

Venipuncture of the Cat

"Cats are not just small dogs"

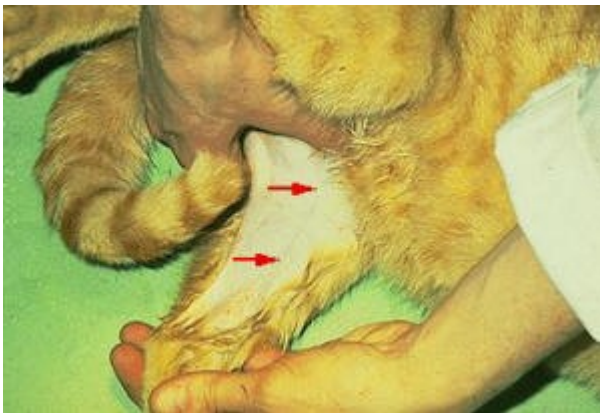
The same techniques for placing cephalic and jugular catheters as described for the dog, are applicable to the cat. In addition, there exist some procedures that are more commonly used to venipuncture the cat.



A canvas or nylon, zippered bag can be used to restrain a cat for jugular venipuncture or catheter placement. Some bags have multiple zippers to allow access to limbs.



The cat is held in dorsal recumbancy. The holder places a finger in the thoracic inlet to impair venous return from the head and cause the vein to distend with blood. The venipuncturist holds the head with one hand and makes the puncture with the other hand.



The medial saphenous vein of the cat has a long straight course and is very superficial. The red arrows point to the vein. It is a good vein from which to collect small volumes of blood or to insert indwelling catheters. The cat is restrained in lateral recumbancy. The holder applies pressure in the inguinal region to occlude venous return and cause the vein to engorge with blood.

cat's head to right



Blood samples can be obtained from the medial saphenous vein. Because the vein has a small diameter, vigorous aspiration results in collapse of the vein. Therefore only slight suction can be applied to the syringe when aspirating blood. The blood flows slowly so only a small volume (up to ~1ml) of blood can be obtained before the sample clots. At the completion of the venipuncture, as the needle is removed from the vein, the holder should release pressure from the inguinal region and place firm digital pressure at the puncture site for several minutes to prevent hematoma formation. Hematomas form readily and spread from the puncture site when venipuncture is unsuccessful. Therefore, start distal on the limb in case it is necessary to make more than one attempt at venipuncture.



The medial saphenous vein can be catheterized with short indwelling catheters or catheters marketed for jugular vein catheterization. (See the sections on jugular catheter placement and cephalic catheter placement for information on catheter types). A jugular catheter placed in the medial saphenous vein will have its tip in the posterior vena cava. Such catheters can be used for repetitive blood sampling (eg. serial blood glucose sampling used in diabetic regulation). Because the tip of the catheter is in a large vein, hypertonic solutions such as hypertonic dextrose and total parenteral nutrition (TPN) solutions can be administered through catheters in this location. The picture demonstrates an Intrafuser jugular catheter placed in the medial saphenous vein. Note the bruising around the needle puncture site. This may occur when placing a through-the-needle catheter. The hole in the vein created by the needle is larger than the diameter of the catheter so when the needle is retracted from the vein, blood may leak from the puncture site into surrounding tissues. Correct bandaging of a medial saphenous catheter is crucial to its function. The procedure for bandaging the catheter in place is similar to the procedure for bandaging a jugular catheter in place, except that the bandage is applied in a direction parallel to the needle guard, rather than perpendicular to the needle guard as with the jugular catheter.

A butterfly of one inch tape is applied to the needle guard. A piece of one inch tape is wrapped around the leg, catching both wings of the butterfly at the same time. A second piece of one inch tape is wrapped around the limb at the level of the hub of the needle. Antiseptic or antibiotic ointment on a piece of gauze is applied to the puncture site. Stretchy wrap such as cling is wrapped around the limb several times, around both pieces of tape. This is followed by an outer wrap such as Vetwrap. The gauze pad used to elevate the needle guard from the neck when bandaging a jugular catheter is not used when taping in place a medial saphenous catheter. The use of an Intrafuser catheter with an extension set, allows you to place the extension set on the lateral side of the limb so the catheter is easily accessible. It may be necessary to splint the leg to keep the catheter functioning.