



Veterinary Health Center

MANHATTAN, KANSAS

OFFICIAL PROTOCOL

Oncology Rotation Orientation

Objectives of the Oncology Rotation:

- Obtain the skills to diagnose and treat cancer patients in a private practice setting
 - Become proficient in various techniques including venipuncture, cystocentesis, catheter placement, fine needle aspiration, etc.
 - Understand the principals of chemotherapy and experience chemotherapy administration
 - Understand oncologic emergencies, particularly those associated with chemotherapy administration
 - Discuss and understand basic principles (diagnosis, treatment, prognosis, etc.) associated with tumors commonly encountered in companion animals
- Develop an appreciation for the necessity of research in clinical medicine
 - Become comfortable in researching information about particular tumor types and treatments
 - Appreciate the need to be committed to life-long learning; oncology is a rapidly changing field

Rotation Requirements:

- Students are required to be present at the hospital no later than 8am each morning, sooner if you have an inpatient or early drop-off appointment.
- Orientation: 8:30-9:00am first Monday of the rotation - Oncology room (B107)
- Empathy Rounds with Counselor: 9:00-10:00am first Tuesday – Trotter Hall 112
- Case scenario rounds: 8:00-9:00am first Friday of the rotation – Oncology conference room (E112)
- Pathology rounds: 8:00-9:00am second Friday of the rotation – Multi-headed scope room (K207)
- Radiation rounds: Wednesdays 8:00-8:45am – Oncology conference room (E112)
- Case rounds: 3/3:30pm each afternoon in the oncology room (B107) subject to service caseload.
- Rotation Quiz: 8am Friday-midnight Sunday of the final day/weekend of the rotation
 - The quiz will be on KSOL
 - Topics include common oncologic diseases, case discussions and calculation of m² and chemotherapy dosing
- Chemotherapy summary: Each student is responsible for selecting a chemotherapeutic agent they have encountered during the first week of the rotation and briefly answer each of the following questions (no more than 1 page total):
 - What is the agent's mechanism of action?
 - What might be some of the most common indications for prescribing / administering this agent?
 - What is the dose, route of administration, and common dosing schedule?
 - What are the potential side-effects of the agent? How might the side-effects be managed?

- What cautionary advice and recommendations would you provide to owners regarding the use of this agent (in general for chemotherapy and specific to this agent)? What topics are important to discuss with owners whose pets are undergoing chemotherapy?

Grading (100pts possible):

- Subjective: 50% of grade; based on professionalism, clinical competency with the cases you see, rounds participation and knowledge of subjects, technical skills and interaction with colleagues (fellow students, nurses, staff, house officers and faculty).
- Case scenarios: 20% of grade (4 cases, each worth 5 points)
- Chemotherapy summary: 5% of grade
- Post-rotation Quiz: 25% of grade

Clinical Skills Required:

There are required one45 skills for you to competently perform during the oncology rotation. These skills can be approved by the oncology faculty, house officers, or technicians. *Please alert the approver that you would like to submit the skill for credit at the time it is happening.* Skills must be submitted on one45 within 72 hours of performance to be approved.

Oncology Patients:

Types of appointments: consultation (new patients), chemotherapy, recheck, and radiation therapy. Cases will be assigned the evening prior to each receiving day. For all appointments you are assigned, you should review the record the night before their visit so you are familiar with the case and what may be planned for the appointment.

- Instinct:
 - Medical records are a requirement for clinical practice. It is important as a student that you become familiar and comfortable with entering all information in a patient's EMR in a timely, complete and efficient manner. As a busy out-patient service we work together to complete records for our patients. In general, once you have completed an Instinct form, you can submit to the assigned clinician for approval. However, if you are not able to complete a form, update to the best of your ability and communicate with the clinician.
 - As you are assigned a case, the responsible clinician and student names should be added under the patient name on the left hand side of the chart
 - For each patient visit, the following forms will be added:
 - Oncology History Form (either new patient or recheck form)
 - Oncology Exam & Assessment Form (may be duplicated and updated for rechecks)
 - Oncology Discharge Summary (may be duplicated and updated for rechecks)
 - Vitals
 - Other common forms necessary (these forms should be duplicated if available from a previous visit; update with current information):
 - Oncology Chemotherapy Form (required for patients receiving chemotherapy)
 - Lymph Node Measurement Form
 - Body Map Form
 - Once the forms are uploaded to the chart, the responsible clinician name should be changed on each form.
 - Students are responsible for updating the History Form, Vitals, and Exam & Assessment Form, and the Discharge Summary Form to the best of their understanding.

- Consultation appointments:
 - Greet the owners in the lobby and escort them to an exam room. Obtain the purple patient collar from the front desk as you enter the lobby. Efficiently obtain a history for the patient and record in History form.
 - Specifically understand the onset of the problem/reason for visit, what diagnostics have been performed and any medications the patient is receiving.
 - Obtain vitals and perform a physical examination on the patient and record your findings on the patient treatment sheet and on the Exam & Assessment form.
 - Leave the clients in the exam room and return to the Oncology room to discuss the case with the assigned clinician. Be prepared to provide a succinct history to the clinician as well as a problem list and potential recommendations for the patient.
 - The majority of our new patients are worked-up on an out-patient basis. Please weigh all patients in kilograms on the scale in Ward Services. If you have a cat or very small dog, please use the cat scale that is in the oncology treatment room.
 - Remove collar or harness before obtaining weight, use slip-lead available in Oncology
 - Place purple patient ID collar on patient as soon as you return to the Oncology room with the patient. Place a patient sticker on removed collars and leashes and leave them in the bin in the oncology room while the animal is at the hospital.
 - If bloodwork or imaging is to be done, submit appropriate samples/requests **right away** so results will be available in a timely fashion.
 - If the patient will be staying overnight an estimate will be created in Instinct and signed by the clinician and client. Please make sure to create an inpatient treatment sheet.

- Chemotherapy and recheck patients:
 - These patients have seen the oncology service prior to this visit; many of them numerous times. Chemotherapy patients are generally treated as out-patients.
 - Greet the clients in the lobby as you would a new appointment.
 - Obtain a brief history from the owner. Importantly, we want to focus on how the patient has been doing since their last visit. We are interested in how they tolerated their last treatment, if there have been any changes since the last visit and general information such as attitude, activity level, eating, drinking, urinating, defecating, etc. You should familiarize yourself by reading the record prior to the scheduled appointment.
 - Make a list of all medications the patient is receiving and whether or not the client will need a refill of those medications.
 - Perform a physical exam.
 - Many patients will have had bloodwork performed by their veterinarian the day of or before this appointment. Make sure we have a copy of that bloodwork.
 - Obtain a weight in kilograms on Ward Services scale (use slip-lead; remove collar/harness).
 - Owners may leave if they have no concerns and understand the plan/treatment for the day. Make sure to double check cell phone numbers before they leave so we may contact them once their pet is ready to go home. Understand from the client if they have any time constraints and make sure to communicate these with the clinician and oncology nurse(s).
 - Most chemotherapy appointments take 2-3 hours if bloodwork has already been performed OR 4 hours if bloodwork has not been performed. Please check with the oncology staff prior to making any comments to an owner regarding time-frame. Should patients need

echocardiograms or other diagnostic testing for re-staging prior to the scheduled treatment, an additional 2+ hours will likely be necessary for completion.

- If bloodwork or imaging is to be done, submit appropriate samples/request **right away** so these will be performed in a timely fashion.
 - Always draw blood samples using a jugular vein. Patients receiving chemotherapy have repeated catheter placement and we need to protect their peripheral veins as much as possible.
- Radiation patients:
 - These patients may either be hospitalized or treated on an out-patient basis.
 - Please perform a history and physical exam as you would for a chemotherapy patient.
 - Notify the oncology clinician in charge to discuss the plans for this treatment.

Discharging Patients:

Because we are primarily an out-patient service, we work together to complete discharge instructions as expeditiously as possible. Please update the history portion of the discharge summary as early in the visit as possible. For recheck or chemo patients, we typically duplicate the discharge summary and update for accuracy. Once you have examined the patient and recorded your findings on the Exam & Assessment form, please update the discharge summary.

- For Inpatients:
 - Determine a time for discharge based on the clients schedule and the oncology schedule.
 - Discharge instructions should be thorough yet straight to the point. It should summarize the case so the client can understand what has been done and also let them know what to expect at home. In addition, it should be clear as to what our future plans/recommendations are for their pet. Snippets may be available for various tumor types. These should be completed and approved by the clinician prior to the planned discharge time.
- For Chemotherapy patients:
 - Discharge instructions should be completed prior to the planned discharge. They should contain history as well as any information the client should be aware of regarding diagnostics, the treatment performed, side effects that may occur and when the patient should be re-evaluated either at KSU or by their DVM.
 - Discharges will go smoothly if prepared. Discuss all discharging information with the clinician beforehand. Consider the questions you might have if this were your pet or your patient and plan to cover those topics while discharging.

Chemotherapy:

- Anticancer drugs are toxic and many are known carcinogens. If dosed properly, they can benefit the patient. If overdosed, they can cause illness and possible death. Therefore, it is imperative that we appropriately dose all of our patients. Most drugs are dosed on a body surface area (M^2) basis. The formula is: $M^2 = [(kg)^{2/3} \times \text{constant}] / 100$. The constant for dogs = 10.1 and cats = 10.0. Instinct does calculate body surface area, it is good practice to calculate and compare for accuracy. All dose calculations will be performed by the student, nurse and clinician to have a triple layer of safety. If a patient has received chemotherapy before, double check their dose with previous doses they have received. Make sure to consider changes in weight from each visit.
- Many anti-cancer drugs we use are vesicants or are extremely irritating to the tissue if given outside the vein. Extreme caution must be taken when placing venous catheters for chemotherapy administration. Nurses or clinicians will place IV catheters for chemotherapy administration; however, students will be involved with the administration process.
- Because chemotherapy patients receive frequent venipuncture and catheter placements, their peripheral veins quickly become fibrotic. **ALWAYS use the jugular vein** to draw blood unless you are specifically told by the oncology nurse that it is OK to use another vein. We often use a saphenous vein for administration, **NEVER** use these for venipuncture on a chemotherapy patient.
- Chemotherapy forms: Make sure to record all chemotherapy treatments administered in the chemotherapy form for that patient.

Hospitalized Patients:

- Most oncology in-patients will be here for radiation therapy. Although they may be doing well, they are patients with a serious disease and not simply healthy animals boarding here. They must have a complete physical exam, including weight, performed by 8:00 am each morning.
- Radiation therapy requires general anesthesia. Anesthesia is managed by the Anesthesia service. Prepare a new anesthesia sheet, including patient vitals, each morning treatment is to be performed.
- Patients should always have water available; however, food should be removed following the evening meal in preparation for anesthesia the next day. Food should be withheld until treatment has been performed each day.
- All patient's cages should be clean at all times. They must be walked at least 3 times daily.
- Clients should be called a minimum of once daily for all hospitalized patients. Document communication in Instinct.
- All animals will have a SOAP completed daily.
- If the animal has unforeseen complications, discuss with the clinician prior to contacting the owner.
- ICU protocols are the same for oncology patients as any other patient in ICU. The 7:00am treatments must be performed by the assigned oncology student/personnel. Physical evaluations and SOAPs should be completed prior to 8:00 am.
- If a chemotherapy patient is in the ICU, proper documentation must be placed on the animal's cage making all staff aware they have received chemotherapy. All waste should be considered contaminated for 72 hours. Discuss with the oncology nurse so appropriate labeling and waste disposal occurs. Two bags should be placed on the chemotherapy patient's cage: a trash bag for all washable bedding and a yellow bag for all trash to be thrown away. Every effort should be made to ONLY use disposable material in the chemotherapy patient's cage.
 - Once the patient leaves ICU, the yellow bag is to be taped closed and disposed of in the proper location so incineration of the contents can occur.
 - The bag with laundry should be clearly marked "chemotherapy bedding". It should be placed in the laundry room where the staff will handle the laundry as instructed by protocol.
 - Cages should be wiped and cleaned with decontamination cleaning wipes. Cages should not be sprayed down with a cleaning solution as this may aerosolize any drug residue which could be present. The decontamination wipes can be obtained from Oncology or the Dispensary.

Wards:

- Oncology patients are housed in Ward 2 for dogs and Ward 1 for cats.
- Cage cards should be clearly labeled with the patient information, service, student and clinician. If a patient has received chemotherapy, place a chemotherapy sticker on the cage once the patient is returned to the cage to alert cleaning staff. When the animal is being discharged, remove the cage card so hospital staff knows it is OK to clean the cage.
- Inpatient belongings should be clearly labeled and stored in the Ward 2 closet or marked bin in ICU.

Charges:

- Please remind an oncology staff member to check charges before discharging a patient.

Oncology Staff:

Technician: Brooke Neiberger, RVT
Assistant: Angel Woods, Oncology Assistant
Faculty: Mary Lynn Higginbotham, DVM, MS, DACVIM (Oncology)
Kimberly Reeds, DVM, MS, DACVIM (Oncology)
Chieko Azuma, DVM, PhD, DACVR (Radiation Oncology)
House officers: Sarah Scott, DVM, 2nd year Oncology resident
Morgan Clark, DVM, 1st year Oncology resident
Rachel Uyehara, DVM, Oncology Intern

Helpful Hints:

Always:

- Provide the level of service and courtesy that you would expect if you were the client.
- Let the client know that we want them to call if they think their pet is not doing well. There is an intern on duty 24 hours a day and they can contact an Oncology clinician at any time if necessary.
- Use the referring veterinarians name in the discharge instructions. Referring veterinarians are colleagues and should be respected as such at all times.
- Determine at the time a patient is received whether or not medications will need to be refilled.
- Take responsibility for your actions.

Never:

- Imply, in any way, that the previous treatment their pet received is any different than you would have given under similar circumstances.
- Jump to conclusions about what happened prior to the visit based upon owner information – many times the owners are uncertain or confused about what treatment their pet received.
- Discuss what happens in the clinics in a public area, e.g. restaurants, concerns, sporting events, etc. You never know who is listening. Also, never post patient pictures to social media.
- Talk to the news media without prior permission from the hospital administrator.

Chemotherapy Toxicity Blood			
Grade 1	Grade 2	Grade 3	Grade 4
Neutrophils			
1500 – 2499 / μ L	1000 – 1499 / μ L	500 – 999 / μ L	<500 / μ L
Packed Cell Volume			
Dog 30% - Normal Cat 25% - Normal	Dog 25 - <30% Cat 20 - <25%	Dog 20 - <25% Cat 15 - <20%	Dog <20% Cat <15%
Platelets			
100,000 / μ L - Normal	50,000-99,000 / μ L	25,000 – 49,000 / μ L	<25,000 / μ L

Chemotherapy Gastrointestinal Toxicity				
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Anorexia				
Coaxing or dietary change required to maintain appetite	Oral intake altered without significant weight loss; oral nutritional supplements indicated	Of 3-5 days duration; associated with significant weight loss or malnutrition	Life-threatening consequences; > 5 days duration	Death
Diarrhea				
Increase of >2 stools per day over baseline	Increase of 2-6 stools per day over baseline; parenteral fluids indicated <24 hours; not interfering with normal activities	Increase of >6 stools per day over baseline; incontinence; IV fluids >24 hours; hospitalization; interfering with normal activities	Life-threatening (e.g. hemodynamic collapse)	Death
Vomiting				
< 3 episodes in 24 hours	3-5 episodes in 24 hours; <3 episodes/day for >2 days but <5 days; parenteral fluids indicated <24 hours	>5 episodes in 24 hours; vomiting >4 days; IV fluids or PPN/TPN indicated >24 hours	Life-threatening (e.g. hemodynamic collapse)	Death