

Advanced Continuing Education

Brain Camp Online -Neuropathology

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Content Launch Date: Live Q&A with the Presenters: Thursday, October 1, 2020 Thursday, October 22, 2020 8:00 am PDT / 9:00 am MDT / 10:00 am CDT / 11:00 am EDT

This 7-hour course provides an intense overview of veterinary neuropathology. There will be a focus on CNS neoplasia, as well as spinal cord pathology.

By the end of this course you will:

- Obtain working knowledge of the patterns of disease of neoplasia, infections, and degenerative diseases affecting the • central nervous system of domestic animals.
- Become familiar with the histopathology of common diseases of the central nervous system of domestic animals. •

All topics will be presented in 50 – 75 minute pre-recorded sessions.

| Neuropathology October 1, 2020 | | |
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| Topic / Description and Learning Objectives | Presenter | |
| Module 1: Introduction to evaluation of the CNS This session will review foundational knowledge needed for gross and microscopic evaluation of the central nervous system. The discussion will include brain removal, fixation, sampling, and histology, and will also cover common artifacts that often complicate evaluation. This lecture is appropriate for veterinarians without advanced histopathology training. | Jey Koehler, DVM, PhD, DACVP (Anatomic Path) | |
| Upon completion of the course, participants will be able to: Have foundational knowledge necessary for removal of the brain and spinal cord for postmortem examination Know proper techniques for fixation and sampling of the brain and spinal cord. Be familiar with normal histology of the brain and spinal cord. Be familiar with patterns of injury in the CNS and common artifacts | | |
| Module 2: Update on the Classification of Canine Glioma This session will review the new scheme proposed by the NIH-led Comparative Brain Tumor Consortium in refining the classification of canine gliomas. This lecture will cover the organization of the CBTC, its evolution, and its future. Images of tumor features at the microscopic level will help participants understand some of the challenges in classification. | Jey Koehler, DVM, PhD, DACVP (Anatomic Path) | |
| Upon completion of the course, participants will be able to: Understand the makeup of the CBTC and the drive behind the development of a new classification system Be familiar with the classification system and understand its strengths and weaknesses Correlate old classification system results with new ones Understand the importance of future incorporation of molecular information into the new system | | |



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| Module 3: Introduction to Spinal Cord Pathology The session will begin with brief overview of spinal cord gross and microscopic anatomy and responses to injury. This will lead into a discussion of the pathogenesis and common causes of spinal cord trauma and how this relates to gross and microscopic findings. Lastly, the session will cover select metabolic and toxic diseases that target the spinal cord. | Serena Craft, DVM, DACVP (Anatomic Path) | |
| Upon completion of the course, participants will be able to: Understand the microscopic anatomy of the spinal cord Understand the microscopic changes and responses of the spinal cord to injury Understand the pathogenesis of spinal cord trauma and provide examples of diseases that cause traumatic injury to the cord Be familiar with select metabolic and toxic diseases of the spinal cord | | |
| Module 4: Inflammatory and Degenerative Diseases of the Spinal Cord This session will focus on inflammatory and degenerative diseases of the spinal cord. This will include a review of the immune system of the central nervous system, inflammatory patterns, and immune mediated diseases. This will be followed by examples of infectious and immune mediated diseases that can have significant spinal cord involvement. Lastly, the session will cover an introduction into degenerative diseases of the spinal cord, focusing on histologic changes, patterns, and highlighting a few select degenerative diseases. | Serena Craft, DVM, DACVP (Anatomic Path) | |
| Upon completion of the course, participants will be able to: Understand and recognize basic inflammatory patterns of the spinal cord Provide examples of infectious and immune mediated diseases of the spinal cord and expected histologic findings for those diseases Understand and recognize the histologic findings of select degenerative diseases of the spinal cord | | |



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| Module 5: Muscle Pathology and Diseases This session will cover interpretation of histopathology, histochemistry and immunohistochemistry important in the diagnosis of muscle diseases in any domestic animal species. The focus will be on diagnosis and classification of muscle diseases based on pathological changes. Upon completion of the course, participants will be able to: Recognize common histochemical stains and reactions used in muscle biopsies and understand the significance for the diagnosis of muscle diseases. Classify muscle diseases based on cytoarchitectural changes Learn the proper handling and processing of muscle biopsies | G. Diane Shelton, DVM, PhD, DACVIM (SAIM) | |
| Module 6: Peripheral Nerve Pathology and Diseases This session will cover the common pathological changes found in injured peripheral nerves. The focus will be on diagnosis and classification of peripheral nerve diseases based on pathological changes. | G. Diane Shelton, DVM, PhD, DACVIM (SAIM) | |
| Upon completion of the course, participants will be able to: Recognize and interpret the common pathological changes occurring in injured peripheral nerves Classify peripheral nerve disease based on cytoarchitectural changes Learn the proper handling and processing of peripheral nerve biopsies | | |