medicine for Dogs and Cats</i> Mosby, www.elsevier.com	2013	

<b>Domestic Species Specific Behaviour</b>			
<b>AUTHOR/EDITOR</b>	<b>TITLE AND PUBLISHER WEBSITE</b>	<b>YEAR</b>	<b>*</b>
Appleby M, Mench J, Hughes B	<i>Poultry Behaviour and Welfare</i> , www.cabi-publishing.org	2004	
Bradshaw JW	<i>The Behaviour of the Domestic Cat, (2<sup>nd</sup> edition)</i> www.cabi-publishing.org	2013	
Broom DM, Fraser AF	<i>Domestic Animal Behaviour and Welfare (4th edition)</i> , Oxford University Press, www.oup.com	2007	*
Coppinger R, Coppinger L	<i>Dogs: a Startling New Understanding of Canine Origin, Behaviour and Evolution</i> , Scribner, www.simonsays.com	2001	
Geor R, Harris PA, Coenen M.	<i>Equine Applied and Clinical Nutrition</i> Saunders ISBN 9780702054181	2013	
Houpt KA	<i>Domestic Animal Behaviour for Veterinarians and Animal Scientists (5th edition)</i> www.iowastatepress.com	2010	*
Hutchinson T, Robinson KR	<i>BSAVA Manual of Canine Practice: A Foundation Manual</i> . BSAVA	2015	
Keeling L, Gonyou H	<i>Social Behaviour in Farm Animals</i> www.cabi-publishing.org	2001	
Lindsay SR	<i>Applied Dog Behaviour and Training; Iowa State University Press, Volumes 1-3</i> , www.iowastatepress.com	2000-2005	
McGreevy P & McLean A.	<i>Equitation Science. (2nd edition)</i> Wiley-Blackwell. ISBN 9781405189057	2018	
McGreevy P	<i>Equine Behaviour: A Guide for Veterinarians and Equine Scientists (2nd edition)</i> www.elsevier.com	2012	*
Miklosi A	<i>Dog Behaviour, Evolution, and Cognition (2nd edition)</i> Oxford Press	2014	*
Mills D & McDonnell S (Eds.)	<i>The Domestic Horse. The evolution, Development and Management of its Behaviour</i> . Cambridge University Press, Cambridge. ISBN 10 0 521 89113 2	2005	
Phillips C	<i>Cattle Behaviour &amp; Welfare (2nd edition)</i>	2002	

	www.iowastatepress.com		
Price EO	<i>Principles and Applications of Domestic Animal Behaviour</i> , www.cabi-publishing.org	2008	*
Serpell J	<i>The Domestic Dog: its Evolution, Behaviour, and Interactions with People (2nd edition)</i> ; www.cambridge.org/us	2016	*
Waran eds	<i>The welfare of horses</i> Kluwer Academic Publ., Dordrecht. ISBN 1 4020 0766 3	2003	
Tasker S, Harvey A	<i>BSAVA Manual of Feline Practice: A Foundation Manual</i>	2013	
Turner DC, Bateson P (eds)	<i>The Domestic Cat: the Biology of Its Behaviour (3rd edition)</i> ; www.cambridge.org/us	2014	*

Lab/Zoo Animals/Exotic/Wild Animals			
AUTHOR/EDITOR	TITLE AND PUBLISHER WEBSITE	YEAR	
Buseth ME	<i>Rabbit Behaviour, Health and Care</i> CABI	2015	
Estes RD	<i>The Behaviour Guide to African Mammals, Including Hoofed Mammals, Carnivores, Primates</i> , U. of California Press, 20th Anniversary edition, www.ucpress.edu	2012	
Hosey G, Melfi V, and Pankhurst S	<i>Zoo Animals: behaviour, management, and welfare (2nd edition)</i> Oxford University Press	2013	
Kleiman DG, Allen ME, Thompson KV, <i>et al</i> (eds)	<i>Wild Mammals in Captivity: Principles and Techniques, (2nd edition)</i> , www.press.uchicago.edu	2012	
Lightfoot T, Nacewitz, CL	<i>Exotic pet behaviour: Birds, reptiles and small mammals</i> , Sounders	2007	
Luescher AU (ed)	<i>Manual of Parrot Behaviour</i> www.blackwellprofessional.com	2006	*
Quesenberry K, Carpenter JW	<i>Ferrets, Rabbits and Rodents: Clinical Medicine and Surgery, (3rd edition)</i> , WB Saunders, www.elsevier.com	2011	
Tynes V (ed)	<i>Behaviour of Exotic Pets</i>	2010	*

	Blackwell Publishing		
Wolfensohn S, Honest P	<i>Handbook of Primate Husbandry and Welfare</i> Blackwell Publishing	2005	

<b>Ethology/Genetics</b>			
<b>AUTHOR/EDITOR</b>	<b>TITLE AND PUBLISHER WEBSITE</b>	<b>YEAR</b>	<b>*</b>
Alcock J	<i>Animal Behaviour: An Evolutionary Approach (10th ed.);</i> www.sinauer.com E-Book available: (www.coursesmart.com/9780878932252),	2013	*
Grandin T	<i>Genetics and the Behaviour of Domestic Animals (2nd edition),</i> Academic Press; www.elsevier.com	2013	
Hall M & T Halliday	<i>Behaviour and Evolution.</i> Springer	2009	
Manning A & M Stamp Dawkins	<i>Animal Behaviour, 6th Edition,</i> Cambridge University Press	2012	

<b>Quantification of Behaviour</b>			
<b>AUTHOR/EDITOR</b>	<b>TITLE AND PUBLISHER WEBSITE</b>	<b>YEAR</b>	<b>*</b>
Dawkins MS	<i>Observing Animal Behaviour: Design and Analysis of Quantitative Data,</i> Oxford University Press	2007	
Lehner PN	<i>The Handbook of Ethological Methods (2nd edition)</i> www.cambridge.org	1998	
Martin P, Bateson P	<i>Measuring Behaviour: An Introductory Guide (3rd edition);</i> www.cambridge.org	2007	*

<b>Animal Welfare</b>			
<b>AUTHOR/EDITOR</b>	<b>TITLE AND PUBLISHER WEBSITE</b>	<b>YEAR</b>	<b>*</b>
Appleby MC, Hughes BO, Elson	<i>Animal Welfare, (2nd edition)</i> www.cabi-publishing.org	2011	
Blokhuis H, Miele M, Veissier I, Jones B.	<i>Improving farm animal welfare Science and society working together: the Welfare Quality approach.</i>	2013	

	WAP ISBN: 978-90-8686-216-0 www.WageningenAcademic.com/welfarequality		
Broom DM, Fraser AF	<i>Domestic Animal Behaviour and Welfare (4th edition)</i> , Oxford University Press www.oup.com	2007	*
Fraser D	<i>Understanding Animal Welfare: The Science in its Cultural Context</i> Universities Federation for Animal Welfare (UFAW) Publication www.wiley.com/wiley-blackwell	2008	
Grandin T	<i>Improving Animal Welfare: A Practical Approach</i> www.cabi-publishing.org	2010	
Gregory, N.G	<i>Physiology and Behaviour of Animal Suffering.</i> Blackwell	2004	
Kaliste E	<i>The Welfare of Laboratory Animals</i> Springer	2004	
Mason G, Rushen J (eds)	<i>Stereotypic Animal Behaviour: Fundamentals and Applications to Welfare</i> www.cabi-publishing.org	2008	*
Mellor D, Patterson-Kane E, Stafford KJ	<i>The Sciences of Animal Welfare</i> Wiley-Blackwell	2009	
Koolhaas, J.M. et al	<i>Stress revisited: a critical evaluation of the stress concept.</i> Neuroscience and Biobehavioural Reviews 35(5): 1291-1301. doi: 10.1016/j.neubiorev.2011.02.003	2011	
Reinhardt V	<i>Comfortable Quarters for Laboratory Animals (9th edition)</i> www.awionline.org	2002	
Reinhardt V	<i>Taking Better Care of Monkeys and Apes</i> www.awionline.org	2008	
Rochlitz I	<i>The Welfare of Cats</i> Springer	2007	
Rushen J, de Passille AM, von Keyserlingk AG, Weary DM	<i>The Welfare of Cattle</i> Springer	2007	
Young RJ	<i>Environmental enrichment for captive animals</i> Blackwell Publishing	2003	
Miller L, Zawistowski S, Editors	<i>Shelter Medicine for Veterinarians and Staff, (2nd edition)</i> Blackwell Publishing	2013	

## **APPENDIX V OTHER SUGGESTED READINGS**

Candidates are expected to be familiar with the classic and current behaviour literature from various journal sources. Journals listed below are particularly significant. Papers relevant to clinical case management should be emphasized.

The list should not be considered all-inclusive.

- Animal Behaviour
- Animal Welfare
- Anthrozoos
- Applied Animal Behaviour Science
- Journal of the American Animal Hospital Association
- Journal of the American Veterinary Medical Association
- Journal of Applied Animal Welfare Science
- Journal of Comparative Psychology
- Journal of Ethology
- Journal of Veterinary Behaviour: Clinical Applications and Research
- Laboratory Animal Science
- Proceedings of the International Veterinary Behaviour Meetings
- Proceedings of the Annual Conference of the Association of Avian Veterinarians
- Veterinary Clinics of North America (recent behaviour editions)
- Zoo Biology