



SAN TAN CANINE TRAINING NEWSLETTER

NATHAN BRAATEN • 602.320.2890 • By Appointment

CANINE LIFESAVERS

If you've ever been on the receiving end of a blood transfusion, you now know how important blood donors are. The same applies in veterinary medicine. Here's a look at donor dogs and how the process works.

Hopefully, your dog will never need a blood transfusion. But if he does, know that thanks to canine blood donors across the country, he won't be denied this life-saving procedure.

Before the introduction of animal blood banks, veterinarians had to use their own dogs, or those borrowed from clients. Today, people can volunteer their dogs as donors at established blood banks around the country. As well, rescue dogs are often housed and cared for at blood bank facilities and used as donors.

The first non-profit national blood bank for dogs was founded in 1991 by veterinarian Dr. Jean Dodds. Hemopet provides blood components and supplies, thereby setting new standards for safe and effective transfusion. The blood is provided by 175 greyhounds rescued from the racing industry. The dogs are kept on site in a healthy, loving and stimulating environment and receive 24/7 veterinary care and maintenance. Each year, Hemopet distributes approximately 14,000 half pints of blood throughout North America and Hong Kong.

There are now a number of veterinary blood bank programs around the country at universities, private clinics and businesses. The Texas A&M University College of Veterinary Medicine & Biomedical Sciences maintains an on-call list of privately-owned dog and cat donors for its blood bank.

WHAT ARE THE REQUIREMENTS?

Not just any dog can become a blood donor. He needs to be healthy and protected from infectious diseases. Some programs will exclude female dogs if they've had puppies. According to Dr. Dodds, the typical age range for blood donors is between one-and-a-half and eight years. Ideal donors are large breeds that are easy going and have the "universal" blood donor type. The true "universal" dog is negative for all red blood cell surface antigens (proteins) except DEA4. A dog considered the "universal" donor type is the equivalent of a person who is Type O negative. Dogs possess over a dozen blood types, but only between 40% to 45% have the "universal" type.

A dog's first visit to the local donation center or blood drive location involves an interview with his person to examine his or her willingness to comply with the program's requirements. Blood banks look for people dedicated to bringing their dogs in to donate on a regularly scheduled basis. Depending on the program, this could mean anywhere between every eight weeks and four months.

It's important to keep in mind that not all states allow volunteer donor programs. Dr. Dodds states that in California, commercial animal blood banks by law cannot operate as a volunteer program. Like Hemopet, anyone wanting to offer animal blood products for sale in California must have a "closed" donor colony, and be licensed by the California Department of Food & Agriculture. California has a biologics license from the State of California, and are inspected annually.

At Texas A&M, donor dogs and cats must be no younger than a year old and no older than six years. They are also required to be spayed or neutered, friendly and in good health. Before accepting animals into the program, they are blood typed and then, if they are suitable, they come into the clinic for a complete physical examination and blood drawn to rule out any medical problems. They remain in the program for approximately two years and may donate once every three months. All the typing, testing and exams are free of charge to the animal's family.

HOW IS THE BLOOD COLLECTED?

The donation process, in which blood is extracted from the dog's jugular vein, takes less than half an hour. A total of 450 mls of blood is collected, which is equal to about two measuring cups. The animal's system starts to replenish the blood immediately after donating. In an emergency situation, dogs can give blood as often as every month. However, strenuous activity is discouraged for at least 24 hours.

Once the blood is collected, it is processed and separated into red blood cells and plasma and stored in sterile plastic bags. The red blood cells are administered to dogs that have survived either a major life threatening surgery or severe trauma. Red blood cells are also used to treat anemia and to replace blood lost during the treatment of cancer.

Plasma acts as an anticoagulant, and is used to treat inherited bleeding disorders, and internal bleeding caused by the ingestion of poisons. In cases of massive hemorrhaging, transfusions of whole blood are used.

Dogs are rewarded as soon as they've made their donations with a blood donor tag and treats that include food, toys or donor bandanas. Human families also reap rewards by saving money on their dog's health care. With some programs, dogs receive free annual examinations as long as they remain a donor.

TRANSFUSIONS – SAFETY AND SIDE EFFECTS

Dog lovers express many of the same concerns that people do with human blood transfusions - are they safe and are there risks of reaction?

Though they don't happen often, a variety of reactions can occur during the transfusion process, with symptoms occurring during or shortly after the transfusion. Causes can be mismatched blood type; the transfusion of

damaged red blood cells due to improper storage; and circulatory overload from too-rapid or too-large amounts of transfusion. Symptoms include fever, vomiting, weakness, incontinence, shock and collapse. Diagnosis involves a urinalysis and retesting the dog's blood type to confirm the rejection of the donor blood. A bacteria analysis of the transfused blood will be also be done.

According to Dr. Dodds, reactions to transfusion are uncommon, as long as the blood the dog receives is either tested to be blood type compatible with the patient or is universal donor in type, and the blood has been screened to be free of infectious diseases.

If your dog has a reaction, your veterinarian will immediately stop and administer fluids in order to maintain his blood pressure and circulation.

Additional blood banks include The Veterinarians' Blood Bank in Indiana and the Animal Book Bank if California. Like Hemopet, both use retired racing greyhounds or shelter dogs as in-house donors. Other blood banks, like the one at Texas A&M, rely on people volunteering their dogs as donors.



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