

# Feline Upper Respiratory Infection

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## BASIC INFORMATION

### Description

Feline upper respiratory infection (URI) complex is a highly contagious infection with one or more viruses and bacteria.

### Causes

The most commonly involved agents are feline herpesvirus 1 (FHV-1 or feline rhinotracheitis), feline calicivirus (FCV), and the bacteria, *Bordetella bronchiseptica*, *Chlamydomphila felis*, and *Mycoplasma* species.

URI may develop from a single agent, or it may be a mixed infection. Mixed infections often begin with FHV-1 or FCV infection. Direct contact with infected secretions is the most common way that URI is spread from cat to cat. FCV is easily transmitted via fomites (inanimate objects). In some cats, acute disease is followed by a period of latency (dormancy). Cats infected with FHV-1, FCV, *B. bronchiseptica*, or *C. felis* often become long-term carriers and intermittently show clinical signs (often after some stressful event).

### Clinical Signs

The most common signs are nose and eye discharge, conjunctivitis, lethargy, and decreased appetite. Sneezing and fever may also occur. FHV-1 infection may cause salivation and various eye diseases. FCV infection may cause oral ulcers, but sneezing is usually less common. Severe conjunctivitis may be the only sign with *C. felis* infection. *B. bronchiseptica* and rhinotracheitis may cause coughing.

Pneumonia and other generalized signs can occur with complicated infections. Unvaccinated and young cats are most susceptible to complications, such as secondary bacterial infections. Secondary bacterial infections or *B. bronchiseptica* may lead to bronchopneumonia. Lameness may develop with FCV and mycoplasmal infections.

A particular strain of FCV can cause severe illness, with a high death rate. Although this strain is uncommon, it spreads quickly throughout a facility and affects both vaccinated and unvaccinated cats.

Severe URI, especially in young cats, can cause permanent damage to the nasal passages. Affected cats have lifelong upper respiratory problems, such as nasal congestion, conjunctivitis, and bacterial infections of the nose and sinuses.

### Diagnostic Tests

A tentative diagnosis is often made from the clinical signs and history, especially if the cat has recently been exposed to other cats or stressed. In mildly affected cats, no other testing may be pursued.

In cats with more severe disease, routine laboratory tests may be recommended, and chest x-rays may be done if pneumonia is suspected. Conjunctival scrapings, oral swabs, and samples from the trachea may be submitted to identify the organism involved.

Skull x-rays, computed tomography (CT scan), or magnetic resonance imaging (MRI) may be needed in cats with chronic nasal disease. Rhinoscopy (examination of the nose with a fiberoptic viewing scope) may also be considered.

## TREATMENT AND FOLLOW-UP

### Treatment Options

Treatment of uncomplicated URI is mainly supportive. To encourage eating, warm the food or offer strong-smelling foods, such as tuna. If the cat refuses to eat, force-feeding or insertion of a feeding tube may be considered. Humidifying the environment can loosen respiratory secretions and improve breathing. Fluid therapy may also be helpful. Antibiotics, such as amoxicillin or doxycycline, may be given for bacterial infections. Cleansing of the eyes and application of topical medications is commonly needed. Oral lysine may be given if FHV-1 infection is suspected.

Cats with pneumonia may require hospitalization, intravenous fluids, antibiotics, and supplemental oxygen. Inhalation therapy with saline, a bronchodilator drug, and/or antibiotics may also be recommended.

### Follow-up Care

It is important to prevent the spread of this disease to other cats by taking the following steps:

- Isolate clinically ill cats.
- Keep recovered cats away from unvaccinated or immune-compromised cats.
- Most of the agents that cause URI are inactivated by bleach. Disinfect all contaminated cages, bowls, brushes, litter boxes, equipment, and other items with a solution of bleach diluted in water (1:32).
- It is sometimes necessary to close facilities that house cats when outbreaks of feline URI occur, particularly with FCV.

Vaccines are available for FHV-1 and FCV, and they are routinely recommended for all cats. Vaccines do not prevent all infections, but they decrease the severity of the disease. Vaccination for *B. bronchiseptica* may also be recommended for some cats.

It is possible for *C. felis* and *B. bronchiseptica* to be transmitted from cats to immune-compromised people, so preventive measures should be taken when caring for an infected animal.

### Prognosis

For most cats, prognosis is very good. URI can be life-threatening, however, in kittens, older cats, nursing mothers and their kittens, and any cat whose immune system is already compromised by other illnesses. For cats with pneumonia, prognosis depends on the severity of the pneumonia and the presence of other diseases and complications.