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Mammary masses in dogs

Female dogs have five mammary glands on each side of their body. As female dogs get older, they may develop lumps or masses within their mammary tissue. Masses can be very small (the size of a lentil) or very large (the size of a tennis ball). They are usually underneath the skin and the skin that covers them usually looks normal. Sometimes the skin that covers the mass can become red or ulcerated. The masses are not usually painful.

How do I know if my dog has mammary masses?

The best way to check for mammary masses is to gently feel along your dog's mammary glands when you are grooming or stroking your dog. If you find any lumps or bumps you should take your dog to the vet for them to be checked out. Your vet will also feel the mammary glands as part of a routine health check.

What sort of mammary lumps / masses does my dog have?

Mammary masses are abnormal growths within the mammary gland. They are a type of tumour. Approximately 50% of mammary masses are benign - this means that they are likely to grow very slowly in the mammary gland and should not be life-threatening. The other 50% of mammary masses are malignant - this means that they have the potential to spread elsewhere the body and cause organ damage which could be life-threatening. Just to make things more complicated, some benign masses can



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gradually turn into malignant masses over a period of many months or years.

The only way to know for sure whether the mammary masses are benign or malignant is to surgically remove the masses and send them away to the lab for analysis.

The terms lump, mass, tumour and growth may be used interchangeably for benign or malignant mammary masses. Malignant mammary masses may also be referred to as 'cancer'.

Should I have my dog's mammary masses removed?

In most cases, we would recommend that all mammary masses are removed as soon as they are noticed. This is because:

- We do not know if the masses are benign or malignant until we have removed them
- Even if the masses are benign it is better to remove them quickly whilst they are small, rather than risk them becoming larger or turning into malignant masses in the future

What is involved in surgery to remove the mammary masses?

Surgery to remove mammary masses is always carried out under general anaesthetic.

The type of surgery required depends on the type and number of mammary masses. Our aim is to remove the mammary masses completely, with a margin of normal tissue around them.



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For small, isolated masses, this may involve only a small wound and the removal of only a small amount of skin and mammary gland tissue. Dogs would usually go home the same day and stitches would be taken out 10 days later.

For large masses, this may involve the removal of a large amount of skin and mammary gland tissue. This can leave a large wound for the surgeon to repair. Sometimes (especially if the mammary glands between the back legs are removed) reconstructive surgery is required to close the wound using flaps of skin from the inside of the back legs.

If there are multiple masses it may be possible to remove each mass separately, creating multiple small wounds. However, if the masses are quite large, or there are a large number of tiny masses, it may be necessary to remove all of the mammary glands to be sure that no masses are left behind. Again, this is a big operation and may require reconstructive surgery. It is not possible to remove the mammary glands from the left and right sides of the body at the same time, so if removal of both sides is necessary, this will need to be divided into two operations, at least 6 weeks apart.

Removal of large amounts of mammary tissue and repairing large wounds with skin flaps is major surgery and dogs will take several weeks to recover. Complications such as swelling, bruising, delayed wound healing and infection are all quite likely after this type of surgery and patients are likely to require several weeks of strict rest, strong pain relief and regular veterinary visits during



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this time. Sometimes a second surgery is required to repair wounds that have not healed successfully the first time around.

Are there any other tests that should be carried out?

Before surgery is carried out, it is a good idea to take x-rays of the chest. If the mammary tumours have already spread to the lungs, it is not recommended to go ahead with surgery and we would recommend waking the dog up from the anaesthetic and letting them enjoy the time that they have left without undergoing any further procedures.

For older patients, it can often be a good idea to run blood tests before the anaesthetic to make sure that the dog does not have any other health problems that should be taken into consideration.

The mammary masses are sent away to the lab for analysis after removal and a report is sent back to the veterinary surgery approximately a week later.

What is the prognosis for my dog?

If surgery is carried out and the lab reports that the mammary masses were benign, the prognosis is extremely good and no further treatment is required. Regular checks for new mammary masses should continue.

If surgery is carried out and the lab reports that the mammary masses were malignant, the prognosis may still be good. The lab will grade the malignant mass as low, intermediate or high grade, and the lower the grade, the less likely the mammary mass is to recur or spread. Very often, if the mammary mass is removed at



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an early stage and is removed completely, then surgery can be curative. However, if the mass had already spread into the body before surgery was carried out, then the mammary mass may regrow at the site of the original surgery, or may spread to the lungs or other body organs. This can occur very quickly after surgery, or months to years later.

What about chemotherapy and radiotherapy?

For some types of cancer, including breast cancer in people, radiotherapy and chemotherapy may be recommended. At the moment, these are not usually appropriate for the type of mammary masses that we see in dogs and we do not recommend them because they do not seem to help.

What about spaying?

Most mammary masses occur in dogs that have not been spayed, or those that were spayed later in life. Spaying at a young age dramatically reduces the risk of mammary masses developing and that is why veterinary surgeons recommend routine spaying of bitches that are not intended for breeding. But what if your dog has already developed a mammary mass - is it helpful to spay her at the same time as removing the mammary mass?

The answer is not straightforward. The evidence suggests that spaying at the same time as removing a mammary mass does not change the risk of future malignant masses from developing. However, it does seem to reduce the risk of future benign masses developing and it makes the mammary tissue generally shrink in size, so that any masses that do develop are easier to spot in the



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future. Since spaying is a good idea anyway (to prevent false pregnancies and womb infections) our advice is usually that it is a good idea to spay but it is not an urgent part of the treatment.

In practice, this means that if the mammary masses are small and the surgery to remove them is straightforward, we will suggest spaying at the same time. If the masses are large and reconstructive surgery is required, we often prefer to concentrate on the mammary surgery first, and schedule the spay for a later date. Your veterinary surgeon will be happy to discuss your dog's individual situation with you in more detail. We do have the option to perform keyhole spay surgery, so a second surgery to spay your dog a few months later should be a much simpler procedure with a much shorter, easier recovery than the mammary surgery.

Do you always recommend that surgery is carried out to remove mammary masses?

In most cases, we do recommend that mammary masses are removed as soon as they are detected. However, there are some situations in which we choose not to go ahead with surgery.

These may include:

1. X-rays show that the mammary masses have already spread to the lungs
2. The dog may be very old or have other health conditions or lifestyle requirements that mean that a major surgery is not a good idea
3. Financial constraints



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4. The mammary masses are considered inoperable. If masses are very large and have invaded into the deeper tissues then it may not be possible to remove them completely, in which case it is difficult to justify performing the surgery.

5. The mammary masses are showing signs of inflammatory carcinoma. This is a rare type of mammary mass which tends to recur extremely quickly after surgery (within days or weeks). There is no sure way to know if a mammary mass has developed into an inflammatory carcinoma but signs may include a high temperature, lethargy, loss of appetite, ulceration of the mass, lots of red, firm swelling of the tissues around the mass. If we strongly suspect that a mass is an inflammatory carcinoma we would worry that the mass would grow back so quickly after surgery that it was not fair to put the dog through the procedure.

In these situations we would recommend:

- If the patient has no symptoms and the masses are small, remember that mammary masses can take months or years to cause a problem for your dog or may never cause a become uncomfortable or ulcerated.
- In cases where the masses have already spread, or are large and ulcerated and inoperable, then antibiotics to treat any secondary infection and anti-inflammatories for comfort can be used for as long as your dog is enjoying life.



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What are the costs of mammary mass surgery?

Costs vary hugely depending on the size and number of mammary masses and the size of the patient. As a very rough guide, a simple, small, mass removal from a small dog, with the lab fees and chest x-rays included, could cost from £1200, whilst a large mammary surgery with reconstruction will cost between £2,954 - £4425 with the potential for further treatment, hospitalisation or surgery to be required (at additional cost) if complications were to occur. The veterinary surgeon will be able to discuss costs in more detail after examining your pet.

Updated December 2024