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Feline Blood Donation

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EQUIPMENT NECESSARY



IMAGE 1A. EQUIPMENT NECESSARY FOR BLOOD SAMPLE COLLECTION

- Clipper
- Disinfection kit
- Sterile gloves
- Peripheral venous catheter
- Crystalloid solution
- 21G or 23G butterfly needles
- 18G needles
- 20 ml or 50 ml syringe
- Anticoagulant citrate dextrose (ACD) solution
- Donor workup kit (EDTA tubes and heparin for grouping and analyses)
- Ocular lubricant
- Feline 60 ml single/double blood collection bags ALVEDIA®
- Or empty 100 ml bag of NaCl 0.9% + tube + 3-way valve

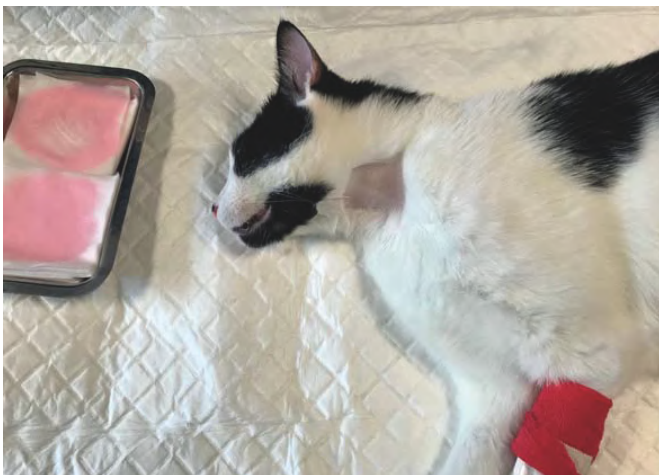
EQUIPMENT NECESSARY AND DONOR SELECTION



IMAGE 1B. DONOR SELECTION

To become a donor, a cat must meet several criteria:

- Adult (1 to 10 years of age)
- Weight > 3.5 kg
- Up-to-date vaccination (typhus, coryza, leukosis), rabies vaccination is recommended
- If possible, sterilized and without prior mating or litter
- Regular anti-parasite treatment
- Never transfused
- Last blood donation > 6 weeks
- Normal clinical examination
- Biochemistry, complete blood count and blood smears in the reference range (Hematocrit > 30-35%)
- Negative FIV/FelV test
- Blood grouping compatible with the recipient (LabTEST A+B Blood Typing ALVEDIA®)
- Minor and major cross-match tests compatible with the recipient (optional)



1 Donor preparation. After carrying out the blood test and verification of compatibility between the donor and the recipient, a peripheral venous catheter is set up.

General anesthesia is performed (midazolam 0.3 mg/kg IV, butorphanol 0.2 mg/kg IV followed by alfaxalone 1 mg/kg IV until effect) and the animal is placed in lateral decubitus.

The jugular vein is spotted and a 3 cm x 3 cm area is shaved next to it.

The area is then cleaned and disinfected (classic disinfecting solutions).



2 Preparation of the equipment. The butterfly needle, the syringe and the transfusion bag are connected to a 3-way valve.

Before the sample collection, an anticoagulant solution (ACD) is drawn up into the sample collection syringe at the rate of 1 ml for 7 ml of blood collected.

Then, the quantity corresponding to the volume of the butterfly needle tubing is injected until emergence at the level of the bevel of the needle, by mobilizing the 3-way valve.



3 Blood sample collection. The butterfly needle is inserted straight through the skin then into the jugular vein by a first operator.

The butterfly needle is pushed cranially to tunnel the vein. Once the jugular vein is well tunneled, a volume of 40 to 50 ml of blood per cat is drawn by a second operator on a continuous basis, homogenizing the syringe.

This operator can also hold the animal's head taut.



4 End of collection. At the end of the collection, the butterfly needle is removed. Finger compression on the jugular puncture site is applied for at least 5 minutes.

Blood is injected into the transfusion bag by mobilizing the 3-way valve. A complete clinical examination of the donor animal is carried out at the end of the collection.

In the event of signs of hypovolemia, the animal can be infused with a crystalloid solution.



5 Sealing of the blood product.

The blood bag is sealed using heat joints or metal clips and can be used as whole blood by being:

- Transfused directly after collection;
- Stored in the refrigerator at between 1 and 6° C up to 28 days before use.



6 Blood separation.

The blood product can also be separated into packed red blood cells and plasma by being hung for 12 hours at 5° C.

The pouch is then placed, without being shaken, into a plasma extractor to separate the two phases which are placed in two separate bags.

The packed red blood cells are stored in the refrigerator at between 1 and 5° C for up to 21 days. The plasma is stored in the freezer at -18° C minimum for up to 1 year for fresh frozen plasma and 5 years for frozen plasma*.

**The fresh frozen plasma is frozen within 8 hours of collection. It contains all procoagulant and anticoagulant factors, albumin, globulins, electrolytes and water. Frozen plasma is, itself, frozen more than 8 hours. Factors V, VIII and Von Willebrand factor concentrations are significantly reduced.*

Blood donation in the Cat is achievable on an out-patient basis. The critical step is the choice of the donor. Blood grouping is mandatory and the cross-match test is strongly recommended in this species because of the incomplete knowledge of the blood group systems and the various feline allo-antibodies.