

# Inflammatory Disease (Meningoencephalomyelitis)

Inflammation can occur in the brain (encephalitis), the coverings of the brain and spinal cord called the meninges (meningitis), and more rarely, the spinal cord (myelitis). These conditions are sometimes referred to all together as *meningoencephalomyelitis*.

## Signs

The type and severity of clinical signs we see with meningoencephalomyelitis depend on the part of your pet's nervous system that is being affected. If multiple parts of the nervous system are affected, multiple clinical signs will be present.

### Signs may include:

- Seizures
- Walking in circles
- Changes in behavior
- Lack of balance
- Blindness
- Head tilt
- Droopiness on one side of the face
- Pain
- Inability to walk

While it is possible for any pet to be affected by meningoencephalomyelitis, cats are rarely affected. The patient is usually a young adult, small breed dog, and certain breeds are more likely to be affected, like:

- Yorkies
- Maltese
- Chihuahuas
- Terriers
- Pugs
- French bulldogs

## Causes

Inflammation in dogs and cats can be due to either infectious or autoimmune causes.

Infectious causes of inflammation are more common in cats. Infections can be caused by bacteria, viruses, fungi, or other organisms.

Autoimmune causes of inflammation are more common in dogs. Normally, the immune system acts to protect the body from threats. The body relies on the immune system to recognize infections as threats and itself as safe. In dogs with autoimmune meningoencephalomyelitis (also known as meningoencephalomyelitis of unknown etiology, or MUE), the immune system loses the ability to distinguish between the self and nonself and mounts an inflammatory attack against normal, healthy tissue.

No reason has been found to explain why certain pets are affected by meningoencephalomyelitis more than others, but the fact that some breeds appear to be more predisposed than others suggests a genetic factor.

## Diagnosis

Definitive diagnosis is made by analyzing a sample of diseased brain or spinal cord, which is not possible in live animals. Therefore, meningoencephalomyelitis is diagnosed by MRI in conjunction with cerebrospinal fluid (CSF) analysis.

Generally, these are the steps taken:

1. A neurological exam determines what part of the nervous system is affected.
2. Blood tests screen for general health and look for any signs of disease or infection elsewhere in the body.
3. Magnetic resonance imaging (MRI) reveals any characteristic changes consistent with inflammation, as well as ruling out other diseases.
4. Cerebrospinal fluid (CSF) analysis will show the type and severity of inflammation by looking at the number of inflammatory cells and protein levels, in addition to checking for certain infections.

## Treatment

If an underlying infection is found, appropriate treatment may include antibiotics or antiviral medications. However, meningoencephalomyelitis in dogs is most often autoimmune. Therefore, treatment is typically targeted at decreasing the inflammation and suppressing the overactive immune system.

Corticosteroids are often used as the initial therapy. These types of steroids are used as anti-inflammatories at lower doses and immunosuppressives at higher doses. Common side effects include panting, increased thirst, increased urination, and acting hungrier than usual. However, pets on corticosteroids do not need more calories and should continue to be fed their usual diet.

Typically, a secondary immunosuppressive medication is added. These drugs are often helpful in increasing response to treatment, allowing us to reduce the steroid and its side effects. In some cases, patients may require more than two medications.

## Prognosis

The prognosis for meningoencephalomyelitis is variable. Many pets will respond to medications and have prolonged survival with an excellent quality of life, whereas others can suffer relapses. Sadly, there are some patients that do not respond to treatment and ultimately succumb to the disease.

Typically, meningoencephalomyelitis is a lifelong diagnosis. Treatment is aimed at controlling the clinical signs, but there is no cure. The goal is to find the lowest possible dose of medications to control your pet's clinical signs. However, some pets may retain permanent neurological deficits.

Although most pets will require lifelong therapy, some patients will be able to eventually be taken off of all medications.

## Frequently Asked Questions

**Can I give my pet parasite preventative (flea, tick, heartworm, etc.)?**

Yes, please! However, if your pet has a history of seizures, please be sure to consult your neurologist about which preventatives are recommended for patients with seizures.

**Can my pet get vaccinated?**

When we are suppressing your pet's immune system, we do not recommend vaccinations, as vaccines work by stimulating the immune system. Therefore, it is recommended that your pet only socializes with vaccinated pets and avoids other potential sources of infection such as rivers, streams, and ponds. Once your pet is on a lower dosage of medications, vaccination may be possible. Every pet is an individual, so please consult your neurologist about the best plan for your pet.

Learn more about  
Inflammatory  
Disease

