

Part One

New applications for ACVIM Residency Training Programs must be received by the Residency Training Committee (RTC) 90 days prior to any residents beginning training. Before completing this form, please review the general and specific requirements for Neurology Residency Training Programs in the ACVIM Certification Manual (CM). The current version of the CM is available on the ACVIM website at www.ACVIM.org.

Prior to making significant changes in a Residency Training Program, approval of the ACVIM and Neurology RTC must be obtained. The Candidate and/or Program Director must notify ACVIM, in writing before the changes are made to ensure that the proposed changes are approved. Significant changes could include, but are not limited to the following: changes in Program Director or advisors, transferring from one program to another, alterations in program duration, locations of secondary site training, switching to a 'dual board' program, or enrolling in an institutional graduate program.

Notice: The data collected in this form is necessary both for the ACVIM to maintain its accreditation as a Registered Veterinary Specialty Organization and also is required for renewal of the residency training program. Some of the data collected is required of every specialty and some is specific to the specialty of Neurology.

For multi-site residency programs: To ensure uniformity of training and compliance with current CM requirements, training programs that include multiple sites must provide detailed information regarding supervision and facilities available at each specific site(s). Multi-site programs, if any, will be addressed by the Program Director in Part Two.

Program Director Name :

Must be a Diplomate of ACVIM in the Specialty of Neurology or an approved Diplomate of the European College of Veterinary Neurology (ECVN) for at least 5 years with 3 years' experience training residents

Program Director Contact Information:

Work Phone:	<input type="text" value="(765) 494-1107"/>
E-mail:	<input type="text" value="rbentley@purdue.edu"/>
Mailing Address:	<input type="text" value="Veterinary Clinical Sciences
625 Harrison St.
W. Lafayette, IN 47907-2026"/>

1. Location of Sponsoring Institution (Primary Site of Training Program):

Primary Site Location:	Length of Training Program:
<input type="text" value="Purdue University"/>	<input type="text" value="3 year"/>

2. Resident Advisor(s): Must be a Diplomate of ACVIM in the Specialty of Neurology or a Diplomate of the ECVN and boarded for at least one year. Each RA advises and supervises no more than two residents at one time.

<input type="text" value="R. Timothy Bentley
Stephanie Thomovsky"/>

3. Supervising Diplomates: Must be a Diplomate of ACVIM in the Specialty of Neurology or a Diplomate of the ECVN. The supervising diplomate must be active in the practice of the specialty and must maintain clinical competency in the field. **The sponsoring institution must provide resident with onsite presence of any combination of at least two ACVIM or ECVN Neurology Diplomates with full-time clinical responsibilities.**

R. Timothy Bentley - Neurology
 Stephanie Thomovsky - Neurology
 Melissa Lewis - Neurology

4. All Diplomates of ACVIM or ECVIM responsible for supervision of clinical training who specialize in areas other than Neurology.

Name and Specialty	Comments
Larry Adams - SAIM Carolyn Guptill-Yoran - SAIM George Moore - SAIM Nolie Parnell - SAIM J. Catharine Scott-Moncrieff - SAIM Sarah Steinbach - SAIM Janice Sojka Kritchevsky - LAIM Laurent Couetil - LAIM Sandra Taylor - LAIM Daniel Hogan - Cardiology Henry Green - Cardiology Deborah Knapp - Oncology Michael Childress - Oncology Christopher Fulkerson - Oncology	

5. Residents currently participating in your training program, along with the beginning date of the program, expected ending date of the program, and designated Resident Advisor.

Resident Name	Start date (mm/dd/yyyy)	End Date (mm/dd/yyyy)	Resident Advisor Name*
Kelly Cummings	7/15/16	7/14/19	R. Timothy Bentley
Dillon Devathason	7/15/18	7/14/21	
Sissy (Hsuan-Ping) Hong	7/15/17	7/14/20	Stephanie Thomovsky
Jay Mehre	7/15/18	7/14/21	



RESIDENCY TRAINING PROGRAM REGISTRATION
2019-2020
NEUROLOGY

Part Two

Part Two of the Neurology Residency Training renewal process addresses general features of the program that apply to all current residents. These questions will be used to provide the Residency Training Committee with information needed to judge the structure, quality, scope, and consistency of training provided.

Current Date:

Program Director Name:

Program Director Email Address:

Must be a Diplomate of ACVIM in the Specialty of Neurology or an approved Diplomate of the European College of Veterinary Neurology (ECVN) for at least 5 years with 3 years' experience training residents

Name of Sponsoring Institution (Primary Site):

1. Length of Training Program:

	Yes	
2 years	<input type="checkbox"/>	
3 years	<input checked="" type="checkbox"/>	
Other -provide details		

2. Advanced Degree:

	Yes	No	Optional
Masters:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PhD:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Briefly explain how the degree is integrated into the residency program:

Enrolling in an advanced degree is mandatory, unless residents already have such a degree. Although residents choose between MS and PhD, all current residents are enrolled in MS. The MS coursework and classes are specifically designed by our department to be of use to clinicians and especially clinician-scientists, including classes in clinical trial design, medical statistics, research ethics, etc. Journal club and resident round performance grades contribute to the MS. The annual seminar, one each by every resident, is graded by the neurology faculty and this grade counts towards the MS.

3. Please list all ACVIM, ECVIM or ECVN Supervising **Diplomates** (Cardiology, Large Animal Internal Medicine, Neurology, Oncology, Small Animal Internal Medicine) providing supervision **off-site** and explain the situation and the agreements provided for contact with the resident. (Note, in Part One, current ACVIM/ECVN Supervising Diplomates are included; and you are requested to provide additional comments for off-site supervision here).

Name of Diplomate(s)	Specialty Certifying Body	Comments

Michael Wolf, DVM, CCRT, DACVIM	DACVIM-N	Dr Wolf is the primary mentor at the secondary site, the Animal Neurology Center (ANC), Commerce, Michigan. The practice was recently bought by MedVet but this has not affected the residency program in any way. Only our current third year (Kelly Cummings) does rotations at the ANC; the other neurology residents are based at Purdue only. Kelly is completing her 75 weeks of neurology split between Purdue and the ANC. In addition, she is completing all other rotations and requirements at Purdue (Int Med, Clin Path, Radiology, Neuropath, Soft Tissue, and Orthopedics). She has completing her research time (all at Purdue), under Dr Bentley and a Purdue radiology faculty. Her article has been published in VRU. She will be at Purdue for her Independent Study (3rd year board prep). While at the ANC, she video-conferences into Purdue for weekly journal club, for weekly resident rounds and for monthly neuropath rounds
Adam Moeser, DVM, DACVIM	DACVIM-N	ANC
Jill Hicks, DVM, DACVIM	DACVIM-N	ANC

4. Please list all **Diplomates** of the American College of Veterinary Pathology or the European College of Veterinary Pathologists in the areas of clinical pathology or gross/histopathology associated with residency training. If off-site, please explain the situation, and the method of providing direct contact with the resident.

Name of Diplomat(e)s	Specialty Certifying Body (ACVP or ECVP)	Clinical or Gross	Comments
Margaret Miller	ACVP	Gross	Leads neuropath rounds once a month
Abigail Durkes	ACVP	Gross	All on-site
Stephen Lenz	ACVP	Gross	
Tsang-Long Lin	ACVP	Gross	
Tiffany Lyle	ACVP	Gross	
Jose Ramos-Vera	ACVP	Gross	
Harm HogenEsch	ACVP	Gross/Immunopath	
Craig Thompson	ACVP	Clinical	
Joanne Messick	ACVP	Clinical	
Andrea Santos	ACVP	Clinical	

5. Please list all **Diplomates** of the American College of Veterinary Radiology or the European College of Veterinary Diagnostic Imaging associated with residency training. If off-site, please explain the situation, and the arrangements for direct contact with the resident.

Name of Diplomat(e)s	Specialty Certifying Body (ACVR or ECVDI)	Comments
Hock Gan Heng	ACVR and ECVDI	All on-site
Chee Kin Lim	ECVDI	
Caroline V. Fulkerson	ACVR	
Jean Poulson	ACVR	Radiation Oncology (on-site)

6. Please list all **Diplomates** available for consultation in the areas of dermatology, surgery, ophthalmology, anesthesiology, emergency/critical care, clinical nutrition, clinical pharmacology, behavior, and/or theriogenology. If off-site, please explain the situation and the arrangements provided for contact with the resident.

Name of Diplomate(s)	Specialty Certifying Body	Comments
Paulo Gomes	ACVD	All on-site
Mark Rochat	ACVS	Small animal surgery
Sarah Malek	ACVS	Small animal surgery
Gert Breur	ACVS	Small animal surgery
Brandy Cichoki	ACVS	Small animal surgery
Marije Risselada	ACVS, ECVS	Small animal surgery
Kathy Salisbury	ACVS	Small animal surgery
Wendy Townsend	ACVO	
Ann Weil	ACVAA	
Jeff Ko	ACVAA	
Tokiko Kushiro-Banker	ACVAA	
Aimee Brooks	ACVECC	
Elizabeth Thomovsky	ACVECC	
Niwako Ogata	ACVB	
Augustine Peter	ACT	
Jan Hawkins	ACVS	Large animal surgeons
Nickie Baird	ACVS	
Steve Adams	ACVS	
Tim Lescun	ACVS	

The following questions will be used to provide the Residency Training Committee with information needed to judge the structure, quality, scope, and consistency of training provided.

NOTE: Direct supervision is required during clinical training, with the time required specified by each particular specialty. Direct supervision is defined as follows: The Supervising Diplomate and resident are participating in a clinical practice in which both the Diplomate and the resident are on duty and interactively and concurrently managing cases. The Diplomate need not personally examine each patient seen by the resident, but must remain physically available for consultation. Please use this definition when responding to the following questions regarding clinical rotations.

7. Is this a traditional or non-traditional residency training program? *A traditional neurology residency is a two (2) or three (3) year postgraduate training program, with a minimum of ninety six (96) weeks of supervised clinical training with a majority of the time spent at one location. A non-traditional neurology residency allows for training that may occur in non-contiguous blocks of time over an extended time period.*

Traditional	<input checked="" type="checkbox"/>
Non-traditional	<input type="checkbox"/>

For non-traditional programs, please provide a detailed description of the residency program, including length of program, proposed annual schedule, and the amount of time of direct Diplomate supervision for each location of the residency. The resident must complete the residency in blocks of time no less than four weeks in length and attend a minimum of 20 weeks of training per year. The training period may not exceed a total of five years.

8. The ACVIM Neurology Certification Manual (CM) requires that each resident experience 75 weeks (minimum) of clinical Neurology training under the supervision of either a Diplomate of ACVIM in the Specialty of Neurology or a Diplomate of ECVN. **The 75 weeks**

should include at least 50 weeks of direct supervision (see definition in CM) and the remainder as indirect supervision (indirect supervision is satisfied by the Supervising Diplomate Neurologist being available for face-to-face contact with the resident at least 4 days per week).

Please provide an outline of planned yearly schedule, including number of weeks of direct and indirect supervision (i.e. in year 1, the resident will be directly supervised for 25 weeks etc.) A table similar to the example below outlining the proposed weekly schedule of duties for the residents should be provided:

EXAMPLE TABLE ONLY:

	Year I	Year II	Year III
Medical Neurology *			
Neurosurgery			
Neurology/Neurosurgery Direct Supervision	36	36	
Neurology/Neurosurgery - Indirect Supervision			34
Internal Medicine	4	2	2
Clinical Pathology	2		
Radiology	2		
Neuropathology		2	2
Other Rotation (please list the name of each rotation)			
		1	
	2	4	4
Research	4	5	8
Independent Study			
Vacation	2	2	2
Total	52	52	52

Numbers indicated are in "weeks".

* Many residencies are a combined neurology / neurosurgery program with no distinct separation between the services. Some programs, however, have separate training with a surgery service and this example includes that possibility in describing the weekly rotations.

The example table is only a listing of a proposed weekly schedule for each of the three years of a typical 3-year residency program, including all that is required by ACVIM without making any specific recommendations.

Please indicate the outline of planned yearly schedule here:

	Year I	Year II	Year III
Medical Neurology *	31	29	24
Neurosurgery			
Neurology/Neurosurgery - Direct Supervision	25-31	23-29	18-24
Neurology/Neurosurgery - Indirect Supervision	0-6 (chief resident)	0-6 (chief resident)	0 – 6 weeks serving as the chief resident
Internal Medicine	6		
Clinical Pathology	1.5 week Plus ad hoc CSF and other cytology	ad hoc CSF and other cytology	ad hoc CSF and other cytology
Radiology	1.5 week	ad hoc imaging	ad hoc imaging with

	plus ad hoc imaging with radiologists	with radiologists	radiologists
Neuropathology	1 hr/month	1 hr/month	1 hr/month
Other Rotation (please list the name of each rotation):			
Other: Surgery (Soft Tissue and Orthopedics)	6	6	0-6
Other: I U Med School - human neurology or neurosurgery or neuroimaging	0	0	2-3
Research	7	13	13
Independent Study	(combined with research)	4 (board prep)	9 (board prep)
Vacation	4 (required offering by Purdue - taken during Research time if desired)	4 (required offering by Purdue - taken during Research time if desired)	4 (required offering by Purdue - taken during Research time if desired)
Total **	52	52	52

* Many residencies are a combined neurology / neurosurgery program with no distinct separation between the services. Some programs, however, have separate training with a surgery service.

**The totals should add up to 52 weeks.

9. Describe how daily clinical case rounds are conducted and supervised:

Brief case rounds are conducted each morning during the week to review any updates in case status from overnight and the plans for the patient during the subsequent day. Each evening full case rounds are discussed as a group in which patient history, physical and neurological examination, localization, diagnostic plan/results, and treatment plans are discussed in depth.

Residents conduct topic rounds at the student level 2 to 3 times weekly separate from case rounds (initially watching as faculty deliver rounds, then delivering under faculty supervision, then delivering without supervision).

Further, residents attend rounds which are held informally as needed during the day in which greater case depth, exam findings, and pathophysiology are discussed together at the resident-level among residents and neurologists.

Once weekly a board-preparation level resident rounds are conducted by the neurologists on pre-determined topics throughout the course of the residency.

10. The neurology specialty requires that the resident spend at least 50 hours during the residency in the following rotations: Imaging, Clinical Pathology, Neuropathology, Electrodiagnostics and Neurosurgery as well as participate in emergency duties on a rotational basis. A training hour (see CM 7.C.7) will be defined as a minimum of one (1) continuous hour of direct contact time with a supervising

specialist in the other field. A Training Agreement Form must be completed and signed by the Diplomate supervising the required training, regardless of whether the training occurs on site or off-site. Please use the standardized "Training Agreement Form" found on the ACVIM website (www.ACVIM.org) to document proof of supervision for all required contact hours (imaging, clinical pathology, neuropathology, electrodiagnostics and neurosurgery) in rotations other than neurology. One Training Agreement form is required per rotation per resident at the beginning of the residency. Forms do not need to be resubmitted each year as long as a valid Training Agreement Form is on file.

In addition, please provide a brief description of how each phase of this required training is accomplished.

Imaging: 50 hours with a Board-certified radiologist interpreting images, learning and evaluating the results of special imaging techniques and attending imaging rounds or seminars.

Each neurology resident will rotate through the Radiology service for part of their 50 hours and receive instruction on image interpretation, and will participate in clinical rounds. In addition, a joint journal club between radiology and neurology is planned for approximately 2 times per year. As part of the weekly Neurology Resident Rounds, several times a year neuro-imaging results from prior cases are reviewed and discussed. Residents are expected to be present during imaging of their clinic cases and to review the imaging results with the radiologists. By participating in a 1.5 - 2 week radiology rotation under our 3 boarded radiologists, residents reach their 50 hours of radiology quite easily.

Clinical Pathology: 50 hours with a board-certified anatomic pathologist or clinical pathologist evaluating clinical pathologic findings, attending clinicopathologic conferences, or examining surgical sections.

Each neurology resident will rotate through the Clinical Pathology service for part of their 50 hours and receive instruction on the preparation and interpretation of clinical pathology samples, as well as attend any rounds or journal clubs held during that time. Residents are expected to review the cytology from their clinic cases with the pathologists and pathology residents during the course of their clinic training. By participating in a 1.5 week clin path rotation under our boarded clinical pathologists, residents reach their 50 hours of radiology quite easily.

Neuropathology: 50 hours with a board-certified anatomic pathologist devoted to review of veterinary neuropathology. This time may be spent in lecture series, seminars, or a formal training program approved by the Residency Training Committee.

Once monthly neuropathology rounds are held in conjunction with the pathology service, with participation from board certified pathologists. During the first two years of the residency program the histopathologic review will be presented by the pathologists or pathology residents to the remainder of the group. During the final year of the residency program, the neurology resident is responsible for interpreting the pathology independently, and working with the pathologist to verify their interpretation. During this final year, the neurology resident will present the histopathology review of the case during rounds.

These neuropathology rounds are co-hosted by one of the ACVP pathologists on faculty (Margaret Miller), with whom a strong association has been created between our Pathology and Neurology services here at Purdue. We have monthly neuropathology rounds that are very popular with the pathology residents and Neurology residents, in which we review gross pathology and histopathology specimens, and compare to clinical signs, pathophysiology, and imaging findings. In addition, within the graduate coursework at Purdue, occasionally ACVP faculty lecture on the topic of neuropathology. When such sporadic lectures occur, the faculty inform us so that neurology residents can attend. This is not a specific course for residents, but merely a sporadic opportunity (perhaps 2-3 lectures per year, for 1-3 hours each). Topics in the past year included CNS tumors and large animal neuropathology. Additional pathology hours are accumulated through ACVIM offered courses at the annual Forum and ESVN Symposia, as well as the Neuroscience course. At least once every 3 years, Dr. Miller presents on pathology during neurology resident rounds (e.g. 3 hours during Jan - Feb, 2019).

Electrodiagnostics: 50 hours devoted to reviewing, evaluating, and interpreting different aspects of electrodiagnostics; including but not limited to, electroencephalography, electromyography, motor and sensory nerve conduction study and evoked potentials. Briefly state how the concepts of electrodiagnostics (including EEG) and their clinical application will be taught to residents during the training program. Specifically state whether or not the resident will have hands-on electrodiagnostic experience.

Residents are responsible for performing hands-on electrodiagnostic evaluations on their cases throughout their residency program, under the supervision of board-certified neurologists as deemed appropriate for each case based on resident

experience. Residents are encouraged to observe and/or participate in any electrodiagnostic evaluation that is conducted, even if the patient is not directly their case. Routine electrodiagnostic evaluation will include complete EMG, MNCV, Rep Stim, and F waves (approximately 10-20 cases per year). In some cases, sensory studies are performed (e.g. whenever Dr Lewis is on-clinics, or whenever one of the other 2 faculty requests Dr. Lewis' assistance). BAER testing appointments are available for scheduling each week; however we typically evaluate 20-30 cases a year perhaps. EEG is performed in some seizure cases for teaching purposes, or for clinical differentiation of seizure vs. dysphoria, or for evaluation of obtunded/coma cases. Approximately 15 EEGs are performed each year (this metric has not yet been collected in our case data; however this is a reasonable estimate).

Printouts of electrodiagnostic results are copied for each resident to review and analyze according to the principles presented in Dr. Cuddon's electrodiagnostic manual.

Weekly resident rounds rotate through topics, including periodic discussions at the board-preparation level of electrodiagnostic evaluation, wave form derivations, and electrophysiology. This can be supplemented by courses sponsored at ACVIM Resident reviews, as well as the Neuroscience course.

Neurosurgery: 50 hours participating in veterinary neurosurgical procedures. Please provide a specific description of the type of participation [i.e. observation, performance of neurosurgery], and credentials of those providing the training [i.e. ACVS vs. ACVIM Neurology/ECVN]. A Training Agreement Form must be completed if this training is provided by individuals other than the ACVIM (Neurology) or ECVN supervising Diplomate for the residency training program.

Neurosurgical procedures will typically be performed by the neurology section under the supervision of ACVIM diplomates, but are occasionally performed under an ACVS Diplomate. The neurosurgical caseload at Purdue varies, but is approx 125 per year. These most commonly include the surgeries listed below (some of these spinal surgeries were spinal tumors, arachnoid diverticula, and other in addition to IVDD):

Hemilaminectomies

Ventral slots

LS Dorsal laminectomies; LS foraminotomies; LS pedicle screw stabilization

Cervical laminectomies/hemilaminectomies

Vertebral stabilizations (e.g., Wobbler; e.g. vertebral fracture/luxation)

Craniotomies / Craniectomies (transfrontal; rostral tentorial; transtentorial; suboccipital)

Brain biopsies / tumors

AA subluxations

LS foraminotomy

Other

Muscle and/or nerve biopsies are performed on approximately 5-10 cases per year on average.

VP shunts are performed on about 9 research swine per year; residents assist in most of these procedures; there have also been 2 cases (both dogs) in the last 12 months.

Neurosurgical training will begin with observation/assisting, and gradually move to performance as primary surgeon, with supervision and assistance from the ACVIM/ACVS diplomate as appropriate for each case depending on the experience of the resident.

R. Timothy Bentley received his training in neurosurgery at Tufts University through the neurology service with Dominik Faissler, DVM, DECVN, which had a high surgical caseload.

Stephanie Thomovsky completed her training in neurosurgery here at Purdue University, and has spent 4 years performing routine and advanced neurosurgeries at WSU.

Melissa Lewis completed her training in neurosurgery at NCSU, which had a high surgical caseload.

Emergency Duty: Participation in emergency service on a rotational basis; cases seen may be limited to neurology. Please provide a specific description of the type of participation.

Between them, neurology residents are on call for medical neurology 24 hrs a day, 365 days a year. As we have 3 to 4 neuro

residents, this means about 91 to 122 days on call for medical neurology each year for each resident.

50 weeks a year, surgical neurology on call is shared equally with the 3 or 4 surgery residents. Only neurology residents cover the 2 weeks around the Holidays. This means each neuro resident is on call for neurosurgery about 7 to 9 weeks each year.

Medical and surgical neurology emergencies are dealt with the same way at our hospital. Cases arrive at the ER and are seen by an intern under DACVECC supervision / with a DACVECC available by phone if necessary. If the owner wants a neurology / neurosurgery consultation, the resident on-call comes in, evaluates the case and discusses over the phone with the neurologist on call before talking to the owner. If the case needs an immediate procedure / intervention and the owner consents, the case is immediately transferred to the resident on call and the neurology faculty, so that we can proceed with MRI / CT / CSF tap / surgery / whatever is indicated. If the case does not need an immediate procedure, it is transferred to the neurology service the following business morning. (The resident who was called in will supervise the intern managing the case over weekend, and will take the case from the intern / ECC service if it is in the best interests of the case or decided upon by the ECC and neuro faculty. e.g. severe cluster case would just be taken over by the neuro service immediately.)

This does mean the intern must decide between calling the person on call for medical neurology (always a neuro resident) or the person on call for surgical neurology (50% of the time it's the same neuro resident anyway, but 50% of the time it's the surgery resident). If there is any doubt, the neurology resident is the one called in. e.g. If the intern +/- DACVECC aren't sure about cervical tetraparesis vs neuromuscular tetraparesis, they would call the neuro resident.

If it's a less common neurosurgery (e.g. the last spinal fracture I did), typically both residents (1 neuro and 1 surgery) on call would come in, regardless of which of them is on call for neurosurgery.

So being on call one third to one quarter (medical neurology) and one sixth to one eighth (neurosurgery) is somewhat of an underestimate. Neuro residents are called in for "not sure medical vs surgical neurology" and they nearly always chose to come in if there is an interesting surgery happening.

An ECC rotation is NOT required in our residency. It is one option for elective time (only 1 of our current 4 residents is taking it). Neuro residents work closely with DACVECC faculty routinely - taking cases from the ER, getting DACVECC input on critical cases, hypoxic cases, ventilator cases (if a neuro case needs the vent it's co-managed with ECC), cardiovascular collapse cases, etc.

11. The neurology specialty requires that the resident spend a minimum of 80 hours involved in routine and regular participation in a critical review of the literature (e.g. journal club) during the residency training program with at least one board-certified neurologist in attendance at each journal club meeting. Please explain how this requirement is met:

Critical review of scientific literature is done weekly during Neurology Journal club. Grades are assigned for performance of journal club presentations each semester as part of the graduate school (Masters degree) program. Note that, except University Holidays (e.g. Christmas), journal club is held once a week, accumulating nearly 150 hours journal club during a 3 year residency.

12. The neurology specialty requires that the advisor meet with the resident at 6 month intervals to assess, review and critique the resident's progress and weekly schedule of activities. The advisor must provide written documentation of the review that will be signed by both advisor and resident. Please explain how this is accomplished:

Reviews are conducted with each resident individually every 6 months. Case logs are required internally here at Purdue, and case logs are analyzed at each review to ensure a broad exposure to a variety of cases, as well as ensure adequate numbers of cases. Additionally, feedback is given as well as received as to the performance of the resident, and an assessment of the program features.

The residency program requirements locally at Purdue University also require reviews to be conducted every 6 months and specific departmental paperwork is required to document such reviews. This paperwork includes signatures from advisor and resident, after the review meeting is completed.

13. The neurology specialty requires that the resident must complete a basic science or clinical research project that follows the scientific method approach and receives approval by the resident advisor (review CM section 7.E.5.c). Please describe how you plan for the resident to undertake, monitor, and complete a project. Include a timeline that the resident and mentor will use as a guide for completion of the project. Note that publication of this research project is not a requirement.

Each resident is expected to choose a research project in the first year of their program. Initially, discussions are held to determine the resident's area of interest within neurology; however, at times their interest cannot be perfectly accommodated and a project within the field of interest of mentors or other faculty are selected. Once a topic is selected, the resident is expected to write a formal summary of the research question, literature search, and methodology/project design, and budget. This is reviewed with the project advisor and mentor. Once the project design is finalized, the resident must develop a written timeline for performing the various stages of the project, including the timeline for anticipated manuscript preparation and submission. This timeline is based on their off clinics/research time as scheduled throughout the program. Residents who fail to complete their research project will not receive their residency certificate until such time as the project (or equivalent research experience) is completed and documented. Publication of the project itself is not required, as some projects may not result in publishable data, but a written manuscript is required internally, with the hope/intent of submission and publication. If the research project is not publishable, then some other publication must be performed (e.g., case report, etc) in place of this.

Timeline: 1) establish research topic in first semester of program, 2) submit necessary IACUC or university paperwork and begin data collection by second semester of program, 3) finish data collection and begin data analysis in second year of program, 4) begin writing up research project report and manuscript, present abstract at Phi Zeta Research Day (or ACVIM) in third year of residency.

Note: submission (not publication) of a journal manuscript is required to get a Purdue residency certificate. And a residency certificate is obviously required by ACVIM to become board-certified. So this provides a strong incentive for neurology residents to complete and write-up research studies.

14. Please indicate the availability of the following facilities or equipment. Indicate if these are available at the primary training site, or at a different location. (In the Location column, indicate on-site for primary location or the name of the facility where the equipment is located if off-site.) For facilities that are not on-site, please describe the situation and availability in the space at the end of this section. Please also provide the manufacturer and model of the unit for electrodiagnostic and imaging equipment.

	Available?		Location of equipment?
	Yes	No	(On-site or list site name)
a) Standard radiological equipment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	All on-site
b) Ultrasonographic equipment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
c) Clinical Pathology capabilities: (includes CBC, serum chemistries, blood gases, urinalysis, cytology, parasitology, microbiology, and endocrinology)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
d) Electrocardiography	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
e) Blood Pressure Measurement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
f) Radiation Therapy Facility	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
g) Veterinary Library w/Literature Searching Capabilities	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
h) Computerized Medical Records w/Searching Capabilities	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
i) Medical Library w/Literature Searching Capabilities	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
j) Electromyography and nerve conduction study testing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
k) Evoked Response Equipment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
l) Electroencephalography	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
m) Computed Tomography	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
n) Magnetic Resonance Imaging (include field strength)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1.5 T on-site

If any of the above equipment or facilities is available off-site, please explain how the resident can access them for case management, research, or study, *especially with respect to the use of imaging and electrodiagnostic equipment*:

For Kelly Cummings while at the ANC – a 1.5 Telsa MRI, CT and digital radiography are all on-site.

15. Residents must attend formal teaching conferences, resident seminars, grand rounds sessions, medicine journal clubs, neurobiology classes, etc. Residents must participate in these activities an average of four times per month, regardless of their duty status. Please describe the formal conferences, such as clinicopathologic conferences, journal clubs, or seminars that are held on a regular basis.

*Neurology Journal Club – Held weekly. Focus is on those journal articles relevant to clinical neurology and board preparation. Discussion will include content/theory presented in the paper, as well as methods of critically reviewing scientific articles. The first journal club meeting of each year will be a tutorial on critical review of articles and the various types of study design.

*Neurology Resident Rounds – Held weekly. Focus is on case based or topic based review in preparation for board exams, including Neuroanatomy, Neuroradiology, Neuropathology, Neurophysiology, Clinical Neurology/Case management, and Theory.

*Neuropathology Rounds – Held once monthly as a joint effort between the Neurology service, the Clinical pathology service, and the Anatomic pathology service. Includes evaluation/review of cytology and histopathology slides from neurological hospital cases, and topic discussion of those cases.

VTH Histopathology Rounds – Held 3 times per semester. Review of histopathology results from selected hospital cases. All house officers, students, and faculty attend.

*House Officer Grand Rounds/Seminar – Held weekly. All house officers are required to present one hour-long seminar each year of their program. All house officers and faculty attend weekly.

*(Indicates mandatory attendance)

16. The resident must give a presentation at a formal conference at least once per year. This may include lectures in departmental courses for veterinary students, grand rounds presentations, presentation of papers or seminars at conferences, or participation in continuing education programs. Documentation of these presentations must be included in the neurology credentials packet of the resident.

The House Officer Seminar (held weekly, above) requires each resident to present, once per year. This will be a full one hour time slot (e.g. 45 mins then questions) during years 1 and 2. During year 3, it can be an abstract (e.g. 15 mins then questions) or a full one hour time slot, depending on whether the 3rd year has an appropriate abstract to deliver (often 3rd year residents give what will be their ACVIM abstract presentation, as a practice). Afterwards, residents receive verbal and written feedback from faculty and fellow house officers, then are graded by the neurology faculty (participation in this course is required by the Purdue residency committee).

Final year DVM students and vet techs also attend the seminars, but they are asked to leave before the verbal feedback.

In addition, the typical Purdue neurology resident will present at least once at a conference (e.g. ACVIM Forum), and they are required to present once at the in-house Phi Zeta research day.

17. A Neurology Residency Training Program must provide at least 40 hours per year of intensive formal review sessions for residents on topics covered in the General and Specialty Examinations. The requirement could be met in part by attending an ACVIM Advanced Continuing Education (ACE) course, the ACVIM Neuroscience Course (Brain Camp) or an ACVIM Forum. Please describe how these opportunities will be made available to the resident.

These are covered during the required courses of the Purdue resident MS degree.

e.g. the course for ACVIM prep is required for 1st and 2nd year neuro residents, and has presentations by both ACVIM diplomates in all subspecialties and by the residents themselves.

Additionall, the typical Purdue neuro resident attends Brain Camp once, the ACVIM Forum twice, and at least one other course / conference.

Much of neuro resident rounds is geared towards helping prepare for the neuro specialty exam, but we do not "teach to the test", instead teaching / covering topics that are important to clinical neurologists (which of course often heavily overlap with specialty examination material).

18. How many major veterinary medical or medical meetings are each resident able to or expected to attend during his/her training program?

None	One	Two	> Two
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments:

19. Are one or more publications required as part of the training program?

Yes	No	Number
<input checked="" type="checkbox"/>	<input type="checkbox"/>	1

Comments:

The submission of one publication is required to be awarded a residency certificate and formally complete the residency training program (it does not need to be accepted for publication at the time the residency certificate is awarded)

20. Please describe any additional pertinent information that the Residency Training Program should consider in its evaluation of this Training Program.

Please note: The Program Director must report substantive changes within a Neurology RTP affecting compliance with Specialty of Neurology requirements to the Neurology RTC Chair within 14 days. This must be done in writing through the ACVIM office before the changes are made to ensure they are acceptable to the Neurology RTC.

Significant changes could include, but are not limited to:

- transferring from one program to another
- alterations in program duration
- switching to a 'dual board' program
- enrolling in an institutional graduate program
- change of Program Director or Resident Advisor

I verify that the above information is an accurate reflection of this Residency Training Program.

Per the Certification Manual, each year, the Program Director (PD) must certify to the RTC/ RTCC and ACVIM, in writing, that they have read the ACVIM Certification Manual and understands their role in residency training.

Checking this box is an indication I have read the ACVIM Certification Manual and understand my role in the Residency Training Program.