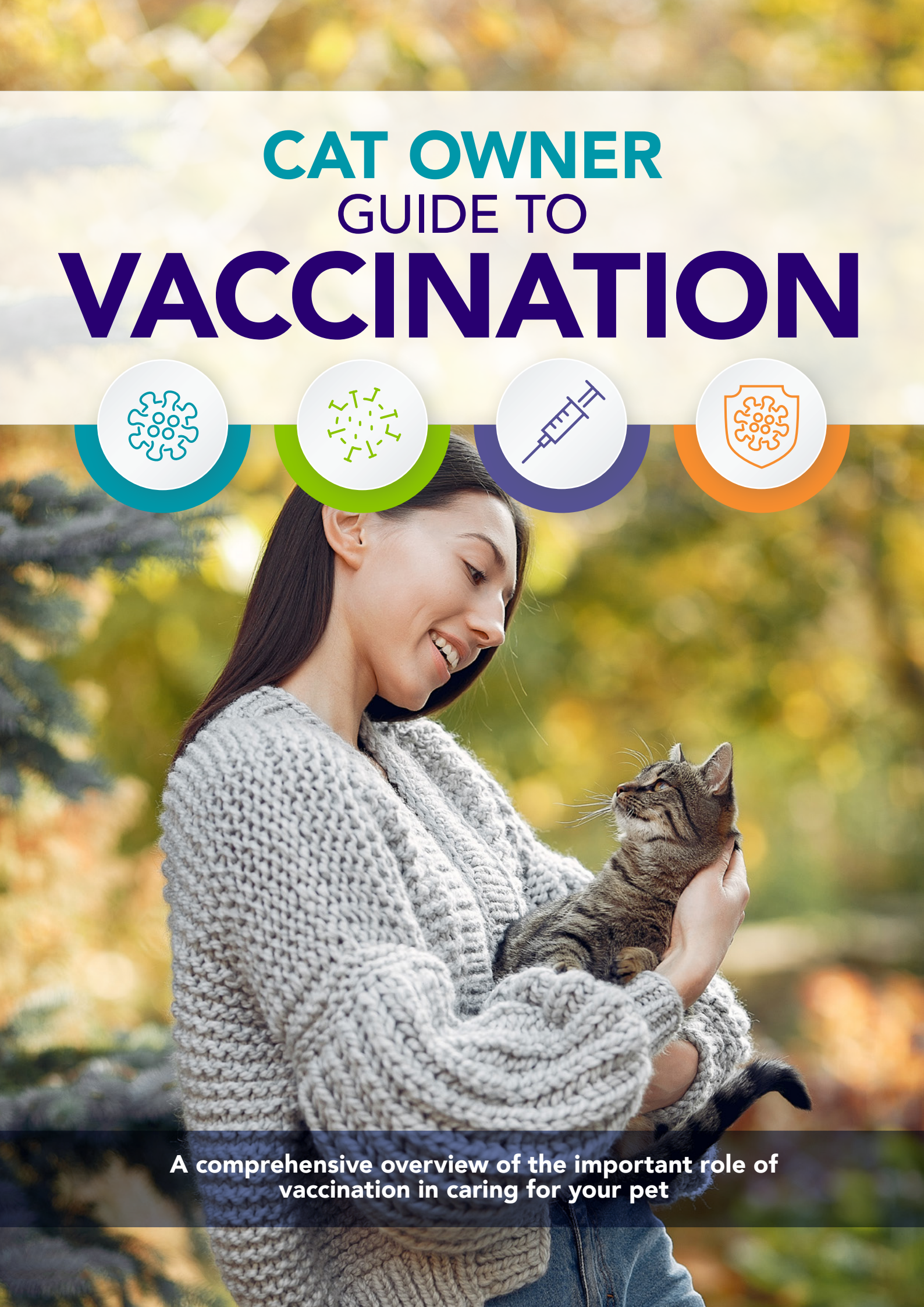
CAT OWNER GUIDE TO VACCINATION



A comprehensive overview of the important role of vaccination in caring for your pet

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Understanding Vaccines

Infectious diseases once killed thousands of pets each year. But then we started vaccinating. **Vaccination became one of the greatest success stories of veterinary medicine, saving countless lives.** The COVID-19 pandemic has served as a reminder about the vital role that vaccination plays in disease control. This guide provides a comprehensive overview of the important role of vaccination in caring for your pet and the serious diseases they protect against.

Why Vaccinate?

The simple answer is that vaccination saves lives. Many of the diseases that we vaccinate against, such as panleucopaenia and feline leukaemia, are killers. Other diseases, such as cat flu, may not always result in such serious outcomes, but are very distressing and highly contagious. We love our pets and want to do our best to take care of them, and vaccination plays a key role in protecting their health.

How do vaccines work?

Before getting into the details, it's useful to understand a little about how our pets' bodies (and ours) fight disease. Our pets are exposed to lots of germs (bacteria, viruses, parasites and fungi) every day. Most of these are harmless but others, known as pathogens, have the potential to cause harm. When a pathogen does infect our pets, their body's defences, known as the immune system, kick in to attack and overcome the pathogen.

THE IMMUNE SYSTEM

The immune system is incredibly complex, and there are various layers of protection, from non-specific physical defences such as skin to highly effective and targeted responses such as antibodies. The more effective and specific responses take time to develop, so it's often a race against time for our pet's bodies to produce antibodies that can fight off the invading pathogen. While the immune system is learning how to fight the pathogen, our pets can become ill. If the immune system wins the battle (thankfully it usually does), the good news is that it can "remember" the specific pathogen, so that if our pet is exposed again, the response will be faster and more effective. And that's where vaccines come in – they can "train" the immune system to recognise and fight a disease- causing pathogen.

VACCINATION

Vaccination confers immunity by exposing the body to a relatively harmless or weakened form of a pathogen. This means that when natural infection does occur, the immune system is able to produce a much faster and stronger response. It is this quick and strong response of a vaccinated animal's immune system that prevents or reduces the risk of disease from becoming debilitating and spreading to others. There are various ways of altering a pathogen to render it harmless and suitable for use as a vaccine, resulting in different types of vaccine. Regardless of the vaccine type, the weakened version will not cause the disease in the pet receiving the vaccine, but it will prompt their immune system to respond in a similar way as it would to the actual pathogen.

WHAT DISEASES DO WE VACCINATE AGAINST?

Infectious diseases are always out there. Although we seem to have certain diseases under control, we should not forget that it is vaccination that keeps them under control. Please see the graphic for a quick overview. Detailed information is also provided on each disease.

CAT FLU

Remains a frustratingly common disease, and can be very serious, especially in kittens and elderly cats. It is spread between cats by direct contact or through sneezing. Several infectious agents are known to cause the disease, all producing similar symptoms such as a runny nose and eyes, high temperatures and possibly even death.

FELINE LEUKAEMIA

A viral disease, transmitted by close contact, such as grooming or fighting. The disease can take months to develop after infection but then it begins to suppress the cat's immune system, causing secondary infections, tumours and death. Not long ago, feline leukaemia was both widespread and common, but vaccination is now gradually bringing it under control.

FELINE PANLEUCOPAENIA

Also known as feline parvo, this is an unpleasant and often fatal viral infection that causes severe, usually fatal, disease in kittens. The virus can survive for long periods in the environment, and be carried on clothing, footwear, equipment etc., so even cats that don't come into contact with other pets, such as indoor cats, are at risk.

CHLAMYDOPHILA FELIS

Some cats are vaccinated against this common cause of potentially severe conjunctivitis. It is mainly seen in kittens in multicat households.

RABIES

This fatal disease is not found in the Republic of Ireland or in the UK. Vaccination is however mandatory if you plan to take your cat abroad.

CAT FLU

DISEASE SEVERITY: MEDIUM

RISK OF INFECTION: VERY HIGH

Cat flu (also known as feline upper respiratory tract disease) is a general term used to describe a common set of symptoms affecting the upper respiratory tract (i.e, the nose, eyes, throat) in cats. The severity of the disease ranges from mild in some cases to severe, even fatal infections. In all cases it is highly infectious spreading rapidly from cat to cat.

Cause

The main viruses involved are feline herpesvirus (FHV) and feline calicivirus (FCV). There are lots of different strains of FCV, some of which are more dangerous than others. Some rare strains cause very serious, often fatal, infections. Other infectious agents (e.g. *Bordetella bronchiseptica*, mycoplasma spp., reoviruses) can also be involved in causing similar signs of respiratory disease, but it is believed that around 80% of cases are caused by either FHV-1, FCV or a dual infection with both viruses.

How cats become infected

Cats usually become infected by coming into contact with an infected pet, and the disease spreads easily from one cat to another. Feline calicivirus can survive for several weeks in the environment, so can be spread via food bowls, litter trays, bedding and grooming equipment. This means that your cat doesn't necessarily have to come into direct contact with other cats to become infected. It can also be difficult to tell if a cat is shedding virus particles; following recovery some cats can shed virus continuously or intermittently for months or even years after the original infection, even when they look perfectly healthy.

Which cats are at risk?

Young cats, less than one year old, are most commonly affected, and kittens can easily become infected before they are vaccinated. However, any cat that has not been vaccinated or has a weakened immune system is susceptible.

Cats with outdoor access who might roam or encounter other pets, such as unvaccinated or stray cats, are particularly at risk.

Signs of disease

There are many signs to look out for, including:

- Sneezing
- Runny eye or nose
- Drooling
- Quiet and subdued behaviour
- Loss of appetite

- High temperature
- A cough or hoarse 'miaow'

Feline herpesvirus can cause severe and potentially life-threatening illness, especially in kittens. In some cases, signs can persist, typically causing eye problems such as inflammation and ulcers. Feline calicivirus is usually associated with a milder form of cat flu. In kittens, it can cause lameness and a high temperature. This is a transient problem, usually only lasting a few days and there will often be signs of respiratory disease at the same time. In adults, sometimes the only sign of infection is painful ulcers, found on the tongue, roof of the mouth or the nose. Rarely, outbreaks of a much more serious disease have been associated with certain strains of FCV, referred to as "virulent systemic disease". Infection with these strains can result in very severe disease and up to 50% of affected cats can die. Feline calicivirus is also thought to be involved in a condition called chronic gingivostomatitis (inflammation of the mouth and gums).

CAT FLU: **TREATMENT AND PREVENTION**

There is no specific treatment for cat flu and care usually involves supportive therapy such as administration of fluids. Good nursing care is essential and can involve gently wiping the eyes and nose to remove any discharge and relieving congestion using a bowl of hot water to increase humidity. Cats suffering from cat flu often go off their food, and can be tempted to eat by warming up and blending tasty, strong smelling foods. Antibiotics might be needed if bacterial infections develop and antiviral drugs are sometimes used.

In multi-cat households, newly introduced cats should undergo a period of strict isolation from all the other cats before they start mixing. This quarantine period is also important because the stress of re-homing may trigger clinical disease and/or virus shedding in a cat that carries herpes virus.

Vaccination is an important way to reduce the risk of disease, although vaccines may not provide 100% protection in all cases, due to the numerous different virus strains in circulation. However, currently available vaccines have been shown to protect against a broad range of strains and all cats should be regularly vaccinated against cat flu.

FELINE PANLEUCOPAENIA (INFECTIOUS ENTERITIS)

DISEASE SEVERITY: HIGH

RISK OF INFECTION: MEDIUM

Feline panleukopaenia, also known as infectious enteritis and feline parvo, is a highly contagious, often fatal, viral disease of cats that is seen worldwide. Panleukopaenia refers to a decrease in all types of white blood cells. The virus is very similar to the one that causes parvovirus in dogs.

Cause

Feline panleucopaenia is caused by Feline Panleucopaenia Virus (FPV) and is closely related to the canine parvoviruses (CPV) that cause canine parvoviral enteritis. The virus can infect all types of cat and some relate species, such as raccoons and mink

How cats become infected

Cats can become infected from direct contact with another infected cat, but contact with the virus in a contaminated environment is the most likely source of infection. The virus can survive in the environment for long periods (many months or even years) and is resistant to many cleaning products and disinfectants. The virus can also be spread by people who have not washed their hands appropriately between handling cats, or by materials such as bedding, food dishes or equipment that has been used for other cats. This means that indoor cats are also at risk. Kittens may also be infected inside the womb by the virus passing across the placenta from the queen, if she is infected while pregnant.

Which cats are at risk?

All unvaccinated cats are at risk but kittens and young cats are most susceptible and most severely affected. Pregnant queens and cats with dysfunctional immune systems are also at higher risk of infection.

Signs of disease

The severity of signs can vary, depending on factors such as the age of the infected cat. In young kittens the disease can progress so rapidly that no signs of illness are seen. In symptomatic cases, diarrhoea, vomiting and high temperature can be seen. Sick kittens can deteriorate very quickly because once they stop eating and drinking, they become severely dehydrated. The virus can also damage the immune system, leaving the cat vulnerable to other viral and bacterial diseases that may prove fatal. Older cats tend to be less severely affected and, if queens are infected whilst they are pregnant, they often show no signs of illness. The unborn kittens, however, can be infected within the womb and this may lead to abortion or congenital brain abnormalities in kittens which survive until birth.

FELINE PANLEUCOPAENIA: **TREATMENT AND PREVENTION**

Treatment can be very difficult in severe cases but includes supportive and nursing care. Antibiotics might be used to treat bacterial infections which develop due to the damage caused by the virus.

Vaccination of kittens is the most important way to protect cats from acquiring a panleukopaenia virus infection. Boosters are required to maintain immunity and it is essential that queens are up-to-date before any planned breeding.

FELINE LEUKAEMIA

DISEASE SEVERITY: VERY HIGH

RISK OF INFECTION: LOW

Feline leukaemia is a disease syndrome caused by a viral infection. It is associated with the occurrence of tumours and anaemia in cats but also suppresses the cat's immune system, leaving the cat susceptible to a variety of other problems. This is similar to the diseases seen in humans with the AIDS virus. Due to vaccination and testing, the disease is seen less commonly than previously, but it remains a risk for cats that come into contact or fight with other cats.

Cause

It is caused by feline leukaemia virus (FeLV), a retrovirus. In addition to domestic pets, the virus can also infect small wild cats, such as lynxes and panthers.

How cats become infected

Infected cats shed large amounts of virus in the saliva, urine, tears and milk and infection is transmitted through "friendly" activities such as mutual grooming and sharing of food bowls, as well as "unfriendly" activities such as fighting or biting. The virus does not survive for long outside the host and is readily destroyed by disinfectants, soap, heating and drying. It can also be transmitted via contaminated needles or blood transfusions.

Which cats are at risk?

Young kittens are especially susceptible to FeLV infection, and cats become increasingly resistant as they get older. Cats that live with other cats, or cats which have outdoor access and could meet other cats are at risk.

Signs of disease

The disease is quite complex and there can be a variety of outcomes following infection. Some cats fight off the

virus, others become infected but don't show any signs, and others develop what is called progressive disease. In the latter case, the outcome is usually fatal, although the signs of infection can take months or years to develop. The disease can manifest in a variety of ways, and the symptoms might include:

- Loss of appetite
- Slow but progressive weight loss, followed by severe wasting late in the disease process
- Poor coat condition
- Persistent fever
- Anaemia (Pale gums)
- Inflammation of the gums (gingivitis) and mouth (stomatitis)
- Infections of the skin, bladder, and upper respiratory tract
- Persistent diarrhoea
- Seizures, behaviour changes, and other neurological signs
- Abortion of kittens or other reproductive failures
- Development of tumours – lymphoma is the most common

FELINE LEUKAEMIA: **TREATMENT AND PREVENTION**

Cats with a confirmed diagnosis should be kept indoors, to prevent spread to other cats in the area and also to reduce the risk of the infected cat picking up other diseases. There is no cure, and treatment usually involves management of any secondary complications that develop, such as antibiotics for bacterial infections.

Chemotherapy can be used to treat tumours, although prognosis is quite poor.

Vaccination is recommended for cats at risk of picking up the infection, and your vet can advise you on the most appropriate vaccination programme for your pet.

WHICH VACCINES DOES MY PET NEED?

Your vet is the best source of advice about vaccination, and they will advise the most appropriate vaccination regime based on your pet's needs. We have outlined some general guidance below:

CORE AND NON-CORE VACCINES

Vaccines are divided into two major categories – core and non-core. Core vaccines are those that protect your pet against common, fatal conditions, and every pet should receive these without fail. In Ireland, core vaccines for cats include those that protect against cat flu and feline panleucopaenia.

Feline Leukaemia is considered a non-core vaccine, but any social cat that meets other cats should be protected.

Vaccination against *Chlamydophila felis* might be recommended in some cases, such as multicat households with a history of problems. Your vet can advise you if vaccination is required.

Rabies is an example of a non-core vaccine but is mandatory for cats travelling abroad. Ask your vet for advice and try to plan well in advance if you intend to take your cat outside of the country.

KITTEN VACCINATIONS

Kittens are usually protected during the first few weeks of life by an immunity passed through the mother's milk (colostrum). However, this immunity fades rapidly, leaving the kitten susceptible to disease within a few weeks. At this point, vaccination can begin to take over in providing much needed protection.

The first time a kitten is vaccinated, a course of two injections is usually given, separated by a few weeks. This initial course of vaccines, referred to as the primary course, can be given as young as eight weeks of age – but if you acquire a kitten that's already older, talk to your vet as soon as possible about starting a vaccination course.

Vaccination doesn't work immediately; it usually takes a couple of weeks for immunity to develop. Your vet will advise you on when it's safe to let your kitten interact with other animals

BOOSTER VACCINATIONS

Immunity to disease may gradually fade, leaving your cat at risk. The duration of protection varies from disease to disease, and from cat to cat. Some vaccines are licensed to protect pets for up to three years against certain diseases. But it's vital to realise that protection is much shorter for some diseases and an annual visit to your vet will allow for a general health check and for any necessary boosters to be given.

EXAMPLE VACCINATION PROTOCOL FOR SOCIAL CAT THAT GOES OUTDOORS

	Initial course	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8 (and so on)
Cat flu and panleucopaenia	2 or 3 injections from 8 weeks	**Yes**	**Every 1 to 3 years***						
Feline Leukaemia	2 injections from 8 weeks	**Yes**	**Every 1 to 3 years***						

**Depending on the vaccine used and risk level*

If it's been more than 12 months since your pet was vaccinated, contact your vet today

This guide is provided for information purposes and is not intended as a substitute for veterinary advice. Please speak to to your vet if you have any questions about vaccination or concerns about your pet's health.

*Survey of Irish veterinary professionals

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