

# Immune-Mediated Thrombocytopenia

- Immune-mediated thrombocytopenia (IMT) is a condition in which the body's immune system attacks and destroys blood platelets.
- IMT can be a primary condition, or it can be caused by another illness (including cancer, certain tick-transmitted diseases, and some viral and bacterial infections).
- IMT generally responds to treatment, but it can be fatal. 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 Thrombocytopenia?

Immune-mediated thrombocytopenia (IMT) 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 IMT, the body's platelets are attacked and destroyed, resulting in reduced numbers of platelets in the blood vessels. Platelets (also called *thrombocytes*) are cells that are needed to form blood clots and repair damaged blood vessels. Thrombocytopenia occurs when there are too few platelets in the blood.

Adequate numbers of platelets are essential for survival. Platelets help repair obvious injuries, such as open wounds, as well as microscopic injuries that occur in day-to-day life. If platelet numbers are too low, uncontrolled bleeding can occur, and if treatment is unsuccessful, the patient can die from excessive blood loss.

IMT can be a primary condition, or it can be caused by another illness or event. The underlying cause of primary IMT is rarely determined. Certain breeds of dogs (including German shepherds and Old English sheepdogs) may be genetically prone to

developing primary IMT. Female dogs are more likely to be diagnosed with IMT, but female cats are not. Secondary IMT can be associated with certain cancers (including lymphoma); exposure to certain drugs (including some antibiotics); tick-transmitted diseases (such as ehrlichiosis, babesiosis, and anaplasmosis); and some viral and bacterial infections, including canine distemper virus in dogs and feline leukemia (FeLV) and feline immunodeficiency virus (FIV, or "feline AIDS") in cats.

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### What Are the Clinical Signs of Immune-Mediated Thrombocytopenia?

Platelets are responsible for helping to form blood clots and repair damaged blood vessels, so IMT can cause spontaneous bleeding or inability to stop bleeding. If IMT is caused by another illness, additional clinical signs can result from the underlying condition. Clinical signs of IMT can vary in severity:

- Weakness
- Lethargy (tiredness)
- Appetite loss
- Vomiting blood
- Bloody diarrhea or melena (digested blood that appears in feces)
- Bruising on the skin
- Bleeding from the nose
- Bleeding from the gums
- Bloody urine, or bleeding from the penis or vulva
- Coughing blood, or difficulty breathing

## Common Conditions

Bleeding can also occur within the brain, causing seizures; within the eyes, causing blindness; or within the abdomen or chest cavity. Severe bleeding can be fatal, especially if it occurs rapidly. If significant blood loss occurs, additional clinical signs (such as pale gums) may be associated with anemia (inadequate numbers of red blood cells).

Owners may also notice other evidence of bleeding, such as minor cuts and scratches that continue to bleed, a heat cycle that seems prolonged or excessive, or skin bruising after playing or grooming.

### How Is Immune-Mediated Thrombocytopenia Diagnosed?

There is no specific test to diagnose IMT. Your veterinarian will likely recommend blood testing to help confirm a suspected diagnosis of IMT and rule out other conditions that can cause low platelet numbers. 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 Thrombocytopenia?

Because IMT 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. Additional therapy may include intravenous fluids and supportive care. If the underlying cause of the IMT 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.

IMT generally responds to treatment, but it can be fatal. 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.