

The Lump You Never Want to Ignore

Cysts, tumors and other growths are fairly common. And while they can be harmless, quite often they're not. This is one such type. It's more aggressive than others, sometimes taking as little as four weeks to develop. Don't ignore it. Get your pet to your vet.

Reviewed by Dr. Becker

STORY AT-A-GLANCE

- Lumps, bumps and other growths are relatively common in cats
- A lump you never want to ignore is one that develops after a vaccination at the site of the injection
- Veterinary oncologists recommend a very specific diagnostic protocol in every case of a suspected injection-site sarcoma in a cat
- Sadly, despite quick and aggressive treatment, the prognosis for kitties with this type of tumor is poor
- Feline vaccine-associated sarcomas are relatively rare, however, they are almost entirely avoidable by simply following a common-sense vaccination protocol

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Cat guardians are advised to routinely check for lumps and bumps on their feline companions, and follow up with their veterinarian if they find anything unusual. This is because cysts, tumors and other growths are fairly common in kitties, and while these masses are often harmless, some are definitely not.

One such mass is the vaccine-associated sarcoma (VAS), also known as the feline injection-site sarcoma (FISS). A VAS is a type of malignant tumor in cats associated with two vaccines in particular, in addition to other types of vaccines, as well as injected medications.

A sarcoma is a type of cancer caused by changes in connective tissue cells. According to the Pet Cancer Center, the tumors that occur in kitties after vaccination are usually fibrosarcoma, but can also be rhabdomyosarcoma, malignant fibrous histiocytoma, undifferentiated sarcoma, extraskeletal osteosarcoma and chondrosarcoma.¹

Vaccine-associated sarcomas are typically more aggressive than non-vaccine sarcomas. A study of 100 cats diagnosed with VAS reported that 60% of kitties had high grade (highly aggressive) tumors, while only 6% had low grade (mildly aggressive) tumors.²

Feline vaccine-associated sarcomas are primarily triggered by either the feline rabies vaccine, or the feline leukemia virus (FeLV) vaccine.

However, VAS has also been linked to the administration of injectable Lufenuron (the active ingredient in some flea/tick and other pest control products), long-acting antibiotics and corticosteroids, microchips and locations on a cat's body where non-absorbable suture materials have been used.³

Prevalence of Vaccine-Associated Sarcoma in Cats

According to the results of a 2002 study of 62,000 vaccine doses administered to 32,000 cats, 73 kitties developed inflammation at the injection sites and two developed sarcomas at those sites.⁴

Best estimates based on this study and others are that vaccine-site sarcomas occur in between 1 and 10 of 10,000 cats. The estimated time it takes for a tumor to develop can range from four weeks to 10 years after a vaccine is administered.⁵

The 2002 study also revealed that polyvalent vaccines, which are combination vaccines for multiple pathogens contained in a single injection, caused more inflammatory reactions than monovalent vaccines (single-pathogen vaccines).

In addition, adjuvanted vaccines caused more reactions than non-adjuvanted vaccines.

Feline Injection-Site Sarcomas Were First Diagnosed 25 Years Ago

The problem of vaccination-related sarcomas in cats isn't new. In 1991, just three years after Pennsylvania mandated rabies vaccinations for cats, the University of Pennsylvania's School of Veterinary Medicine discovered a connection between a troubling increase in sarcomas and feline vaccinations.

Not long after this discovery, the University of California at Davis made a connection between FeLV (feline leukemia) vaccines and sarcomas.

Most of the originally diagnosed vaccine-related sarcomas developed in the interscapular region (between the shoulder blades) of affected kitties. This is the area of a cat's body where all vaccines were typically injected prior to the mid-1990s.

To isolate which vaccines were causing the sarcomas, in 1996 the Vaccine-Associated Feline Sarcoma Task Force issued recommendations to veterinarians to move specific vaccines to pre-assigned sites on the body.

For example, rabies vaccines were to be given in the right rear leg and FeLV vaccines in the left rear leg.

The shots were to be placed distally on the legs, meaning as far away from the body as possible, so amputation of the lower portion of the leg could be offered as a cancer treatment option.

After the 1996 vaccination site recommendations were implemented, interscapular sarcomas decreased over the next 10 years. However, sarcomas increased in the thoracic and pelvic limbs and the abdomen, especially on the right side.

Since after 1996 the right rear limbs of vaccinated cats became the most common location of injection-site sarcomas, it was reasonably assumed the rabies vaccine was the most cancer-causing immunization.

The importance of injecting distally (far down on the leg) became apparent with a rise in lateral abdominal sarcomas after 1996.

If a cat is in a crouched position, injecting a vaccine into what is assumed to be the pelvic limb can result in a lateral abdominal injection instead, because the skin shifts when the kitty is in a standing position.

Diagnosing Injection-Site Tumors

Because this type of tumor is locally aggressive and invasion into surrounding tissue can be extensive, veterinary oncologists and feline practitioners recommend all suspected vaccine site-associated sarcomas be diagnosed as follows:

1. First, perform a fine-needle aspiration and cytologic examination to check for malignancy
2. Second, perform a biopsy if markedly abnormal cells suggesting malignancy are discovered
3. Third, if biopsy confirms vaccine site-associated sarcoma, obtain surgical margins or refer to a specialist for complete removal of the tumor

They also advocate use of the "3-2-1" rule, which is to perform a wedge biopsy on any vaccination-site lump that meets at least one of the following criteria:

- Present in any form three months after vaccination
- Greater than or equal to 2 centimeters (cm) across at presentation
- Present for one month after vaccination and is fast-growing

Conventional treatment for vaccine-associated sarcomas involves surgery and radiation therapy.

Sadly, because this type of tumor is so fast-moving and the recurrence rate is high, even with aggressive surgery and pre- and post-surgical radiation therapy, 40% of kitties have a recurrence within one to two years.⁶

Even though the incidence of vaccine-associated sarcoma is small, it's a heartbreaking scenario for any family whose cat develops an injection-site tumor. That's why it's important to use extreme caution when vaccinating pets.

Recommendations for Vaccinating Your Cat

1. **If your cat lives entirely indoors, it's best to weigh vaccination risks versus benefits** — If she never leaves your home and her exposure to life-threatening infectious diseases is zero, consider foregoing vaccinations altogether. The risk of not vaccinating is that if your kitty is ever accidentally exposed to disease, her immune system will be naïve from having lived entirely indoors and she could become very sick or die.

Generally speaking, however, for careful pet owners who focus on optimizing their cat's overall health and vitality, a cat's indoor-only lifestyle virtually eliminates her risk of exposure to infectious diseases. Over-vaccination is one of the primary reasons the general health of housecats is deteriorating. Keep unvaccinated indoor cats from interacting with any other cats and your pet's risk is virtually none.

2. **When it comes to vaccinating cats that have disease exposure, seek out a holistic or integrative vet to care for your cat** — Non-traditional veterinarians are generally more willing to proceed very cautiously in the realm of re-vaccinations, and can offer suggestions on vaccine detoxification that conventional vets are simply unaware of.
3. **Ask for a vaccine titer test** — This test will measure your cat's immunological protection against diseases for which he was vaccinated during his first year of life (his "kitten shots"). You can't add immunity to an already immune pet, so don't keep vaccinating.

If your cat needs a booster of a certain vaccine or a vaccine he's never received, make sure the following criteria applies for each vaccine your pet is subjected to:

- It is for a potentially fatal disease (this eliminates many on the list immediately) that has a high prevalence in your area
 - Your cat has the opportunity to be exposed to the disease (indoor cats have little to no exposure)
 - The vaccine is considered both effective and safe
4. **If your cat does need a vaccine, ask your holistic veterinarian to provide a homeopathic detox remedy**, which will help neutralize the effects of all vaccines other than the rabies vaccine.
 5. **Feline rabies vaccines are required by law in many states⁷** — The one-year non-adjuvanted vaccine for cats is recommended; ask your holistic vet to provide the homeopathic rabies vaccine detoxifier Lyssin. If your pet is a kitten, ask to have the rabies vaccine given after 4 months of age, preferably closer to 6 months, to reduce the potential for a reaction.
 6. **Do not vaccinate your cat or any pet if he has had a serious vaccine reaction.**

Sources and References

[BerksPets.com July 29, 2016](#)

^{1, 2, 5} [Pet Cancer Center](#)

^{3, 6} [Clinician's Brief](#)

⁴ [Journal of the American Veterinary Medical Association, 2002 May 15;220\(10\):1477-82](#)

⁷ [Michigan State University Animal Legal & Historical Center](#)