



The Animal Medical Center

The E.&M. Bobst Hospital

The Caspary Research Institute

CHEMOTHERAPY INFORMATION AND CONSENT

THE DONALDSON-ATWOOD CANCER CLINIC OF THE ANIMAL MEDICAL CENTER

- ❖ **What is chemotherapy?**
 - Chemotherapy drugs are compounds that are toxic to cancer cells. Chemotherapy drugs may be given by intravenous (IV) or subcutaneous (under the skin) injection, or orally.

- ❖ **How does chemotherapy work?**
 - Cancer cells generally multiply very rapidly. Most chemotherapy drugs work by damaging the ability of these rapidly growing cells to divide, eventually killing them.

- ❖ **What are the benefits of chemotherapy?**
 - Chemotherapy is used by the veterinarians of the DACC to treat cancers in four basic but different ways:
 - Chemotherapy is the most effective single treatment for some types of cancer, offering the best opportunity for remission while at the same time preserving a good quality of life. A good example of this type of cancer is lymphoma, also called lymphosarcoma.
 - Chemotherapy is often recommended after surgical removal of a malignant cancer. The purpose of chemotherapy in this setting is not only to try to prevent recurrence of the cancer at the original site, but also to try to prevent spread (or metastasis). An example of a cancer in which chemotherapy is routinely used in this way is canine or feline malignant breast cancer.
 - Chemotherapy may be administered to some animals while they are also receiving radiation therapy for the treatment of their cancers. Some chemotherapy drugs are effective in this situation, because they increase the ability of the radiation to kill the cancer cells.
 - Occasionally, chemotherapy will be used alone for the treatment of cancers that are not amenable to surgical removal or radiation therapy, or have already metastasized. In most of these cases, the goal of treatment will not be to cure the cancer, but rather to improve the patient's quality of life temporarily by reducing pressure, bleeding, or pain.

❖ **Are there risks or side effects involved?**

- There are some risks involved with any type of treatment for cancer. Some normal cells will be injured and killed by the chemotherapy drugs. Some side effects may be apparent because of these normal cells being killed. Usually these side effects are outweighed by the benefits of killing the cancer cells.
- Dogs and cats generally tolerate chemotherapy much better than human patients do. The two side effects encountered most commonly in canine and feline patients receiving chemotherapy are toxicity to the gastrointestinal tract and to the bone marrow. Normal cells in both of these areas divide very rapidly, so they are more susceptible to the toxic effects of the chemotherapy.
- When the lining cells of the gastrointestinal tract are affected, the result may be nausea, vomiting or diarrhea. Most patients will experience this side effect once or twice during their course of chemotherapy treatment, but the symptoms are usually mild and can be overcome with supportive care at home.
- When the cells of the bone marrow are affected, the result may be more serious. The progenitor cells, which produce the white blood cells necessary to fight infection, are found here. If these progenitor cells are damaged, the patient's white blood cell count may drop low enough to result in an increased susceptibility to infection. Even bacteria to which a patient would normally be resistant can cause serious illness in this situation. White blood cell counts of all canine and feline chemotherapy patients are monitored carefully, but rarely a cat or dog receiving chemotherapy will develop a life-threatening systemic infection. This is why it is important to closely adhere to our recommendations for repeat blood tests. The only way to successfully treat these infections is to admit the patient to the hospital and administer intravenous fluids and antibiotics.
- Hair loss in cats and dogs receiving chemotherapy is usually very minor, with some notable breed exceptions. If you own a poodle, Old English sheepdog, schnauzer, puli, Lhasa apso, Shih Tzu, or Maltese, you should expect that your pet would lose a significant amount of hair during the initial stages of chemotherapy. However, the hair that is lost will grow back after your dog's course of chemotherapy has been completed, or once treatments are being administered less frequently. Cats usually do not lose any hair, although many will lose their whiskers.
- Some chemotherapy drugs can be extremely irritating to the subcutaneous tissues if they are able to leak outside the vein during injection. Examples include the chemotherapy drugs vincristine, doxorubicin (Adriamycin®), and nitrogen mustard; severe inflammation, ulceration, and swelling can occasionally be seen. However, this complication occurs infrequently, because all chemotherapy drugs are carefully administered through catheters. Even though this complication is rare, we cannot completely prevent it from occurring. However, we take great care to best prevent it.
- *Please see page 5 for additional information on chemotherapy side effects.*

❖ **How is therapy given?**

- Your pet has been, or will be, examined by one or more cancer specialists. These specialists will determine whether chemotherapy will be useful for treatment of your pet's cancer. If chemotherapy is given to your pet, a veterinarian specially trained in oncology (cancer medicine) will plan the course of therapy carefully, and a member of the oncology service will administer each treatment. Treatment for each patient is individually tailored, although specific chemotherapy protocols consisting of several different drugs are followed for different types of cancer.
- The vast majority of chemotherapy drugs used at The Bobst Hospital are administered by intravenous injection. In most cases, treatment can be given on an outpatient basis. However, it is important to realize that barring unforeseen delays, it will generally take at least 60 to 120 (to 180 minutes for doxorubicin) minutes from the time a patient is checked in at Medical Records to the time you are finished at Cashiers.
- It is the owner's responsibility to make an appointment for each outpatient visit for chemotherapy. Most owners find it easiest to make a series of appointments well in advance. Appointment slots for recheck chemotherapy visits are filled quickly, especially on Saturday. Alternatively, you can speak to your doctor about "day admits," whereby your pet is dropped off between 6-9 a.m. and then can go home between 5-9 p.m.

❖ **Is chemotherapy expensive?**

- Treatment of cancer with chemotherapy can be costly. It involves the use of the same drugs used to treat human cancer patients, and many of these drugs are expensive. In addition, your pet will benefit from the expertise of several highly trained animal health care professionals. The exact cost of chemotherapy varies with size of the animal, the number of treatments, and the drugs being administered. The projected cost of your pet's individual treatment will be discussed in detail with you. The Animal Medical Center is a non-profit group that is routinely 20-50% less expensive than for-profit veterinary referral centers providing comprehensive cancer care.

❖ **How long will my pet receive chemotherapy?**

- The length of a particular course of chemotherapy protocol will vary depending on the disease being treated. The most common cancer treated with chemotherapy is lymphoma. Although chemotherapy for this disease is often very successful, owners of cats and dogs with this type of cancer should realistically expect that their pets will need some form of chemotherapy for the rest of their lives. The course of treatment for other types of cancer is usually much shorter, generally 12 to 15 weeks. The specific length of your pet's individual course of treatment will be discussed in detail with you.

❖ **What happens if my pet has an emergency?**

- If you think your pet is seriously ill and needs immediate medical attention, you should come directly to The Animal Medical Center. A doctor is on duty 24 hours a day, 365 days a year. You will be seen by the emergency doctor, who will determine if hospitalization is necessary. On Sunday and Monday another service will manage your pet's care until the oncology service is on duty (Tuesday-Saturday).
- If you are not sure if you have an emergency, you may choose to call (212) 838-8100 and have a member of the Oncology Service paged. A doctor on the Oncology Service is in the hospital 7 days a week (generally from 9 a.m. – 5 p.m.) On the Oncology Service's days off (Sunday and Monday), a doctor checks all messages left between 9 am and 5 pm at (212) 329-8740.

❖ **What happens after treatment?**

- It is important for your veterinary oncologist to examine your pet periodically after chemotherapy treatment has been discontinued, usually at 1 to 2 month intervals. This will allow potential problems, such as recurrence of the cancer, to be detected before they become too advanced. Treatment options will be more numerous, and have a greater potential for success when problems are identified early.
- Finally, it is important for the owners of dogs and cats receiving chemotherapy to realize that cancers we treat are rarely cured. Almost all of our patients ultimately have recurrence of their cancers, and their owners will eventually have to make the difficult decision to euthanize. However, it is vital to understand that most cats and dogs receiving chemotherapy have an excellent quality of life both during and after treatment. It is often possible to provide many additional months, or sometimes even years, of happy life with chemotherapy. The vast majority of owners tell us that they have no regrets about their decision to pursue chemotherapy for their pet and they would pursue treatment if forced to make the decision again.

Cancer Chemotherapy Side Effects

Although the majority of pets do not experience significant side effects from chemotherapy, each pet responds differently to treatment, and serious side effects can occur. With thorough monitoring by the oncology team and you at home, we can provide early intervention to control the potential side effects. In addition, future treatments may be adjusted to hopefully minimize future side effects and to achieve the best possible therapeutic response. The following are the most common side effects of chemotherapy and general recommendations for management.

➤ Nausea

- Nausea is often manifested by anorexia, drooling, or approaching food but then not eating.
- Hold your pet off food, and offer ice cubes every few hours.
- Start anti-nausea medication if prescribed [metaclopramide (Reglan®) or Zofran®].
- After 12 hours, feed very small but frequent meals (i.e. do not feed with one large meal).
- Call clinic if condition persists > 24 hours.

➤ Vomiting

- First, withhold food and water for 12-24 hours.
- If the vomiting is mild (one or two episodes), start anti-vomiting/anti-nausea medication if prescribed [metaclopramide (Reglan®) or Zofran®].
- If there is no vomiting for 12-24 hours, offer small amounts of water or ice cubes only.
- If your pet does not vomit after drinking the water over the next 24 hours, offer small amounts of bland diet. (Bland diet options include boiled chicken, hamburger, or cottage cheese, with white rice, or a commercially prepared diet, such as Hill's prescription diet I/D.)
- If there is still no vomiting, gradually reintroduce your pet's normal diet.
- **If the vomiting is severe, persists for more than 24 hours, or is accompanied with a fever of greater than 103°F♦♦, your pet should be seen by an emergency clinician.**

➤ Diarrhea

- Offer the bland diet (as above) and fresh water. When you switch back to your pet's regular diet, wean them back gradually over a few days.
- For dogs, Pepto-Bismol® can be given (one tablespoon or tablet per 15 pounds of body weight every 6 hours) orally 2-3 times daily. This will discolor the stool.
- Do **not** give Pepto-Bismol® to cats.
- We do not recommend Lomotil®.
- If you were sent home with an anti-diarrheal medication (such as sulfasalazine, metronidazole (Flagyl®), or Tylan®), start the medication as prescribed.
- **If the diarrhea is severe, bloody, or black, persists for more than 48 hours, or is accompanied with a fever of greater than 103°F♦♦, your pet should be seen by an emergency clinician.**

♦♦See "Low white blood cell count" section on p. 6 for taking your pet's temperature.

➤ **Dehydration**

- Dehydration can develop following nausea, vomiting, diarrhea, and fever.
- When properly hydrated, your pet's gums should be moist and shiny, and the skin should bounce back when gently lifted – usually done over the neck region (also called skin turgor). Note these are somewhat subjective and vary according to age and panting.
- **If the dehydration is severe, fluid therapy is likely indicated. Please bring your pet to the Animal Medical Center or to your regular veterinarian.**

➤ **Low White Blood Cell Count**

- After treatment, the white blood cell count is expected to drop below normal and then return to normal by the next treatment. Typically, the decrease should not cause a problem. If the white blood cell count falls too low, the body can have difficulty fighting infection. Signs to watch for include lethargy, vomiting, diarrhea, poor appetite, and a fever. Please notify your clinician if any of these are observed.
- If your pet is showing any of the above signs, take your pet's temperature with a rectal thermometer. (You can buy a digital thermometer at your local drug store.)
 - Normal temperature is 100 to 102.5°F for dogs and cats.
 - **If your pet's temperature is greater than 103°F or if you are unable to take the temperature and your pet has signs of severe illness as discussed above, your pet should be seen by an emergency clinician.**

➤ **Increased frequency of urination or bloody urine**

- Prednisone commonly causes pets to urinate more (larger volume) and to drink more. Make sure your pet has access to fresh water at all times.
- In **dogs**, some chemotherapy can cause irritation and inflammation of the bladder, called cystitis. This can cause bloody urine, frequent small amounts of urine, and your pet may appear uncomfortable during urination.
 - The drug **cyclophosphamide (Cytoxan®)** can cause cystitis.
 - When we administer this drug, we also give a diuretic (called Lasix® or furosemide), that has been shown to decrease the frequency of the cystitis. Lasix® also temporarily increases the amount of urine that your dog produces.
 - Therefore, it is important that your dog has frequent walks and access to ample fresh water on this day.
 - If your pet has not received this chemotherapeutic agent and has bloody urine or increased frequency, please inform your veterinarian, so we can ensure your pet has not developed a urinary tract infection (low white blood cell counts or prednisone therapy can lead to urinary tract infections).

❖ General Information

➤ After intravenous injections appointments

- If your pet goes home with a bandage wrapped around the leg where chemotherapy was administered, this pressure bandage should be removed that day. Otherwise, circulation will be compromised, and the paw may swell later.
- Check the injection site one to two times a day to make sure the area looks normal. If this area is swollen, red, or looks abnormal, please call your doctor or the Oncology Service.
- Some chemotherapeutic drugs can cause damage to the tissue if they get outside the vein (perivascular) and come in contact with other tissues, such as muscle and skin. If this is suspected, you will be advised on specific treatments to be done at home and what to monitor.
- If your pet is licking excessively at the injection site, contact your veterinarian.

➤ Home Safety with Chemotherapy

It is important to minimize our exposure to chemotherapy, and common sense precautions should be taken.

- If you are **administering oral chemotherapy at home:**
 - Keep the medication in the vial, and do not store it in the kitchen.
 - Ensure children and pets do not have access to the drugs.
 - Do not eat, drink, or chew gum when giving the medication.
 - Do not crush or break the pills.
 - Wear unpowdered latex gloves when handling the medication (unless allergic to latex). Dispose of the gloves promptly, and wash your hands thoroughly after administration.
 - Gloves and empty vials should be returned to the Animal Medical Center for disposal.
- **Cleaning up after your pet:**
 - It is normal that a small amount of the chemotherapy is excreted in the urine and feces. Wear gloves for handling of feces or urine (i.e. if they have an accident in the house/apartment).
 - Soiled bedding should be washed, as you normally would.
- **Accidental exposure:**
 - Wash skin thoroughly. If your skin becomes irritated, contact your physician.
 - Use detergent to clean floors, carpets, or countertops. Wear gloves when cleaning.
- If you are **pregnant, trying to become pregnant, or are breast-feeding:**
 - Please avoid contact with these drugs.
 - Avoid contact with your pet and your pet's waste for 72 hours after chemotherapy has been given.
- If you are **immunosuppressed or are taking immunosuppressive medication:**
 - Please avoid contact with these drugs.
 - Avoid contact with your pet and your pet's waste for 72 hours after chemotherapy has been given.

CHEMOTHERAPY CONSENT FORM

I understand that my pet has cancer. After a consultation with the veterinarians of the Bobst Hospital of The Animal Medical Center, it has been determined that chemotherapy, either alone or in combination with another treatment type, offers the best opportunity to help my pet. I understand that chemotherapy, like any other cancer therapy, offers no guarantees of effectiveness, and that no promises of any kind about the outcome of my pet's therapy are being made or implied. Also, I understand that any type of cancer therapy has the potential for severe and life threatening toxicity, but that every effort will be made to identify, control, and prevent these toxicities. My veterinarian has explained to me that the outcome of a given cancer therapy depends in part upon the specific tumor type involved, as well as how advanced the tumor is at the time treatment is sought. Based upon these criteria, my veterinarian has given me the following prognosis for my pet:

Diagnosis: _____

- _____ Unknown - Unable to give a prognosis
- _____ Grave - Average survival* less than 3 months. Death may be imminent for this group of animals.
- _____ Guarded - Average survival* 3 to 6 months.
- _____ Poor - Average survival* 6 months.
- _____ Fair - Average survival* 6 to 9 months.
- _____ Good - Average survival* 9 to 12 months.
- _____ Excellent - Average survival* greater than 12 months.

*Some animals have a longer life span, and others shorter, than the average survival time. This is true for all levels of prognosis given.

I understand that a prognosis is merely an informed opinion, and that the statement of a prognosis in no way guarantees a period of survival. I realize that the prognosis for a given animal may become better or worse with time, tumor progression, or lack of response to therapy.

I have read this handout and the above statement of consent, and have been given the opportunity to fully discuss it with my veterinarian. I have made the informed decision to pursue chemotherapy for my pet. I retain the right to discontinue therapy at any given time, at my discretion.

No animal can receive chemotherapy without a signed consent form.

Owner's Signature

Attending Veterinarian

Date