Canine HealthCheck

Demographic Information

Call Name	Gio	DOB	November 27, 2019
Registered Name	Benson Ranch Giovane	Registration Number	BCM6922G
Breed	Maremma Sheepdog	Tattoo	
Sex	M	Microchip	[redacted]
Owner	[redacted]	Laboratory #	AN-21-005631
		Report Date	July 15, 2021

These tests were developed and performed by Paw Print Genetics®, Spokane WA.

Explanation of Results

Normal	A 'Normal' result means that your dog does not have the mutation that causes the associated genetic disease.
Carrier	A 'Carrier' result indicates that your dog has inherited one copy of the mutation that has been reported to cause this genetic disease. Your dog may not be clinically affected by this mutation because two copies of the mutation are usually required to cause disease.
Carrier / At-Risk	A 'Carrier / At-Risk' result indicates that your dog inherited one copy of the mutation that has been reported to cause this genetic disease. Based on the mode of genetic inheritance for this particular disease, inheriting one mutant copy of the gene may result in the disease. Dogs with one copy of the mutation may have a milder phenotype as compared to dogs with two copies of this mutation.
At-Risk / Affected	An 'At-Risk / Affected' result indicates that your dog inherited one or two copies of the mutation that has been reported to cause this genetic disease. Based on the mode of genetic inheritance for this particular disease, inheriting one or two mutant copies of the gene may result in the disease.
No Result	'No Result' indicates that we were unable to obtain a genotype for your dog for this specific disease or trait and does not mean that your dog is a carrier or at-risk for this disease. There are a variety of reasons why a specific test may not provide a reportable result. Unique variations in the genetic code of some individuals may exist and cause certain regions of the genome to not perform properly with a specific test. In addition, suboptimal sampling of the dog's cheek cells could also result in poor sample performance due to inadequate cell counts, bacterial and fungal growth, or the presence of other test inhibitors. An acceptable level of tests with no results has been determined by Paw Print Genetics. Dogs with at least 90% of the test results are determined to be acceptable and reportable. If your dog has an unacceptable level of tests with no results, you will be contacted for a new sample to repeat the testing.

Please review our testing terms and disclaimers regarding your results.

WT: wild type (normal) M: mutant Y: Y chromosome (male)

Breed Profile

Disease Name	Genotype	Interpretation
Degenerative Myelopathy	WT/WT	Normal (Clear)
Degenerative Myelopathy (Bernese Mountain Dog Variant)	0	
Degenerative Myelopathy (Common Variant)	0	

Acral Mutilation Syndrome	WT/WT	Normal (Clear)
Acute Respiratory Distress Syndrome	WT/WT	Normal (Clear)
Adult Paroxysmal Dyskinesia	WT/WT	Normal (Clear)
Alaskan Husky Encephalopathy	WT/WT	Normal (Clear)
Alaskan Malamute Polyneuropathy	WT/WT	Normal (Clear)
Amelogenesis Imperfecta	WT/WT	Normal (Clear)
Benign Familial Juvenile Epilepsy	WT/WT	Normal (Clear)
Canine Multiple System Degeneration Chinese Crested Type	WT/WT	Normal (Clear)
Canine Multiple System Degeneration Kerry Blue Terrier Type	WT/WT	Normal (Clear)
Canine Scott Syndrome	WT/WT	Normal (Clear)
Catalase Deficiency	WT/WT	Normal (Clear)
Centronuclear Myopathy	WT/WT	Normal (Clear)
Cerebellar Ataxia Finnish Hound Type	WT/WT	Normal (Clear)
Cerebellar Cortical Degeneration	WT/WT	Normal (Clear)
Cerebellar Degeneration	WT/WT	Normal (Clear)
Chondrodysplasia Karelian Bear Dog and Norwegian Elkhound Type	WT/WT	Normal (Clear)
Cleft Palate and Syndactyly Nova Scotia Duck Tolling Retriever Type	WT/WT	Normal (Clear)
Coagulation Factor VII Deficiency	WT/WT	Normal (Clear)
Collie Eye Anomaly	WT/WT	Normal (Clear)
Complement 3 Deficiency	WT/WT	Normal (Clear)
Cone Degeneration	WT/WT	Normal (Clear)
Cone Degeneration German Shepherd Dog Type	WT/WT	Normal (Clear)
Cone Degeneration German Shorthaired Pointer Type	WT/WT	Normal (Clear)
Cone Degeneration Labrador Retriever Type	WT/WT	Normal (Clear)
Congenital Hypothyroidism with Goiter Terrier Type	WT/WT	Normal (Clear)

Congenital Methemoglobinemia	WT/WT	Normal (Clear)
Congenital Myasthenic Syndrome Jack Russell Terrier Type	WT/WT	Normal (Clear)
Congenital Myasthenic Syndrome Labrador Retriever Type	WT/WT	Normal (Clear)
Congenital Myasthenic Syndrome Old Danish Pointer Type	WT/WT	Normal (Clear)
Congenital Stationary Night Blindness	WT/WT	Normal (Clear)
Craniomandibular Osteopathy	WT/WT	Normal (Clear)
Cyclic Neutropenia	WT/WT	Normal (Clear)
Cystinuria Australian Cattle Dog Type	WT/WT	Normal (Clear)
Cystinuria Labrador Retriever Type	WT/WT	Normal (Clear)
Cystinuria Miniature Pinscher Type	WT/WT	Normal (Clear)
Cystinuria Newfoundland Type	WT/WT	Normal (Clear)
Cystinuria Type 3 Bulldog Type Risk Factor, Variant 3	WT/WT	Normal (Clear)
Cystinuria Type 3 Bulldog Type Risk Factor, Variants 1 and 2	WT/WT	Normal (Clear)
Cystinuria Type 3 (Bulldog Type Risk Factor, Variant 1)	0	
Cystinuria Type 3 (Bulldog Type Risk Factor, Variant 2)	0	
Dandy-Walker-Like Malformation	WT/WT	Normal (Clear)
Degenerative Myelopathy	WT/WT	Normal (Clear)
Degenerative Myelopathy (Bernese Mountain Dog Variant)	0	
Degenerative Myelopathy (Common Variant)	0	
Degenerative Myelopathy Early-Onset Risk Modifier Pembroke Welsh Corgi Type	WT/M	One Copy Carrier - Not associated with disease
Dental Hypomineralization	WT/WT	Normal (Clear)
Diffuse Cystic Renal Dysplasia and Hepatic Fibrosis	WT/WT	Normal (Clear)
Dilated Cardiomyopathy Doberman Pinscher Type Risk Factor, Variant 1	WT/WT	Normal (Clear)
Dilated Cardiomyopathy Doberman Pinscher Type Risk Factor, Variant 2	WT/WT	Normal (Clear)

Dilated Cardiomyopathy Schnauzer Type	WT/WT	Normal (Clear)
Dry Eye Curly Coat Syndrome	WT/WT	Normal (Clear)
Dystrophic Epidermolysis Bullosa	WT/WT	Normal (Clear)
Early Retinal Degeneration	WT/WT	Normal (Clear)
Ectodermal Dysplasia Chesapeake Bay Retriever Type	WT/WT	Normal (Clear)
Ectodermal Dysplasia, X-Linked Dachshund Type	WT/Y	X-Linked Male Normal
Ectodermal Dysplasia, X-Linked Shepherd Type	WT/Y	X-Linked Male Normal
Ehlers-Danlos Syndrome	WT/WT	Normal (Clear)
Ehlers-Danlos Syndrome (Variant 1)	0	
Ehlers-Danlos Syndrome (Variant 2)	0	
Elliptocytosis	WT/WT	Normal (Clear)
Epidermolytic Hyperkeratosis	WT/WT	Normal (Clear)
Episodic Falling Syndrome	WT/WT	Normal (Clear)
Exercise-Induced Collapse	WT/WT	Normal (Clear)
Factor XI Deficiency	WT/WT	Normal (Clear)
Familial Nephropathy Cocker Spaniel Type	WT/WT	Normal (Clear)
Familial Nephropathy English Springer Spaniel Type	WT/WT	Normal (Clear)
Fucosidosis	WT/WT	Normal (Clear)
Gallbladder Mucoceles	WT/WT	Normal (Clear)
Glanzmann's Thrombasthenia Great Pyrenees Type	WT/WT	Normal (Clear)
Glanzmann's Thrombasthenia Otterhound Type	WT/WT	Normal (Clear)
Glaucoma Border Collie Type	WT/WT	Normal (Clear)
Globoid Cell Leukodystrophy Irish Setter Type	WT/WT	Normal (Clear)
Globoid Cell Leukodystrophy Terrier Type	WT/WT	Normal (Clear)

Glycogen Storage Disease Ia	WT/WT	Normal (Clear)
Glycogen Storage Disease IIIa	WT/WT	Normal (Clear)
Glycogen Storage Disease VII Wachtelhund Type	WT/WT	Normal (Clear)
Glycogen Storage Disease VII, PFK Deficiency	WT/WT	Normal (Clear)
GM1 Gangliosidosis Alaskan Husky Type	WT/WT	Normal (Clear)
GM1 Gangliosidosis Portuguese Water Dog Type	WT/WT	Normal (Clear)
GM1 Gangliosidosis Shiba Inu Type	WT/WT	Normal (Clear)
GM2 Gangliosidosis Japanese Chin Type	WT/WT	Normal (Clear)
GM2 Gangliosidosis Poodle Type	WT/WT	Normal (Clear)
Greyhound Polyneuropathy	WT/WT	Normal (Clear)
Hemophilia A Boxer Type	WT/Y	X-Linked Male Normal
Hemophilia A German Shepherd Dog, Type 1	WT/Y	X-Linked Male Normal
Hemophilia A German Shepherd Dog, Type 2	WT/Y	X-Linked Male Normal
Hemophilia B Cairn Terrier Type	WT/Y	X-Linked Male Normal
Hemophilia B Lhasa Apso Type	WT/Y	X-Linked Male Normal
Hemophilia B Rhodesian Ridgeback Type	WT/Y	X-Linked Male Normal
Hereditary Cataracts	WT/WT	Normal (Clear)
Hereditary Cataracts Australian Shepherd Type	WT/WT	Normal (Clear)
Hereditary Footpad Hyperkeratosis Irish Terrier and Kromfohrländer Type	WT/WT	Normal (Clear)
Hereditary Nasal Parakeratosis	WT/WT	Normal (Clear)
Hereditary Nasal Parakeratosis Greyhound Type	WT/WT	Normal (Clear)
Hereditary Nephritis Samoyed Type	WT/Y	X-Linked Male Normal

Hyperuricosuria	WT/WT	Normal (Clear)
Hypomyelination Weimaraner Type	WT/WT	Normal (Clear)
Ichthyosis American Bulldog Type	WT/WT	Normal (Clear)
Ichthyosis Golden Retriever Type	WT/WT	Normal (Clear)
Ichthyosis Great Dane Type	WT/WT	Normal (Clear)
Inherited Myopathy of Great Danes	WT/WT	Normal (Clear)
Intervertebral Disc Disease Risk Factor and Chondrodystrophy CDDY with IVDD	WT/WT	Normal (Clear)
Intestinal Cobalamin Malabsorption Beagle Type	WT/WT	Normal (Clear)
Intestinal Cobalamin Malabsorption Border Collie Type	WT/WT	Normal (Clear)
Juvenile Laryngeal Paralysis and Polyneuropathy	WT/WT	Normal (Clear)
Juvenile Myoclonic Epilepsy Rhodesian Ridgeback Type	WT/WT	Normal (Clear)
L-2-Hydroxyglutaric Aciduria Staffordshire Bull Terrier Type	WT/WT	Normal (Clear)
Lagotto Storage Disorder	WT/WT	Normal (Clear)
Late Onset Ataxia	WT/WT	Normal (Clear)
Lethal Acrodermatitis	WT/WT	Normal (Clear)
Leukocyte Adhesion Deficiency, Type I	WT/WT	Normal (Clear)
Leukocyte Adhesion Deficiency, Type III	WT/WT	Normal (Clear)
Ligneous Membranitis	WT/WT	Normal (Clear)
Lundehund Syndrome	WT/WT	Normal (Clear)
Macular Corneal Dystrophy Labrador Retriever Type	WT/WT	Normal (Clear)
May-Hegglin Anomaly	WT/WT	Normal (Clear)
Mucopolysaccharidosis I	WT/WT	Normal (Clear)
Mucopolysaccharidosis IIIA Dachshund Type	WT/WT	Normal (Clear)
Mucopolysaccharidosis IIIA New Zealand Huntaway Type	WT/WT	Normal (Clear)

Mucopolysaccharidosis VII Shepherd Type	WT/WT	Normal (Clear)
Multidrug Resistance 1	WT/WT	Normal (Clear)
Multifocal Retinopathy 1	WT/WT	Normal (Clear)
Multifocal Retinopathy 2	WT/WT	Normal (Clear)
Multifocal Retinopathy 3	WT/WT	Normal (Clear)
Muscular Dystrophy Golden Retriever Type	WT/Y	X-Linked Male Normal
Musladin-Lueke Syndrome	WT/WT	Normal (Clear)
Myostatin Deficiency Whippet and Longhaired Whippet Type	WT/WT	Normal (Clear)
Myotonia Congenita Australian Cattle Dog Type	WT/WT	Normal (Clear)
Myotonia Congenita Schnauzer Type	WT/WT	Normal (Clear)
Myotubular Myopathy 1	WT/Y	X-Linked Male Normal
Myotubular Myopathy 1 Rottweiler Type	WT/Y	X-Linked Male Normal
Narcolepsy Dachshund Type	WT/WT	Normal (Clear)
Narcolepsy Doberman Pinscher Type	WT/WT	Normal (Clear)
Narcolepsy Labrador Retriever Type	WT/WT	Normal (Clear)
Neonatal Cerebellar Cortical Degeneration	WT/WT	Normal (Clear)
Neonatal Encephalopathy with Seizures	WT/WT	Normal (Clear)
Neuroaxonal Dystrophy Rottweiler Type	WT/WT	Normal (Clear)
Neuroaxonal Dystrophy Spanish Water Dog Type	WT/WT	Normal (Clear)
Neuronal Ceroid Lipofuscinosis Tibetan Terrier Type	WT/WT	Normal (Clear)
Neuronal Ceroid Lipofuscinosis 1	WT/WT	Normal (Clear)
Neuronal Ceroid Lipofuscinosis 1 Cane Corso Type	WT/WT	Normal (Clear)
Neuronal Ceroid Lipofuscinosis 10	WT/WT	Normal (Clear)

Neuronal Ceroid Lipofuscinosis 12	WT/WT	Normal (Clear)
Neuronal Ceroid Lipofuscinosis 2	WT/WT	Normal (Clear)
Neuronal Ceroid Lipofuscinosis 4A	WT/WT	Normal (Clear)
Neuronal Ceroid Lipofuscinosis 5 Australian Cattle Dog/Border Collie Type	WT/WT	Normal (Clear)
Neuronal Ceroid Lipofuscinosis 5 Golden Retriever Type	WT/WT	Normal (Clear)
Neuronal Ceroid Lipofuscinosis 6	WT/WT	Normal (Clear)
Neuronal Ceroid Lipofuscinosis 7	WT/WT	Normal (Clear)
Neuronal Ceroid Lipofuscinosis 8 Australian Shepherd Type	WT/WT	Normal (Clear)
Neuronal Ceroid Lipofuscinosis 8 Setter Type	WT/WT	Normal (Clear)
Oculocutaneous Albinism	WT/WT	Normal (Clear)
Oculocutaneous Albinism Small Breed Type	WT/WT	Normal (Clear)
Osteochondrodysplasia	WT/WT	Normal (Clear)
Osteogenesis Imperfecta Beagle Type	WT/WT	Normal (Clear)
Osteogenesis Imperfecta Dachshund Type	No Result	No Result
Osteogenesis Imperfecta Golden Retriever Type	WT/WT	Normal (Clear)
P2RY12 Receptor Platelet Disorder	WT/WT	Normal (Clear)
Pembroke Welsh Corgi Duchenne Muscular Dystrophy	WT/Y	X-Linked Male Normal
Persistent Müllerian Duct Syndrome	WT/WT	Normal (Clear)
Polyneuropathy Leonberger and Saint Bernard Type	WT/WT	Normal (Clear)
Polyneuropathy Leonberger Type 2	WT/WT	Normal (Clear)
Polyneuropathy with Ocular Abnormalities and Neuronal Vacuolation	WT/WT	Normal (Clear)
Pompe Disease	WT/WT	Normal (Clear)
Prekallikrein Deficiency	WT/WT	Normal (Clear)
Primary Ciliary Dyskinesia	WT/WT	Normal (Clear)

Primary Hyperoxaluria	WT/WT	Normal (Clear)
Primary Lens Luxation	WT/WT	Normal (Clear)
Primary Open Angle Glaucoma	WT/WT	Normal (Clear)
Primary Open Angle Glaucoma Basset Fauve de Bretagne Type	WT/WT	Normal (Clear)
Primary Open Angle Glaucoma Basset Hound Type	WT/WT	Normal (Clear)
Primary Open Angle Glaucoma Norwegian Elkhound Type	WT/WT	Normal (Clear)
Primary Open Angle Glaucoma and Primary Lens Luxation Shar Pei Type	WT/WT	Normal (Clear)
Progressive Retinal Atrophy Basenji Type	WT/WT	Normal (Clear)
Progressive Retinal Atrophy Bullmastiff/Mastiff Type	WT/WT	Normal (Clear)
Progressive Retinal Atrophy Giant Schnauzer Type	WT/WT	Normal (Clear)
Progressive Retinal Atrophy Irish Setter Type	WT/WT	Normal (Clear)
Progressive Retinal Atrophy Shetland Sheepdog Type	WT/WT	Normal (Clear)
Progressive Retinal Atrophy Sloughi Type	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Cone-Rod Dystrophy	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Cone-Rod Dystrophy 1	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Cone-Rod Dystrophy 2	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Cone-Rod Dystrophy 4 crd4/cord1	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Generalized	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Golden Retriever 1	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Golden Retriever 2	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, PRA1 Papillon Type	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, PRA3 Tibetan Terrier and Spaniel Type	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration prcd	WT/WT	Normal (Clear)

Progressive Retinal Atrophy, Rod-Cone Dysplasia 3	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, Rod-Cone Dysplasia 4	WT/WT	Normal (Clear)
Progressive Retinal Atrophy, X-Linked 1	WT/Y	X-Linked Male Normal
Protein Losing Nephropathy	No Result	No Result
Protein Losing Nephropathy (Variant 1)	No Result	No Result
Protein Losing Nephropathy (Variant 2)	0	
Pyruvate Dehydrogenase Deficiency	WT/WT	Normal (Clear)
Pyruvate Kinase Deficiency Basenji Type	WT/WT	Normal (Clear)
Pyruvate Kinase Deficiency Beagle Type	WT/WT	Normal (Clear)
Pyruvate Kinase Deficiency Labrador Retriever Type	WT/WT	Normal (Clear)
Pyruvate Kinase Deficiency Pug Type	WT/WT	Normal (Clear)
Pyruvate Kinase Deficiency Terrier Type	WT/WT	Normal (Clear)
Recurrent Inflammatory Pulmonary Disease	WT/WT	Normal (Clear)
Renal Cystadenocarcinoma and Nodular Dermatofibrosis	WT/WT	Normal (Clear)
Retinal Dysplasia/Oculoskeletal Dysplasia 1	WT/WT	Normal (Clear)
Retinal Dysplasia/Oculoskeletal Dysplasia 2	No Result	No Result
Sensory Neuropathy Border Collie Type	WT/WT	Normal (Clear)
Severe Combined Immunodeficiency Disease Terrier Type	WT/WT	Normal (Clear)
Severe Combined Immunodeficiency Disease Wetterhoun Type	WT/WT	Normal (Clear)
Severe Combined Immunodeficiency Disease, X-Linked Basset Hound Type	WT/Y	X-Linked Male Normal
Severe Combined Immunodeficiency Disease, X-Linked Corgi Type	WT/Y	X-Linked Male Normal
Shar-Pei Autoinflammatory Disease	WT/WT	Normal (Clear)
Skeletal Dysplasia 2	WT/WT	Normal (Clear)
Spinal Dysraphism	WT/WT	Normal (Clear)
Spinocerebellar Ataxia	WT/WT	Normal (Clear)

Spondylocostal Dysostosis	WT/WT	Normal (Clear)
Stargardt Disease	WT/WT	Normal (Clear)
Startle Disease	WT/WT	Normal (Clear)
Thrombopathia American Eskimo Dog Type	WT/WT	Normal (Clear)
Thrombopathia Basset Hound Type	WT/WT	Normal (Clear)
Thrombopathia Newfoundland Type	WT/WT	Normal (Clear)
Trapped Neutrophil Syndrome	WT/WT	Normal (Clear)
Urolithiasis Native American Indian Dog Type	WT/WT	Normal (Clear)
Van Den Ende-Gupta Syndrome	WT/WT	Normal (Clear)
Von Willebrand Disease I	WT/WT	Normal (Clear)
Von Willebrand Disease II	WT/WT	Normal (Clear)
Von Willebrand Disease III Kooikerhondje Type	WT/WT	Normal (Clear)
Von Willebrand Disease III Scottish Terrier Type	WT/WT	Normal (Clear)
Von Willebrand Disease III Shetland Sheepdog Type	WT/WT	Normal (Clear)

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Degenerative Myelopathy Early-Onset Risk Modifier (Pembroke Welsh Corgi Type)

Inheritance

Dominant Modifier

Affected Genes

SP110

Mutations

C>T, Chr25:42439453

Breeds

Pembroke Welsh Corgi

Common Symptoms

The degenerative myelopathy risk modifier (Pembroke Welsh corgi type) is a genetic mutation that affects the onset of degenerative myelopathy (DM) in the Pembroke Welsh corgi in a dog already at risk for the disease. In Pembroke Welsh corgis that also have two copies of the common DM mutation in SOD1, a mutation in the SP110 gene may increase the chance of developing DM by decreasing the age of disease onset. In the absence of two copies of the common SOD1 DM mutation, this SP110 variant does not have any effect on a dog's health. While this SP110 mutation has been identified in breeds other than the Pembroke Welsh corgi, it is unknown if this mutation increases the risk of DM in these breeds when also present with two copies of the SOD1 common DM mutation. Dogs identified with one or two copies of the SP110 variant and no mutation in SOD1 are not at an increased risk of DM. Therefore, efforts to prevent puppies from being born with degenerative myelopathy should focus on preventing puppies from being born with two copies of the SOD1 gene mutation rather than selection against the SP110 mutation. Degenerative myelopathy is an inherited neurologic disorder of dogs. The SOD1 gene mutation associated with degenerative myelopathy is found in many breeds of dog, including the Pembroke Welsh corgi. While it is not clear for some of the other breeds, Pembroke Welsh corgis are known to develop degenerative myelopathy associated with a mutation of the SOD1 gene. The variable presentation between breeds suggests that there are environmental or other genetic factors responsible for modifying disease expression. A mutation of the SP110 gene is associated with an increased risk of developing clinical signs of degenerative myelopathy and an earlier age of onset in Pembroke Welsh corgis which have also inherited two copies of the SOD1 gene mutation associated with degenerative myelopathy. The disease affects the white matter tissue of the spinal cord and is considered the canine equivalent to amyotrophic lateral sclerosis (Lou Gehrig's disease) found in humans. Affected dogs usually present in adulthood with gradual muscle atrophy and loss of coordination typically beginning in the hind limbs due to degeneration of the nerves. The condition is not typically painful for the dog, but will progress until the dog is no longer able to walk. The gait of dogs affected with degenerative myelopathy can be difficult to distinguish from the gait of dogs with hip dysplasia, arthritis of other joints of the hind limbs, or intervertebral disc disease. Late in the progression of disease, dogs may lose fecal and urinary continence and the forelimbs may be affected. Affected dogs may fully lose the ability to walk 6 months to 2 years after the onset of symptoms. Affected small breed dogs, such as the Pembroke Welsh corgi, often progress more slowly than affected large breed dogs and owners may postpone euthanasia until the dog is paraplegic.

of symptoms. Affected small breed dogs, such as the Pembroke Welsh corgi, often progress more slowly than affected large breed dogs and owners may postpone euthanasia until the dog is paraplegic.

Testing Tips

Genetic testing of the SP110 gene in Pembroke Welsh corgis will reliably determine whether a dog is a geneticcarrier of degenerative myelopathy modifier (Pembroke Welsh corgi type). Degenerative myelopathy modifier (Pembroke Welsh corgi type) increases the risk of degenerative myelopathy in an autosomal dominant manner meaning that dogs that have two copies of the SOD1 gene mutation only need to inherit one copy of the SP110 gene mutation to be at an increased risk of developing degenerative myelopathy. In general, dogs that are not at-risk for degenerative myelopathy will not have features of the disease even when they have one or two copies of the degenerative myelopathy modifier (Pembroke Welsh corgi type) mutation; therefore, testing for the degenerative myelopathy modifier (Pembroke Welsh Corgi Type) is only needed for dogs that are also at-risk for degenerative myelopathy. Reliable genetic testing is important for determining breeding practices. Because symptoms may not appear until adulthood and some at-risk/affected dogs do not develop the disease, genetic testing should be performed before breeding. Until more of the modifying environmental or genetic factors are determined, genetic testing remains the only reliable way to detect neurological disease associated with the SOD1 gene mutation prior to death. Pembroke Welsh corgis that are not carriers of the mutation have no increased risk of developing degenerative myelopathy.

There may be other causes of this condition in dogs and a normal result does not exclude a different mutation in this gene or any other gene that may result in a similar genetic disease or trait.

References

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