



Osteosarcoma in dogs

The primary tumour is usually in the limbs, and usually either in

- the top of the humerus, just under the shoulder, or
- at the bottom of the radius just above the carpus (wrist) , or
- at the bottom of the femur just above the stifle (knee), or
- at the top of the tibia just below the stifle (knee).

Osteosarcoma is one of the more aggressive cancers in dogs. Metastases (secondary tumours) are highly likely to be present in other parts of the body at the time of diagnosis, even if they are still too small to show on radiographs etc.

All your decision making should be on the assumption that there are already secondaries present elsewhere in the body.

Osteosarcoma is almost certain to prove fatal in your pet; treatment is aimed at improving the quality of the remaining life, and extending it a little. It is hard to accept that your pet is going to die. The sad truth is, we all are! All we can hope to do is to have as much pleasant life before that time as possible. Avoid making any decision on the spur of the moment; think it through. But don't delay making a decision for more than a few days. Try to involve the whole family; even if you don't all agree on what should be done, you all need to accept and be comfortable with your final decision because you are the ones who will have to live with that decision.

The primary tumour hurts but it doesn't kill your dog itself. The primary tumour may be the reason that you elect euthanasia for your pet. It is the growth of secondaries around the body (usually in lungs, other bones etc) that will either prove fatal or make euthanasia unavoidable.

Here are your options:

We only recommend surgery +/- chemotherapy if there are no metastases obvious at diagnosis. If there are, we just recommend pain relief & ultimately euthanasia.

If there are no obvious metastases at the time of diagnosis:

- Consider surgery to address the primary tumour in the leg
- Consider chemotherapy to address micro-metastases round the body.

Key points of chemotherapy with carboplatin for osteosarcoma in dogs:

Broadly speaking, forget any fears you have, borne of your experience of relatives/friends who have undergone chemotherapy. Chemotherapy is generally much better tolerated by animals than by people. Side effects seem to be less common. That having been said, anorexia, vomiting and diarrhoea, lethargy and reduced white blood cell count may be seen. The drug carboplatin is given by intravenous injection every 3 weeks for 4-6 cycles of treatment. If there are children in the house, please consider the potential risks of excretion of the chemotherapy agent via urine etc into the household environment.

Colours in the following chart aim to guide you between the pros and the cons of different options

Treatment option	Cost	Pain control	Mobility	Life expectancy*
Euthanasia	Low cost	All remaining life, which could have some quality, is sacrificed		
No treatment other than pain relief:	Low cost if use medication Intermediate cost if use radiotherapy to treat the primary for pain relief	Significant pain is still to be expected in spite of medication Better pain control can be expected after radiotherapy	The primary tumour remains, a "pathological fracture" through the weak bone of the primary tumour is possible. If this happens there will be a sudden sharp decline in quality of life and pain control	Life expectancy* of 6 months; gradual decline over this time is possible as the primary progresses, and as secondaries develop in the lungs etc
Amputation:	Intermediate cost. Surgery alone is about £1000. If you go for surgery, chemotherapy is strongly recommended. 4-6 cycles of chemotherapy are recommended. Chemotherapy costs roughly £400 per cycle depending on the size of dog. Chemotherapy involves an injection with a drip, usually done while you wait.	The primary tumour is excised and so pain control is excellent. Animals don't have the "body image" problems that humans do and amputation is far more likely to bother you than your dog. Amputation is a predictable, low risk surgery with a low complication rate. Rapid recovery from surgery is expected. Aggressive pain relief is needed in the early stages but your dog will likely be home with you within 48 hours of surgery	Amputation will obviously compromise mobility. If other limbs/joints are not working well then amputation, especially of a fore limb, may not be a good option. Dogs generally cope better with hind limb amputations than forelimb amputations but even fore limb amputees can cope remarkably well	Life expectancy* of 6 months; Decline in quality of life is not usually seen until the very end of this period, when secondaries in the lungs etc become significant Life expectancy* increases to 12 months if chemotherapy is used.
Limb sparing surgery:	High cost. Surgery alone is approximately £2000 If you go for surgery, chemotherapy is strongly recommended. 4-6 cycles of chemotherapy are recommended. Chemotherapy costs roughly £400 per cycle depending on the size of dog. Chemotherapy involves an injection with a drip, usually done while you wait. This surgery is only a realistic option for osteosarcomas at the bottom of the radius	The primary tumour is excised and so pain control is excellent.	Limb sparing surgery obviously saves the leg, and so maximises mobility for the patient's remaining time. Limb sparing surgery is complex and carries significant risks of complications and the need for possible further surgery (including possibly amputation) and further expense	Life expectancy* of 6 months. Decline in quality of life is not usually seen until the very end of this period, as secondaries in the lungs etc become significant Life expectancy* increases to 12 months if chemotherapy is used.

* Life expectancy is based on MST, mean survival times. These are averages. Some patients do a bit or a lot better; some do a bit or a lot worse.