

DEGENERATIVE MYELOPATHY AND GENETIC TESTING

In general: Despite the devastating nature of this condition, it is rarely or infrequently diagnosed in all breeds; and the sod1 test is not – on its own – predictive of DM in any breed. Most occurrences of dogs presenting with symptoms of degenerative diseases have other conditions, not DM.

Breeders: Sod1 testing should not form the basis of breed-wide strategies. Eliminating dogs from breeding based on the sod tests is detrimental to breed diversity and will not achieve desired results, even in German Shepherd Dogs or Boxers, Bernese Mountain Dogs (sod1 and 2), Corgis, Rhodesian Ridgebacks, Borzois, or Chesapeake Bay Retrievers. Prioritizing testing for this condition will also take away emphasis from other more common and severe conditions. The sod1 gene is incompletely penetrant, meaning that sod1 is only one factor in the polygenic DM disease, not large enough to cause the disease by itself. This complex disease cannot be controlled on the basis of this test at a breed level. Limited potential uses of the sod1 test are listed below.

For a dog with clinical signs of DM - dogs with relatives confirmed to have DM*

- If your dog is negative for sod1 or is heterozygous, most often it will not experience DM (almost 100%) – **rule out** DM as a problem.
- If your dog is homozygous for sod1, it **may** experience DM (but it is not 100%) – DM **can't be ruled-in**, and the test alone should never be cause for euthanasia.

For Breeds where use of the sod1 (or sod2) test has been promoted...

The facts suggest that this test is not accurate enough to label dogs as at risk and certainly not for use in breed-wide strategies. In fact, the test has sometimes been promoted in breeds where there have never been confirmed cases and where there are more significant diseases and issues to be considered in healthy breeding.

For ALL BREEDS – sod1/2 testing should NOT be used as a breed-wide strategy. Please focus on common problems in your breed – the test will not work as you hope and will cause unintended consequences for breed health.

Elimination of animals from breeding based on sod1 (and sod2) testing may seriously damage any breed.

* What is required to confirm a diagnosis of DM?

- See: [DEGENERATIVE MYELOPATHY-DIAGNOSIS AND INHERITANCE - Dr. Jerold Bell](#)
- See: [Correcting the confusion around degenerative myelopathy - Dr. Brenda Bonnett](#)

★ OTHER IMPORTANT BREED-SPECIFIC ISSUES ★

Prioritizing testing for Degenerative Myelopathy can take away emphasis from other more common and severe conditions. Tests and conditions that should be considered in breeding decisions and for owners choosing a breeder or a dog:

German Shepherd Dog

Orthopedic evaluations (hips, elbows, spine), eye exams and temperament evaluation recommended by multiple health strategy providers. Risk for exaggerated characteristics: over-angulation, cow-hocked hindquarters with instability in hocks, arched top line cut away in loin and croup.



Boxer

Orthopedic evaluations (hips, elbows, spine), heart evaluation and thyroid testing recommended by multiple health strategy providers. Risk for irritated skin and breathing problems. Length of nose bridge in relation to skull should be (at least) 1:2; nostrils should be open.



Bernese Mountain Dog

Orthopedic evaluations (hip, elbows) and eye exams recommended by multiple health strategy providers. Recognized health conditions that impact length and quality of life include: a high cancer rate, digestive issues (IBD, PLE, Bloat and food allergies/malabsorption disorders) as well as reproductive issues.



Corgis

Orthopedic evaluations (hips, elbows, spine, patella), eye exams, behaviour and temperament evaluations recognized or recommended by multiple health strategy providers. Digestive issues recognized.



Rhodesian Ridgeback

Testing for Juvenile Myoclonic Epilepsy (JME) and eye disease recommended by multiple health strategy providers. Character and temperament evaluations are conducted. Rhodesian dogs are affected by immunological diseases, of which allergies, atopy, hypothyroidism, and tumors are the most common.



Borzoi

Heart evaluation and thyroid testing are recommended by multiple health strategy providers.



Chesapeake Bay Retriever

Orthopedic evaluations (hips, elbows), eye exams and thyroid testing are recommended by multiple health strategy providers.



No breeds should consider using a breed-wide breeding strategy for DM based on sod1 (or sod2) testing. Possible use within family lines or to rule out DM in certain individual cases might be helpful.