

# Metropolitan Veterinary Hospital

## Akron Veterinary Internal Medicine/Oncology Practice

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## Osteosarcoma

Client Handout

**What is Osteosarcoma-** It is a malignant primary neoplasia (tumor/cancer) of the bone.

Who gets Osteosarcoma- middle aged, large breed dogs.

What is the cause- unknown, some suggest genetics and trauma.

Where can it occur- in any bone but it is more common at the ends of leg bones, i.e. wrist, shoulder, knee, ankle and hip.

**Since Osteosarcoma is malignant, how likely will it spread and where will it go-** Osteosarcoma spreads to the lungs and other organs in 90% of dogs even though it may not be visible on the chest x-rays until later stages. Only 5% of dogs have visible evidence of lung tumors on chest x-rays.

**Tell me more.....** Most dogs first appear with a slight limp due to the pain of the cancer. Osteosarcoma is due to a mutation on the sub-cellular level where the normal bone activity is disrupted causing destruction of the bone and this will not heal. The loss of the bone leads to a painful fragile area, which can break with normal daily activity, this is called a "pathologic fracture."

**How to find out if your dog has Osteosarcoma-** The first sign may be that your dog is limping and there may be an area on the leg where he/she seems painful. After examination by a veterinarian X-rays of the leg are the first step needed to help answer some questions. If the X-rays look suspicious for irregular areas the next step is to take chest X-rays to check for metastatic tumor (Osteosarcoma). If the chest x-rays show evidence of cancer your loved one is near end stage of the disease and quality of life may be an issue. If the chest X-rays are negative remember your dog is one of the 5% who have not shown the microscopic cancerous lesions yet and the long-term prognosis is still poor with 90% chance of developing further lesions. The next step is to decide treatment options and definitive diagnosis.

**Treatment and definitive diagnosis:** One choice is to amputate the leg and submit the lesion for final analysis. Amputation is highly recommended to relieve pain and most dogs do well adapting to their normal life style. Limb amputation may relieve pain but not prolong life (50% of dogs are alive at 4 months with limb amputation alone). The second option is to obtain a biopsy of the suspicious area of the bone, and submit it for analysis. Obtaining a biopsy will weaken the bone and may lead to fracturing the bone, which will not heal.

**Amputation and Chemotherapy-** This combination may prolong life where 50% of dogs are alive at 1 year. Chemotherapy has fewer side effects in dogs and cats compared to humans. Few animal will lose their hair coat. Animals on chemotherapeutic drugs receive a smaller dose, than humans and therefore tend not to become ill during the administration of the drugs. It is important to remember that chemotherapy is to prolong life and not to cure (there is no cure). Long-term chemotherapy suppresses the immune system and infection can occur more easily in animals receiving chemotherapy than a normal healthy animal. Therefore any animal on chemotherapeutic drugs must be monitored closely at home and by a veterinarian for changes in appetite, behavior and laboratory blood values.

**What if we do not treat-** Osteosarcoma is aggressive and causes progressive pain, leading to decreased quality of life. Analgesics (painkillers) may temporarily improve observed signs of pain but resistance to the drugs builds quickly, requiring higher and higher doses to receive effective pain relief. Eventually, the tumor- induced pain or tumor spread results in either death or euthanasia, generally within 2-3 months.