

Ferret Venipuncture

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OVERVIEW

Of all of the exotic pets that veterinarians see in practice, ferrets probably have the most diagnostic tests. Many of these tests include blood assays. The size and inherent “wiggly” nature of these pets may make venipuncture seem difficult, but there are ways to improve the chances of a successful procedure.

Blood is often drawn for presurgical assessment because surgery in older ferrets is common due to such disorders as insulinoma and adrenal gland disease. Many of these ferrets also need venipuncture for postsurgical assessment. Ferrets with insulinoma, regardless of whether they become surgical cases, need periodic monitoring of the blood sugar. Ferrets are prone to such varied illnesses as renal disease, lymphosarcoma, gastrointestinal disease, and hepatic disease, in which diseases blood tests are the only means of diagnosis and monitoring.

YOU HAVE IT

The equipment needed to bleed ferrets is probably already in your hospital. Depending on the volume that is necessary, an insulin syringe or a 1- or 3-ml syringe is used. Unless an insulin syringe with a small-gauge needle is already attached, a 25-gauge, 5/8-inch needle is commonly used. Ferret skin can be difficult to puncture; if several attempts to obtain blood have been unsuccessful, replace the needle because it can quickly become dull during attempts to puncture the thick skin of a ferret.



STEP-BY-STEP

How to Perform Ferret Venipuncture

Restraint

Restraining the patient is probably the biggest challenge of venipuncture in ferrets. Restraint is usually not a problem in very sick ferrets, but most ferrets that need a presurgical assessment are still active and alert. There are two means of stabilization: good assistants and anesthetics. The best way to hold a ferret depends on the site of venipuncture.



In lateral recumbency (**Figure 1**), which is typically used for blood collection from the saphenous vein, ferrets can be held by the scruff and stretched by the assistant.

In sternal recumbency (**Figure 2**), which is used for both cephalic and jugular blood collection, the ferret can be held with the front part of the body extending off the end of the table. The assistant holds the head up by gently but firmly placing a grip around the neck just under the mandible and wraps a towel around the body and rear legs to stabilize the ferret. The assistant also holds the front legs as the ferret's body, which is wrapped in the towel, is stabilized between the assistant's arm and body.



In dorsal recumbency (**Figure 3**), another position used for jugular collection, the assistant stretches the ferret by holding the rear legs near the hips and bringing the front legs down across the body. Another assistant or the phlebotomist holds the head.



PROCEDURE PEARL

Ferret skin is tough; use a new, sharp needle if several venipuncture attempts have failed.

In a busy practice, it may not be possible to get an assistant to help with blood collection, or a willful ferret may make it impossible even if able assistants are available. The safest, easiest, and fastest method of tranquilization for blood collection in ferrets is the use of a gas anesthetic, such as isoflurane. The ferret's head is placed in a face mask, and isoflurane is administered. In a few minutes, the ferret is calm enough for venipuncture without the aid of an assistant.

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STEP-BY-STEP

Venipuncture Sites

WHAT YOU NEED

- 25-gauge, 5/8-inch needle attached to a 1- or 3-cc syringe OR
- an insulin syringe and small-gauge needle
- At least one able assistant
- Occasionally isoflurane anesthesia to tranquilize ferrets

Blood is primarily collected from ferrets through the lateral saphenous vein, the jugular vein, and the vena cava. The cephalic vein is used less frequently in ferrets because the lateral saphenous vein is larger and more easily accessible.

Both the lateral saphenous and cephalic veins are used when only small amounts of blood are needed. Insulin syringes are used in these vessels, and typically no more than 0.3 ml is taken. Conversely, the jugular vein or vena cava is used when a larger volume of blood is required.

The vena cava should be reserved for the experienced ferret practitioner.

▼ Lateral Saphenous Vein ▼



1a The saphenous vein is found toward the distal aspect of the leg and may appear tortuous.



1b To obtain blood from the lateral saphenous vein, hold the ferret in lateral recumbency, and hold off the vein in the hindlimb just above the stifle joint.

1c



▼ Cephalic Vein ▼



2a The cephalic vein is found midline on the foreleg, and the ferret is usually held in sternal recumbency for collection from this site. The vessel is small and collapses easily.



2b Hold off the vein as shown.

PROCEDURE PEARL

A 3-ml syringe often causes collapse of the jugular vein. Use a 1-ml syringe.

▼ **Jugular Vein** ▼

For jugular venipuncture, use a 25-gauge needle on a 1- or 3-ml syringe. However, it is easy to collapse the jugular vein using a 3-ml syringe, and this may increase the time for blood collection, leading to clotting and hemolysis of the sample.



3a The site of jugular venipuncture is shown above. The ferret's head is beneath the towel at the top of the figure, and its legs are extended out to each side.

▼ **Vena Cava** ▼

In venipuncture of the vena cava, the ferret is held completely still and as straight as possible in dorsal recumbency. Tranquilization or two assistants may be necessary to accomplish this.



4a Usually, a 25-gauge, 5/8-inch needle attached to a 1- or 3-ml syringe is inserted into the skin at the notch formed by the manubrium and first rib either on the left or right side. Place the syringe at a 45-degree angle to the body, and insert it up to the hub. Then slowly pull the plunger back until blood fills the syringe. Because this is a blind stick, the syringe may also need to be pulled back slowly until it fills with blood. Blind sticking can be a dangerous procedure because of the risk for perforation of the numerous important structures that course through the area, and ferrets with undiagnosed thoracic disease may not tolerate this type of handling. The advantage to this method is the ease with which large samples of blood can be quickly obtained. ■

PROCEDURE PEARL

It is easier to palpate the jugular vein than to see it.



3b The jugular vein is accessed by holding the ferret in sternal or dorsal recumbency. With both positions, the jugular vein may barely be visualized on the more lateral aspect of the neck. It is easier to palpate the jugular vein than to actually see it.

PROCEDURE PEARL
Caution: venipuncture of the vena cava is not recommended for those who are inexperienced with ferrets.