

Controversy and confusion: Vaccination of adult dogs and cats – An update

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Outline of this talk

- ◆ Potted History / Safety Issues
- ◆ Core vs. Non-core / Duration of Immunity
- ◆ Commentary / Recommendations



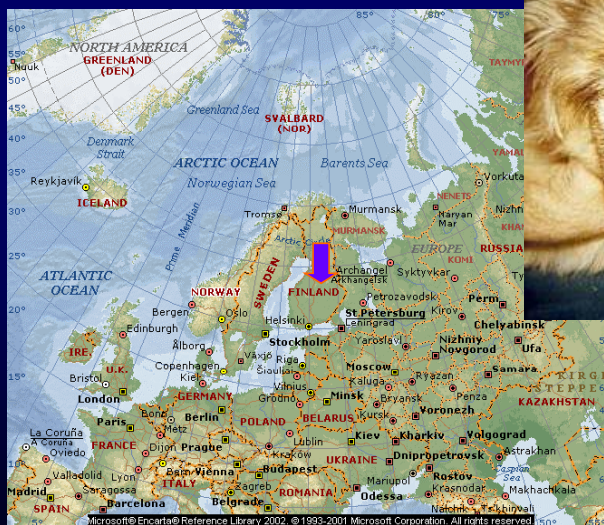
Overview



To vaccinate or not to vaccinate?

- ◆ As large a proportion as possible of all kittens and puppies should be properly protected by vaccination
- ◆ Veterinarians are debating the details of *how best* to use vaccines, not *whether or not* to use vaccines in dogs and cats [nosodes]

Finland, 1994-5



5000 dogs became severely ill, 1500 died...



Outbreak...

- ◆ The Finnish dogs were dying of canine distemper (Ek-Kommonen, 1997)
- ◆ *Vaccinated* dogs were dying
- ◆ Only 20% of cases were older than 2 years
- ◆ Of about 5000 cases, 30% died

Possible explanations?



Potted history

- ◆ Until recently, vaccine manufacturers have been pressured 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 they 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 13 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 diseases such as hepatitis, 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 done so within three months of being vaccinated, 41.75 per cent within 30 days, and 24.56 per cent within a week. The results are to be published this month in a book, *Who Killed the Darling Buds of May? What Vets Don't Tell You About Vaccines*.

Catherine O'Driscoll, who set up the Canine Health Census after her dogs died



Vaccine damage: Mylda Reynolds with her dachshund Hannah, who she believes was left crippled following booster jabs

of illnesses she believes were vaccine-related, said: "Vets and vaccine manufacturers advise us to vaccinate our pets year after year and insist adverse reactions occur in only a 'tiny minority' of dogs. But we found they are much more common than that — about one

in a hundred animals has some kind of reaction."

Hylda Reynolds, of Hawkhurst, Kent, says she nursed her miniature dachshunds for 13 months after they had a traumatic reaction to vaccines to prevent parvovirus, distemper and leptospirosis. Jamie, three, had to be put

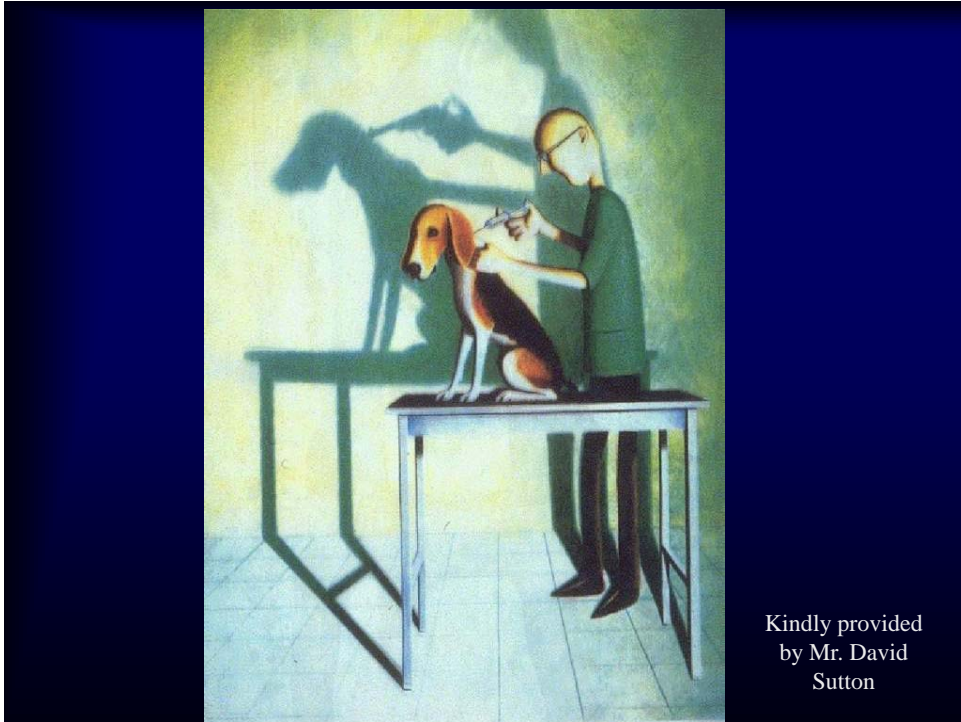
down because he was in so much pain while Hannah, seven, is crippled.

British veterinary authorities admit that some dogs have reactions to, and sometimes die from, the vaccines but say this is rare.

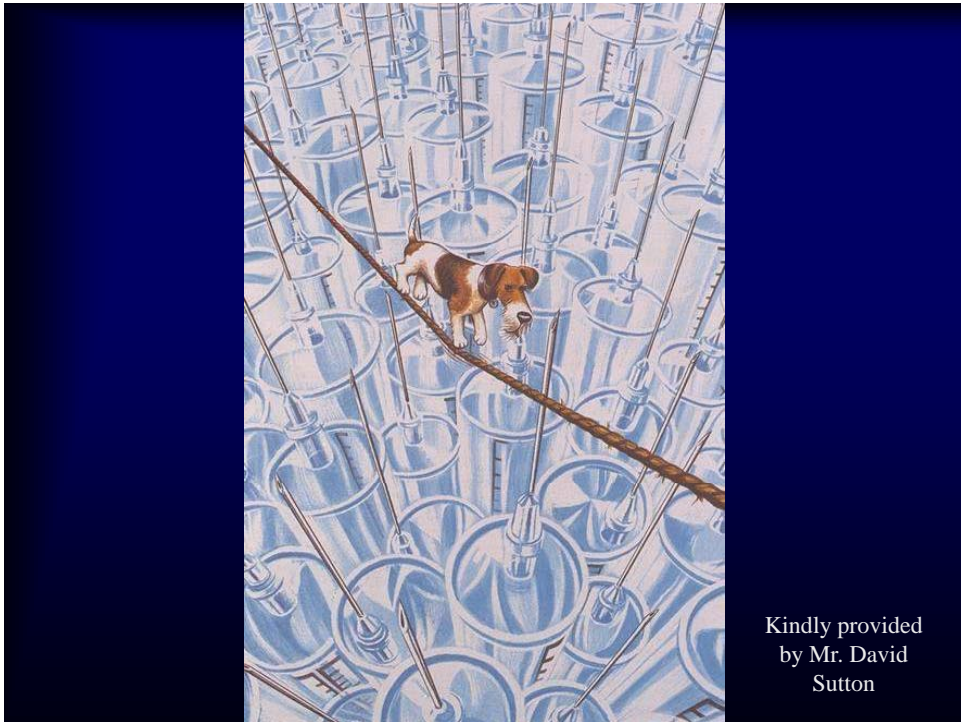
Simon Orr, president of the British Small Animal

Veterinary Association, said: "These vaccines have been rigorously tested for safety and effectiveness and have dramatically reduced the outbreaks of diseases."

□ Canine Health Census can be contacted at PO Box 1, Longnor, Derbyshire, SK17 0JD (en+losing SAE).



Kindly provided
by Mr. David
Sutton



Kindly provided
by Mr. David
Sutton

Consumer magazine
March 2002

*“The Pet Job
Problem”*



javma **News**

AVMA news

[AVMA Journals Home](#) | [JAVMA online](#)

★ CONVENTION COVERAGE ★

September 15, 2004



Controversy,
confusion continue
to surround vaccine
guidelines

2009

smh.com.au
The Sydney Morning Herald

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Vets dogged by criticism over vaccinations

KELLY BURKE, CONSUMER AFFAIRS REPORTER
August 1, 2009

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Vets have been told to stop advising pet owners to vaccinate annually ...

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Cautious ... Madeleine Anderson, with Kuggee and Anu, is reluctant to stop

17 August 2010 – CHOICE

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Pet vaccination

Over-vaccinating your pet could be harmful to their health as well as your own hip pocket.

[Article](#) [Your say - 8 comments](#)


Updated: 17 Aug 2010 | Author: Cecilia Lee | [Member rating](#) [Bookmark and share](#)

01. Introduction

CHOICE has found that many pets may be getting vaccinated too often and unnecessarily by vets, with often grave ramifications. Despite international advice and new professional guidelines introduced last year, many adult cats and dogs are still receiving injections annually instead of the now recommended cycle of every three years.

Pet owners are not being told about the new guidelines on so-called core vaccines and many vets continue to recommend annual core vaccinations. The problem is compounded by the fact many of the labels on vaccines still state they can be used annually. The Australian regulator, the Australian Pesticides and Veterinary Medicines Authority (APVMA), is working with manufacturers to update this information.

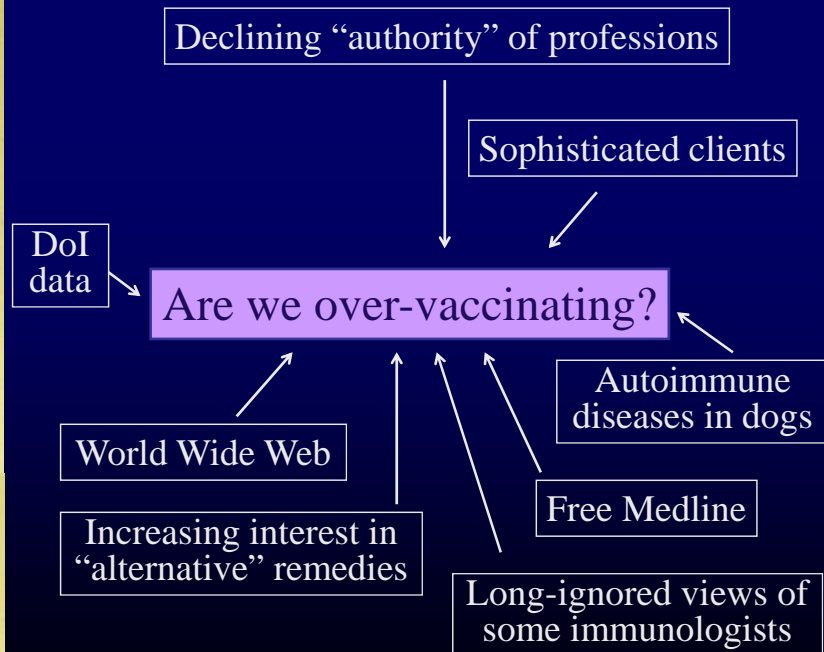
There are many obstacles in the way of ensuring all Australian vets operate by the new guidelines. The veterinary profession is self-regulated and vets are not required to join the Australian Veterinary Association (AVA) or follow

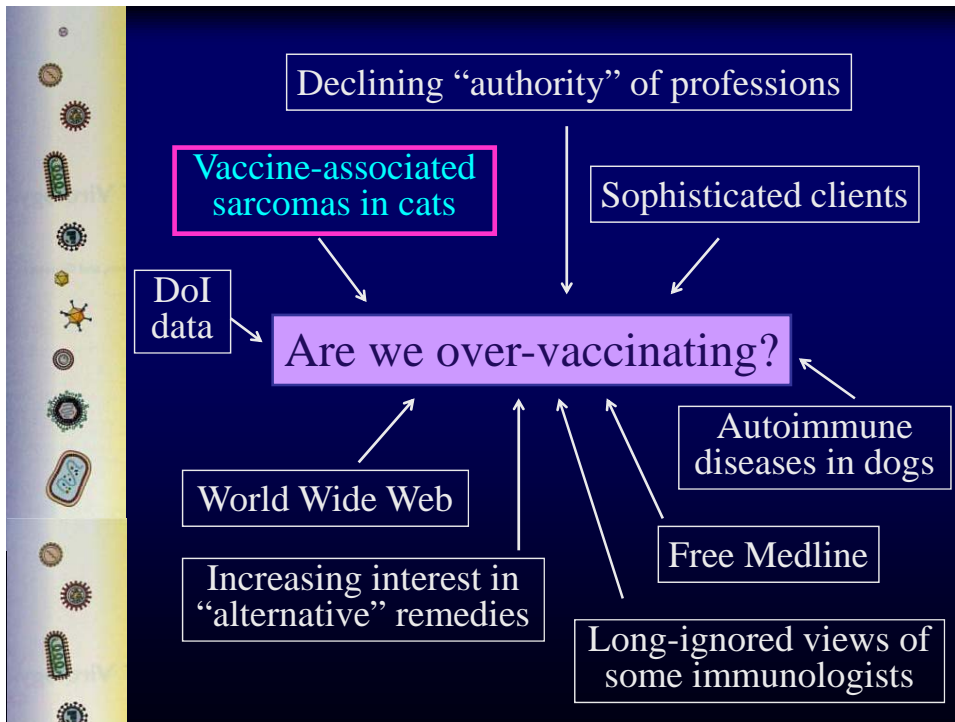


Contents:
01. Introduction
02. Time line
03. What should you do?
04. Case studies

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

Are we over-vaccinating?





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 (1993) **203**: 396-405.

Kass *et al.* 1993

345 fibrosarcoma-bearing cats were enrolled:



185



160

Q. Looking at cats that have unfortunately developed a sarcoma, are they more likely to have their sarcoma located at an injection site if they have received certain vaccines?

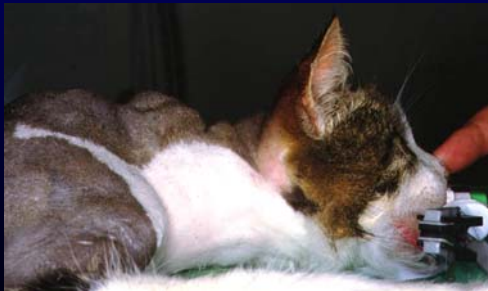
Kass *et al.* 1993

- FeLV vaccine recipients were **2.78 - 5.49 times more likely** to get a sarcoma at an injection site rather than elsewhere on their body
- Rabies vaccine recipients were **1.2 - 1.99 times more likely** to get a sarcoma at an injection site rather than elsewhere on their body
- The more vaccines injected simultaneously, the greater the risk

Inflammation



Adjuvant



Inflammation

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 1999

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 panleucopaenia 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

FeLV feline leukemia virus

FeSV feline sarcoma virus

FIV feline immunodeficiency virus

FPL feline panleukopaenia

FRFC feline rhinotracheitis and feline calicivirus

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



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

Australian Veterinary Journal 75: 102-106.

Do postvaccinal sarcomas occur in Australian cats?

– Yes they do.


– “At least 1 per 178,600 vaccinations”



*A practitioner might vaccinate fewer than
1000 adult cats in a year.*

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

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



*Is a risk of potentially fatal
disease in 1 to 3 per 10,000
feline vaccine recipients
acceptable?*

It is all about risk vs. benefit



Other 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]



Other 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*

*Journal of the American Veterinary
Medical Association*

(1999) **214**: 67-70.



Other 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.

Developments in Biological Standardization
(1996) **88**: 219-20.

Other safety data

Vaccine-associated immune-mediated hemolytic anaemia in the dog

Duval D, Giger U.

Journal of Veterinary Internal Medicine
10: 290-295. (1996)

Plus, some 'nutty' ideas...

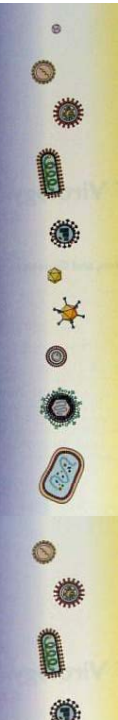




NEW MILLENIUM + NEW ATTITUDES
= REAL HEALTH

“...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



The risk of adverse
consequences is real
but *small*

On the other side of the coin...



On the other side of the coin...



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Vaccine

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, Lanwades Park, Kentford, 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%.”



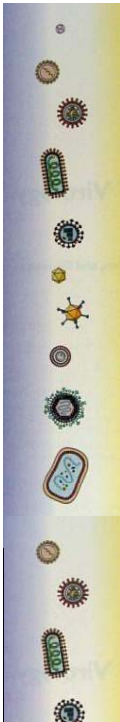
Annual revaccination

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)

'Core' and 'non-core'
vaccines



‘Core’ vaccines for dogs protect against...


- ◆ Canine distemper
- ◆ Canine parvoviral enteritis
- ◆ Canine infectious hepatitis



‘Non-core’ vaccines for dogs

- ◆ Parainfluenza virus
- ◆ *Bordetella bronchiseptica*
- ◆ *Leptospira* spp.
- ◆ Canine enteric coronavirus*

* Not recommended for routine use by many large veterinary organisations



‘Core’ vaccines for cats protect against...

- ◆ Feline panleukopenia
- ◆ Feline calicivirus
- ◆ Feline herpesvirus 1



‘Non-core’ vaccines for cats

- ◆ *Chlamydophila felis*
- ◆ Feline leukaemia virus
- ◆ *Bordetella bronchiseptica*
- ◆ Feline immunodeficiency virus*

* Not recommended for routine use by some large, overseas veterinary organisations



DOI – Dogs



CDV: Olson *et al.* (1997)

- ◆ Studied 30 dogs imported to Iceland, where there is no canine distemper
- ◆ Last vaccine given at 6 weeks to 4 months of age, 10/30 only ever received one shot
- ◆ Median time since last vaccine: 5.5 years
- ◆ At least 73.3% still had ‘protective’ titres $\geq 1:16$

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 ≥ 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.



DOI – Cats



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 three viral antigens in cats

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

p. 61-66

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



‘Core’ and ‘non-core’ vaccines

Key point:

- ◆ Core vaccines have been shown to provide long-lasting protection, well over 3 years
- ◆ Non-core vaccines, in general, have not been shown to provide long-lasting protection and, if your animal needs one or more of these vaccines, it will need to be given (at least) annually



‘Core’ and ‘non-core’ vaccines

- ◆ The greatest controversy concerns the feline respiratory viral infections:
 - Feline herpesvirus
 - Feline calicivirus
- ◆ Vaccinating an infected carrier animal would not be expected to help...
- ◆ Giving the ‘wrong’ vaccine more often would not be expected to help...



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.

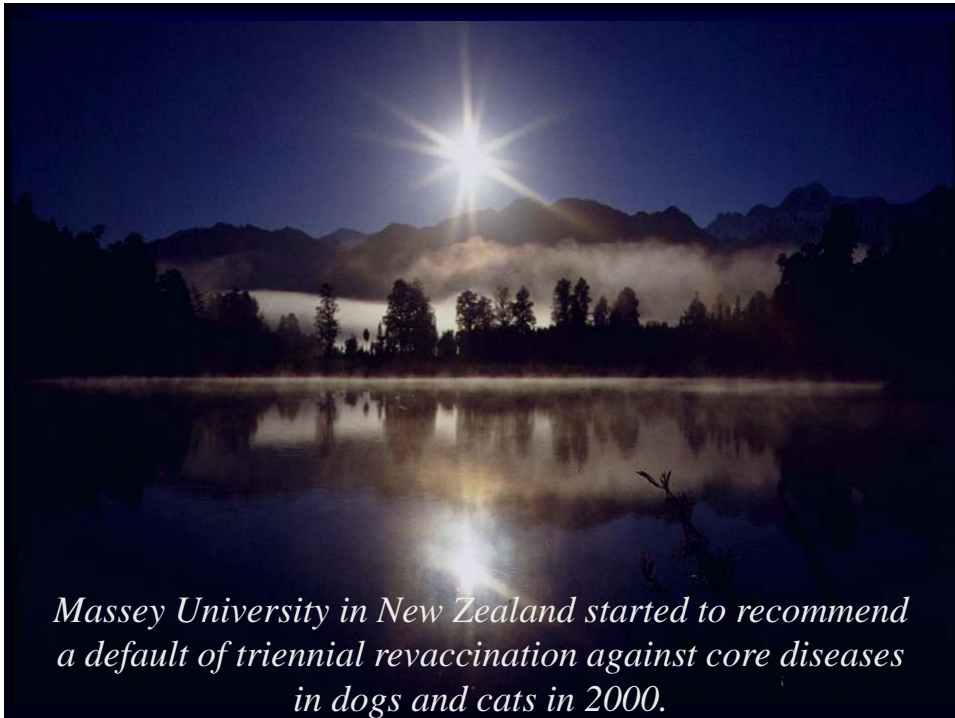
<http://www.aahanet.org/PublicDocuments/VaccineGuidelines06Revised.pdf>

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
Routes of administration	1409
Special considerations	1409
Vaccine antigens	1413
Legal considerations	1426
Vaccine licensing	1427
Vaccine labels	1428
Adverse events and adverse event reporting	1429
Vaccination in shelters and multiple-cat environments	1430
Vaccination of cats in trap-neuter-return programs	1433
Vaccination for kitten socialization classes	1434

Triennial for the core vaccines



*Massey University in New Zealand started to recommend
a default of triennial revaccination against core diseases
in dogs and cats in 2000.*

Canadians

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 Protocols 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.

What's new in the updated position statement?

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 du processus habituel, l'ébauche de l'énoncé de position est soumise aux membres de l'Association aux fins de rétroaction, de commentaires ou de suggestions dans la section des tribunes de discussion du site Web de l'ACMV, avant son achèvement.

CVJ / VOL 49 / APRIL 2008

Europeans

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

SPECIAL ARTICLE

Vaccines and vaccination: the principles and the polemics



Marian C Horzinek and Etienne Thiry

European Advisory Board
on Cat Diseases
www.abcd-vets.org
Corresponding author:
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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)

Members of the VGG

M. J. DAY
Division of Veterinary Pathology, Infection and Immunity, University of Bristol, UK
M. C. HORZINEK (Chairman)
(Formerly) Department of Microbiology, Virology Division, University of Utrecht, The Netherlands
R. D. SCHULTZ
Department of Pathobiology, University of Wisconsin-Madison, USA

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

2009 Australian Veterinary Association



The screenshot shows the Australian Veterinary Association (AVA) website. At the top left is the AVA logo, a circular emblem with a horse and rider. To the right is a banner image featuring a woman, a cat, a frog, a dog, and a horse. Navigation links include HOME, SITEMAP, DIRECTORY, and MEMBERS AREA. A search bar is present. The main navigation menu includes ABOUT US, DIVISIONS, BRANCHES, SIGS, EVENTS, CONTINUING EDUCATION, CONFERENCE, POLICIES, JOIN THE AVA, CLASSIFIEDS, BOOK SHOP, TRUSTS AND FUNDS, MEMBER BENEFITS, COMMUNITY, AVA AWARDS, ARCHIVES, and CONTACT US. The page content is titled "Veterinarians and the new pet vaccination policy" and includes the following text:

Home → About Us → Campaigns & issues
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](#).

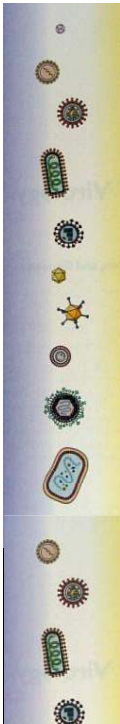
There has been some interest in the media about the new policy. The AVA has sent out two member alerts about this and issued a [media release](#).

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.

On the left side of the page, there are links for "About Us", "Board of Directors", "AVA Constitution", "Code of Conduct", "Corporate Supporters", and "Campaigns & issues". Below these are buttons for "Print this Page", "Text-Only Page", and "Email this Page".



Straightforward recommendations

- ◆ Vaccination is a medical procedure. Feel free to ask questions!
- ◆ Against what diseases should my dog / cat be vaccinated today?
- ◆ What is the practice's position on frequency of revaccination of adult dogs and cats against core diseases?
- ◆ Should any non-core vaccines be used today, in addition to (any) core vaccines?



Straightforward recommendations

For cat owners specifically

- ◆ Does the vet propose to inject an adjuvanted vaccine? Is there an option?
- ◆ Where (anatomically) does the vet propose to inject the adjuvanted vaccine?
- ◆ What should I do if I notice a lump at the injection site later on?



Summary

- ◆ The most important vaccines most dogs or cats ever receive are those they receive as puppies or kittens against the core diseases
- ◆ Modern ‘core’ vaccines are safe and can provide very long-lasting protection. These vaccines are readily available in Australia
- ◆ Non-core vaccines have not been shown to provide such long-lasting protection



Finally...

- ◆ *We have the power to influence:-*
 - Accreditation requirements for kennels and catteries
 - The demands *re* vaccination made by kennels and catteries of their customers
 - Our own expectations