

# Hypertrophic Osteopathy

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## **What is hypertrophic osteopathy?**

Hypertrophic osteopathy (HO) is a condition that causes the bones of the limbs to become thickened and painful. Early in the course of the disease, the bones in the paws become thickened. With time, the condition progresses up the limbs. HO is most commonly caused by lung tumors. Other conditions associated with HO include metastatic tumors (tumors that have spread from

another area in the body to the lungs), urinary bladder tumors, esophageal tumors, prostatic tumors, kidney tumors, heart worms, heart disease, focal lung collapse, pregnancy and pneumonia. These conditions may cause a disturbance in the electrical conduction within the nervous system that ultimately increases blood flow to the bones. Subsequently, the bones become thickened with calcium deposits (periosteal new bone formation).

## **Signs and diagnosis**

The most common clinical signs of HO include lameness that shifts from limb to limb, reluctance to walk, thickening of the paws and limbs (see photo above) and warm limbs. Other clinical signs may be related to the primary disease that is inciting the HO. These signs may include coughing, breathing difficulty, shortness of breath, bloody urine, straining to urinate, frequent urination, poor appetite, and malaise.

X-rays of the limbs will demonstrate thickened, roughened bones due to periosteal new bone production (see photo right). Chest x-rays may demonstrate a mass or masses within the lungs or in the chest cavity (see photo on next page). Abdominal x-rays and abdominal ultrasound may show a mass within one of the internal organs. A complete blood count, chemistry profile, urinalysis, and other blood tests are done to complete the diagnostic evaluation of the patient with suspected HO. If a primary resectable tumor is detected, surgery will be recommended.



## **The day of surgery**

If surgery is indicated to remove of tumor that is inducing the HO, our anesthesia and surgical

# Hypertrophic Osteopathy Continued...

team will prescribe a pain management program, both during and after surgery that will keep your companion comfortable. This will include a combination of general anesthesia, injectable analgesics, and oral analgesics.

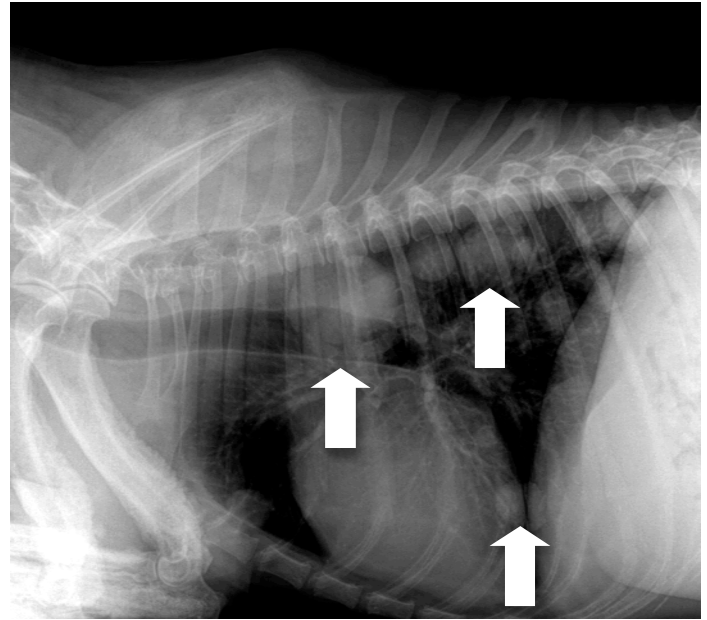
## Treatment

Treatment is largely palliative and includes control of pain with narcotics and anti-inflammatories. Prednisone (steroids) may be recommended in patients that do not have a curable disease. If a single tumor is identified, surgery will be removed. Lung tumors, being the most common cause of HO, are removed via an incision made on the side of the chest.

## Aftercare and results

If your companion has surgery to remove the primary tumor, you can continue to give your pet a prescribed pain reliever to minimize discomfort. After surgery it is important to restrict exercise to allow the incision to heal properly. The surgeon will monitor the healing process with one follow-up exam scheduled two weeks after the surgery. Additional examinations may be recommended by an oncologist. Adjunctive chemotherapy may also be recommended in some cases.

In most cases, HO will progress and in spite of all treatments the patient will die from the cancer. If the tumor can be removed, the HO likely will resolve within a few months.



# Hypertrophic Osteopathy Continued...

## Assessment and recommendations

Patient: \_\_\_\_\_ Date: \_\_\_\_\_

### Treatment

- Surgery is recommended
- Surgery is not recommended – please consult with one of our oncologists

### The following has been prescribed

- No medications or special diet are necessary at this time
- Prednisone: \_\_\_\_\_
- Nonsteroidal anti-inflammatory: \_\_\_\_\_
- Tramadol: \_\_\_\_\_
- Other medication: \_\_\_\_\_

### Exercise

- Unlimited
- Confine your pet to the house other than very short leash walks necessary for bowel movements and urination
- Restrict exercise to leash walks 10 minutes twice daily

### Preparation for surgery

- Start fasting your companion at midnight before the surgery; water should not be withheld
- Pepcid AC 10 mg tablets: give \_\_\_\_\_ tablet(s) with water (use a syringe if needed) at 6 AM on the day of surgery
- Other medications: \_\_\_\_\_

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