

Fecal Smear

- A fecal smear is a thin layer of feces that is examined under a microscope.
- The smear is usually performed in combination with other tests to identify possible causes of diarrhea.
- Ideally, the sample should be examined within 30 minutes of collection.
- Fecal smears are generally used to identify *Giardia*, a protozoan parasite that causes diarrhea.
- Fecal smears are used to examine fecal cytology—the cells within a fecal sample.
- Identifying organisms in a fecal smear can help your veterinarian determine the most effective treatment for your pet's diarrhea.

What Is a Fecal Smear?

A fecal smear (sometimes called a *direct fecal smear*) is a diagnostic test that helps identify possible causes of diarrhea in a cat or dog. It is generally conducted in combination with a fecal flotation test, which is used to screen for intestinal parasite eggs.

With a direct fecal smear, a thin film of feces is examined under a microscope for evidence of *Giardia*, a protozoan parasite that can cause diarrhea. A fecal smear can also be used to identify cellular abnormalities, bacterial or fungal organisms, and in some cases, parasite eggs.

How Is the Test Performed?

The key to a good fecal smear is to start with as fresh a sample as possible. Since *Giardia* is identified by observing the organism swimming across the slide, a direct fecal smear should be examined within 30 minutes of collection, before the organisms die or disappear.

If you are unable to obtain a fresh sample, your veterinarian can usually retrieve a specimen with a gloved finger or an instrument called a fecal loop. If you can't bring your pet to the veterinarian right

away, fecal samples should be stored in the refrigerator, but not frozen, until the sample can be delivered.

Once a sample is obtained, a direct fecal smear is made by spreading a thin film of feces on a glass slide and adding a few drops of saline. The slide is then examined under a microscope for evidence of microscopic organisms.

A fecal smear can also be used to examine fecal cytology—the cells contained in the specimen. In this case, the slide is stained with special dyes to facilitate visualization of cells, bacteria, and fungi. *Clostridium* and *Campylobacter* are two types of bacteria that often cause diarrhea. Occasionally, fungal organisms may be identified. Cell abnormalities may help detect infection, hemorrhage, and in some cases, cancer.

Identifying organisms in a fecal smear can help your veterinarian determine the most effective treatment for your pet's diarrhea.

What Are the Benefits of a Fecal Smear?

A fecal smear is an important diagnostic tool that can help your veterinarian identify probable causes of diarrhea and determine the best treatment for your pet.

The amount of feces used for a fecal smear is small, so it may be necessary to repeat fecal smears to increase the likelihood of finding organisms such as *Giardia*. In some cases, a fecal smear result may be inconclusive. Your veterinarian may recommend a commercial test that may more effectively detect *Giardia* by identifying its proteins.

The information obtained from fecal smears, including fecal cytology, can help your veterinarian find the best solution to resolving your pet's intestinal problem.