

Title:

Collection of skin samples for creation of skin-derived fibroblast cell lines

Investigators:

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Study description:

Small skin samples will be collected from dogs undergoing abdominal surgery in order to study aspects of cell behavior in dogs. Specifically, we are trying to understand why small-breed dogs, on average, live longer than large-breed dogs. We believe that there are features of dog cells that we will be able to identify in laboratory studies to help us understand this.

Any breed dog 5 years of age or younger undergoing scheduled abdominal surgery will be a candidate for enrollment. Dogs will not be enrolled if there is evidence of dermatitis, if there is a chance of poor wound healing, or prolonged anesthesia time during surgery. Skin samples will be collected only after the surgery has been performed. A small, nickel-sized piece of skin will be collected from the dog's abdominal incision, and the incision will be closed with sutures or staples in the same manner as the dog's surgical incision.

Duration of study:

The study is ongoing and will continue until four successful cell lines have been developed from each breed of interest, and each size category of mixed breed dogs.

Potential benefits to veterinary medicine:

Data will help clarify the relationships among cellular properties seen in species of varying aging rates and lifespan. These data will suggest new traits for which genetic associations might usefully be sought. The data also will suggest new biochemical pathways, such as those related to defenses against specific categories of cellular stress, that might play a role in postponing one or several age-related diseases in long-lived animals, and which might be regulated by common genetic polymorphisms. The data may suggest pharmacological targets related to exceptional longevity among related sets of species that deserve investigation for prevention of multiple age-linked diseases.