

Genetic Conditions by Body System

A horse's genes control everything from eye and coat color to liver and kidney function—even behavior. Testing for and identifying which horses could potentially be affected by genetic conditions is important not only for buyers and breeders but also for the overall health of the breed itself. The following is a list of genetic diseases known to affect horses and which breeds are most susceptible.



Mouse over some of these conditions for links to more information:

BODY SYSTEM	CONDITION	BREED(S) AFFECTED	TESTABLE?
Neurologic	Cerebellar abiotrophy	Arabian	Yes
	Juvenile epilepsy syndrome	Arabian	No
	Lavender foal syndrome	Arabian	Yes
	Neuroaxonal dystrophy/equine degenerative myeloencephalopathy (NAD/EDM)	Various	No
	Cervical vertebral compressive myelopathy (Wobblers)*	Various	No
Musculoskeletal	Polysaccharide storage myopathy type 1 (PSSM 1)	Quarter Horses, Drafts, Warmbloods	Yes
	Polysaccharide storage myopathy Type 2 (PSSM 2)	Various	No
	Glycogen branching enzyme deficiency	Quarter Horses and related breeds	Yes
	Hyperkalemic periodic paralysis (HYPP)	Quarter Horses and related breeds	Yes
	Myotonia	New Forest Ponies	Yes
	Osteochondrosis/osteochondritis dissecans (OC/OCD)*	French Trotters, Dutch Warmbloods	No
	Recurrent exertional rhabdomyolysis*	Thoroughbreds	No
	Distal limb fractures, superficial flexor tendon injury*	Thoroughbreds	No
	Lordosis	American Saddlebreds	No
	Lateral (sub)luxation of the patella*	Shetland ponies	No
	Malignant hyperthermia	Quarter Horses and related breeds	Yes

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BODY SYSTEM	CONDITION	BREED(S) AFFECTED	TESTABLE?
Dermatologic	Heritable equine regional dermal asthenia (HERDA)	Quarter Horses	Yes
	Junctional epidermolysis bullosa (JEB)	American Saddlebreds, Belgians, Drafts	Yes
	Gray horse melanoma	Gray horses, many breeds	No
Ocular	Equine multiple congenital ocular anomalies (MCOA)	Silver-coated horses (Rocky Mountain Horses, Icelandics, Shetlands, American Miniatures, Belgian Drafts, Morgans, Kentucky Mountain Saddle Horses)	Yes
	Corneal dystrophy	Friesians	No
	Equine recurrent uveitis (ERU)	Appaloosas, German Warmbloods	No
	Congenital stationary night blindness	Appaloosas, Thoroughbreds, Paso Finos	Yes
Respiratory	Guttural pouch tympany*	Arabians, German Warmbloods	No
	Recurrent laryngeal neuropathy (RLN)*	Thoroughbreds, Drafts	No
	Recurrent airway obstruction (heaves)*	Various	No
	Exercise-induced pulmonary hemorrhage*	Various	No
Miscellaneous	Severe combined immunodeficiency	Arabians	Yes
	Foal immunodeficiency syndrome	Fell and Dale ponies	Yes
	Chronic progressive lymphadenopathy	Draft breeds	No
	Overo lethal white foal syndrome	Paints, Quarter Horses, Miniature Horses	Yes
	Dwarfism	Miniature Horses	Yes
	Equine metabolic syndrome*	Various	No
	Hoof wall separation disease	Connemara Ponies	Yes

*Conditions suspected of having a poly (multiple) genetic contribution but that has not yet been definitively demonstrated.

**If you're interested in testing your horse for a particular genetic disease,
have your veterinarian contact one of the following laboratories to inquire about available tests.
Labs are licensed to run only particular tests.**

Animal Genetic Testing and Research Laboratory

Department of Veterinary Science
Gluck Equine Research Center
University of Kentucky
Lexington, KY 40546
[859/218-1212](tel:8592181212)
www.ca.uky.edu/gluck

Animal Health Diagnostic Center

Cornell University
College of Veterinary Medicine
P.O. Box 5786
Ithaca, NY 14852-5786
607/253-3935
<http://ahdc.vet.cornell.edu/test>

Maxxam Analytics

335 Laird Road, Unit 2
Guelph, Ontario N 1 H 6J3 Canada
[519/836-2400](tel:5198362400)
www.maxxam.ca

Veterinary Diagnostic Laboratory

University of Minnesota
1333 Gortner Avenue
St. Paul, MN 55108-1098
612/625-8787
www.vdl.umn.edu

Veterinary Genetics Laboratory

University of California, Davis
PO Box 1102w
Davis, CA 95617-1102
530/752-2211
www.vgl.ucdavis.edu