EAST VALLEY ANIMAL CLINIC
5049 Upper 141st Street West Apple Valley, Minnesota 55124

Paw Talk

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Welcome Sarah

We would like to introduce our newest veterinary technician, Sarah. Sarah is a graduate of Argosy University. She did her internship at the University of Minnesota, where she gained valuable experience in all aspects of veterinary technology.

Sarah with Sarah!

Sarah has two cats, Leroy Jenkins and Eloise. Eloise was a stray found on the streets. She had a tough start, having frostbit ear tips and toes. She now lives the good life with

In her spare time, Sarah enjoys hiking and loves doing crossfit with her sisters.

We are excited to welcome Sarah to East Valley Animal Clinic.

Dust, Dirt and Germs

Dust, dirt and germs...they're always bad for us, right? Maybe not. More and more research is showing that exposure to pets, farm animals, dirt and dust, especially in infancy, helps us to be healthier humans.

A study recently published in the New England Journal of Medicine explored the differences in children from the Amish of Indiana and the Hutterites of South Dakota. The Amish and Hutterites have remarkably similar genetic ancestries and lifestyles, including similar diets and minimal exposure to tobacco. A striking difference between the two populations is that the prevalence of asthma in Amish children is 5.4%, while in the Hutterites it is 21.3%, and the prevalence of allergic sensitization is 7.2% versus 33.3%.

Why are the Hutterite children four to five times more likely to develop asthma? One difference in their environment is that while they're both farming communities, the Amish practice traditional farming, living on single-family dairy farms and using horses for transportation and working their fields, while the Hutterites live on industrialized communal farms. While both groups have tidy homes, the Amish barns are closer to their homes, and the air and dust particles from the barns may enter the homes more readily. The researchers wanted to determine if that made a difference.

They collected blood samples from the children, along with dust samples from their homes. There were significant differences in the microbial contents of the dust samples, with the samples from the Amish households being much higher. While the blood samples showed very similar genetic makeup, they also revealed distinctly different immune profiles, with the Amish children having elements indicative of far more robust immune systems.

The researchers say the findings suggest that in the Amish, "intense and presumably sustained exposure to microbes activates innate pathways that shape and calibrate downstream immune responses."

These findings are consistent with previous studies that have shown that children who live with dogs and cats, especially in early infancy, tend to be healthier than those who do not. For example, a study published in the journal Pediatrics in 2012 concluded that children who lived with dogs had fewer respiratory symptoms and ear

continued on pg. 4



Children's Best Friends

Dogs have long been known as man's best friend, and new research shows they may be children's best friends as well. A study published in the *Journal of Applied Developmental Psychology* found that children reported more satisfaction from their relationships with their pets than with their siblings.

The study focused on 12-year-old children from 77 families. Each child had at least one sibling and at least one pet.

Understanding children's relationships to their pets may help us understand how pets contribute to children's social skills and emotional development. "Even though pets may not fully understand or respond verbally, the level of disclosure to pets was no less than to siblings," says Matt Cassels, who led the study at the University of Cambridge. "The fact that pets cannot understand or talk back may even be a benefit as it means they are completely non-judgmental."

The researchers noted that boys and girls were equally satisfied with their pets, but "Girls reported more intimate disclosure, companionship, and conflict with their pet than did boys." They also found that "Dog owners reported more satisfaction and companionship with their pet than owners of other pets."

This research adds to the increasing evidence of the profound benefits of living with pets.[1]

[1]Adapted from a press release by WALTHAM Centre for Pet Nutrition, licensed under a Creative Commons License.

"Whoever said diamonds are a girl's best friend never owned a dog."

– Unknown

Genetics and Pet Health

The appearance and behavior of modern dogs is remarkably diverse. They've been selectively bred for specific traits, including size, color and behavior, yielding the incredible array of breeds we know today.

Genetics – the study of genes, genetic variations and inheritance, is a fascinating field. It's clear that genes play a role in your pet's appearance and behavior, and they play a role in your pet's health as well. To understand how genes influence pets' health, it's worth exploring some of the fundamental concepts.

DNA is a molecule that contains the instructions for building all living things. All DNA molecules consist of the same four basic building blocks, and it's the sequence of those building blocks that make each living thing unique. A gene is a section of a DNA molecule that carries information about individual traits, such as eye color.

Mutations are changes in genes that may produce new traits. Some mutations have no effect, some are helpful, and some are harmful and may lead to disease.

Within every cell in our body, DNA is packaged into units called chromosomes, which always come in pairs – one is inherited from our mother and the other from our father. Humans have 23 pairs of chromosomes, dogs have 39 pairs and cats have 19 pairs. One of those pairs is the sex chromosome that determines gender (XX for female, XY for male). If a gene mutation is carried on one of the sex chromosomes, it is said to be sex-linked.

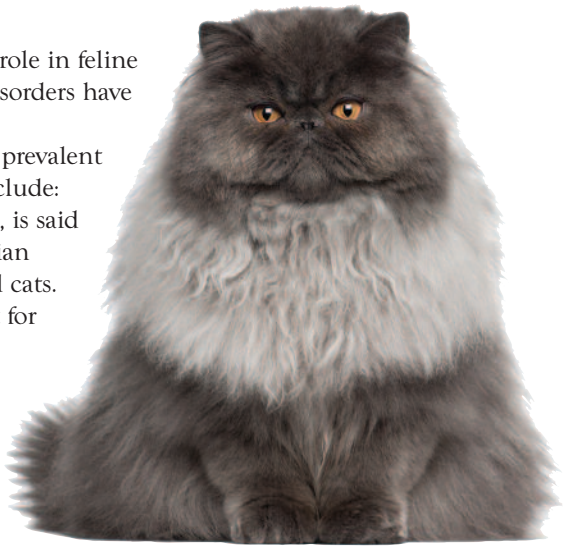
Recessive conditions need two copies of a gene (one from each parent) in order to show symptoms or traits. An animal that has only one copy of a recessive gene won't show the trait but will still be a carrier that can pass on the genetic trait to its offspring. Dominant conditions require only one copy of a gene to show symptoms. For both dominant and recessive disorders, symptoms sometimes show at birth, but sometimes show up later in life.

There are dominant traits in which some individuals will show no symptoms, and this concept is known as "incomplete penetrance." The word penetrance in genetics refers to the portion of the population with the genetic variant that actually shows the trait.

Many genetic disorders are not associated with a single gene, but instead are far more complicated. In these cases, multiple genes and environmental factors come in to play. These conditions are known as "complex" or "multifactorial" disorders.

The science is advancing and we're gaining more knowledge about how genes play a role in pets' health. Disorders that are a result of incomplete penetrance or complex inheritance are far more difficult for researchers to track down, but an awareness that a condition might have a genetic link can help your veterinarian choose to treat an illness as a chronic condition, rather than an acute episode. It can also help pet owners to be aware of the environmental factors that could contribute to disease.

GENETICS AND CATS



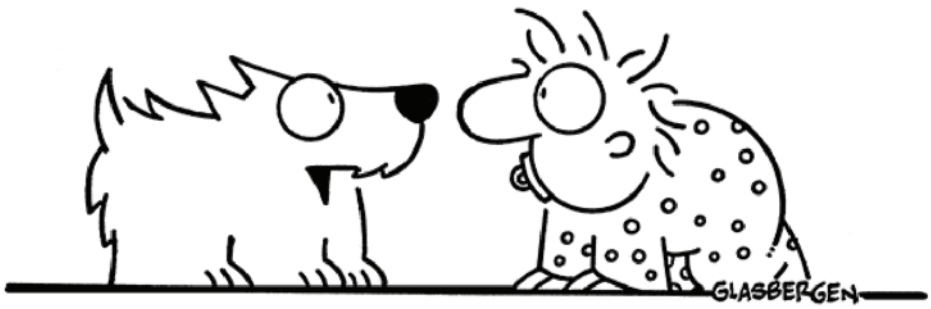
Inherited disorders clearly play a role in feline health, and at least 200 inherited disorders have been identified in cats[2].

Many diseases appear to be more prevalent in purebred cats. Some examples include:

- Polycystic kidney disease, or CKD, is said to be found in up to 38% of Persian cats, but only 6% of random-bred cats. Fortunately, there is a genetic test for CKD.
- Hypertrophic cardiomyopathy is the most prevalently diagnosed heart disease in cats, and Persians, Ragdolls and Maine Coons are at increased risk. There is a genetic test for Ragdolls and Maine Coons.
- Diabetes mellitis can occur in all cats, but Burmese and some other breeds appear to be at a much higher risk.
- Feline hip dysplasia is not common in cats, but it is more prevalent in certain breeds, such as Maine Coons.

Research is underway to try to improve the understanding of which genes are involved in a number of feline heritable diseases, including various types of cancer, skin disorders, dental problems such as gingivitis and stomatitis, hyperthyroidism and many more.

The majority of cats in the U.S. are "random-bred" domestic shorthair (DSH) cats that people either acquire from shelters or family and friends. Most of us, therefore, don't have the opportunity to research our next feline family member's parentage prior to adoption, and at first blush, it may seem the genetic factor, being an unknown, won't necessarily help in our pet's health care. Knowing there may be a genetic link, however, can change your veterinarian's approach to treatment, your awareness of environmental factors that could contribute to disease, and also to furthering medical science for genetic screening, treatment and prevention of diseases.



"I'm a Terrier! What breed are you?"

GENETICS AND DOGS

Labrador Retrievers are the most popular dog breed in the U.S., and a recent study found a gene mutation associated with obesity in Labs. Golden Retrievers are the third most popular breed, and about 61% of them will get cancer in their lifetimes; a higher rate than many other breeds. Bulldogs, the fourth most popular breed, have the highest rate of hip dysplasia and are susceptible to many health issues.

More than 900 inherited disorders have been found in dogs[3]. Researchers suspect genetic links to many more diseases, and ongoing research will likely prove them right.

Genetic testing is now commercially available for a number of the gene mutations responsible for disease in many breeds. Vision disorders such as cone degeneration, collie eye anomaly and progressive retinal atrophy (PRA), neurologic disorders such as degenerative myelopathy, and heart diseases such as dilated cardiomyopathy are just a few of the many disorders we can test for today.

Responsible breeders strive to improve their breed, and breed-specific genetic testing and orthopedic testing can help eliminate known genetic disorders. If you're planning to buy a purebred puppy, it's wise to find a breeder who has done this testing.

DNA testing is also available to help determine the lineage of mixed breed dogs. The accuracy of these tests varies according to a number of factors, including how many different breeds the testing company has in their database.

Understanding the diseases for which your dog is at greater risk can help every pet owner to be aware of the environmental factors that may contribute to disease, and to work with your veterinarian to keep your dog healthy and happy.

[2] [3] PennGen Laboratories, Section of Medical Genetics at the University of Pennsylvania's School of Veterinary Medicine

Tips to help your cat enjoy visits to the vet

(or maybe just dislike them less!)

Cats are creatures of habit. They don't enjoy car rides like dogs, they don't like new places and new smells, and most don't like going to the vet. Some people say this is why they avoid bringing their cat to the veterinarian.

We want your cat to experience the lowest possible amount of stress when she comes to see us. We can't guarantee that she's going to love her visit, but there are some things that you can do to help make it less stressful.

Get the cat carrier out a few days before the appointment so your cat can get used to it. Consider putting some treats or catnip inside, so it becomes a happy place. Some people keep the carrier out all of the time, and many cats enjoy them as secluded spots for naps. Cats who only see a carrier when it's time to go to the vet are likely to run for the hills when it appears.

Use a pheromone spray like Feliway on the towels in the carrier. Pheromones are chemical scents that evoke a calm feeling in pets. It's like kitty aromatherapy.

Warm up the car in the winter or cool it during the summer. Temperature changes

continued below

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CAT VISIT TIPS *continued from above*

are uncomfortable and add to the stress of the trip.

Carry the carrier by the base and not the handle. The handle is more comfortable for us, but imagine how the bouncing and swinging must feel. Its surprising cats don't get nauseated from the ride!

Cover the carrier with a towel, which will decrease the amount of visual stimuli and help keep your cat calmer.

Cats dislike being pulled out the front of their carriers. When possible, we'll take the carrier apart and let your cat sit in the bottom for the exam. (Hint: if you're shopping for a new carrier, find one that has a wide opening at the top.)

When you get home, open the carrier door and let your cat come out when she's ready. Don't force the issue. If you have other pets, keep them separated for a while. When one pet smells like the clinic, other cats may get stressed and it can lead to fights.

Most cats are never going to come bounding into the clinic like so many of our canine patients, but following these tips can help reduce the stress of the vet visit for our feline friends.

GERMS... *continued from pg. 1*

infections, and needed fewer courses of antibiotics than did children who did not live with dogs.

Just as vaccines are designed to stimulate the immune system to develop immunity to disease, it appears that exposure to dirt, dust and germs can help children's immune systems prepare for future environmental challenges that might irritate their airways or provoke allergic reactions.

Perhaps there are real health benefits to allowing your children to stomp though mud puddles and kiss your dog.