

CHEMOTHERAPY IN PETS

The diagnosis of cancer is stressful for pet owners, and the prospect of chemotherapy treatments can be equally difficult. However, the fear that the pet will become sick from chemotherapy treatments is unwarranted. Knowing how anti-cancer chemotherapy drugs work and what to expect from the treatments can help pet owners decide whether such therapy is appropriate for their pet.

When do we use chemotherapy to treat animals with cancer?

Chemotherapy may be used as the sole treatment for certain cancers or may be used in combination with other treatments, such as surgery and radiation therapy. In some cases, chemotherapy can be used to shrink large tumours prior to surgery, or to help eradicate certain types of microscopic cancer cells that cannot be completely removed surgically. For cancers that have a high risk spreading, chemotherapy can be used after surgery to help prevent the appearance of cancer in other parts of the body.

How does chemotherapy work?

Chemotherapy drugs usually attack cells in the process of cell division. Individual drugs may work through many different mechanisms, such as damaging a cell's genetic material (DNA) or preventing the cell from dividing. However, all rapidly dividing cells' (including normal ones) are potentially affected by chemotherapy. Toxicity to normal, rapidly growing tissues in the body is the reason for most of the side effects seen with chemotherapy. Fortunately, these tissues continue to grow and repair themselves, after the chemotherapy drugs have been excreted.

What are the typical side effects of chemotherapy?

Compared to people receiving chemotherapy, pets experience fewer and less severe side effects because lower doses are generally used. The normal tissues that are most sensitive to chemotherapy are the digestive tract, the bone marrow (which makes the new blood cells), and hair follicles. Toxic effects to the digestive tract are responsible for decreased appetite, vomiting, and diarrhea. In most cases, these signs are mild and usually resolve on their own, however, should your pet experience any side effects please advise your veterinarian at Brisbane Veterinary Specialist Centre for treatment advice. Although infrequent, some animals may develop severe vomiting or diarrhea requiring hospitalization and fluid therapy.

The digestive tract side effects from chemotherapy may occur 2 – 5 days after the drugs have been administered.

Suppression of the bone marrow by chemotherapeutic drugs may cause a drop in white blood cell count, leading to increased susceptibility to infection. Severe infections may require hospitalization for intensive supportive care, including intravenous fluids and antibiotics. When a chemotherapeutic drug that is known to have the potential for bone

marrow suppression is used, a complete blood count (CBC) is checked before the treatment is given. If the white blood cell count is too low treatment may be postponed and antibiotics may be prescribed as a preventative measure. Subsequent doses of chemotherapy may be lowered. Hair follicle cells in dogs that are wire-haired or non-shedding may be particularly susceptible to chemotherapy. Certain breeds of dogs, such as terriers and poodles will experience variable amounts of hair loss. Cats may lose their whiskers and areas of clipped hair on pets may not regrow until the chemotherapy is completed.

There are many different types of chemotherapy agents and each has a different likelihood of causing side effects. If your pet is treated with drugs known to cause certain side effects, we will prescribe medications to help prevent these complications, such as anti-nausea medications. In addition, we will give you instructions on what to do if and when a problem arises. ***We seldom see severe side effects; it is estimated to be less than 5% of all pets receiving chemotherapy.*** With proper management most animals have event free chemotherapy. Please keep in mind that any animal can have unexpected reaction at any medication so advise us promptly of any untoward side effects.

How is chemotherapy given?

How is chemotherapeutic drug is administered, how often it is given and how many treatments are given varies from case to case. The type of cancer, the extent of disease, and general health of the animal help the oncologists formulate a treatment protocol (type of drugs, dose, and schedule used). Some drugs are oral medications that you give at home. Others are injections that require an outpatient appointment. In some instances, slow infusions or repeated treatments throughout the day may require the animal to spend the day in the hospital. The treatments are typically repeated weekly to every third week. Blood tests may be needed to monitor the effects of chemotherapy during the weeks between drug treatments.

The duration of chemotherapy depends on the type of cancer and the extent of disease. Some animals need to receive chemotherapy for the rest of their lives. Usually, however, treatments are discontinued after a period of weeks to months provided that the cancer is in remission, i.e., that there is no detectable evidence of cancer in the body. Chemotherapy may sometimes be resumed if the cancer recurs.

We usually recommend patients receive at least 2 cycles of chemotherapy before deciding to discontinue or change treatment depending on individual response. However, this is your pet, and you can decide to discontinue treatment at anytime. We will advise and help you every step of the way.

What can be expected from chemotherapy?

As much as we do strive to cure cancer, this is sometimes not possible. Our goal is therefore to improve your pet's quality of life. To this end, chemotherapy can be used to minimize the discomfort cause by a tumour, or to slow down or arrest the progression of the disease. The oncologist will provide information on average life expectancy with and without treatments. The decision of whether to pursue chemotherapy treatments can be complex. Medical

information, practical concerns (such as need for repeated visits, your pet's temperament, etc), and financial responsibility all play a part in this decision. We encourage you to discuss your concerns with the oncologist when making this decision; our oncologists are caring people with a lot of experience in this area.

Handling chemotherapy at home.

Chemotherapy drugs given to pets have the potential to cause damage to cells in humans. Exposure to owners and their family to chemotherapy drugs or pet excreta can theoretically pose a risk. This risk is probably greatest for those people who are pregnant or nursing. If you are administering chemotherapy tablets at home, it is suggested that you wear the gloves we supply when handling the tablets, and that the tablets are not crushed or broken nor capsules opened (please read thoroughly the information sheet we provide you with any tablets to be given at home). Certain chemotherapy drugs and their by-products may be excreted in the faeces or urine for up to 48hours following administration. The risk is associated with exposure is slight, however, should your pet have an accident in the house, it is wise to wear gloves, blot the area with flushable paper, and clean the area with dilute bleach solution. There is no risk associated with routine contact with your pet such as petting, playing, or handling of food and water bowls. It is important that medications be strictly kept out of the reach of children. Should accidental ingestion of chemotherapeutic drugs occur, contact a poison control center immediately. Should any unused chemotherapy drugs remain after treatment, please return them to Brisbane Veterinary Specialist Centre so that they can be safely disposed of.