What are 'Maternally derived antibodies (MDA), Parenteral or Passive immunity'?

The first milk the mother produces is called colostrum and it contains antibodies which provide temporary immunity to the young animal. The immune system is not mature at birth and takes time to develop and to react to challenges from local organisms. MDA are important in allowing this to happen in a gradual way.

This temporary immunity given by the mother may interfere with the pup/kitten's ability to mount its own long lasting immunity when given a vaccine. In some pups/kittens, maternally derived antibody levels will fall enough by the time they are 6-8 weeks of age for a vaccine to work. In others, maternally derived immunity goes on for more than 12 weeks.

Specific advice on appropriate vaccination schedules to cater for MDA is contained in the detailed instructions for individual products (the SPC) at www.vmd.gov.uk/ProductInformationDatabase/

What vaccines are available?

There are many vaccines currently in use in the UK. Below are very brief descriptions of the diseases for which vaccines are commonly available. For more information on these diseases please talk to your veterinary surgeon.

Dogs

Some of the available dog vaccines contain these letters in their brand names. The abbreviations mean:

D – distemper
H – canine hepatitis (adenovirus)
P – parvovirus
Pi – parainfluenza
L – leptospirosis.

Distemper

Distemper virus can be fatal, causing fits, uncontrolled muscle contractions (tics) or muscular weakness. It often permanently damages the dog's nervous system, sense of smell, eyesight and hearing. It also causes a discharge from the dog's eyes or nose, as well as sickness and diarrhoea. Other symptoms include coughing, difficulty breathing, increased body temperature, weight loss and loss of appetite.

Canine hepatitis virus (Adenovirus)

Canine Hepatitis is a potentially fatal disease, most commonly found in young, unvaccinated pups. It causes discharge from the nose or eyes, coughing and serious liver and/or kidney disease, appetite loss, sickness, as well as a change in drinking and urination behaviour. The disease is spread by contact with urine from infected dogs.

Parvovirus (Parvo)

Parvovirus is most likely to infect pups up to six months of age, but can infect older dogs and is often fatal in the very young and old. It can cause severe vomiting and blood stained diarrhoea, high temperature and sudden death from damage to the heart can occur. It is easily spread by direct contact between dogs or via owner's clothing and shoes.

Leptospirosis

Leptospirosis is a bacterial disease which causes loss of appetite, sickness, high temperature and discharge from the eyes. The dog may develop liver disease, kidney damage, diarrhoea and increased urination. Infected dogs may die rapidly or much later from kidney failure or even if they recover, they can remain carriers infecting other dogs. It is an infection frequently carried by rats and mice and contamination of water or feed is common where hygiene measures are insufficient.

Parainfluenza

Parainfluenza virus is one of several infectious organisms that cause kennel cough in the UK. In the early stages it causes harsh dry coughing which may be followed by gagging. It is mild and usually goes away on its own unless the dog is very young or has other medical conditions, but it is highly infectious.

Less commonly used vaccines for dogs include bordetella (one of the causes of kennel cough), rabies, corona virus, herpes virus, giardia, lyme disease, and tetanus.

Cats

Some of the cat vaccines contain these letters in their brand names. The abbreviations mean:

P – feline panleucopaenia
R – feline herpes
C – feline calicivirus
FeLV – feline leukaemia virus
Chlam / Ch – feline chlamydophilosis.

Feline infectious enteritis (FIE, feline panleucopaenia, feline parvovirus)

This disease can cause severe sickness and diarrhoea, or sudden death. It can result in brain damage in kittens infected before or shortly after birth. The virus also affects the bone marrow and immune system reducing the production of white blood cells. It can survive for long periods in the environment.

Feline herpesvirus (FHV-1) and feline calicivirus (FCV) – 'Cat flu'

These two viruses are responsible for most of the cases of 'cat flu' and can be fatal. This disease causes sneezing, discharge from the nose and eyes, conjunctivitis, mouth ulcers, inflamed throat, coughing and, rarely, pneumonia and skin infections. Many cats remain carriers of these viruses acting as a source of infection for other cats.

Feline leukaemia virus (FeLV)

Infection with FeLV causes severe damage to the immune system, (increasing the susceptibility to other infections). Most persistently infected cats die due to other uncontrolled infections, progressive anaemia, or through the development of tumours (lymphoma) or leukaemia. FeLV cannot survive outside of the cat for long and is spread from queen to kitten or by direct contact between cats e.g. via exchange of saliva (grooming/bites).

Feline chlamydophilosis (Chlamydophila felis, feline chlamydophila infection)

Infection results in conjunctivitis and discharge from the eyes and nose with sneezing and is most common in kittens and young cats from multi-cat households. This disease is caused by a very delicate organism which cannot survive in the environment and is transmitted only by direct contact between cats.

Bordetella and rabies vaccines are also sometimes used in cats.

Homeopathic 'vaccines'

Nosodes and sarcodes (homeopathic remedies derived from unwell or healthy animals respectively) on the UK market have not been registered under the Homeopathic (simplified) Registration scheme of the Veterinary Medicines Regulations which is intended to provide assurance that products are produced to good quality standards and are safe.

Nosodes and sarcodes have the potential to contain virulent pathogenic organisms from their source material which may pose a serious disease risk to the pet concerned, or even to human health. Homeopathic remedies have not been assessed to see if they provide any protection to the animal. Without evidence of effectiveness, homeopathic nosodes and sarcodes may pose greater risk to pets by leaving them susceptible to disease.

You can also phone the VMD on 01932 336911 for any extra help about veterinary medicines.

Information correct at time of writing September 2010

VETERINARY MEDICINES VMD DIRECTORATE

ASSURING THE SAFETY, QUALITY & EFFICACY OF VETERINARY MEDICINES

Vaccines for Dogs and Cats – Advice for Owners

defra
Department for Environment Food and Rural Affairs

The Veterinary Medicines Directorate is an Executive Agency of the Department for Environment, Food & Rural Affairs

www.vmd.gov.uk

Why should I vaccinate my pet?

Often, there is no complete cure for life threatening diseases such as distemper, hepatitis, parvovirus and cat 'flu. Even the treatments available to ease the symptoms are of limited help. Vaccination is the only proven method of protecting against specific diseases your pet might be at risk of contracting.

There are other diseases, such as kennel cough in dogs, which are less life threatening but where protection can also be provided.

Current rates of infection of pets with serious disease are low in the UK. That is mainly because most owners have their pets vaccinated.

What is a vaccine and how do they work?

Vaccines contain a small dose of either dead or live organisms. These trigger the pet's immune system to produce antibodies against disease. Antibodies are proteins produced by the body to neutralise or destroy disease-causing organisms and toxins.

Vaccination primes your pet's immune system to produce the correct antibodies quickly. If your pet then comes into contact with one of the diseases, its immune system will recognise it and immediately produce the antibodies needed to fight the disease.

However, nothing in the natural world is 100 % certain, including vaccines. A pet may fail to gain enough immunity from a vaccine for a number of reasons which may include the concurrent use of other medicines, the presence of disease at time of vaccination or poor nutrition or a combination of two or more of these. For this reason vaccines should generally only be used in healthy pets. The immunity a mother passes to her newborn pups/kittens through her milk can also block the newborn's ability to create antibodies when it is vaccinated. That is why young animals need to be vaccinated at very specific ages to maximise the chance of providing protection. This is why your veterinary surgeon's advice on the timing of vaccination is important.

How do I know that the vaccines are safe?

The Veterinary Medicines Directorate (an Agency of Defra) regulates all veterinary medicines in the UK, including vaccines. Before any vaccine can be sold in the UK it must pass a strict, independent, scientific assessment. We make sure it is of good quality and safe for the animals, for those giving the vaccine and for the environment. We make sure it is also effective in giving pets protection for a minimum defined period of time.

Details of the way the veterinary medicines can be used and their main characteristics can be found on the product's Summary of Product Characteristics (SPC). These SPCs can be found at: www.vmd.gov.uk/ProductInformationDatabase/

Who can supply vaccines for dogs and cats?

All vaccines for immunising cats or dogs are categorised as POM-V (Prescription Only Medicine-Veterinarian). That means they may only be supplied on prescription by a veterinary surgeon after they have made a clinical assessment of the animal(s) concerned.

What about 'side effects', 'adverse events' and the reported dangers from over vaccinating?

It is extremely rare for any serious side effects to follow vaccinations. Mild reactions such as animals being a little quiet or off their food for a day or so are possible but are short lived. Any adverse effect is generally far outweighed by the benefit of protection against serious disease. The independent Veterinary Products Committee (VPC) reviewed all UK licensed dog and cat vaccines between 1999 and 2002. They concluded: "Vaccination plays a very valuable role in the prevention and control of major infectious diseases in cats and dogs". Although adverse events occasionally follow vaccination, including the suspected failure to work well, the VPC concluded that the 'overall risk/benefit analysis strongly supports their continued use'.

The VMD's assessment of vaccines is based on measuring the benefits and risks shown by scientific data on the product's safety and effectiveness. This means that any possible adverse effects will have been taken into account and weighed up against the benefits of the vaccine. Your veterinarian will also make a clinical benefit/risk judgment related to your individual pet's age, health status, home and travel environment and lifestyle to make sure your pet's vaccination schedule is right for them.

What should I do if I think my pet has had an adverse reaction to a vaccine?

First talk to your veterinary surgeon in case treatment is needed. If you or your veterinary surgeon suspects that your pet has suffered an adverse reaction to any veterinary medicine they should contact the VMD's Suspected Adverse Reaction Surveillance Scheme (SARSS – see below) or use the on-line reporting system at www.vmd.gov.uk.

To report adverse events please contact:

Veterinary Medicines Directorate
FREEPOST KT4503
Woodham Lane
New Haw
Addlestone
Surrey KT15 3BR

Tel: 01932 338427
E-mail: sarss@vmd.defra.gsi.gov.uk

This can be done confidentially. The VMD will pass the details of the case to the Marketing Authorisation holder, but if you want to remain anonymous tick the appropriate box on the form and your contact details will be deleted.

Travelling abroad with your pet

Pets must have an effective Rabies vaccination (and other medications) if you want to use the Pet Travel Scheme (PETS). This scheme allows dogs, cats and ferrets to come into the UK from certain countries without quarantine if they meet certain conditions. See www.defra.gov.uk for full details of the scheme. Vaccines for other diseases may be available in other countries where they are needed.

Why do vets vaccinate pups and kittens at different ages?

The authorised timings for first vaccinations are found on the product's SPC. They set out what are normally the best ages for first and subsequent vaccination(s) of young pups and kittens. Veterinary surgeons usually follow this schedule but they will consider other factors related to your individual pet when deciding how best to apply the authorised vaccination timings. These may include:

- The level of immunity of the mother – this affects the amount of antibodies given by the mother's milk (MDA)
- The nutritional and health status of the pup/kitten
- The level of risk from disease that the pup/kitten faces in its particular environment and amount of contact with other animals and people.

How often should my pet be vaccinated as it gets older?

It is important to recognise that immunity following the initial vaccination of pups and kittens may not be life-long. Booster vaccinations are recommended to maintain good protection. For some diseases, annual boosters are recommended, but there are other diseases where the interval between vaccinations may be at least 3 years or longer.

The authorised re-vaccination schedule for a vaccine, (found on the product's SPC) will recommend a re-vaccination interval. Other factors which your veterinary surgeon will take into account when recommending a vaccination schedule for your individual pet may include:

- What diseases pose a risk to the pet from its local environment and from other animals which it meets?
- How large are these risks?
- How healthy is your pet at the moment?

These factors may all influence the period of protection (duration of immunity) which the vaccination can provide.

Why do all dogs and cats get the same vaccine dose, whatever their size, or breed?

When we give a dose of vaccine we give enough to stimulate the body's immune system to generate a protective response. The immune system in fact needs the same degree of stimulus regardless of the body mass or breed. So we usually need to use exactly the same dose of vaccine for a Chihuahua as for a Mastiff. The same principle applies to cats, which is why a kitten will receive the same dose as an adult cat.

It is different when we give medicines such as antibiotics or wormers. The effect of these often depends on getting a certain concentration of the active ingredient into the body of the animal. For this reason the larger the animal, the greater the total dose needed to achieve the required effect.

What is 'Onset of immunity'?

This is the time between the vaccine being given and the animal mounting an immune response by producing enough antibodies to protect itself from the disease in question.

What is 'Duration of immunity'?

This is the length of time the immunity lasts at a high enough level to be able to protect the animal from the disease. We base the recommended length of time between vaccinations on this. Duration of immunity can vary for individual animals depending on the nature of the disease and how much your pet is naturally exposed to the disease. In recent years, research has shown that some disease antigens are normally more 'stimulating' and 'memorable' to the immune system than others. We now consider that immunity to canine parvovirus, infectious canine hepatitis and canine distemper usually lasts for up to four years and some studies suggest it may be longer. For rabies and panleucopaenia in cats immunity is usually considered to last for three years. However, immunity to cat 'flu, leptospirosis or kennel cough may only last for 12 months.