

Immune-Mediated Hemolytic Anemia

- Immune-mediated hemolytic anemia (IMHA) is a condition in which the body's immune system attacks and destroys red blood cells.
- IMHA can be a primary condition, or it can be caused by another illness or event (including cancer, certain tick-transmitted diseases, or some viral and bacterial infections).
- IMHA can be fatal, even with aggressive treatment. For pets that survive, relapses can occur. Your veterinarian may recommend periodic recheck examinations and repeat blood work for the life of your pet to help identify and treat relapses early.

What Is Immune-Mediated Hemolytic Anemia?

Immune-mediated hemolytic anemia (IMHA) is a type of illness known as an *autoimmune disease*. Autoimmune diseases result when the body's immune system does not recognize itself; cells that normally attack invading viruses and bacteria begin attacking the body's own cells, causing damage. In dogs and cats with IMHA, the body's red blood cells come under attack. When red blood cells are severely damaged, they can burst; this is known as *hemolysis*. Therefore, IMHA is a condition in which red blood cells are attacked by the body's immune system and destroyed by hemolysis, resulting in anemia (an inadequate quantity of red blood cells). Red blood cells can be destroyed within the blood vessels or in the spleen, liver, or bone marrow (where they are produced).

IMHA can be a primary condition, or it can be caused by another illness or event. Primary IMHA is sometimes called *autoimmune hemolytic anemia* (AIHA); it is the most common type of IMHA in dogs but is relatively rare in cats. The underlying cause of primary IMHA is rarely determined. Certain breeds of dogs (including cocker spaniels, Old English sheepdogs, and Irish setters) are genetically prone to developing primary IMHA. Secondary IMHA can be

associated with certain cancers (including lymphoma); exposure to certain drugs (including some antibiotics); tick-transmitted diseases (such as ehrlichiosis and babesiosis); bee stings; and some viral and bacterial infections, including leptospirosis in dogs and feline leukemia (FeLV) in cats. Blood transfusion reactions have also been associated with IMHA in pets.

Endocarditis occurs when bacteria from another location in the body travel through the blood to the heart.

What Are the Clinical Signs of Immune-Mediated Hemolytic Anemia?

Red blood cells are responsible for carrying oxygen to the body's organs, so anemia causes the body to become deprived of adequate oxygen. Many of the clinical signs associated with IMHA are related to anemia. If the condition is caused by another illness, additional clinical signs can result from the underlying condition. IMHA can occur relatively slowly (over a period of weeks), or it can progress rapidly in just a few days. Clinical signs can vary in severity:

- Weakness
- Lethargy (tiredness)
- Appetite loss
- Vomiting and diarrhea
- Fever
- Pale gums
- Rapid heart rate
- Rapid breathing
- Yellow discoloration of the skin (known as *jaundice*, resulting from destruction of red blood cells)
- Collapse

Common Conditions

How Is Immune-Mediated Hemolytic Anemia Diagnosed?

Your veterinarian will likely recommend blood testing to confirm a diagnosis of IMHA. Some veterinarians can perform initial testing at the office. In other cases, tests are sent to a diagnostic laboratory and results are available in a few days. If your veterinarian suspects an underlying illness (such as FeLV or ehrlichiosis), more testing may be recommended.

What Are the Treatment and Outcome for Immune-Mediated Hemolytic Anemia?

Because IMHA is caused by an overactive immune system, initial treatment is aimed at suppressing the immune system and stabilizing the patient. Steroids (given at high doses) are the most common medication prescribed. If the patient is severely anemic, blood transfusions may be required. Additional therapy

may include intravenous fluids, antibiotics, and supportive therapy. If the underlying cause of the IMHA can be treated, such therapy is also generally initiated.

Some pets don't respond adequately to steroids. In these cases, additional medications can be given to manage the condition.

During the treatment process, frequent blood testing is required to ensure an adequate response to therapy. Once a pet responds to treatment, medication dosages are gradually adjusted and blood testing repeated periodically to monitor for relapses.

IMHA can be fatal, even with aggressive treatment. For pets that survive, there is always a possibility of relapse. Your veterinarian may recommend periodic recheck examinations and repeat blood work for the life of your pet to help identify and treat relapses early.