



VETERINARY ONCOLOGY CONSULTANTS

helping veterinarians treat pets with cancer

Chemotherapy Safety

for Pet Owners and Caregivers

The treatment of cancer has evolved over the last few decades to parallel treatment in humans, with certain differences. The important difference between cancer therapy in humans, and that offered for pet animals, is in the goals of therapy. In humans, many cancers are cured, and cancer survivors may enjoy many decades of comfortable life. For this reason, treatment of cancer in humans is aggressive and often associated with severe side effects. Part of what makes this possible is the availability of intense, specialized supportive care units and strategies for human cancer patients. While pet animals are very similar biologically to humans, these types of supportive strategies are not available for pets; in addition most pet owners and pets prefer to avoid severe side effects and prolonged hospitalization for quality of life reasons. Therapies are therefore directed at preserving quality of life; and tumour control, or remission, is often the aim rather than cure at any cost.

However, most chemotherapy drugs are potentially mutagenic (can cause mutation in the DNA) or carcinogenic (can cause cancer) – this is how they are effective against cancer cells, but the risk involved in contacting small amounts is not yet known. We take precautions to ensure that your pet's risk of acute side effects is minimized. But it's also important to consider the safety of anyone else who may be exposed to these drugs, or their metabolites. The group of medications called alkylating agents, which includes cyclophosphamide, CCNU, procarbazine, chlorambucil, and others, has been associated with the highest risks to handlers; but most entail some level of risk, and it makes sense to pay attention to safety regardless which drug being used. Organ damage and increased risk of fetal loss have been reported in persons handling and

administering chemotherapy with inadequate attention to personal safety.

The biggest risk is to the staff at the veterinary practice when handling chemotherapy drugs during any phase of preparation, administration and disposal of drugs or waste. These people are handling the most concentrated form of the drug and do so on a regular basis. You will probably notice that these people employ personal safety measures such as wearing special gloves and using special bottle top adaptors and needles, or wearing gowns, masks, and goggles.

Usually there is no risk to the owner of a pet receiving chemotherapy when routine hygiene is used. However, it is important to be aware of basic considerations involved. The two times you need to take precautions are when administering medications, or when handling bodily wastes.

Here are some procedures to use if you have chemotherapy tablets or capsules to give to your pet at home:

- Remember to keep bottles and waste well out of reach of children.
- The medications should not be handled in the kitchen, it should be done in a laundry room or bathroom (away from the toothbrushes).
- Always wear latex gloves when handling these medications. Your veterinarian can provide these.
- Pills should not be split or broken, and capsules should not be opened.
- If you need to place the medications directly on a surface, use something disposable such a paper towel or piece of kitchen foil, and then dispose of it afterwards.
- Afterwards, “peel” your gloves off so they come off inside out, dispose in the rubbish, and wash your hands.

Most drugs are excreted to some extent in the urine or faeces as the actual drug, or metabolites which may be active, for approximately 24 to 48 hours. In particular, the platinum drugs (carboplatin and cisplatin) are highly excreted in the urine for about 48 hours

after administration. So as a general rule of thumb, direct contact with these body fluids should be avoided for about 3 days. Most people do this anyway. Here are some procedures for managing body wastes in the period after chemotherapy:

- Any time you need to handle wastes, wear latex gloves, peel the gloves off afterwards and dispose in the rubbish, and wash your hands.
- For cats that use a litter pan, consider using clumping litter. Wear latex gloves when scooping and wash your hands afterwards, peel the gloves off afterwards and dispose in the rubbish, and wash your hands. Place the waste in a plastic bag for disposal in the rubbish.
- If other cats in the household can be encouraged to use a different litter pan that is ideal, but if not possible then the next best arrangement is to keep the pan scooped as frequently as possible to the other cats are not continually getting the patients' wastes on their feet and then grooming afterwards.
- If your pet relieves him / herself outdoors, try to have them do it in a quiet area, on soil where urine will drain quickly, and drug and metabolites will be inactivated by sun and rain.
- If you need to pick up solid waste, you should wear latex gloves, put the waste in a plastic bag, and dispose of in the rubbish.
- At home, wastes can be put in the toilet, close the lid, and double flush.
- If you need to clean up an "accident" in the home, wear gloves and use disposable absorbent materials like paper towels (or old towels that you don't mind throwing away) and put them in a plastic bag for the rubbish. Bleach is the most effective cleaner for chemotherapy drugs but if that is not an option on the surface, other soaps or cleaners can also be effective.
- Any soiled bedclothes should be discarded rather than washed if possible.
- Other animals should not be allowed to consume the patient's wastes (sorry, but it happens).
- Finally, if you, another pet, or a family member accidentally contacts body wastes;

don't panic, just wash it off with soap and plenty of water. Even with the drugs that are excreted in the highest concentration, it is over about 48 hours, so the amount in any single urination will be a fraction of the dose your pet received, and the amount that actually gets on your skin is a small fraction of that; and only a very small percentage could possibly penetrate the skin.

In addition to the procedures listed above, women who are or may be pregnant should:

- **not** be present in the room when chemotherapy is being administered
- **never** handle any chemotherapy medications that are dispensed to be given at home
- **never** handle the urine or faeces of a pet that has received chemotherapy within the past 3 days – these jobs should be delegated to another family member.

Very young children should also not be present when chemotherapy is being administered. There are no clear guidelines on whether it is safe for older children to be present when chemotherapy is being given to a pet, and this decision should be left to the judgment of the veterinarian and the parent.

These procedures may seem very detailed, but this is only because many people caring for pets receiving chemotherapy have questions about safety. We want to be sure that all your concerns are addressed and prepare you for any eventuality. You'll soon see that the times you need to be careful are really quite limited; most of the things you need to do are more or less the same basic hygiene that you normally use; and the additional things you need to do will become a simple routine.

If you have any other questions, don't hesitate to check them with your veterinarian.

There is no risk at all involved in social contact, petting, feeding, playing, and cuddling with a pet that has received chemotherapy. Try to relax and help your pet feel that routines are as normal as possible. And most important, remember to enjoy your pet during this time!