

## ***Phlebotomy (blood drawing) of the rabbit***

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Warning: this file contains pictures that may be distressing for people.

Rabbits are easily startled and may start scratching the manipulating person or jump from the examination table. They often jerk in response to venipuncture in the marginal vein of the ear, when the skin has not been anesthetized beforehand. As a result, rabbits should therefore be restrained in a towel, bag or laboratory coat.



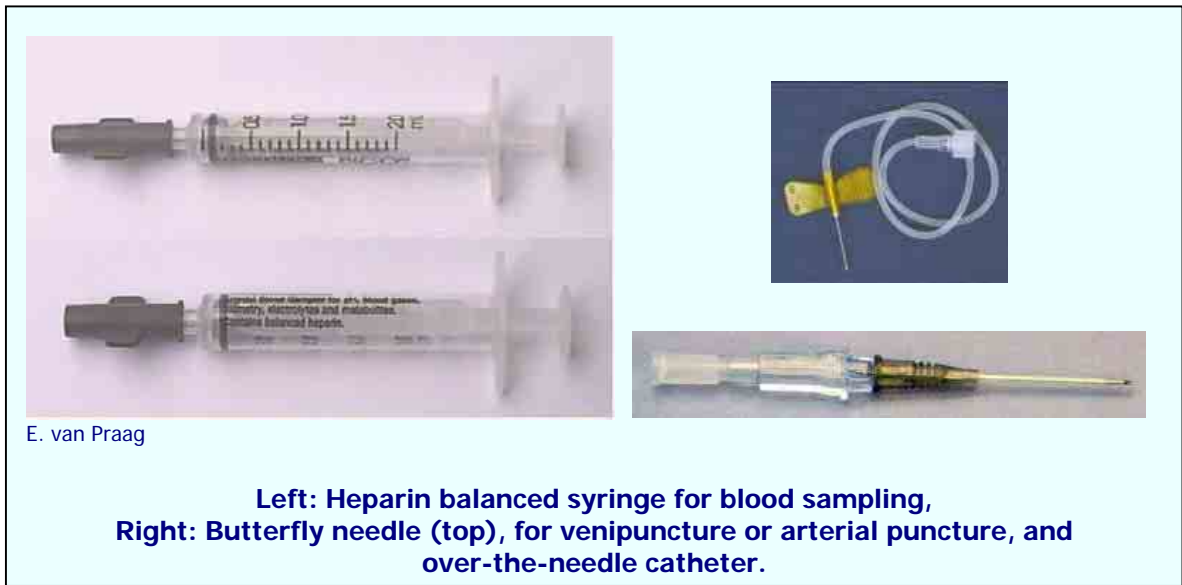
The amount of blood needed for a blood test will determine the location where phlebotomy will be carried out. Usually venipuncture (blood from the vein is used), some tests nevertheless require blood from the artery.

Smaller amounts of blood (up to 5 ml) can safely be sampled from the auricular marginal vein, with a 23- to 25-gauge needle or a 23-gauge butterfly attached to a syringe or tube.

The fur on the ear is shaved, and the skin is cleaned with alcohol. The skin on the ear is very sensitive; it is therefore recommended to anesthetize the skin lying over the vein for blood collection with a lidocain containing cream (e.g. EMLA® , by AstraZeneca). The rubbed spot should be wrapped with a plastic sheet and a protective adhesive bandage. After 45 min. the full thickness of the skin is numb and anesthesia remain effective for the next 60 min.



The same preparation of the vein is necessary when a catheter-over-needle needs to be placed.



Dilation of the vessel can be obtained by massage of the ear, approach of a heat source near the rabbit ear or by using blood vessel dilating agents, e.g. acetylpromazine (0.25 ml, SC).

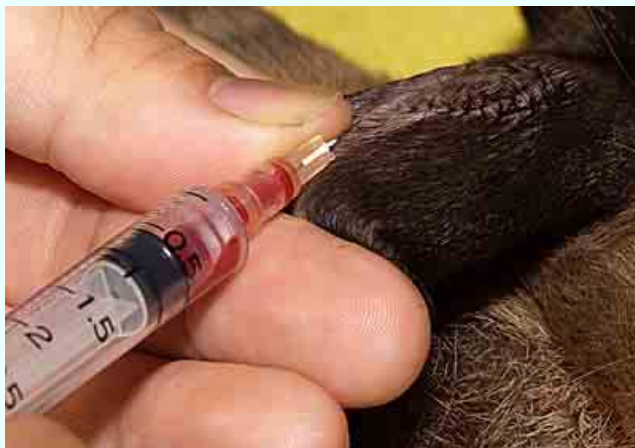
After occlusion of the vein, a needle is carefully inserted and blood is withdrawn. The procedure must be done slowly, in order to avoid hemolysis of the red blood cells (RBC), but fast enough to avoid the formation of blood clots. After removal of the needle, a cotton gauze is firmly applied on the site of venipuncture, during at least 1 minute, or until bleeding has stopped, in order to prevent the formation of hematomas. The use of an alcohol-impregnated gauze should be avoided; alcohol encourages vasodilatation and prevents hemostasis.

Stain of blood on the ear can be removed with hydrogen peroxide.





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VEIN (Veterinary Exotic Information Network) System,  
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**Upper left: Insertion of a 25 g needle in the marginal vein in a restrained rabbit,  
Upper right: Blood can be collected,  
Lower right: Blood sampling from the marginal vein,  
Lower Right: Application of a cotton swab during 1 minute after venipuncture**



The rabbit should be watched over the next hours to ensure that hemostasis is complete.

Collection of blood from the central artery should be avoided, unless higher volumes of blood need to be collected. This site is painful and often leads to subsequent distal ischemia, due to impairment of blood supply to the pinna after the formation of a hematoma or due to blood vessel damage (arterial trauma with thrombosis). A collapse of the vessel is furthermore likely to occur when excessive pressure is exerted on the blood vessel.

If the use of the central artery cannot be avoided, the 21-gauge needle should be inserted as distally (tip of the ear) as possible into the artery. The blood should start to flow immediately in the syringe; when full, it can be replaced by a new one by disconnecting from the needle hub.

The jugular vein can be used to collect a fairly big amount of blood. The dewlap of female rabbits does not represent a hindrance. The rabbit can be placed in several positions, in order to collect blood from the jugular vein:

- sternal recumbency, with the neck extended upwards and the front limbs hanging over the end of the examination table
- dorsal recumbency, after safely restraining the rabbit in a towel, and extending the neck in order to expose the jugular vein.
- lateral recumbency, with the neck extended out and the front legs pulled downward.

The fur is shaved prior to blood collection. If a rabbit shows respiratory distress, the jugular vein should be avoided for blood collection. The animal may indeed become cyanotic during the procedure.

Alternate sites for blood collection are the cephalic and the lateral saphenous veins. Their locations are the same as in dogs and cats. These veins are fragile, and a hematoma is easily formed.

### Blood biochemistry of rabbits

#### Acknowledgement

Thanks are due to my rabbits Grijsje, Flora and Stampi, for their patience. Thanks are furthermore due to Akira Yamanouchi, for the permission to use the papilloma pictures from VEIN (Veterinary Exotic Information Network, <http://vein.ne.jp/>).

#### Further information

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SEPTEMBER 2003

