

Feline Immunodeficiency Virus (FIV)

What is FIV?

Feline Immunodeficiency Virus (FIV) was first discovered in 1986, but has been associated with cats for very much longer.

It is a retrovirus. In the infected cat, a copy of the viral genes is inserted into the cat's genes. Once the virus is established in the cells, the infection is permanent.

FIV **only** affects cats
FIV poses **no danger** to humans or other animals

How do cats catch it?

FIV is a fragile virus, living for only a short time outside the cat's body. For this reason, it cannot be transmitted indirectly (that is, on food bowls, litter trays, hands, etc). Transmission appears to be mainly by biting. FIV is commonest in feral cats and older, free-roaming male cats who tend to have lots of fights.

Sexual transmission has never been demonstrated, but it must be remembered that the tom holds onto the scruff of the queen with his teeth during mating and can easily puncture her skin.

Will the kittens of an infected queen be infected?

Infection rarely crosses the placenta to the unborn kittens and there are only occasional reports of kittens born to FIV-positive queens being infected. Usually, these cases arise when the queen is in the early stages of infection. It has been reported that an FIV-infected queen can infect her kittens within the first few weeks of life, presumably when grooming them, with her infected saliva. However, this does appear to be a rare occurrence.

The kittens of an infected queen will test positive in FIV tests, which detect FIV antibodies. This is because the mother's antibodies will pass into the kittens, via her milk, when they suckle. These antibodies disappear in most kittens by around 14-16 weeks, so the kitten should then test FIV-negative.

Young kittens should **NEVER** be destroyed because they have a positive FIV test

Kittens over 4 months old should be re-tested for an accurate picture of their FIV infection status.

Which cats are most likely to be infected?

FIV is more commonly found in middle-aged to older cats (5-10 years) and is most prevalent in feral and stray cats. The disease has been isolated in all countries that have looked for it.

What clinical signs do FIV-infected cats show?

Clinical signs of FIV infection vary widely from case to case. Cats often develop raised lymph nodes 6-8 weeks after initial infection. These may persist for several months and the cat may have a raised temperature. An infected cat is sometimes also lethargic and can have persistent diarrhoea or conjunctivitis. These signs may last days or weeks, then the cat returns to apparent health.

Many FIV-positive cats are apparently healthy for years. The effect of the virus on the body is to deplete the number of white blood cells - called *helper T cells* - which will eventually impair the cat's ability to fight infection. One commonly reported sign of FIV is *gingivitis* (inflammation of the gums).

Other common signs are:

- Sneezing
- Snuffling
- Discharge from the nose or eyes
- Raised temperature
- Diarrhoea
- Kidney failure

The eyes or brain may become affected, with changes in character reported in about 5% of cases.

Finally, the cat may become overwhelmed by an infection and have to be euthanased.

Is there any treatment?

Treatment consists of dealing with whatever signs the cat exhibits. If the cat develops gingivitis, your vet may need to remove some bad teeth and clean the others. Antibiotics will be needed to fight infections. Terminally ill cats lose weight and go off their food and will have to be humanely euthanased.

Is there a test?

The routinely used FIV test is a test for FIV antibodies. Cats become FIV-positive from about 4-6 weeks after infection. Some veterinary laboratories are able to test cats for the virus itself, but this is difficult and more time-consuming than the antibody test. All positive ELISA and *Rapid Immuno-Migration* (RIM) results should be confirmed by another test such as a *western blot*, or *immunofluorescence* because **false positives** can occur using the ELISA and RIM tests alone. Rarely, false

negatives occur - in early infection - before antibodies have developed, or in some terminal cases where the high virus load binds up the antibodies available for testing. Testing for the virus itself may need to be done to determine whether the cat is definitely infected.

Kittens born to an FIV-positive queen will have a positive test result because of the antibodies they receive in their mother's milk

FIV-positive kittens should **NOT** be euthanased - they should be retested after they reach 4 months of age, or can be tested for the presence of FIV DNA in their blood by Bristol University.

Which cats should be tested?

All feral and stray cats, sick cats and older, un-neutered male cats.

Should FIV-positive cats be vaccinated against other diseases?

FIV-positive cats should be vaccinated against cat 'flu, enteritis, FeLV, etc so they will have the optimum chance of fighting natural infection should they meet it.

Is there a vaccine?

No vaccine currently exists, though researchers all over the world are trying to develop one.

Can you prevent a cat from becoming infected with FIV?

Only by stopping it from ever going outside and meeting infected cats, which may reduce the quality of life for some cats who love to go outdoors. Neutering may help, since it reduces the tendency to wander and fight. Neutering vouchers may be obtained from Cats Protection to help people on low incomes pay the cost of the operation.

Should FIV-infected cats be allowed outdoors?

The question of whether an FIV-infected cat should be allowed access to the outside world is an ethical one which really only the cat's owner can decide. If the infected cat is an habitual fighter, then it is not fair to other cats in the area to allow it outdoors.

Should boarding catteries accept FIV-positive cats?

Boarding catteries should have no qualms about taking in an FIV-positive cat since FIV cannot be spread by sneezing, food bowls, etc, although the cat should obviously not be allowed to mix with other cats. However, owners must remember that FIV-positive cats can suddenly become ill and deteriorate very rapidly.

Can Cats Protection home a healthy, FIV-positive cat?

If a cat is in good health and has tested positive by ELISA and has been confirmed positive by immunofluorescence or western blot (available from

Glasgow University) then the question arises about whether or not it can be homed. CP Headquarters has no desire to dictate policy on this important issue. Each case will be different and the decision is best made by each individual fosterer, in conjunction with their veterinary surgeon. However, the following guidelines may help:

- Absolute honesty is **essential**. No CP fosterer should ever knowingly rehome an infected cat without first informing the new owner. These cats, with their impaired immune systems, need prompt veterinary treatment for even the most minor infection. Where one might be tempted, with an ordinary cat, to say, "wait a day and see what happens," one should never do so with an FIV-positive cat. It should always see a vet immediately.
- A healthy, FIV-infected cat may live for many years - but then again, it may not. This should be made clear to the new owner.
- Whilst FIV is **not** a very infectious disease, it must be realised that it can spread to other cats. FIV-positive cats should only be homed to households with no other cats, or with only other FIV-positive cats.
- Kittens with FIV-positive mothers may give positive test results because of antibodies from their mother's milk. FIV-positive kittens should **never** be euthanased and should be retested at 4 months old - when most will have become FIV-negative. They can then be homed as normal cats.

New PCR (polymerase chain reaction) test from Bristol University

A new test has recently been developed by [Langford Veterinary Diagnostics](#) at Bristol University which can detect the presence of the FIV virus in the cat's blood, rather than just the presence of antibodies. This test quantifies the amount of FIV DNA in the cat's blood and is especially useful for the early testing of kittens.