

**INFORMATION FOR NEW GRADUATE STUDENT/RESIDENTS  
MEDICAL ONCOLOGY  
2013-2014**

**I. Description of the program**

- A. The graduate student/residency program is a three year program which is directed towards the development of expertise and competence in the specialty of medical oncology (clinical and basic science) and the building of a foundation for academic pursuits such as teaching, writing and clinical research.
- B. This graduate student/residency program gives a high priority to preparation for board certification by the American College of Veterinary Internal Medicine (ACVIM). It is expected that all graduate student/residents will take the General Examination of the ACVIM in the spring after the second year of their program and the Certifying Examination at the end of their third year.
- C. The major emphasis of the graduate student/residency program is clinical training. Exposure to a wide variety of clinical case material and primary case management of routine cases, emergency cases and referrals will enable the graduate student/resident to become more proficient in diagnostic and therapeutic methods in medical oncology. Access to veterinary and medical libraries and consultation with specialists in radiation oncology, internal medicine, ophthalmology, surgery, radiology, clinical pathology, pathology, clinical pharmacology, immunology and microbiology will enable the graduate student/resident to improve and update his/her knowledge of medicine and diseases as cases are managed through the clinic of the Veterinary Medical Centre.
- D. In addition to the clinical training, each graduate student/resident must enrol in the College of Graduate Studies and Research and work towards the Master of Veterinary Science (non-thesis) degree. This involves coursework and a research project as outlined below.

**II. Clinical Education/Clinical duties**

- A. The major part of the graduate student/residency program is participation in the clinical service and teaching program in the clinic.
- B. **Receiving**
  - 1. The graduate student/resident will have a busy receiving schedule and will see scheduled appointments and emergency cases on a daily basis.
  - 2. The graduate student/resident will participate in the teaching of third and fourth year students in the clinic and in helping to train the interns.
  - 3. The graduate student/resident will be assigned to see scheduled appointments in the morning. These appointments may be new cases or recheck/chemotherapy appointments. Work-ups for new cases will be completed in the afternoon of the same day or the following day. They

will also be assigned to answer client telephone calls or calls from referring veterinarians.

### C. Case Management

1. Residents will have their own cases and will be given the opportunity to manage them independently as they feel appropriate. Discussion of all cases with faculty is encouraged and considered to be a very important part of the training program.
2. Resident/Faculty rounds are held every morning. If students are on rotation they will be present for these rounds. These involve discussion of every hospitalized case, serving as an ideal forum for interaction and discussion of cases. Informal questions and discussion of cases are also encouraged anytime.

### D. Referrals

1. Graduate Student/Residents will be encouraged to manage most of the Oncology referral cases at the WCVM. When cases are transferred to the Oncology service from the on-call after-hours clinician, residents will take all of the cases that are referrals. Faculty may ask a graduate student/resident to see a referral case which they feel has potential as a good learning case even if they are not scheduled for receiving.
2. When a graduate student/resident receives a referral case through emergency or scheduled receiving, it is expected that they will:
  - a. call the referring veterinarian on the day of admission to let them know the case has arrived and the general diagnostic plan for the workup. At this time they should tell the referring veterinarian who the supervising Oncology faculty member is that will be overseeing the case.
  - b. consult with faculty clinician frequently regarding the diagnosis and management of the case while it is in the hospital and as test results come back. This consultation is mandatory on all referral cases in order to maximize your learning and to ensure high level care is being provided for the patient/client.
  - c. send a copy of the discharge notes from the case to the referring veterinarian (by FAX or email) at the time of patient discharge . This can now be done easily in the Discharge Note menu.
  - d. call the referring veterinarian at the first opportunity when you are likely to reach them in the event of the patient's death
  - e. Prepare a referral letter to send to the vet within 1 week of hospital discharge or patient death. Letters should include an in-depth description of the management of the case so that the referring veterinarian can learn from their referral. Often pertinent laboratory data is attached. These letters must be approved and

co-signed by a supervising faculty member - after they are locked by the faculty member they can be FAXed or emailed to the referring veterinarian electronically. Take the time to write concise but informative letters for referral letters to maximize your learning from these cases. Referral letters also serve as a good summary for your case binder documenting the cases you have seen and managed.

#### **E. Teaching Allowances**

1. The supervising oncology faculty member on-clinics may sometimes agree to "write off" part of a bill on a graduate student's case by applying a teaching allowance. This privilege will normally be reserved for extraordinary cases which provide a unique learning experience for the graduate student/resident and/or students. Often this involves performing a test that is of academic interest in understanding the pathophysiology of a case but would not necessarily change your management of the case.

#### **F. Evaluation of Clinical Performance**

1. The faculty advisor/supervisor of the graduate student/resident or the Department Head will solicit evaluations of the graduate student/resident's performance from clinicians within the Small Animal Clinic in November and May of each year of their residency (total 6 evaluations). A summary of the comments and an overall evaluation will be provided to the graduate student/resident. The objective of these evaluations is to provide the graduate student/resident with feedback and constructive suggestions for improvement.
2. If a faculty or staff member has a problem with a medicine graduate student/resident they may express their concern directly to the graduate student/resident or to the graduate student/resident's faculty supervisor who will make the graduate student/resident aware of the problem and discuss options for resolving the conflict.

#### **G. VMC Manual**

1. A VMC manual is available which outlines the daily procedures and protocols in the clinic. The graduate student/resident should be familiar with this manual.

#### **H. 580 Rotation**

1. The graduate student/resident is an integral part of the Oncology team which trains fourth year students in the clinics (580 Oncology rotation).
2. The 580 handout outlines the objectives and protocols of the student rotation through the Oncology (combined medical and radiation) block.
3. Oncology student rounds are held every morning. Graduate students/residents are expected to attend and participate in these rounds daily. Once or twice a week, the resident will be assigned to direct the

student rounds discussions. When assigned, the graduate student/resident should discuss the case with the student and help them to organize their approach to the case on the day prior to presentation. The graduate student/resident should then help to direct rounds and encourage case discussions.

4. Students on the Oncology rotation are given a quiz on topics covered in rounds and possibly on 1 to 2 selected journal articles assigned to students to read during the 2 week rotation. It is the responsibility of the first year graduate student/resident to make up these quizzes and go over them with the students.
5. A graduate student/resident may be asked to present a mystery case to the students and to lead the rounds discussion.
6. Graduate Student/Residents are expected to play an important role in the evaluation of student performance (grading) on all 580 rotations that they participate in, even if they were only on -clinics for 1 of the 2 weeks of the rotation.
7. All Graduate Student/Residents will take part in assessing clinical skills of 4<sup>th</sup> year students through graded OSCEs (objective structured clinical examinations) on history taking, physical examination, diagnostic approach and discharge notes. Completed OSCE grade sheets will be turned in to the Department office where a score will be recorded, and they will then be sent upstairs to the office of the Associate Dean Academic.

#### **I. Licensing requirements**

1. All graduate student/residents must register with the Saskatchewan Veterinary Medical Association (SVMA) and pay the fees required to obtain a license to practice in the province of Saskatchewan. Attendance at a licensing seminar which outlines the rules and regulations of the provincial association is required by the SVMA.

#### **III. Coursework - Graduate M.V.Sc.**

- A. Each graduate student/resident must enrol in the Master of Veterinary Science (non thesis) Degree program. The requirements for the degree include the three year clinical program, graduate courses worth 30 credits plus successful completion of a research project (VSAC 992). Application for admission to the College of Graduate Studies and Research should be made immediately after the individual successfully matches to the WCVVM program.
- B. The graduate student/resident must register for courses in early September, so consultation with faculty and other graduate students regarding which courses to take should occur early in the program.
- C. Every Medical Oncology graduate student/resident in the M.Vet.Sc. program must enrol in:

**Project (VSAC 992)**- All students in the non-thesis program must register for this course each term (Fall, Spring, Summer) during each year of their program, starting in the first Fall session of their program ( Fall 2013).

**Advanced Veterinary Internal Medicine (VSAC 800.6)** - 6 credits, full year course, offered every 3<sup>rd</sup> year (to be offered in 2013-2014). *This is a systems-based physiology/pathophysiology course.*

**Tumor Biology (VSAC Special Topic)** Discussion of current aspects of tumor biology including tumor metastasis, signal transduction, oncogenes and tumor suppressor genes, tumor immunology and tumor markers. Papers from the current scientific literature in these areas will be analyzed.

**Advanced Medical Imaging-Small Animals (VSAC 865.3)** half-year, 3 credits. As well, every Oncology resident must complete 2 weeks of clinical experience in the medical imaging area after taking the lecture course (to be arranged during their off clinic time).

**Advanced Clinical Veterinary Medicine (VSAC 873.6)** - 6 credits given over 3 years for clinical work. Register one time (in final year).

**Friday morning seminars (VSAC 990)** - Register for this non-credit course each Fall and Spring. Residents will give two lectures each academic year in this course and will attend as many of the lectures as possible. The participation of residents in providing constructive criticism to other speakers is mandatory.

Two mandatory on-line courses, **Introduction to Ethics and Integrity (GSR 960)** and **Ethics and Integrity in Animal Research (GSR 962)**, must be taken through the University during your first term. Students register for these Ethics courses through PAWS along with their other courses and will receive a CR on their transcript for the courses once they have been completed.

- D. Each Oncology graduate student/resident (M.Vet.Sc. program) should register in a course which deals with experimental design and statistics such as:

Clinical Trial Design and Analysis (VLAC 781.3) 3 credits, half-year offered every 2<sup>nd</sup> year (to be offered in 2013-2014). This is a very relevant course with a heavy workload but it is preferred by most veterinary medicine graduate students/residents.

Other options:

Design and Analysis of Experiments (STAT 345.3): has a basic stats course as a prerequisite (STAT 242.3 or STAT 245.3).

Biostatistics 1 (CHEP805.3): has a basic stats course as a prerequisite (STAT 242.3 or STAT 245.3).

- E. Additional courses should be selected which suit the interests or needs of the graduate student/resident. These may be selected from courses offered within the WCVM or other Colleges at the University of Saskatchewan. Some of the courses taken by medicine graduate students in the past have included:

- Veterinary Critical Care (VSAC 869.6) full year, 6 credits
  - Clinical Hematology (VTPA 810.3)
  - Pharmacokinetics and Biopharmaceutics (PHARM 307.2)
  - Immunopathogenesis of Microbial Infections (MCIM 823.3)
  - DNA Repair and Mutagenesis (MCIM 820.3)
  - Principles of Immunology (MCIM 821.3)
- F. In some cases in-depth study of a special topic in oncology or a directed review of selected veterinary literature may be undertaken under the direction of faculty members and taken for credit for 1/2 year (VSAC 898.3, 3 credits) or a full year (VSAC 898.6, 6 credits).
- G. One special topics course (2 to 4 weeks intensive) may also be taken away from the WCVM (usually at another school) if a curriculum, supervising faculty and grading scheme is approved by the committee.
- H. The graduate student/resident must obtain a grade of at least 60% in each course and a weighted average of at least 70% in the program.
- I. The graduate student/resident should let their supervisor know their class schedule as soon as they know it so that the receiving schedule can be manipulated to avoid conflicts.
- J. Graduate students/residents interested in an academic career are encouraged to attend seminars designed to improve their clinical and classroom teaching skills. A variety of useful seminars are available through the Teaching and Learning Centre and through the Department of Medical Education on campus.

#### **IV. Research Project**

- A. The graduate student/resident should discuss their interests with faculty in the Department and try to discover some areas of mutual interest which could lead to a research project. The graduate student/resident should attempt to identify a potential research project within the first month or two at the WCVM (by September 1 whenever possible).
- B. Research projects should be well designed and realistic, so that publishable results can be obtained within an 18 month period of time. Time taken by the research project should approximate the time taken in and out of a regular 6 credit graduate course.
- C. When a potential project has been identified and a faculty member has agreed to supervise the project, the graduate student/resident advisory committee will be formed. This consists of the faculty supervisor, the Department Head and at least one other Small Animal Clinical Sciences faculty member or a faculty member from another Department.
- D. The advisory committee will meet with the graduate student/resident and discuss their proposed program, including coursework and the proposed research project. Committee meetings will be scheduled as needed during the year to review the graduate student/resident's progress in courses and the project. The

committee will meet at least twice yearly.

- E. The graduate student/resident will research the literature and design their research project under the guidance of the project supervisor. The graduate student/resident will write a research grant proposal together with the faculty supervisor for submission to a research granting agency.
- F. If possible, the graduate student/resident should have completed all data collection by June of the 2nd year of the graduate student/residency program. This will allow time for analyzing the data, writing the paper and preparing the presentation
- G. A research paper written in a form acceptable for submission to a scientific journal and approved by the advisory committee is a requirement for the degree. The completed paper should be in the hands of the committee before March 1 of the third year of the program. Whenever possible, graduate student/residents should attempt to complete their papers well ahead of this deadline. Editorial collaboration with co-authors is expected before the completed paper is turned into the committee.
- H. Graduate Student/Residents are encouraged to submit their research results as an abstract for presentation at the American College of Veterinary Internal Medicine Forum.
- I. The graduate student/resident will present their project results in a research seminar to the faculty and students of the WCVI before April 15<sup>th</sup> of the final year of their program. On that same day they will normally defend their project for their committee. This involves approval of the finished (revised) research paper by the committee and the demonstration of satisfactory knowledge of the project and all areas of internal medicine as determined through oral examination of the graduate student/resident by committee members.

## V. Other Items of Importance

### A. Publications

1. The graduate student/resident is required to write at least one clinical case report, review article or retrospective study for publication, to be submitted before May of their second year of their graduate student/residency program. This may be done in collaboration with a faculty member as long as the graduate student/resident is the primary author. All graduate student/residents must complete this requirement in order to successfully complete their program.
2. Graduate Student/Residents are also expected to submit for publication the paper arising from their research. This paper is expected to be publication-ready at the time of project presentation and defense (before April 15<sup>th</sup> of the final year of the program).
3. The graduate student will be expected to present their research at the Veterinary Cancer Society Annual Meeting either in the form of an oral abstract or poster.

4. The graduate student will be given the opportunity to present their research in the form of a poster during the WCVM Graduate Student Poster Day.
5. The graduate student will also be given the opportunity to present their research in the form of a poster during Saskatchewan Cancer Agency's Cancer Research Day that occurs every December.
6. Graduate Student/Residents will also be encouraged to submit for publication by the end of their third year a second clinical paper or review article.
7. Graduate Student/Residents should be aware of the current publication requirements of the American College of Veterinary Internal Medicine.

## **B. ACVIM examination and requirements**

1. It is expected that all graduate student/residents will take the General Examination of the American College of Veterinary Internal Medicine at the end of the second year of their program and the Certifying exam near the end of their third year. They should seek the guidance of their supervisor and other faculty in preparation for these examinations.
2. Graduate Student/Residents are responsible for making the appropriate application to the A.C.V.I.M. to register in the program. **This must be done by October 1<sup>st</sup> of the first year of their program.**
3. Graduate Student/Residents are responsible for familiarizing themselves with and satisfying all ACVIM requirements and deadlines.
  - a. Residents should keep a **case log** throughout their residency to document the depth and breadth of their medical oncology experience (it is suggested that the resident maintain a notebook with case stickers and diagnoses as well as a file containing discharge notes or referral letters from all cases they are involved with (as primary clinician or as helper/consultant). This is not a requirement of ACVIM (Oncology) but it is a helpful reference as you continue in your residency and life after residency.
  - b. Residents must spend the equivalent during their 3 year program of 80 hours (2 weeks) in contact with a board certified veterinary pathologist. The required affiliate pathology rotations are as follows: one week (40 hours) of clinical pathology and one week (40 hours) of surgical pathology. It is expected that small animal necropsy rounds will be attended when scheduled. Residents should keep a **Pathology log** (list date, time, case#, diagnosis, and pathologist involved) to document their exposure to cytology, blood smears, chemistries, surgical pathology, etc and contact time with a boarded pathologist. This requirement can also be met by attending weekly cytology/histopathology rounds, however, it is recommended that the 40 hours be spent with direct contact with a pathologist (ie rotation).

c. Residents must receive training in medical imaging from a board certified radiologist equivalent to 80 hours of diagnostic radiology during their 3 year program. At the WCVM you will meet and exceed these requirements by (1) interacting with radiologists about your cases and cases being managed by other clinicians (2) completing the required Advanced Small Animal Radiology course (VSAC 865.3), and (3) completing a required two week clinical experience in the medical imaging area (to be arranged during the resident's off-clinics time sometime after they have taken the VSAC 865.3 course). Residents should keep a **Radiology log** (list date, time, case#, study type, diagnosis, and radiologist involved) to document their exposure to diagnostic radiology and ultrasound and contact time with a boarded radiologist.

d. Once each year in July, each resident must fill out a **Medical Oncology Progress form**. On this form they must document the weeks they have spent that previous year fulfilling the various requirements of the ACVIM (see ACVIM General Information Guide). They will need to indicate:

- the number of weeks they have spent on clinics that year being directly supervised by the DACVIM clinicians at the WCVM

- the number of weeks (if any) they have spent during the year on other WCVM or outside rotations such as Small Animal Internal Medicine, Emergency/Critical Care, Anesthesiology, Pathology, Surgery, Dermatology, Ophthalmology, Clinical Nutrition, Clinical Pharmacology , Radiology, Clinical Pathology, Neurology or Cardiology.

- the number of weeks they have spent doing research, studying, writing or teaching (and teaching preparation).

- the number of hours of logged clinical pathology (Diplomate ACVP) contact

- the number of hours of logged radiology (ACVR) contact

- the number of hours of vacation taken that year

Each resident's residency supervisor will need to review and sign their resident's Resident Annual Progress form and it will need to be forwarded to the Medical Oncology residency ACVIM Program Director (Dr. MacDonald) who will forward all the forms to the ACVIM.

4. Graduate Student/Residents are encouraged to participate in and help organize their own early morning or evening resident rounds to aid in boards preparation. This might include ECG rounds, reviews of appropriate books or journals and clinicopathologic conferences.

### C. Teaching/Seminars

1. All graduate student/residents will be required to give at least two didactic lectures each year the Advanced Veterinary Internal Medicine course is taught.
2. All graduate student/residents will be required to present two Friday morning seminars (VSAC 990) each year to faculty, students, staff and their peers. These seminars are brief (40-45 minutes plus questions) presentations of a case report, a medical condition, a discussion of new topics or treatments or a report on research findings.
3. All graduate student/residents will be expected to assist in the teaching of Oncology laboratories to third year veterinary students.
4. Additional lecturing opportunities in elective courses, student seminars, continuing education programs, the Oncology Elective and the Small Animal Medicine course will be made available to interested graduate student/residents. This will need to be arranged on an individual basis with the faculty member who provides the lectures within the resident's area of interest in the regular undergraduate curriculum

### D. Time Out of Clinics

1. All graduate student/residents are allowed three weeks of vacation time and twelve weeks of academic time per year
2. Academic time is time scheduled out of clinics. It is intended to be used to work on the research project or other academic pursuits such as writing papers for publication. Many second and third year graduate student/residents use some of their academic time to study in preparation for the A.C.V.I.M. examinations.
3. An externship in an area of special interest and approved by the graduate student/resident's committee may be allowed during vacation and/or academic time.
4. Scientific meetings may be attended during vacation time or academic time. Some assistance with funds for travel may be available from the Department in terms of a bursary which you apply for.
5. ***Graduate student/residents should sit down with Faculty early in the year (during July) to plan the scheduling of their academic time and vacation time for the entire year so that there are no conflicts.*** Normally academic time and vacation time will be taken in blocks of 2 to 4 weeks.
6. Scheduling of the resident's clinic duty during Christmas break should also be done early in the year to avoid conflicts.

## **F. Miscellaneous**

1. Stationary supplies are supplied to the graduate student/resident through the Department of Small Animal Clinical Sciences office.
2. The Department secretary will, when possible, provide some assistance in the preparation of papers and teaching-related handouts
3. Computers are also available in the Department and in the Auto-tutorial center and can be used by graduate student/residents for word processing and data entry.
4. Graduate student/residents will be issued a personal number for use of the Xerox machine in the Department. The maximum number allowed for the year is 1500 copies per resident.
5. Each graduate student will be assigned to an office which they will share with one or more other residents within the department.

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