



Canine HealthCheck Glossary

Allele

One of several alternative forms of a gene sequence at a specific Locus

Alopecia

A condition where some or all hair is lost from the head and/or other parts of the body

Amino Acid

Organic compounds that combine to form proteins

Anemia

Decrease in number of red blood cells (RBCs) or less than the normal quantity of hemoglobin in the blood

Ataxia

The loss of voluntary coordinated movement of the body indicating an underlying neurologic issue

Atrophy

The partial or complete wasting away of a part of the body, such as the muscles

Autosomal Dominant

A pattern of inheritance in which an affected dog has one copy of a gene that contains a change or Mutation and one normal gene on a pair of chromosomes. Offspring have a 50% chance of inheriting the disease causing gene.

Autosomal Recessive

A pattern of inheritance in which an affected dog must have two copies of an abnormal gene in order to present with the disease or trait.

Cardiovascular

A broad category of diseases that affect the heart and/or blood vessels.

Carrier

A dog that has only one copy of an abnormal gene for a recessive disease. Carriers are not typically expected to have any features of the disease but are at risk of passing on the disease to offspring if bred with another Carrier of the same condition.

Cataract

A clouding of the lens inside the eye which leads to a decrease in vision.

Cerebellum

A structure in the brain known to control voluntary movements of the body

Cerebrospinal Fluid

Clear fluid in the spinal cord and surrounding the brain that acts as a cushion, protecting the brain and spine from injury





Chromosome

An organized structure of DNA and protein found in cells which encodes most or all of the dog's genetic information. Each cell of the dog contains 78 chromosomes or 39 pairs.

Collagen

A protein that is the main component of Connective Tissue including ligaments, tendon, bone and skin

Coloboma

A key-hole shaped defect of the eye that is present from birth

Cone Cells

Photoreceptor Cells in the Retina of the eye that are responsible for color vision, especially in bright light

Connective Tissue

A fibrous type of tissue that provides support for other tissues

Cryptorchidism

Failure of one or both testicles to descend into the scrotum

Dementia

Changes in awareness, deficits in learning and memory, and decreased responsiveness to stimuli that typically progress over time

Electroretinogram

An eye test that evaluates the function of the photoreceptor (Rod and cone) cells of the Retina

Enzyme

Complex proteins that cause a specific chemical change in all parts of the body

Exon

The segments of a gene whose sequence is expressed by formation of messenger RNA and (usually) protein

Glaucoma

Increased pressure within the eye

Haplotype

A series of alleles found at linked loci on a single Chromosome

Hemorrhage

Excessive bleeding

Heterozygous

Having two different alleles at a particular Locus

Homozygous

Having identical alleles at a particular Locus





Hyperparathyroidism

Over-secretion of the parathyroid hormone from the parathyroid glands.

Hypocalcemia

Excessive calcium in the blood

Hypoglycemia

Low blood sugar

Hypomineralization

Insufficient levels of minerals, typically referring to bone and teeth

Hysterectomy

Removal of a female dog's uterus

In Utero

Before birth; in a uterus.

Inclusion Bodies

Distinct aggregates of protein in a cell that are visible using a microscope

Incomplete Penetrance

Individual has the Mutation but does not show signs of the disease

Locus

The specific site of a gene on a Chromosome

Lysosomal Storage Disorder

A group of metabolic disorders that are characterized by the absence of a specific Enzyme that is important in the breaking down of specific substances in the body. Deficiencies in the enzyme lead to abnormal accumulation of substances within the body and can lead to severe health problems in affected dogs.

Melanin

A natural substance that gives color (pigment) to hair, skin, and the iris of the eye

Metabolic Acidosis

Occurs when the body produces too much acid, or when the kidneys are not removing enough acid from the body

Mitochondrial Inheritance

A pattern of inheritance in which traits are passed to the offspring only from the mother through DNA encoded within a cellular organelle called the mitochondrion. Dogs with a mitochondrial disease may be male or female but the condition is always inherited through the maternal line. Male dogs do not pass the condition on to future offspring.





Mitochondrion (Plural Mitochondria)

An organelle of the cell that creates energy through a series of biochemical reactions. Mitochondria have their own DNA called mtDNA.

Mucous Membrane

A mucus secreting layer of tissue lining cavities exposed to the external environment such as the mouth, nose, genitals, esophagus and rectum.

Musculoskeletal

A broad category of diseases that affect the muscles and/or bones.

Mutation

The change from the normal to an altered form of a particular gene

Myelin

An insulating layer, made of protein and fatty substances, that surrounds nerves and aids in a more rapid and efficient transmission of impulses along the the nerve cells

Myopathy

A muscular disease in which the muscle fibers do not function for any one of many reasons, resulting in muscular weakness

Neuromuscular Disease

A broad category of diseases that affect the muscles and/or the direct nervous system control

Neutrophil

White blood cells that aid the immune system to fight bacteria and infection

Nystagmus

An involuntary, rapid and repetitive movement of the eyes. Usually the movement is side-to-side (horizontal Nystagmus), but it can also be up and down (vertical nystagmus) or circular (rotary nystagmus).

Pathogen

An infectious agent, such as a bacteria or virus, that causes disease in its host.

Penetrance

The frequency with which a dog that genetically known to have a specific disease will develop symptoms or traits of that disease.

Photophobia

Discomfort of the eye when exposed to bright light.

Photoreceptor Cells

Specialized cells (rods and cones) located in the Retina of the eye that transmit visual information.



**Platelets**

Blood cells that play an important role in the normal clotting of blood.

Pupillary Response

The reduction of pupil size in response to light.

Retina

The light sensitive layer of tissue at the back of the inner eye.

Rickets

Soft, weak bones caused by deficiencies in vitamin D, phosphorus or calcium.

Rod

Photoreceptor Cells in the Retina of the eye that are responsible for vision, especially in dim light.

Sertoli Cell Tumor

A tumor that develops primarily in the testes but may rarely occur in the ovaries.

Sex-Limited

A disease that is genetically inherited equally by both males and females, but may only present with symptoms in one of the sexes.

Tapetum

A reflective layer of tissue lying behind the Retina in the eye of dogs, which allows for superior vision in low light conditions.

Ureter

Tubes which carry urine from the kidneys to the bladder.

Urethra

Tube which carries urine from the bladder out of the body.

Variable Expressivity

Refers to individuals who have the Mutation, but their clinical presentation may vary from mild to severe.

White Matter

Tissue in the brain and spinal cord that contains nerve fibers. Many of these nerve fibers are surrounded by a type of fat called Myelin which gives the whitish appearance to the White Matter.

X-Linked Inheritance

A pattern of inheritance in which the transmission of traits varies according to the sex of the dog, because the genes on the X Chromosome have no counterparts on the Y chromosome. The inheritance pattern may be recessive or dominant. The trait determined by a gene on the X chromosome is always expressed in males. Transmission from male to male does not occur.





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X-Linked Recessive

Defines genes located on the X Chromosome. Because males have only one X chromosome, these diseases are expressed mainly in male dogs.

Source: Paw Print Genetics

