



NORTHPARK Animal Hospital

ANEMIA IN THE CAT

What does it mean to be anemic?

Anemia is a reduced number of red blood cells or hemoglobin or both. It is not a specific disease but the result of some disease process.

How is anemia diagnosed?

The most easily observed sign of anemia is a loss of the normal pink color of the gingivae (gums). Anemic cats also have little stamina so they seem very listless or tired. Pale gingivae and lethargy are indications to perform blood tests to determine if anemia is present.

The most common test for anemia is the **packed cell volume (PCV)** also called the **hematocrit**. A blood sample is placed in a centrifuge to separate the red blood cells from the plasma (the liquid part of the blood). Twenty-five to forty-five percent of the normal cat's blood will be red blood cells. If the PCV is below 25%, the cat is anemic. Other tests to determine anemia include the **red blood cell count** and the **hemoglobin count**. If these are below $5.5 \times 10^6/\text{mm}^3$ or 8 g/dl, respectively, the cat is anemic.

What other tests are important when a cat is anemic?

It is important to know if the bone marrow is producing an increased number of new red blood cells. Often, this can be determined by a study of the stained **blood smear**. The presence of increased numbers of immature (young) red blood cells usually means the bone marrow is responding to the need for more red blood cells.

A careful study of the blood smear is also important to look for parasites that might be causing red blood cell destruction and abnormal cells that could indicate leukemia.

If bone marrow response is not obvious by studying the blood smear, a **reticulocyte count** is performed. A special stain is used to clearly identify reticulocytes, which are immature red blood cells.

A **bone marrow biopsy or aspirate** is a procedure that evaluates cells from the bone marrow. Red blood cells are produced by the bone marrow. Studying these cells can give valuable information about the cause of some anemias and the condition of the bone marrow.

A **biochemical profile** and **urinalysis** are other important tests for anemic cats. These tests evaluate organ functions and electrolyte levels. They will often provide important information about the total health of the cat.

A **fecal exam** is important to identify the presence of parasites in the intestinal tract that might be causing blood loss.

Finally, an anemic cat should be tested for the **feline leukemia virus** and **feline immunodeficiency virus** because these viruses are important causes of anemia.

What diseases cause anemia?

Several tests are important for an anemic cat because there are many diseases that cause low red blood cells or hemoglobin. These are grouped into 1) diseases that cause blood loss, 2) diseases that cause hemolysis (red blood cell breakdown), and 3) diseases that decrease the production of red blood cells.

What diseases of cats cause blood loss?

The main causes of blood loss in cats include:

- Trauma or injury that severs blood vessels or internal organs resulting in bleeding
- Parasites such as fleas, ticks, and hookworms
- Tumors of the intestinal tract, kidneys, and urinary bladder
- Diseases that prevent proper clotting of blood

What diseases of cats cause hemolysis?

The main causes of hemolysis in cats include:

- Autoimmune disease
- Feline leukemia virus
- Blood parasites such as Hemobartonella

Chemicals or toxins

- Neoplasia (cancer)

What diseases of cats prevent red blood cell production?

The main causes of bone marrow suppression in cats include:

- Any severe or chronic disease
- Very poor nutrition or nutritional imbalances
- Autoimmune disease
- Feline leukemia virus
- Feline immunodeficiency virus
- Chemicals or toxins
- Neoplasia (cancer)

There has been no mention of iron deficiency. Why not?

Iron deficiency anemia is a common disease in people, especially women. However, this is not common in cats and only occurs secondary to chronic blood loss.

How are anemic cats treated?

If your cat's anemia is life-threatening, a blood transfusion is needed. This may be performed immediately after a blood sample is taken for testing. The main purpose of a blood transfusion is to stabilize the cat long enough that a determination of the cause of the anemia can be made.

Further treatment will be determined once the underlying disease has been diagnosed.