

Cancer Staging

WHAT ARE STAGING TESTS AND WHY ARE THEY IMPORTANT?

Owners are often curious as to what stage of cancer their pet has without understanding what the term 'stage' truly means.

Stage refers to where in the body we find evidence of cancer. In human medicine, the World Health Organization (WHO) establishes guidelines for cancer staging. We modify these guidelines for veterinary patients.

Most tumors are staged numerically, using Roman numerals 0 – IV. In general, the higher the number the more the cancer has spread. Some cancers use different schemes (e.g. canine lymphoma is staged I-V). Other tumor types do not have staging schemes (e.g. brain cancers).

Staging tests determine the extent of the local disease and look for evidence of spread (metastasis) of cancer. The extent of testing depends on the predicted behavior of the tumor. We also consider the goals, resources and expectations of the pet owner.

The most common sites of metastasis are the lungs and lymph nodes. We evaluate the lungs using radiographs (x-rays) or a CT scan. Lymph nodes are tested by sampling cells and looking at them under a microscope. Tumors can spread to any location in the body, however. Therefore, additional tests may be discussed, including abdominal ultrasound or CT scan, MRI, bone marrow sampling or even a bone scan.

Bloodwork rarely provides information regarding stage, except in cases of cancers that start in the blood or bone marrow. Bloodwork is important to assess the overall health status of the pet. This helps us decide on the best diagnostic and treatment plan for each pet.

Other terms your oncologist may use to describe your pet's stage of disease include:

- **Local or localized disease:** Cancer is confined to one organ or structure.
- **Locally advanced or loco-regional disease:** Cancer is metastatic to a local lymph node and/or is locally invasive within the surrounding tissues.
- **Distant or advanced:** Cancer has metastasized beyond the local lymph node.

Staging is important for several reasons:

- It allows for appropriate treatment planning.
- It can help gauge prognosis.
- It evaluates the general health of the patient.
- It is a common “language” that veterinarians can use to compare patients and their outcomes.

Several key points regarding staging:

- In order to accurately assign a stage of disease, pets must undergo all recommended diagnostic tests. For example, to completely stage a dog with lymphoma, we need to do the following diagnostics: physical exam, complete blood count with pathology review, lymph node biopsy, three view thoracic radiographs or thoracic CT scan, abdominal ultrasound or abdominal CT scan with sampling of the liver and spleen, and bone marrow aspirate. If any test is skipped, we can't definitively state the dog's stage.
- While the size of a tumor can influence stage for some cancers, we must consider tumor size in relation to the size of the pet. For example, dogs with oral melanoma tumors < 2 cm in size have a better prognosis than dogs with tumors ≥ 2 cm. However, we must consider how much our canine patients vary in size. A 2 cm oral tumor in a 130 lb Great Dane would not cause as much trouble eating and drinking as a 2 cm oral tumor in a 7 lb chihuahua. Despite data suggesting both the Great Dane and chihuahua have the same prognosis, the smaller dog will have greater complications from the same sized mass.
- A cancer's stage does not change. The stage of disease is determined only when the cancer is initially diagnosed. If the cancer shrinks, grows, spreads or recurs the disease is still referred to as the stage it was given when it was first diagnosed.
- Stage is more than a number. Many people assume the higher the number the worse the prognosis, regardless of disease. While usually true within a specific type of cancer, the numerical stage of one cancer cannot be compared to different cancer. For example, a dog with stage 3 splenic hemangiosarcoma has a worse prognosis than a dog with stage 5 lymphoma.

Restaging refers to repeating staging tests during and/or after treatment. The frequency of restaging varies with the tumor type and treatment plan. In general, repeat staging for pets receiving chemotherapy is done every 2-3 treatments. We want to ensure that the treatment is successful and the cancer is not progressing despite our plan. If progression is seen, we can discuss what this means and alternative recommendations.

For owners, knowing how advanced their pet's disease is at the time of diagnosis allows them to make decisions about their care and to be realistic about their outcome. For clinicians, stage can influence treatment decisions and prognosis.

While stage is important, the overall health of the pet is the most important factor in this discussion. Your oncologist will review what tests are required and what tests can be omitted. Talk with your veterinarian about any questions or concerns you have about staging. Together you will come up with the best plan for you and your pet.