

## Immune-Mediated Polyarthritis (IMPA)

Immune-Mediated Polyarthritis (IMPA) is a disease in which the immune system mounts an inflammatory response within the joints causing pain, swelling, and difficulty walking.

### Cause

In IMPA, the immune system is inappropriately activated to send white blood cells to the joints. The white blood cells release chemicals and enzymes into the fluid that bathes the joints, disrupting the protective function of this fluid. Because the white blood cells are attacking the joints inappropriately, IMPA is referred to as an auto-immune disease. The immune system has both pro-inflammatory and anti-inflammatory chemical triggers as well as recognition of its own cells; an auto-immune or immune-mediated condition is one in which these mechanisms are deranged. In autoimmune conditions, the full force of the immune response is activated against the body's own cells. IMPA can occur independently or in combination with a more severe immune-mediated disease in which other body systems are affected. IMPA is seen more commonly in dogs than cats but can occur in both species. Rheumatoid arthritis is a form of IMPA in people.

### Clinical Signs

IMPA causes sore, swollen joints; patients are often lethargic and reluctant to move. Frequently, the patient will walk only when forced, cry with movement, or may seem to walk as if stepping on a hot surface. When the joints in the spine are affected, patients may cry when the neck is touched or their collar is pulled. In the early phase of the disease, the patient may only have a low-grade fever or poor appetite and the joint swelling may be subtle.

### Diagnosis

When a veterinarian detects joint inflammation and fever, tests will be done to look for a systemic infection or cancer that may have initiated an immune response. This may include blood tests, radiographs or other imaging studies. Specific tests for infectious diseases that can cause joint inflammation will likely be done. Commonly, a joint tap is performed, in which fluid is withdrawn from the joint with a small needle for microscopic evaluation and culture. A diagnosis of IMPA is made after the veterinarian is certain that there is not an underlying infection or cancer that may have triggered swelling in the joints. Only when other potential inciting causes of joint inflammation are eliminated is the disease called immune-mediated polyarthritis.

### Treatment

Depending on the severity of the patient's signs, hospitalization for intravenous fluids, pain medications, and support may be necessary. While awaiting tests for infection, most patients are started on broad-spectrum antibiotics to treat the typical infections that can cause painful joints. Once a diagnosis of IMPA is confirmed, patients are treated with medications that calm the immune response. These medications may include steroid medications such as prednisone, sometimes in combination with other immune-modulating medications.

### Prognosis

Most patients with IMPA survive and maintain a good quality of life for the long term. Patients that are diagnosed early rarely have irreversible damage to their joints. Although some patients require lifelong medication to ward off a relapse of joint inflammation, medication side effects are generally tolerable and do not affect longevity.

### Long-Term Follow-Up

IMPA, like other immune-mediated diseases, requires diligent follow-up and communication with a veterinarian. At Veterinary Specialty Center, these patients are followed by our internal medicine specialists. Because medications for chronic inflammatory disease suppress the immune system, careful monitoring is necessary during therapy and the medications should be handled with care. Dosage adjustments are made often, especially early in the disease process, depending on the patient's response. Medication side effects such as excessive thirst and urination generally abate as medication dosages are reduced. Close communication and follow-up with a veterinarian is critical to ensure the appropriate medication and dosage is used. IMPA can relapse if medications are tapered too quickly. Because decisions about changes in medication are based on observations made during the physical exam in addition to other testing, our recommendation is that follow-up for this disease is done at Veterinary Specialty Center. All routine preventive care should continue with your primary care veterinarian.