





Controversy and confusion: Frequency of revaccination of adult dogs and cats – An update

Richard A. Squires




Outline

- ◆ Potted history / Public perceptions / Safety
- ◆ Duration of Immunity / Core vs. Non-core
- ◆ Recommendations / Commentary



Overview



- ◆ Companion animal vaccines have served society well for many years and continue to play a crucial role in preventing disease and suffering
- ◆ As large a proportion as possible of all puppies and kittens should be properly protected by vaccination
- ◆ Veterinarians are debating the details of *how best* to use vaccines, not *whether or not* to use them [Nosodes]

Finland, 1994-5




5000 dogs became severely ill, 1500 died...

Potted history

- ◆ Our current vaccination practices are not, by and large, based on science
- ◆ It is costly to determine ultimate duration of immunity
- ◆ Regulatory authorities have not generally required manufacturers to do more than short-term challenge studies [rabies exception]

Potted history

- ◆ Until recently, the commercial pressures have been to show earlier onset and higher degree of protection rather than longer duration of protection
- ◆ Some veterinary immunologists have questioned our practices all along, but were largely ignored for decades. Then...

Vet jabs kill our pets, say dog lovers

by JO KNOWSLEY

DOGS are being crippled and even killed by the annual veterinary jabs intended to protect them from disease, a study says.

The Canine Health Census, which conducted the survey of 2,700 dogs, claims the animals are up to 15 times more likely to succumb to a range of illnesses and disease if they are given annual vaccinations. In some cases the reaction is so severe that they die or must be put down.

The main vaccines are against disease such as leptospirosis, distemper and parvovirus. But the side-effects can range from vomiting and diarrhoea to serious illnesses such as epilepsy, arthritis and brain damage, the report claims.

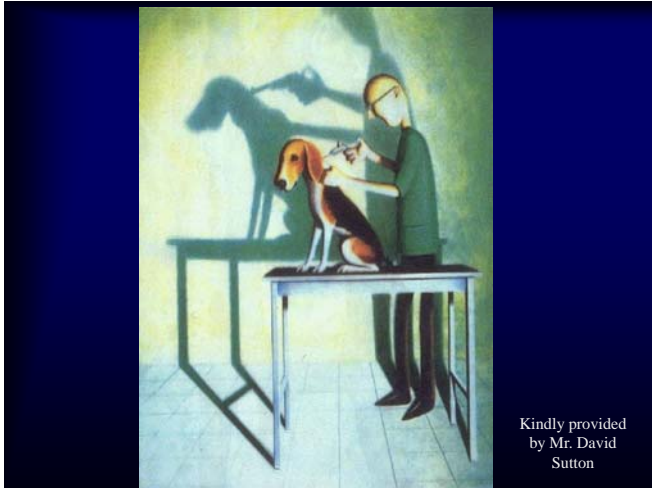
It found that of dogs which had become sick, 35 per cent had died so within three months of being vaccinated, 41.75 per cent within 30 days, and 24.56 per cent within a week. The reports are to be published this month in a book, *Who Killed the Darling Dog of My Youth? Vet Don't Tell You About Vaccines*.

Catherine O'Driscoll, who set up the Canine Health Census after her dogs died of illnesses she believes were vaccine-related, said: "Vets and vaccine manufacturers advise us to vaccinate our pets year after year and insist averse reactions occur in only a tiny minority" of dogs. But we found they are much more common than that — about one

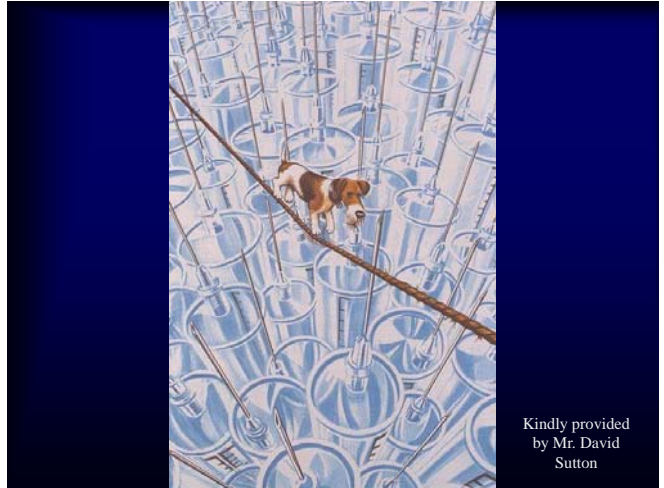


Vaccine damage: Hylda Reynolds with her dachshund Hansan, who she believes was left crippled following a booster jab

in a hundred animals has some kind of reaction." Hylda Reynolds of Haverhill, Kent, says she nursed her miniature dachshund for 18 months after they had a traumatic reaction to vaccines to prevent parvovirus, distemper and leptospirosis. Janie, three, had to be put down because he was in so much pain while Hansan, seven, is crippled. British Veterinary publishes about that some dogs have reactions to, and sometimes die from, the vaccines but say this is rare. Simon Orr, president of the British Small Animal Veterinary Association, said: "These vaccines have been rigorously tested for safety and effectiveness and have demonstrably reduced the outbreaks of distemper."



Kindly provided by Mr. David Sutton



Kindly provided by Mr. David Sutton

Consumer magazine March 2002

"The Pet Jab Problem"



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Vets dogged by criticism over vaccinations

KELLY BURKE, CONSUMER AFFAIRS REPORTER
August 1, 2009

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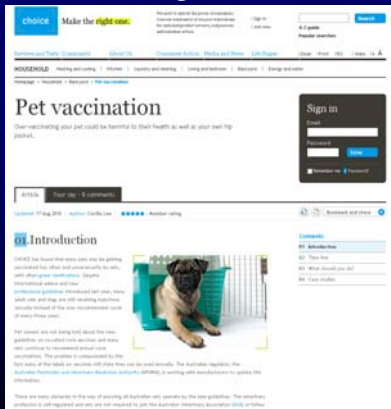
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17 August 2010



<http://www.choice.com.au/Reviews-and-Tests/Household/Backyard/Pets/Pet-vaccination/page/Introduction.aspx>

“...Small animal vets are getting a reputation as the used car salesmen of the veterinary profession”

Senior veterinary practitioner
(farm animal) 2001

VETS AND VACCINES

“What vets don’t tell you about vaccines”

“I believe it possible that veterinarians have also been misled”
[by vaccine manufacturers]

Catherine O’Driscoll
New Zealand Gundog Magazine
December 1999

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★ CONVENTION COVERAGE ★

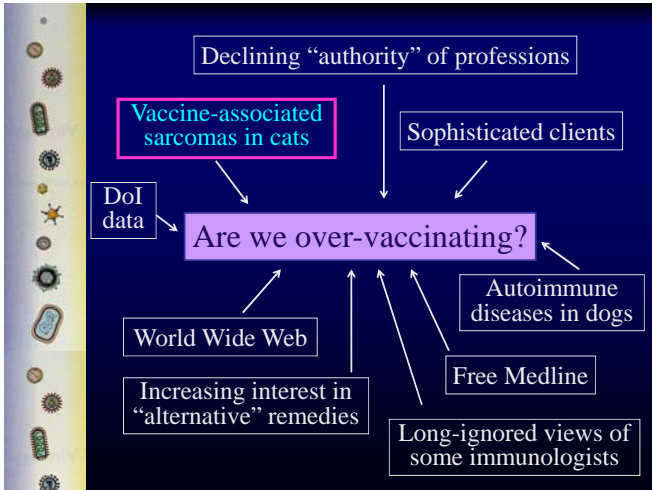
Controversy
The vexing vaccine issue
Confusion

Controversy, confusion continue to surround vaccine guidelines

Are we over-vaccinating?

And why are we being asked this question?






Do postvaccinal sarcomas occur in Australian cats ?
 G BURTON and KV MASON
 Animal Skin and Allergy Clinic, 3331 Pacific Highway, Springwood, Queensland 4127

SUMMARY: A soft tissue sarcoma occurred in the interscapular area of a cat, 1 to 7 months after vaccination at that site. The vaccine contained inactivated feline panleucopaemia virus combined with modified live feline herpesvirus and calicivirus. The tumour showed histological features of both fibrosarcoma and malignant fibrous histiocytoma. The tumour was observed to evolve from the site of a presumed postvaccinal granuloma. Local recurrence 6 weeks post excision necessitated more radical resection. Euthanasia was performed 2 years later when pleural effusion developed. The cause of effusion was not determined. There was no palpable evidence of local tumour regrowth at the time of euthanasia. A causal relationship between vaccination and sarcoma formation is considered based on the temporal association between the two events, the anatomical location of the tumour and histopathology consistent with postvaccinal sarcomas reported overseas. Six other vaccine site fibrosarcomas, potentially vaccine associated using the above criteria, are summarised.

Aust Vet J 1997; 75:102-106
 Key words: sarcomas, fibrosarcoma, postvaccinal, cat FIV feline immunodeficiency virus
 FeLV feline leukemia virus FPL feline panleukopaemia
 FeSV feline sarcoma virus FRFC feline rhinotracheitis and feline calicivirus

In Australia?

“What a man would like to be true, he preferentially believes”



Francis Bacon, 1620

cited by John Ellis in a letter critiquing Fred Scott's feline DOI paper. AJVR Sept '99


Burton G. and Mason K.V. (1997)

Do postvaccinal sarcomas occur in Australian cats?

Australian Veterinary Journal **75**: 102-106.

– **Yes they do.**

– **“At least 1 per 178,600 vaccinations”**



Justifications for keeping on keeping on?

It is relatively harmless...

It gets them in the door every year so I can help them in so many other ways...

My practice will fold if I stop doing it, then I won't be able to help anyone...

I see cases of parvo every year but I haven't seen any vaccine-associated problems in 20 / 30 / 40 years...

A practitioner might revaccinate fewer than 1000 animals of a particular species in a year.

If the risk of a fatal vaccine-associated disease is 1 to 3 per 10,000 vaccinated animals or less, that practitioner might go many years before seeing a single instance of that fatal disease.

Then she/he might not recognise it for what it is, because of its rarity.

So does that make a risk of fatal disease in 1 to 3 per 10,000 of your vaccine recipients acceptable to you?

It is all about risk vs. benefit, isn't it?

Safety issues



Safety data

Epidemiologic evidence for a causal relation between vaccination and fibrosarcoma tumorigenesis in cats

Kass PH, Barnes WG, Spangler WL, *et al.*

Journal of the American Veterinary Medical Association

203: 396-405. (1993)

Kass *et al.* 1993

- ◆ 345 fibrosarcoma-bearing cats enrolled; 185 with tumours at sites used for vaccination, 160 at other sites.
 - FeLV vaccine recipients were 2.78 - 5.49 times more likely to get an injection site sarcoma *versus* a sarcoma elsewhere
 - Rabies vaccine recipients were 1.2 - 1.99 times more likely to get an injection site sarcoma *versus* a sarcoma elsewhere
 - The more vaccines injected simultaneously, the greater the risk



It's the adjuvant



Safety data

Hydranencephaly and cerebellar hypoplasia in two kittens attributed to intrauterine parvovirus infection

Sharp NJ, Davis BJ, Guy JS, *et al.*

Journal of Comparative Pathology

121: 39-53 (1999)

"an in-utero parvovirus infection, possibly due to vaccination" [italics mine]

Safety data

Outbreak of fatal salmonellosis in cats following use of a high-titer modified-live panleukopenia virus vaccine

Foley JE, Orgad U, Hirsh DC, *et al.* (1999)

Journal of the American Veterinary Medical Association

214: 67-70.

Safety data

Abortion and death in pregnant bitches associated with a canine vaccine contaminated with bluetongue virus

Levings RL, Wilbur LA, Evermann JF *et al.* (1996)

Developments in Biological Standardization

88: 219-20.

Safety data

Vaccine-associated immune-mediated hemolytic anaemia in the dog

Duval D, Giger U.

Journal of Veterinary Internal Medicine

10: 290-295. (1996)

Duval & Giger, 1996

- ◆ Rigorous case definition (58 cases)
- ◆ Showed a *temporal*, not a *causal* relationship
- ◆ *Is there a biological precedent for causality?*
 - Parallels findings in vaccinated children and experimental mice
 - antibodies have been eluted off red blood cells of children with IMHA after diphtheria-pertussis-tetanus vaccination. These antibodies reacted with the vaccine antigen(s)

Plus, the 'nutters' ...



NEW MILLENIUM + NEW ATTITUDES
= REAL HEALTH

“...nowadays animals are suffering from and passing on to their offspring the inexcusable effects of over-vaccination.”

Sandra G. Unwin
N.Z. Kennel Gazette November 1999
Supplement

On the other side of the coin...



Available online at www.sciencedirect.com

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Vaccine

Vaccine 22 (2004) 3270–3273

www.elsevier.com/locate/vaccine

Vaccination and ill-health in dogs: a lack of temporal association and evidence of equivalence

D.S. Edwards*, W.E. Henley, E.R. Ely, J.L.N. Wood
Animal Health Trust, Lansdowne Park, Kestford, Newmarket, Suffolk CB8 7UU, UK

Received 16 September 2003; accepted 9 March 2004

“Results demonstrated that recent vaccination (<3 months) does not increase signs of ill-health by more than 0.5% and may actually decrease it by as much as 5%.”

Annual revaccination

Is it safe?

Is it efficacious?

Is it justifiable?

i.e., does the necessity for frequent boosters stand up to scientific scrutiny?

Duration of Immunity (DoI)

But first, core versus non-core...

‘Core’ and ‘non-core’
vaccines

‘Core’ vaccines for dogs protect against...

- ◆ CDV
- ◆ CPV-2
- ◆ CAV

'Core' vaccines for cats protect against...

- ◆ FPV
- ◆ FCV
- ◆ FHV-1

'Non-core' vaccines for dogs

- ◆ CPiV
- ◆ *B. bronchiseptica*
- ◆ *Leptospira* spp.
- ◆ CCoV*

* Not recommended for routine use by most large organisations

'Non-core' vaccines for cats

- ◆ *Chlamydomphila felis*
 - ◆ FeLV
 - ◆ *B. bronchiseptica*
 - ◆ FIV*
 - ◆ FIP*
 - ◆ *Giardia**
- * Not recommended for routine use by most large organisations

CDV: Auby *et al.* (1974)

Five 3 month-old puppies, vaccinated twice, kept isolated and challenged *intracranially* 30 months after the 2nd vacc. Two seronegative controls.

- All 5 vaccinates were protected
- Both control puppies died
- "Protective" SN Ab titres persisted throughout the study in the vaccinates

FPV, FHV, FCV

- ◆ Scott FW, Geissinger CM. (1997) Duration of immunity in cats vaccinated with an inactivated feline panleukopenia, herpesvirus and calicivirus vaccine. *Feline Practice* **25**: 12-19.
- ◆ Scott FW, Geissinger CM. (1999) Long-term immunity in cats vaccinated with an inactivated trivalent vaccine. *American Journal of Veterinary Research* **60**: 652-658.

Duration of serologic response to five viral antigens in dogs

Douglas E. Mouzin, MS, MBA; Marianne J. Lorenzen, DVM; John D. Haworth, DVM, PhD; Vickie L. King, PhD

From Veterinary Medicine Biologicals Research and Development, Pfizer Animal Health, Pfizer Inc, 7000 Portage Rd, Kalamazoo, MI 49001.

JAVMA, Vol 224, No. 1, January 1, 2004

p. 55-60

Duration of serologic response to five viral antigens in dogs

Douglas E. Mouzin, MS, MBA; Marianne J. Lorenzen, DVM; John D. Haworth, DVM, PhD; Vickie L. King, PhD

Pfizer. Four years...

Results—The percentage of dogs that had titers at or greater than the threshold values or responded to revaccination with a \geq 4-fold increase in titer was 98.1% for CDV, 98.4% for CAV-1, 99.0% for CAV-2, 100% for CPIV, and 98.1% for CPV.

Duration of serologic response to three viral antigens in cats

Douglas E. Mouzin, MS, MBA; Marianne J. Lorenzen, DVM; John D. Haworth, DVM, PhD; Vickie L. King, PhD

From Veterinary Medicine Biologicals Research and Development, Pfizer Animal Health, Pfizer Inc, 7000 Portage Rd, Kalamazoo, MI 49001.

JAVMA, Vol 224, No. 1, January 1, 2004

p. 61-66

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Pfizer. Four years...

Results—The percentage of cats that had titers at or above the threshold values or responded to revaccination with a \geq 4-fold increase in titer was 96.7% for FPV, 97.8% for FCV, and 88.2% for FHV.

2006 AAHA Canine Vaccine Guidelines

In 2005, AAHA's Canine Vaccine Task Force met to re-examine and revise guidelines on the use of vaccines in dogs. The results of the Task Force's work are summarized and tabulated in this article and are published in their entirety on the AAHA website (www.aahanet.org). The 2006 AAHA Canine Vaccine Guidelines contain information on new technological developments in vaccines, an introduction to conditionally licensed vaccines, and detailed recommendations on the use of available vaccines. Perhaps the most noteworthy addition to the guidelines is a separate set of recommendations created for shelter facilities. Vaccines are classified as core (universally recommended), noncore (optional), or not recommended. The Task Force recognizes that vaccination decisions must always be made on an individual basis, based on risk and lifestyle factors.

<http://www.aahanet.org/PublicDocuments/VaccineGuidelines06Revised.pdf>

Triennial for the core vaccines

The 2006 American Association of Feline Practitioners Feline Vaccine Advisory Panel Report

Preface	1406
Introduction	1406
Immune response to vaccination and infection	1407
Duration of immunity	1407
Types of vaccines	1408
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Triennial for the core vaccines

Special Report Rapport spécial

Canadian Veterinary Medical Association adopts a new position statement on vaccination protocols for dogs and cats

L'Association canadienne des médecins vétérinaires adopte un nouvel énoncé de position sur les protocoles de vaccination pour les chiens et les chats

Bernard Vallée

The Canadian Veterinary Medical Association (CVMA) has recently developed a revised version of the general position statement (PS) on Vaccination Protocols for Dogs and Cats. It replaces the previous version, which dated back to July 1999. The new PS was approved by CVMA Council last July. Periodic review and updating of the general position statements falls under the mandate of the National Issues Committee (NIC) of the CVMA. For this particular review, the NIC appointed a Vaccine Protocol Advisory Group (VPAG), headed by the NIC chairperson and comprising several other veterinarians representing diverse companion animal practice profiles across the country. Many members had also served the CVMA on similar tenures in the past. As part of the usual process, the draft PS was submitted to the Association's membership for feedback, comments, and suggestions through the Members' Discussion section of the CVMA Web site, prior to its completion.

L'Association canadienne des médecins vétérinaires (ACMV) a récemment élaboré une version révisée de l'énoncé de position général sur les protocoles de vaccination pour les chiens et les chats. Il remplace la version antérieure qui remonte à juillet 1999. Le nouvel énoncé a été approuvé par le conseil de l'ACMV en juillet dernier. L'examen et la mise à jour périodiques des énoncés de position généraux relèvent du mandat du Comité sur les enjeux nationaux (CEN) de l'ACMV. Pour cet examen particulier, le CEN a nommé un Groupe consultatif sur les protocoles de vaccination qui était dirigé par le président du CEN et incluait plusieurs autres vétérinaires représentant divers profils de cliniques pour animaux de compagnie au pays. Par le passé, beaucoup de membres ont aussi occupé des fonctions semblables pour servir l'ACMV. Dans le cadre de processus habituel, l'énoncé de position est soumis aux membres de l'Association aux fins de rétroaction, de commentaires ou de suggestions dans Web de l'ACMV.

What's

CVJ / VOL 49 / APRIL 2008

Journal of Feline Medicine and Surgery (2009) 11, 530-537
doi:10.1016/j.fms.2009.05.012

SPECIAL ARTICLE

Vaccines and vaccination: the principles and the polemics

ABCD
Marian C Horzinek and Etienne Thiry

European Advisory Board on Cat Diseases
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Corresponding author:
Marian C Horzinek
Email: horzinek@gmail.com

Background The European Advisory Board on Cat Diseases (ABCD) is a body of experts that sees its task as bringing feline health issues to the forefront of companion animal practice. By way of an introduction to this special 'clinical practice' issue of the *Journal of Feline Medicine and Surgery* (JFMS), this article attempts a 'helicopter view' of practical, or applied, immunology. It should be viewed as a 'light primer' to vaccines and vaccination, and is very general in nature. It is not intended to replace authoritative immunology textbooks, which abound both in the veterinary and medical fields, and the level of detail in which may discourage the casual reader. By design, therefore, this article is not referenced.

Underpinning issues The immune response (be it after vaccination or infection) is discussed, as are the issues of duration of immunity, and vaccine safety and efficacy, tests predicting protection, population ('herd') immunity, and the types of vaccine developed and/or available (live, killed, chimeric, DNA-only products).

Practical relevance With day-to-day veterinary practice in mind, practical issues discussed include kitten vaccination, the definition of 'core' versus 'non-core' products, passive immunisation, and prevention strategies in populations and crowded cat communities. Adverse reactions, and factors affecting vaccine efficacy, safety and performance are also summarised.

2007 GUIDELINES FOR THE VACCINATION OF DOGS AND CATS 2010

COMPILED BY THE VACCINATION GUIDELINES GROUP (VGG)
OF THE WORLD SMALL ANIMAL VETERINARY ASSOCIATION
(WSAVA)

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*Triennial or longer for the core vaccines
16 weeks for the last puppy / kitten shot*

2009

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Veterinarians and the new pet vaccination policy

The AVA has recently developed a new policy on vaccination of dogs and cats, which refers extensively to the 2007 WSAVA [Guidelines for the vaccination of dogs and cats](#).

There has been some interest in the media about the new policy. The AVA has sent out two member alerts about this and issued a [media release](#).

We have also prepared some communication material for clients that explains the need for annual health checks as an important preventive medicine strategy for pets.

As the policy points out, vaccinations should be determined for each individual animal, so the information for clients doesn't touch on the details of which vaccinations should be given and how often.

Instead, the main message for clients remains the same as it has always been - regular preventive health care is important for pets. A visit to the vet might include a vaccination, but a regular check up is as vital as it ever was.

Straightforward recommendations

- ◆ Vets should discuss risks and benefits with owners and obtain informed consent.
- ◆ Always record vaccine brand and batch number in the medical record
+ the anatomical location where it was injected (cats).
- ◆ Use non-core vaccines only when they are indicated by a thoughtful, informed risk assessment (e.g., kennel cough, *Leptospira*, FIV, FeLV)

Uncontroversial recommendations

- ◆ For cats, educate owners about the seriousness of persistent post-vaccinal lumps
- ◆ Avoid injecting adjuvanted vaccines between the scapulae of cats. Consider other sites (limbs as distal as feasible, even the tail) or avoid adjuvant altogether

Finally...

- ◆ *Vets have the power to influence:-*
 - Accreditation requirements for kennels and catteries
 - The demands *re* vaccination made by kennels and catteries of their customers
 - Clients' expectations
 - The likelihood of clients returning to the practice regularly for health checks

