



Veterinary Health Center
MANHATTAN, KANSAS

OFFICIAL PROTOCOL

SMALL ANIMAL SURGERY RESIDENCY

Guidelines and Expectations

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INTRODUCTION AND OBJECTIVES

This document is intended to guide small animal surgical residents regarding expectations by the faculty of the resident as well as helpful tips to be successful in the residency program. It is not intended as a complete list of policies and procedures, and is subject to change at the discretion of the faculty.

The small animal surgery residency at the Kansas State University Veterinary Health Center is a three-year training program under the supervision of faculty surgeons. The objectives of the program are as follows:

- To promote aptitude and clinical proficiency in the diagnosis, operative treatment, and postoperative management of animals with surgical disease.
- To instruct the resident in the science and practice of veterinary surgery and supporting disciplines.
- To support the pursuit of career goals related to small animal surgery in teaching, research, clinical service, or specialty practice.
- To meet residency training criteria, publication, and research requirements for Board Certification by the American College of Veterinary Surgeons (ACVS).
- To meet criteria for the resident to obtain a Master's of Biomedical Science Degree concurrent with their training program.

By the end of the three-year program, we expect each resident will have acquired in-depth knowledge and skill pertaining to the practice of veterinary surgery. We are proud of the track record of the small animal surgery residency program and residents at KSU.

STRUCTURE OF PROGRAM

Clinical Responsibilities

The fundamental component of the surgical residency is clinical experience. Residents rotate through both soft tissue and orthopedic surgery services. Clinical rotations facilitate development of clinical proficiency, skills and knowledge of surgery through:

- Exposure to a wide variety of cases representing all facets of small animal surgery and all levels of complexity.
- Case management with the guidance and collaboration of faculty who are experienced specialists in their field.
- Case discussions and consultations with faculty.

- Availability of state-of-the-art equipment and facilities with which to develop technical expertise at diagnostic and therapeutic procedures.

Residents are assigned to a service with one or two faculty clinicians, fourth-year students on a surgery rotation, and possibly an intern, for one or more weeks at a time. **More than one resident may be assigned to a service at the same time. When this occurs, it is common to have one resident assigned as the primary resident for each patient so that the students have a specific person to contact if there are questions. It is the residents' responsibility to ensure that clinical and surgical responsibilities are divided fairly between all residents on a service.**

The resident on each clinical service – in coordination with the attending faculty member – will be responsible for:

- Discussing clinic appointments with the student on each case, and formulating an initial diagnostic and treatment plan.
- Supervising daily management of hospitalized animals, including developing and implementing diagnostic and therapeutic plans. In the mornings, residents typically arrive at the hospital at 6:30-6:45 am to have enough time to examine all hospitalized patients on service and touch base with the students prior to 7:30 resident rounds.
- Participating in the clinical teaching of students and interns assigned to the service.
- Providing optimal client service and prompt professional communications with referring veterinarians, faculty on other services, and clients.
- Participating in surgeries performed by your assigned service.
- Answering after-hour phone calls regarding questions or problems about inpatients. (Note: while most after-hours issues can be dealt with remotely, there are times when a resident may need to come in after hours to address issues, such as bandage changes. The emergency department may be able to help with these issues, if they are not busy, but the resident must call the emergency clinician directly if their help is to be solicited, and be willing to understand if they are too busy to assist).
- On the weekends, morning patient care may be done by both the resident and faculty member together or it may be divided between the two weekend days. This is highly dependent on the number of cases in the hospital and which service it is. This will be discussed at the end of each week between the resident and faculty on duty for the service. Patient evaluations are still done at the same time as during the week.
When on the soft tissue surgery service, the resident should come in for evening treatments in order to evaluate the patients. This is standard for the soft tissue surgery service due to the more critical nature of the patients.
- Please remember that you are part of a team. Try to be professional and courteous to your fellow house officers, technicians, assistants and students. If you are having an issue with a student, talk to the clinician on service that week. If you have an issue with a faculty or staff member, please consult your resident advisor.

Residents function as an integral part of fourth year veterinary student training. It is anticipated that residents will function in the role of instructors for the veterinary students, helping guide them in the evolving process of clinical decision-making. Residents should anticipate supervising student surgeries (e.g. elective gonadectomy procedures on soft tissue surgery, and closures on both services), as well as attending (and eventually leading) topic rounds sessions for the students. Residents often have one-on-one experiences with the students that faculty clinicians do not, and your opinion is considered invaluable in grading of students at the end of their three-week rotations. **Residents also serve as role models for the veterinary students, so it is expected that they will act and dress professionally at all times while in the hospital.**

The resident's role will change as they gain experience. An early first year resident will spend most of their time observing and assisting during surgery, and may be accompanied by a senior faculty member when consulting or talking with clients. Clinical decisions should be discussed with faculty before being implemented. By second year, most residents should be performing common procedures on their own, and participating in, or performing, less common procedures with faculty supervision. Second year residents should be able to handle clinical decisions and client communications without direct faculty oversight for most cases. Third year residents will have even more autonomy, potentially culminating in a 'chief block' on each service in which the resident will run the service without direct faculty involvement (although a backup clinician is available for help at all times). Every resident progresses through the program at an individualized pace, and it is important to discuss with faculty members on each rotation what their expectations are as you progress through your program.

Scheduling of clinical and 'off-clinic' time is done yearly by the section head. Your schedule will be designed to ensure that you meet the ACVS requirements for surgical weeks, research weeks, and specialty service rotations. Please contact the section head if you have specific requests or concerns regarding your schedule. In particular, let him/her know if you need any weeks off clinics to attend conferences, courses, or for personal time. Once the schedule is published, changes must be pre-approved by the faculty on service the week in question. If approved, **Schedule changes must be emailed to all faculty and residents involved in the change.** After a change is approved, the front desk must be made aware of the change. You should also meet regularly with the ACVS Diplomate designated as your Residency Advisor within the ACVS program to assure that you are meeting all the requirements of the ACVS residency program.

Emergency Duty

After-hours coverage for the emergency service is provided by a surgical resident between the hours of 5pm and 7:30am on weekdays and all day on weekends and holidays. All surgical residents share responsibility for emergency coverage. Each week's emergency coverage is divided between a weekday shift (Monday through Thursday) and a weekend shift (Friday through Sunday). A faculty member will always be assigned as emergency backup.

When interns, other residents, or emergency service faculty request after-hours assistance by the on-call resident, the resident is REQUIRED to assist. **For cases that may require after-hours surgery, residents should examine the patient in person prior to contacting their faculty**

backup. It is expected that an on-call resident will always call their faculty backup for procedures requiring anesthesia and surgery. After discussion, a decision will be made as to whether the faculty member will be present during the surgery. Faculty will be present at most after-hours surgeries during the first year and direct oversight will decrease over the course of the residency.

If, after faculty consultation, it is determined that a patient should have surgery, the resident must contact the owner prior to proceeding. If the resident has any questions or concerns about whether a patient should go to surgery, or there is disagreement between the resident and another house officer or faculty member (e.g. radiographic reports are not consistent with resident/intern interpretation), the faculty backup should be contacted, **after the resident has personally examined the patient.** Remember, we are here to help, but we can't do this if we are not aware of the situation.

The on-call schedule is determined in advance by the section head, and any special requests should be directed to that individual. Once the schedule is published, changes to the on-call schedule must be pre-approved by your faculty backup. If approved, **schedule changes must be emailed to the faculty backup and all residents involved in the change must be copied on the email.** After a change is approved, the front desk must be made aware of the change.

Weekly Rounds Format

Resident rounds are typically held every Tuesday through Friday at 7:30am. It is expected that all residents who are on a clinical rotation or a research rotation will attend rounds in person. Residents on special rotations should attend if there is not a conflict with the schedule for that service. Residents who are on vacation, studying for boards, or attending CE are not expected to attend rounds.

Resident Seminars

All residents in the Department of Clinical Sciences present two 'House Officer Seminars' to the faculty, house officers, and students of the college of veterinary medicine each year. Seminars typically take place during the spring and fall semesters on Tuesdays at 7:30-8:30am in the BI conference room. Each seminar is expected to last 30 minutes, with ~25 minutes of presentation time followed by ~5 minutes for audience questions. These seminars will also count towards your ACVS requirements and should be recorded in your Resident Training Log.

The seminar topic is selected by the resident presenting the seminar. Topics may include literature review pertaining to specific diseases or treatment modalities (including new and emerging information), original or retrospective research, or any other relevant comparative medical information. The seminar presentation is commensurate with the resident's level of training and experience, and suitable for an audience composed of faculty and house officers. It is the resident's responsibility to prepare for his or her scheduled seminar in a timely fashion. **It is highly recommended to plan a seminar topic at least 1 month in advance and to consult with**

at least one faculty mentor throughout your preparation to help you to design an appropriate presentation. Practicing the seminar with the faculty at least one week prior to presentation is ideal.

Faculty will fill out evaluations of each seminar which are returned to the presenter within a few days of the seminar. Comments on these forms are intended to be constructive in nature and are never intended to be judgmental. Remember that, regardless of your future career, presenting to peers will likely be one of your responsibilities, and part of the purpose of the residency is to teach you how to deliver an effective presentation.

Seminar scheduling is done by the chair of the house officer advisory committee. Any changes in the scheduling of seminars must be approved by him/her.

The CVM community looks forward to resident presentations and they are an integral component of resident training. With the exception of special or extenuating circumstances, **attendance by the residents at all seminars is a requirement of the program.** Attending seminars also counts as CE credits in the state of Kansas.

Phase I Exam Study

Residents will first be eligible to take the Phase I Exam in the spring of the second year. To prepare for this exam, a structured weekly study session will take place on Wednesday mornings from 7:30am-8:30am. A schedule of assigned readings for these sessions that is derived from the ACVS Phase I Reading List will be made available. Each Thursday, residents will meet with one of the surgical faculty to discuss the assigned reading for that week (typically ~50 pages of material). The format of each rounds session generally takes the form of the faculty member discussing the key important points from the readings. This is a good time to seek clarification on challenging topics, as well as to assess prioritization of the most important aspects of the reading.

First year residents and second year residents prior to passing Phase I are expected to attend these sessions. Late second and third year residents do not typically attend, but are expected to undergo a regimen of self-study (see below) to prepare them for the Phase II exam.

Weekly Phase I study should be recorded in the Resident Training Log (as Textbook Review).

Case Rounds

Small animal surgical case rounds are held every Thursday at 7:30-8:30am. All surgical residents present rounds on a rotating basis. The schedule for case rounds is determined cooperatively by the residents. Ideally, the round schedule will be determined at the beginning of each academic year and any schedule changes will be worked out by the residents involved. **While case rounds are occasionally cancelled due to absence of multiple residents or faculty, this should not be a common occurrence. Requests to cancel rounds should be made to all surgical faculty. If granted, all faculty, residents, and interns must be notified in advance that rounds will not be held.**

The resident who is in charge of presenting rounds on a given week is responsible for creating case presentations worthy of rounds discussion. The remaining residents and interns that attend case rounds will be quizzed by the faculty on the cases that are being presented.

Typically, between one to four cases will be discussed during the hour. The presentation should be presented in a PowerPoint format and should start with signalment and pertinent history and physical exam. Additional slides can include minimum database values (if pertinent), relevant bloodwork, diagnostic imaging and pre-, intra- and post-op photographs. Many residents will also include questions on anatomy, physiology or surgical theory within their presentations on which to quiz other residents and interns. Ideally, cases presented should have adequate follow-up (e.g. 8 week post-op radiographs for most fracture cases). A discussion of unique aspects of the case can also be included. Remember to leave room for the faculty to ask questions of the other house officers. We typically like a place after the history and physical exam to ask about the initial plan, a place after diagnostics to ask about differentials and surgical plan, and especially a place after radiographs to ask about treatment strategies. The presenting resident is often asked in depth questions about the case, as well.

Interns are also present at the rounds session and it is appropriate to include at least one case per rounds session that is geared more towards an intern. This is especially true during the beginning of a new intern class. Examples of intern cases include standard GDV, hemoabdomen, IVDD, initial fracture management, etc. If you have an intern case, please announce this when beginning the case.

When NOT presenting, residents are expected to participate in rounds by answering faculty questions. Typically, residents (+/- interns) will alternate cases with one resident answering all questions about one case and another resident taking the next case. However, you may be asked questions about any case. The resident who is in the 'hot seat' for a case is expected to discuss an initial triage plan (if warranted), diagnostic plan, treatment plan, and interpret any radiographs and bloodwork. The faculty may ask specific questions, but it is appropriate to volunteer this basic information without prompting.

The purpose of these rounds is to help you identify the areas in which you should focus your self-study, and as such, faculty will intentionally push you to, and beyond, the limit of your knowledge. It is understood that you will not always be able to answer every question asked. The inability to answer questions in case rounds does not equate to inadequacy as a resident and, if the faculty are truly concerned about a lack of knowledge, we will expressly state this to you. Case rounds also frequently result in good discussion amongst faculty members about different opinions on case management. Please use these discussions to learn the different strategies that can be employed to solve a single problem.

Weekly case rounds should be recorded in the Resident Training Log.

Journal Club

Small animal journal club is held every Friday at 7:30-8:30am. The 'Journal Club This Week' Dropbox folder is where journal articles for upcoming weeks are stored. Typically 5-8 articles are

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covered a week. Residents are expected to come to journal club having read the assigned articles and ready to discuss them. Discussions are led by residents with each resident discussing one or more of the journal articles. Residents will briefly summarize the article, and discuss strengths and weaknesses of the article or study. Depending on the article, there may or may not be further discussion about the topic presented.

Compiling and organizing journal club is the responsibility of the residents. Journals should be compiled at least one week prior to journal club to allow time for everyone to read the articles. Articles are typically selected from the journals in the ACVS Phase II Reading List. **While journal club is occasionally cancelled due to absence of multiple residents or faculty, this should not be a common occurrence. Requests to cancel journal club should be made to all surgical faculty. If granted, all faculty and residents must be notified in advance that rounds will not be held.**

Weekly journal club should be recorded in the Resident Training Log (as Journal Review).

Self-Study

It is anticipated that, in addition to the above structured study, residents will also conduct self-study on a continual basis. The format of this self-study is at the discretion of each resident. Individualized study based on in hospital cases or topics brought up during structured rounds are a starting point, but will likely not be sufficient to cover the breadth of the material that you need to know for your credentialing exams. In the past, group study sessions covering one or more chapters of textbooks from the Phase II Reading Lists were held by residents on a weekly basis.

Didactic Teaching

The major component of the residents teaching responsibility will be clinical teaching of the fourth year veterinary students (as described above). However, each resident will be assigned at least one lecture in the third year Veterinary Surgery I class to provide exposure to large-group teaching methods. This lecture will be assigned by the course coordinator and material will be provided. We recommend modifying this lecture to meet your preferred style and **discussing your plans with your resident advisor prior** to the first time you give the lecture.

There are additional opportunities for teaching if desired. It is possible to be assigned additional lectures in the Veterinary Surgery I class, and there are also several student clubs that hold lunch or after-hours meetings in which lectures can be delivered. Residents who are interested in pursuing more teaching opportunities should speak to their advisor.

Resident Evaluations

Every six months, as mandated by ACVS, the resident and advisor will formally meet to discuss performance and progress over the preceding semester. The purpose of these reviews is to outline progress within the program. They are designed to be an open discussion and aid communication between residents and the faculty. Comments made are meant to be

constructive suggestions to guide improvement. This evaluation is also meant to identify as early as possible those residents who need additional help in order to successfully complete their programs. An online evaluation form is also a component of the ACVS case log and will be completed in February and August of each year.

Informal meetings are optional, but we encourage residents to arrange a time to talk with their resident advisor about any concerns or questions as they progress through the program.

Residency Certificate

Upon successful completion of all residency program requirements, the resident will be awarded a Residency Certificate denoting successful completion of the surgical residency.

ACVS PROGRAM HIGHLIGHTS

The ACVS publishes a Residency Standards and Requirements document yearly that functions as an in-depth resource of what is required for successful completion of a small animal surgical residency. The following summary highlights ACVS requirements and provides suggestions and thoughts on how to ease the process. The current Residency Standards and Requirements document should be consulted for details that may differ from the following summary:

Faculty Roles

- Program Director - One of the faculty members serves as the ACVS Program Director, and is responsible for ensuring that all residents are registered appropriately and are making satisfactory progress through the program.
- Resident advisor - One of the ACVS Diplomates will be assigned as resident advisor within the first few weeks of a resident's time at KSU. Your resident advisor is your primary resource person for questions relating to your ACVS Program. Each resident will meet with their advisor formally at least 1-2 times a year to ensure that ACVS requirements are being met. The advisor will electronically sign off on the ACVS case log as well. Resident advisors may be reassigned at the request of the resident and current advisor and with the concurrence of the Program Director.
- Major Professor - The resident advisor may also serve as research mentor and major professor for the Master's program, or a separate faculty member can serve in this capacity. The major professor should be knowledgeable in the area of research in which the resident is focusing. The resident and primary resident advisor discuss early in the residency who should fill this role.

Publications

Residents must complete a significant research or clinical investigative project during their residency. (The research project must be completed before the residency certificate is awarded).

Based on this project, residents are expected to write a master's thesis as part of their Master's program (see below). In addition, ACVS requires that residents write and submit to a professional refereed journal one manuscript based on research compiled or performed during (or occasionally before) the residency. These research projects can be the same or different investigations.

ACVS requirements indicate that a manuscript on which the resident is first author must be **accepted** by an approved publication. Due to the potentially protracted review process between acceptance and publication, we strongly encourage residents without a prior publication eligible for ACVS credentialing purposes, to plan a project early in the first year with the goal of finishing data collection and preparing the manuscript no later than the end of the second year. The research manuscript will ideally be submitted for publication 6 months prior to the completion of the residency program, and the Master's thesis defense held prior to the end of the third year.

The ACVS requires proof of publication as part of the Credentials Application in order to be able to apply for the Phase II exam. Residents who have a publication eligible for AVCS credentialing purposes are encouraged to submit their publication for early review on or before August 1 of their 1st or 2nd year. This can ensure that the publication meets all the criteria and is accepted by the ACVS with time remaining to address issues if the article is not accepted.

ACVS Log

The ACVS Resident Training log is an online logbook to track most of your ACVS requirements. It must be completed by the end of the residency in order for you to be eligible to take the Phase II exam. A detailed overview of the ACVS case log can be found in the Residency Standards and Requirements. Following are a list of suggestions for managing the log.

The ACVS log is submitted for review by the ACVS Residency Credentialing Committee (RCC) in August and February of every year. We recommend keeping up with the case log and adding new material to it on a weekly or biweekly basis. Don't wait until the last minute!

The RCC will approve or disapprove of case weeks as well as logged surgical cases. The resident will be notified of disapproved weeks or cases and can resubmit them for evaluation at the next review period. To minimize the number of disapproved weeks/cases and to ensure that the log is completed by the end of the residency, make sure to follow the following rules:

Make sure that when logging **cases** the criteria within each **core curricula category** are being met; make sure that the number of **supervised** cases is being met and not just the total number of cases. Supervised cases are those in which an ACVS diplomate is present for at least 25% of the surgery, whether scrubbed in or not. **ECVS diplomates can supervise cases only if they are also the supervisor listed for the surgical week during which the case was logged; otherwise these cases should be listed as unsupervised.** Make sure the overall case numbers are on track to meet 400 cases at the end of your residency.

- In general, expect to meet 1/3 or more of your core curricula and overall requirements each year. If you are concerned about your progress in any category, discuss this with your resident advisor.
- ACVS does not typically accept cases that are logged during non-clinical weeks (research, and specialty service weeks) unless they are an emergency. If you submit a non-emergent case on a non-clinical week, both the case and week may be rejected. If this occurs you will have to justify why it should be accepted. Typically cases will be accepted if they are unique or rare cases needed for completing your case logs.
- Only one procedure can be logged per patient per day. If a patient has multiple different procedures from different core curricula categories, pick the procedure that matches the category you need more cases in.
- No more than two residents may log a single surgical case.
- Be aware of the 'minor' procedures that do not qualify as a surgical case per ACVS standards (includes implant removals, tracheal stents, and elective gonadectomies). For mass removals or wound closures, submit only those that are large, in challenging areas, and/or require reconstructive techniques.
- Make sure to indicate the **side** a procedure was performed on (for limbs, ears, laryngeal tie-backs etc.). Make sure to indicate the **results of histopathology and/or culture** for masses or organs removed from the body.

Make sure to log **activity weeks** correctly. At the end of the residency 156 weeks should be logged.

- The ACVS requirements include 110 weeks of surgical training. Make sure **all** surgical rotation weeks are logged as **supervised** by an ACVS diplomate (up to 33 of these 110 weeks can be supervised by an ECVS diplomate).
- Eighteen weeks are required to be research weeks. Make sure to log these as 'Research/Manuscript' weeks and assign a supervisor (resident advisor is usually appropriate).
- Nine weeks are required to be on specialty rotations (see below). These weeks should be logged as 'Other Specialty Training' with the appropriate specialist named as supervisor. Make sure to also log specialty services under the separate **Specialty Services** tab. Log these as soon as possible, as it may take longer for other specialty supervisors to approve these weeks.
- The remainder 19 weeks of training is dependent on the needs of the resident with consent from the resident advisor, program director, and section head and may include additional time on clinics, graduate degree studies, CE, vacation, external veterinary or human surgery rotations, or other non-surgical training. Make sure to log these weeks appropriately.

Make sure to log seminars correctly. Seminars with similar titles or titled as a case report, will not be accepted. At least 10 people must be in attendance and include an ACVS diplomate.

Log **Educational Events** to verify attendance at least bi-weekly. House officer seminars, journal club, Phase I exam study, and case rounds are all eligible to be logged. ACVS requires detailed

information for these rounds including the signalment and disease of patients discussed, name of journal articles, and title/chapters of books read.

Specialty service rotations

ACVS requires residents to complete several specialty rotations outside of surgery (see the Residency Standards and Requirements for specific objectives). These include the following:

- Anesthesia: Two weeks of anesthesia service must be supervised by a boarded anesthesiologist. This is typically performed at KSU. While the ACVS only requires one of these be a continuous week, we typically assign two weeks in a row. **In addition to logging the weeks, 7 cases of ASA class 2 or higher that the resident directly participated in all facets of must be logged** (including at least two patients in ASA class 3 or higher). This is done in the 'Specialty Services' portion of the log.
- Diagnostic Imaging: Two weeks of radiology service must be supervised by a boarded radiologist. This is typically performed at KSU. While the ACVS only requires one of these be a continuous week, we typically assign two weeks in a row.
- Clinical and Anatomic Pathology: One week of clinical pathology and one week of anatomic pathology service must each be supervised by a boarded pathologist. This is typically performed at KSU. **In addition to logging the weeks, two cases must be logged to document participation in ALL stages of management, including tissue collection, sectioning, and histopathologic interpretation.**
- Internal Medicine/Emergency and Critical Care: Three weeks of internal medicine, neurology, cardiology, oncology or emergency critical care (or a combination of these) service must be supervised by an internal medicine or ECC diplomate. While internal medicine and oncology can be completed at KSU, some residents choose to perform critical care or neurology as an external rotation. If this option is chosen, make sure to consult with the section head **in advance** and fill out the necessary documentation for ACVS. **Important:** If you take a neurology rotation to fulfill this requirement you **cannot** log any neurosurgical cases during that week or weeks.

Important Dates/Milestones for ACVS

Year 1

- Within 30 days of start: File Program Director's Statement, Statement of Compliance, and Registration of Resident Advisor forms, and submit the matriculation fee to ACVS. **Make sure to keep copies of these documents!** The KSU ACVS Program Director will help ensure these are submitted.
- Begin to log activity into the ACVS log.
- February 1: Deadline for log material for first semi-annual review.

Year 2

- August 1: Deadline for log material for second semi-annual review.

- Approximately November 10: Residents should receive e-mail notification of eligibility to apply for the Phase I exam by no later than this date.
- Approximately December 3: Last day to apply online and submit the exam fee for the Phase I exam.
- Approximately December 21: Residents should receive e-mail notification of authorizing them to take the Phase I exam by no later than this date. After receiving this e-mail, the resident can schedule the exam at a Pearson VUE testing center.
- February 1: Deadline for log material for third semi-annual review.
- Approximately April 8: Phase I examination.

Year 3

- August 1: Deadline for log material for fourth semi-annual review.
- Before February 1: Make sure to complete all requirements in the resident training log as well as have an ACVS eligible publication.
- February 1: Deadline for log material for third semi-annual review.
- June to July: Begin collecting materials for the Credentials Application, including proof of publication, three letters of reference forms, and any additional documentation needed.
- By the last day of residency: make sure the resident training log is 100% complete.

After the residency

- ~1 day after residency: coordinate with the resident advisor and program director to finalize your resident training log. Make sure to follow the instructions provided by ACVS and that a confirmation email from ACVS is received at the end of the process.
- Prior to August 1: complete and submit the online Credentials application, which requires letters of reference, the email from ACVS noted above, a screenshot of the Program History screen, etc. as well as the exam application fee.
- Approximately October 1: Residents should receive e-mail notification of eligibility to apply for the Phase II exam by no later than this date.
- October 1- November 21: Register for the ACVS Phase II exam during this period and pay the examination fee. Confirmation should be emailed within 3 weeks. Do not forget to make travel and hotel accommodations.
- Approximately February 5 and 6: Phase II examination

MASTERS PROGRAM

A Master of Science (MS) degree in Veterinary Biomedical Sciences is obtained concurrently with residency training and is required for residents who do not have a graduate degree prior to their residency. This will entail completion of Master's level coursework, a research project, and a Master's thesis derived from the project. The Master's research project can be the same project used to generate a manuscript for ACVS credentialing purposes or can be a separate project.

Enrollment

All residents will need to enroll in the Graduate School before the start of the residency. There is an online application that will need to be completed that can be found at <https://www.applyweb.com/kstateg/index.ftl>. The application will require transcripts from your prior college(s), a personal statement, GRE scores (optional) and three letters of recommendation (which can be from KSU surgical faculty). The application fee and all course fees will be paid by KSU. Please contact a representative of the business office with any invoices that you receive during your residency related to graduate fees.

Coursework

Master's students are required to have a minimum of 30 hours of coursework in order to be awarded a Master's degree.

- Twelve hours of coursework from your DVM degree will be applicable to count towards Master's credit. Clinical Sciences Seminar (CS 859), is a 1 credit hour course that entails participation in and attendance of House Officer seminars and can be enrolled in for up to two semesters.
- Thesis Research/Clinical Sciences (CS 899) can be enrolled in for up to 8 credit hours over the course of your study (IMPORTANT: You **must** be enrolled in the class for at least 1 credit hour the semester that you are defending your thesis, so make sure to plan ahead).
- You **must** take at least 3 hours of a statistics course (typically Statistics for the Natural Sciences – STAT 703).
- CS 884, 885, 886 and 887 are 1 hour credit classes that should be enrolled in and give credit for the Phase I Exam Study that you will participate in during the first two years of the residency.
- The remaining one or more credit hours are typically selected from those offered in the clinical sciences department. A list of options is available at this link: <https://catalog.k-state.edu/content.php?catoid=45&navoid=8155>
- Try to pick courses that are taught weekly in the mornings or are taught online so as not to interfere with clinical responsibilities. Enrollment is done online through K SIS (<https://ksis.k-state.edu/>). Make sure you enroll for your classes each semester.
- The cost of tuition is typically covered by the department. You will need to fill out a form provided by Nelwyn Cook each semester that should be emailed to you. If you receive e-mails that you still owe tuition money, email Nelwyn Cook and she should take care of it.

Paperwork

- A Master's Program of Study must be submitted before the second semester is complete or 9 hours of coursework is completed. This document includes planned coursework over the full 3-year period as well as the names and signatures of the masters committee (which includes a major professor and at least two supervisory committee members). It is advisable to talk with the resident advisor early in the first year about the master's project and masters committee as well as to design a program of study. Forms and information are available at: <https://www.k-state.edu/grad/students/masters/index.html>

- Once submitted and approved, any changes to the program of study or committee require a change form to be submitted and approved.
- Yearly progress reports will also have to be completed and will be sent to you by your major professor.

Thesis

There is a specific electronic template that must be utilized (<https://www.k-state.edu/grad/etdr/>). It is best to download this template and write the thesis in the template, rather than trying to format it afterwards.

Final Steps

- Once the advisory committee has approved the thesis **and** other coursework requirements have been completed, a signed Approval to Schedule Final Examination form must be submitted **at least 10 days prior** to the scheduled defense. This typically occurs in Spring or Summer of the third year (**You must be enrolled in at least 1 hour of coursework, typically Thesis Research/Clinical Sciences - CS 899 the semester of the defense**).
- The defense will be a one hour presentation with attendance of faculty, staff, and students (similar to house officer seminars). Following this there will be a question and answer session with the advisory committee. Residents will be informed whether they have passed the defense within 1-2 days.
- Following a successful defense, the graduation application (on KSIS), the final examination ballot (emailed after completion of the defense), and an exit survey must be completed. This is found at the following link under – Master’s student forms (<https://www.k-state.edu/grad/academics/forms/exsurvey.html>)
- The completed thesis must also be submitted online: (<https://www.k-state.edu/grad/etdr/>).

MISCELLANEOUS TIPS

Important faculty roles

Surgery section head – Dr. Renberg

ACVS Program Director – Dr. Upchurch

Hospital Director – Dr. Davis

Chair of Department of Clinical Sciences – Dr. Davis

House Officer Advisory Committee - Walter Renberg (Chair), Ken Harkin, Matt Miesner, Katie Delph Miller, David Rankin

Veterinary Surgery I course coordinator – Dr. Klocke

Departmental Funds

The department of clinical sciences typically has funds available to residents to cover costs related to resident education. Eligible expenses include attendance at national meetings, continuing education courses, and textbook/equipment purchases (though any textbooks/equipment remain the property of the college after your residency ends). The exact amount and availability of departmental funds changes on a yearly basis. To find out more information, contact the business office staff (Kate Drew, Amy Elswick, or Nelwyn Cook). There are additional funds available to pay for resident travel, so if you attend a conference and your resident funds are not enough, ask the surgery section head about additional funding options.

Conferences/Courses

Residents are expected to attend at least one CE course or conference each year. Traditionally the third year resident attends the ACVS Surgery Summit in October. For the first two years, there are typically several options. The following is a non-inclusive list of options:

- AO Courses (Principles of Fracture Management, Masters Course of Advanced Osteotomy, Minimally Invasive Traumatology, etc.) – offered multiple times a year. **We strongly recommend that first year residents take a Fall ‘Principles’ course during their first year.**
- University of Georgia Laparoscopy Course – typically offered in the Fall
- Colorado State University Laparoscopy Courses (basic and advanced) – typically offered multiple times a year
- Society of Veterinary Soft Tissue Surgeons annual meeting - typically in Summer
- Veterinary Orthopedic Society conference – typically in Spring

Numerous other courses and conferences exist (see <https://www.acvs.org/other-ce-meetings> for a list of possibilities). If a resident wishes to present a poster or abstract at a national meeting, this must be approved by the resident advisor and surgical faculty prior to registering for the conference.

Tips from past residents

As a graduate student, you get mostly free health care provided through Lafene Health Center on campus. You also have free access to the Peters Rec Center and facilities during the Spring and Fall semesters.

Different surgeons have different ways of doing things (table set up, surgical steps, post-operative protocol etc.).

In regards to radiology, make sure you or the faculty speak directly to either a radiology resident or faculty member regarding any imaging you plan beyond standard radiographs or

ultrasound (e.g. CT, MRI, fluoroscopic studies, etc.). It keeps communication open and makes radiology happy, it also helps determine what the most appropriate study is for the problem being investigated

If you have a patient that may need an intra-operative blood transfusion, check to ensure there is blood available **the morning of** your surgery.

You are responsible for having everyone on-call called in during an after-hours procedure (surgery and anesthesia students, OR technician, anesthesia on call technician or resident, and radiologist on call [if needed]). You can delegate some of this to the intern, but it is a good idea to personally call the anesthesia and radiology on-call techs/residents. Figure out how far away these on call techs live to allow for coordination of people after hours. People get cranky in the middle of the night when they are sitting around waiting.

Always triple check with students that postoperative radiographs were requested correctly with the correct date.

In regards to pharmacy, controlled substances can only be ordered for 24 hours at a time. They are removed from Cubex most days around 10am. So, don't assume that there will be leftover medications for your patients past that time, even if a student tells you they have more doses available.

Recommendations for ACVS logs:

- Make sure to list the laterality of any procedure that could be done on either side (e.g. hemilaminectomy, TPLO, adrenalectomy etc.)
- For elective procedures, the diagnosis should be healthy animal/at-risk breed or something similar. Do NOT put procedures in the diagnosis field.
- We recommend keeping your own surgical case log, but you do have access to the one kept by the technicians. It is available on the V: drive under SurgicalSupportServices >>> LOGS