

American College of Veterinary Sports Medicine and Rehabilitation

Topic Rubric for the 2020 Core Knowledge Board-certification Examination

The following table provides a detailed outline of the topics and estimated percentage distribution of material to be covered in the 2020 Core Knowledge Examination.

Percentage Distribution	CORE KNOWLEDGE EXAMINATION
9%-13%	<p>1. Tissue-based Pathophysiology</p> <ul style="list-style-type: none"> • Addresses the anatomy, physiology, biomechanics, pathology, mechanisms of injury, and principles of wound and tissue healing • Includes the following tissue types: Integument, connective tissue, muscle, tendon, ligament, bone, articular cartilage, and synovium
6%-10%	<p>2. General Medical Issues of Animal Athletes</p> <ul style="list-style-type: none"> • Addresses the anatomy, physiology, pathology, and medical diagnosis and management of muscular, nervous, respiratory, cardiovascular, gastrointestinal, and lymphatic disorders associated with sports medicine and rehabilitation issues across species
10%-15%	<p>3. Kinesiology</p> <ul style="list-style-type: none"> • Addresses topics related to physical examination, gait analysis and lameness evaluation • Includes neurophysiology of proprioception, motor control, and gait mechanisms • Includes the following methodologies: Motion analysis, force plate analysis, pressure mats, and inertial sensors
6%-10%	<p>4. Exercise Physiology</p> <ul style="list-style-type: none"> • Addresses general conditioning and training principles, energetics, thermoregulation, electrolytes, fluid balance, and nutrition related to exercise and performance across species
14%-19%	<p>5. Diagnostic Imaging</p> <ul style="list-style-type: none"> • Basic principles and applications of radiology, ultrasonography, nuclear scintigraphy, computed tomography (CT), magnetic resonance imaging (MRI), and thermography
7%-11%	<p>6. Diagnostic Methods</p> <ul style="list-style-type: none"> • Addresses topics related to clinical and laboratory measures of musculoskeletal and neurologic function and dysfunction • Includes the following methodologies: Diagnostic local analgesia, clinical pathology, electromyography, goniometry, pain scales, and pressure algometry

<p>8%-11%</p>	<p>7. Nociception and Pain Mechanisms, Pharmacology Addresses general concepts and foundational knowledge related to:</p> <ul style="list-style-type: none"> • Neurophysiology of nociception and pathophysiology of pain • Pain management, anti-inflammatories, analgesia • Performance-enhancing drugs, ergogenic substances, nutraceuticals
<p>12%-18%</p>	<p>8. Physical Rehabilitation Addresses general concepts and foundational knowledge related to:</p> <ul style="list-style-type: none"> • Manual therapy (e.g., massage, stretching, mobilization) • Physical modalities (e.g., thermal, mechanical, electromagnetic, photic) • Therapeutic exercises (e.g., flexibility, proprioception, motor control, strength, endurance)
<p>6%-8%</p>	<p>9. Intra-articular Medications and Biological Therapies Addresses general concepts and foundational knowledge related to:</p> <ul style="list-style-type: none"> • Intra-articular medications: hyaluronic acid, corticosteroids • Gene therapy, stem cell therapy, platelet-rich plasma (PRP), and interleukin-1 receptor antagonist protein (IRAP)
<p>4%-7%</p>	<p>10. Surgical Considerations in Veterinary Sports Medicine and Rehabilitation Covers foundational concepts of the biological and biomechanical aspects of general, orthopaedic, and neurologic surgery:</p> <ul style="list-style-type: none"> • Biomechanical features of orthopedic injuries • Fundamental issues related to joint immobilization • General principles of fracture fixation and soft tissue repair • Biological features of upper airway surgery • Biological and neurophysiologic outcomes of neurosurgery and related procedures
<p>3%-6%</p>	<p>11. Integrative Veterinary Medicine</p> <ul style="list-style-type: none"> • Addresses general principles and practice of acupuncture, chiropractic, botanicals, and homeopathy as these fields relate to veterinary sports medicine and rehabilitation

Reading List for the 2020 Core Knowledge Board-certification Examination

Please note that this is a guideline for a reading list of textbooks suggested for preparation for the 2020 Core Knowledge examination with the American College of Veterinary Sports Medicine and Rehabilitation.

Each of the selected textbooks contain chapters with core material pertinent to the development of a working knowledge within the field of veterinary sports medicine and rehabilitation. The applicant will be responsible for material within relevant (or included) chapters related to the basic science and clinical practice of veterinary sports medicine and rehabilitation.

Disclaimer: Due to the very diverse knowledge base required of sports medicine and rehabilitation, this reading list is suggested, but not all inclusive. Candidates should use the American College of Veterinary Sports Medicine and Rehabilitation examination rubric for identification of examination topics and the percentage distribution of examination questions within in each topic area as the basis for preparation for the respective examinations.

Selected Core Knowledge Textbooks

1. Animal Physiotherapy - Assessment, Treatment and Rehabilitation of Animals 2016, 2nd Ed. McGowan C, Goff L. 2016. Blackwell Publishing. ISBN: 978-1-118-85232-3
2. Atlas of Equine Ultrasonography. Jessica A. Kidd, Kristina G. Lu, Michele L. Frazer. 2014. Wiley & Sons. ISBN: 978-0-470-65813-0
INCLUDING the following chapters: 1-10
3. Atlas of Small Animal Wound Management and Reconstructive Surgery. Pavletic MM. 2018, 4th edition. John Wiley & Sons. ISBN: 9781119267508.
INCLUDING the following chapters: 2-3.
4. Canine Rehabilitation and Physical Therapy. Millis D and Levine D. 2014, 2nd edition. Saunders. ISBN: 978-1437703092.
INCLUDING the following chapters: 1-3, 6-31.
5. Equine Sports Medicine and Surgery. Hinchcliff K, Kaneps A, and Geor R. 2014, 2nd edition. Saunders. ISBN 978-0702047718.
INCLUDING the following chapters: 6-13, 31-32, 38-39, 42-46, 62-64.
6. Equine Surgery. Auer JA and Stick JA. 2018, 5th edition. Elsevier Saunders. ISBN: 9780323484206.
INCLUDING the following chapters: 1-2, 4, 7-12, 16-17.

7. Exercise Physiology: Nutrition, Energy and Human Performance. McArdle WD, Katch FI, and Katch VL. 2014, 8th edition. Lippincott Williams & Wilkins. ISBN: 978-1451191554.

8. Fluid, Electrolyte and Acid Base Disorders in Small Animal Practice. DiBartola SP. 2012, 4th edition. Elsevier Saunders. ISBN: 978-1437706543.

INCLUDING the following chapters: 1-17.

9. Guyton and Hall Textbook of Medical Physiology. Guyton A and Hall J. 2016, 13th edition. Elsevier. ISBN 978-1455770052.

INCLUDING the following chapters: 2-8, 45, 49.

10. Handbook of Veterinary Neurology. Lorenz M, Coates J, and Kent M. 2011, 5th edition. Elsevier: Saunders. ISBN: 978-1437706512.

11. Handbook of Veterinary Pain Management. Gaynor J and Muir W. 2015, 3rd edition. Mosby Elsevier. ISBN: 978-0-323-08935-7.

12. Joint Disease in the Horse, McIlwraith, CW, Frisbie, DD. Kawcak CE, van Weeren PR. 2nd edition, 2016. Elsevier. ISBN 978-1-4557-5969-9.

INCLUDING the following chapters: 8, 10-17, 19

13. Joint Structure and Function: A Comprehensive Analysis. Levangie P and Norkin C. 2011, 5th edition. FA Davis Company. ISBN: 978-0803623620.

INCLUDING the following chapters: 1-3, 13, 14

14. Orthopaedic Basic Science: Foundations of Clinical Practice. Einhorn TA, O'Keefe , RJ, and Buckwalter JA (editors). 2013, 4th edition. American Academy of Orthopaedic Surgeons. ISBN: 978-0892038435.

INCLUDING the following chapters: 1-25

15. Textbook of Veterinary Anatomy. Dyce KM, Sack WO, and Wensing CJG. 2017, 5th edition. Saunders, **Hardcover ISBN:** 9780323442640 **eBook ISBN:** 9780323442619

16. Textbook of Veterinary Diagnostic Radiology. Thrall DE. 2018, 7th edition. Elsevier. ISBN 978-0-323-48247-9

17. Diagnostic Radiology. Marolf AJ, 2016. Veterinary Clinics of North America-Small Animal Practice. Volume 46, Issue 3, Elsevier. ISSN: 0195-5616, ISBN-13: 978-0-323-44488-0

INCLUDING the following chapters: 1-3

18. Veterinary Surgery: Small Animal. Johnston SA, Tobias KM 2nd edition. Saunders 2017.. **Hardcover**
ISBN: 978-0323320658 **eBook ISBN:** 978-0323320658
INCLUDING the following chapters: 1, 3, 4, 6, 7, 10, 13-15, 18, 19, 39-45, 48