

2024 ACVIM NEUROLOGY SPECIALTY EXAMINATION Candidate Preparation Information for Retake Exam Candidates

The information below is provided to help you prepare to re-take the Neurology Specialty Examination. Information pertaining to the exam schedule, administration, use of translational dictionaries, and special accommodation requests can be located on the Neurology Candidate landing page on the ACVIM website: https://www.acvim.org/resources-for/candidates/neurology

Included in this document is general information regarding:

- Exam Structure
- Exam Scoring
- Suggested Study Materials
- Neurology Specialty Exam Section Blueprints

EXAM STRUCTURE

The Neurology Specialty Examination for retake candidates consists of five sections utilizing the exam format used in 2023. No new items are being used on the 2024 retake forms. Videotaped case material may be utilized in any of these sections. Question formats include multiple choice, listing, short answer, and fill in the blank. Below are descriptions of each section of the exam.

- 1. <u>Multiple Choice/Theory Section</u>: addresses all aspects of clinical neurology (medical neurology, neurosurgery, neuroradiology, electrodiagnostic, and CSF analysis), as well as neuroanatomy, neurophysiology, neurotoxicology, neuropharmacology/therapeutics, and neuropathology. This section of the examination consists of 100 multiple-choice questions with 1 correct answer out of four choices.
- 2. <u>Clinical Cases/Practical Section</u>: uses a case-based format focusing on interpretation of the neurological examination as well as related diagnostic data from specific clinical cases. Case-related questions on functional neuroanatomy, diagnostic data interpretation, patient management/treatment and diagnosis are presented. This section also may include specific questions on diagnostic image interpretation, histopathology, electrodiagnostic, clinical pathology and surgery as they relate to the clinical cases. This section of the examination consists of 15 cases with a total of 88 multiple-choice questions.
- 3. <u>Electrodiagnostic/Practical Section</u>: uses a case-based format focusing on interpretation of electromyograms, nerve conduction studies, late waves, spinal cord evoked responses, brainstem auditory evoked responses, electroencephalograms, and to a lesser degree, electroretinograms/visual evoked responses and urodynamic studies. Knowledge of the theory and technical aspects of the above electrodiagnostic studies is also tested. This section of the examination consists of 21 cases with a total of 92 multiple-choice questions.
- 4. <u>Neuroradiology</u>: uses a case-based format focusing on interpretation of digitized images. Vertebral column and skull radiography, myelography, computerized axial tomography, and magnetic resonance imaging are included. This section of the examination consists of 21 cases with a total of 57 questions. Question formats include listing, fill-in-the-blank, multiple choice, and short answer. *The candidate will be expected to use appropriate descriptive terminology for the imaging modality presented.*
- 5. <u>Neuropathology</u>: interpretation of digitized images of gross and histopathology sections of brain, spinal cord, and peripheral nerve. CSF cytology is also included. Identification of normal neuroanatomical structures is included in this section. This section of the examination consists of 41 cases with a total of 58 multiple-choice questions.



EXAM SCORING

Pass points are determined based on the minimal level of competence as determined by Diplomates rating the examination and are <u>not</u> based on the curve of the candidates' performance.

Candidates who have successfully completed one, two, three, or four sections of the examination prior to 2024 are required to re-take only the section(s) they still need to pass. Retake candidates who have not successfully completed any sections of the examination must take all sections (parts 1-5). Retake exam Candidates who do not successfully pass all sections in 2024 will be required to take the newly designed three-section Neurology Specialty Examination if they choose to retake the exam in any subsequent year in which they are eligible.

SUGGESTED STUDY MATERIALS

This list of suggested reference materials below is meant to guide Candidates in preparing for the Neurology Specialty Examination. This list of journals and textbooks is not all-inclusive and does not exclude the possible use of additional sources not specifically listed in this reference guide, such as seminal articles published prior to the date range provided in this document. It represents a body of knowledge that a minimally qualified Board-certified veterinary neurologist is expected to know. While the most up to date publications may not be present on this list, as a best practice residents should have exposure to current literature as an ongoing part of their residency training programs. Specific recommendations for preparation cannot be made beyond the clinical training gained from participation in a residency program.

Textbooks

Note: When more than one edition is available, reference the most current edition, but earlier editions are often current enough with respect to core concepts.

- A Practical Guide to Canine and Feline Neurology (Dewey, CW)
- An Atlas of Surgical Approaches to the Bones and Joints of the Dog and Cat (Piermattei, DL)
- Basic Neuroscience: Anatomy & Physiology (Guyton, AC)
- Fisch & Spehlmann's EEG primer: Basic principles of digital and analog EEG (Fisch, B)
- BSAVA Manual of Canine and Feline Neurology (Platt, SR)
- Clinical Syndromes in Veterinary Neurology (Braund, KG)
- Current Techniques in Canine and Feline Neurosurgery (Shores, A)
- Deafness in Dogs and Cats (Strain, GM)
- Electrodiagnosis in Diseases of Nerve and Muscle: Principles and Practice (Kimura J)
- Electromyography and Neuromuscular Disorders (Preston, DC)
- Equine Neurology (Furr, M)
- Exercises in Veterinary Radiology: Spinal Disease (Morgan, JP)
- Fundamentals of Canine Neuroanatomy and Neurophysiology (Uemura, EE)
- Fundamentals of Veterinary Clinical Neurology (Bagley, RS)
- Handbook of Veterinary Neurology (Lorenz, MD)
- Histological Classification of Tumors of the Nervous System of Domestic Animals (Koestner, A)
- Infectious Diseases of the Dog and Cat (Greene, CE)
- Large Animal Neurology: A Handbook for Veterinary Clinicians (Mayhew, IR)
- Miller's Anatomy of the Dog (Evans, HE)
- MRI and CT Atlas of the Dog (Assheuer, J)
- Physiological and Clinical Anatomy of the Domestic Mammals: Central Nervous System Vol. 1 (King, AS)
- Principles of Neural Science (Kandel, ER)



- Practical Small Animal MRI (Gavin, PR)
- Small Animal Neurological Emergencies (Platt, SR)
- Small Animal Spinal Disorders: Diagnosis and Surgery (Wheeler, SJ)
- Small Animal Surgery (Fossum, TW)
- Textbook of Small Animal Surgery (Slatter, D)
- Textbook of Veterinary Diagnostic Radiology (Thrall, DE)
- Textbook of Veterinary Internal Medicine: Diseases of the Dog and Cat (Ettinger, SJ)
- Veterinary Drug Handbook (Plumb, DC)
- Veterinary Neuroanatomy: A Clinical Approach (Thomson, C)
- A Veterinary Neuroanatomy and Clinical Neurology (De Lahunta)
- Veterinary Neurology (Oliver, JE)
- Veterinary Neuropathology (Summers, BA)
- Veterinary Neuropathology: Essentials of Theory and Practice (Vandevelde,M)
- Veterinary Ophthalmology (Gellatt, KN)
- Veterinary Clinics of North America Equine Practice: Clinical Neurology, 2011 (Divers, TJ)
- Veterinary Clinics of North America Equine Practice: Selected Neurologic and Muscular Diseases, 1997 (Haussler, KK)
- Veterinary Clinics of North America Exotic Practice: Exotic Animal Neurology, 2018 (Lofstedt, J)
- Orosz, SE Veterinary Clinics of North America Exotic Practice: Neuroanatomy and Neurodiagnostics, 2007
- Veterinary Clinics of North America Food Animal Practice: Food Animal Neurology, 2017 (Tell, LA)
- Veterinary Clinics of North America Food Animal Practice: Ruminant Neurologic Diseases, 2004 (Washburn, KE)
- Veterinary Clinics of North America Small Animal Practice: Neurology, 2018 (Constable, PD)
- Veterinary Clinics of North America Small Animal Practice: Advances in Veterinary Neurology, 2014 (Kerwin, SC)
- Veterinary Clinics of North America Small Animal Practice: Diseases of the Brain, 2010 (Olby, NJ)
- Veterinary Clinics of North America Small Animal Practice: Diseases of the Spine, 2010 (Thomas, WB)
- Veterinary Clinics of North America Small Animal Practice: Neuromuscular Diseases II, 2004 (Shelton, GD)
- Veterinary Clinics of North America Small Animal Practice: Neuromuscular Diseases, 2002 (Shelton, GD)
- Veterinary Clinics of North America Small Animal Practice: Common Neurologic Problems, 2000 (Thomas, WB)

Journals (January 2015 – December 2021)

- ACVIM Proceedings
- American Journal Veterinary Research
- Australian Veterinary Journal
- BMC Veterinary Research
- Canadian Veterinary Journal
- Compendium Continuing Education: Practicing Veterinarian
- Equine Veterinary Journal
- Frontiers in Veterinary Neurology and Neurosurgery
- Journal American Animal Hospital Association
- Journal of the American Veterinary Medical Association
- Journal of Feline Medicine and Surgery



- Journal Small Animal Practice
- Journal Veterinary Diagnostic Investigation
- Journal Veterinary Emergency and Critical Care
- Journal Veterinary Internal Medicine
- Journal of Veterinary Pharmacology and Therapy
- PLOS ONE
- Progress in Veterinary Neurology
- The Veterinary Journal
- Topics in Companion Animal Medicine
- Veterinary Clinical Pathology
- Veterinary and Comparative Orthopaedic and Traumatology
- Veterinary Immunology / Immunopathology
- Veterinary Pathology
- Veterinary Radiology and Ultrasound
- Veterinary Record
- Veterinary Surgery

2024 ACVIM NEUROLOGY SPECIALTY EXAM SECTIONS BLUEPRINTS FOR RETAKE EXAMS

Question Topic Distribution by Section (approximate percentage of items across the major content domains)

Every effort will be made to ensure the following percentages remain accurate, however, due to item performance, some slight fluctuation in this blueprint may be result due to final review and assessment of specific questions following scoring and psychometric analysis of results.

Multiple Choice Section:

1. Pre-clinical and basic training:	28%
2. Clinical training: Medical Neurology:	56%
3. Clinical Training: Surgical Neurology:	5%
4. Clinical Training: Neuroradiology:	8%
5. Clinical Training: Neuropathology:	3%

Clinical Cases Section - Breakdown:

Subject	Approximate Weighting		
Pre-clinical training	30%		
Medical neurology	30%		
Surgical neurology	15-20%		
Diagnostic imaging	15-20%		
Neuropathology	5%		
Location			
Brain	30-35%		
Cranial nerves	10-15%		
Spinal cord	25-30%		



	Peripheral nervous system	25-30%		
Animal type				
	Small animal	80-85%		
	Equine	5-10%		
	Farm animal	5%-10%		
Diseas	e categories			
	Neoplasia	10-15%		
	Inflammatory/Infectious	25-30%		
	Vascular	5%		
	Trauma	5-10%		
	Idiopathic	5%		
	Degenerative	20%		
	Metabolic	5%		
	Congenital	15-20%		
Practic	cal, Electrodiagnostic Section:	00.000/		
	ai principies:	20-30%		
FEG.		10-15 //		
EMG. N	NCV. RNS:	30-40%		
F/H:		5%		
SEP/C	DP:	5%		
ERG:		1-2%		
Practio	cal, Radiology Section:			
Locati	on			
Location	on Head	65%		
Locatio	on Head Forebrain	65% 35%		
Locatio	on Head Forebrain Brain stem	65% 35% 20%		
Locatio	on Head Forebrain Brain stem Cerebellum	65% 35% 20% 10%		
Locatio	on Head Forebrain Brain stem Cerebellum Whole brain	65% 35% 20% 10% 35%		
Locatio	on Head Forebrain Brain stem Cerebellum Whole brain	65% 35% 20% 10% 35% 35%		
Locatio	on Head Forebrain Brain stem Cerebellum Whole brain Spine I type	65% 35% 20% 10% 35% 35%		
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Practical, Pathology Section:

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General principles	
Diagnosis	45-50%
Identification (anatomy, stains, etc.)	30-35%
Pathologic processes	10-15%
Interpretation	5-10%
Animal type	
Small animal	85-90%
Large animal	10-15%
Gross vs histological sections	
Total histopathology	50-55%
Total gross path	30-35%
Spinal fluid	5-10%
Clinical pathology	5-10%
Location	
Total CNS	80-85%
Total PNS	10-15%
Disease categories	
Congenital	1-10%
Degenerative	15-25%
Inflammatory/non-infectious	10-15%
Inflammatory/infectious	20-25%
Neoplasia	15-20%
Toxic	5-10%
Traumatic	5-10%
Vascular	5-10%