Basset Hound Club of America
Health Policy (revised July, 2022)

The Basset Hound Club of America, Inc. (BHCA) is committed to improving quality of life for Basset Hounds and their owners by helping Basset Hounds live longer, healthier lives. The Club supports and encourages research on health issues of interest to Basset Hounds (and other breeds). Members are expected to ensure that their dogs are kept safe at all times. Dogs should be maintained with their good health in mind, including adequate and appropriate attention, socialization, grooming, feeding, veterinary care, housing, and exercise. Members who breed Basset Hounds bear the additional responsibility of working to reduce the prevalence of genetic disorders in Basset Hounds.

In 2016, the BHCA completed a comprehensive survey of the health of more than 7,500 Basset Hounds. This policy is informed by the results of that survey and by current science. It will be updated as new data and new diagnostic tools become available.

BHCA encourages responsible breeding through testing for the more common genetic disorders known to affect Basset Hounds where such testing is justified by evidence-based scientific research and validated test methods. Where proven genetic testing exists, the genetic status of the sire and dam **must** be known prior to undertaking a breeding, through one of the following:

- Examining test results previously completed; or
- Examining health registry database entries; or
- Completing testing prior to breeding.

If frozen semen from an untested, deceased dog is to be used and testing is not possible, the dam must test clear and resulting puppies must be tested to determine their status.

No affected dog should be bred. Breeding of a carrier should only be undertaken with a mate that tests clear, and any offspring should be tested.

BHCA has identified four conditions for which proven genetic testing currently exists:

1. ***Thrombopathia*** is an inherited bleeding disorder affecting the Basset Hound. Genetic testing is **strongly recommended**. This test is determinative for the genetic status of the dog (i.e., clear, carrier, affected). Breeding **must** be avoided if **both** sire and dam are either affected or carriers. Breeders and owners who have had dogs tested should disclose their dog's results. As of June 2022, 4% of 545 dogs tested in the U.S. have been identified as carriers (one copy of the mutation) and none was affected (two copies of the mutation).

2. ***Glaucoma*** is of two types: Primary Closed Angle Glaucoma (PCAG) and Primary Open Angle Glaucoma (POAG). The BHCA has supported research on both types. Progress has been made with the discovery of the genetic basis for one of the two forms affecting Basset Hounds with glaucoma. A genetic test for the less prevalent Primary Open Angle Glaucoma (POAG) is available and is **strongly recommended**. In the United Kingdom, approximately 15% of Basset Hounds carry the mutation and 6 in 1000 of their offspring are expected to develop the disease (data from Animal Health Trust). As of June 2022, 4% of 514 dogs tested in the U.S. have been identified as carriers (one copy of the mutation) and one was affected.

To date, there is no determinative genetic test for the more prevalent Primary Closed Angle Glaucoma (PCAG), nor are there other tests that can reliably predict the onset of this disease. However, physical examination of the eye may be useful in identifying Basset Hounds at elevated risk of developing glaucoma. Breeders should consider a consultation with a board-certified veterinary ophthalmologist (Diplomate ACVO[1]) and follow their recommendations for care. While not predictive for the development of glaucoma, gonioscopy and high frequency ultrasound can be useful in dogs over the age of one year in determining the presence and severity of pectinate ligament disorders and assessing the individual dog's potential risk of developing primary closed angle glaucoma (PCAG). If, as a result of eye examination, elevated risk for glaucoma is suspected, a comprehensive monitoring regimen may be recommended by the examining veterinary ophthalmologist.

3. ***MPS1 (Mucopolysaccharidosis)*** was clinically and genetically confirmed in Basset Hounds in 2019 from multiple Basset Hound kennels. MPS1 usually manifests in puppies around 6-8 weeks of age. Most affected puppies do not survive. Because it has been, until now, unknown in Basset Hounds, it is likely that prior cases have been misdiagnosed as "fading puppy syndrome", birth defects, or some other cause such as encephalitis or hydrocephaly.

   As of June, 2022, 532 Basset Hounds have been tested in the U.S. for MPS1. Of these, 483 tested clear, 37 were carriers (one copy of the mutation), and 12 were affected. This is a devastating condition and breeders should remain vigilant to help prevent the spread of this disorder in Basset Hounds. Additional information about MPS1 is available here: BHCA Health Bulletin Vol. 1, Num. 1. Testing is **strongly recommended**.

4. ***Lafora Disease*** is a late-onset (5-7 years of age) inherited neurological disorder affecting a number of breeds including the Basset Hound. The disease is caused by a mutation which produces intracellular accumulation of abnormal glycogen (Lafora bodies). Symptoms are varied and include a characteristic quick and involuntary jerking of the head backward (myoclonus), jaw smacking, panic attacks, impaired vision, loss of balance, aggression, and urinary incontinence. Symptoms can occur spontaneously or be triggered by sudden sounds or movements, or flashing/flickering light, and can progress to partial or generalized epileptic seizures. Diet and medication are thought to help in controlling seizures, but Lafora is ultimately fatal. Current data are not available, however early indicators suggest that the mutation for Lafora Disease could be more prevalent than previously thought among Basset Hounds in the U.S. Testing is **strongly recommended**, particularly because the late onset of this disorder means that dogs who are affected may well be bred before they become symptomatic if no testing is undertaken.

Testing dogs before they are bred and identifying dogs who carry mutations that can cause disease enables their owners to make informed breeding decisions. The four conditions for

[1] ACVO: American College of Veterinary Ophthalmologists: http://www.acvo.org/

which genetic tests currently exist (Thrombopathia, Primary Open Angle Glaucoma, MPS1, and Lafora Disease) are each caused by a simple recessive gene. As long as dogs are tested, carriers are not bred to each other, and preference is given over time to breeding pairs that both test clear, these diseases can be avoided and the genetic mutations that cause them can be eliminated from the breed. Unlike previous generations of breeders, we have the ability to get ahead of these serious genetic conditions.

Breeders have a responsibility to research and understand basic genetics and common breed health problems. BHCA **strongly discourages** the use in a breeding program of any Basset Hound known to be affected by a genetic health disorder. To advance knowledge of the prevalence of health disorders and those disorders suspected to have a genetic basis, breeders are encouraged to voluntarily:

1. Permit their veterinarian to release the results of any health-related testing to the Canine Health Information Center (CHIC) Database, http://www.caninehealthinfo.org/.
2. Allow disclosure of thrombopathia genetic testing results maintained in the Auburn University Basset Hound Thrombopathia Testing database.
3. Provide results of Thrombopathia, POAG, MPS1, and Lafora DNA tests to breeders who are contemplating a breeding with your stock and/or to puppy purchasers who want the information.
4. Exchange other test results and health information when planning matings.
5. Discuss breed health issues with puppy buyers, providing full disclosure on puppies offered for sale and their parents.

Additional conditions that breeders may want to evaluate when planning a breeding include any history in the bloodlines of hip or elbow dysplasia or ununited anconeal process, and any history of temperament issues. If these are present, then appropriate tests would include:

- For screening for joint/skeletal disorders: radiographs (x-rays) evaluated by a recognized registry, e.g., Orthopedic Foundation for Animals (OFA), PennHip, Institute for Genetic Disease Control in Animals (GDC), Ontario Veterinary College (OVC).
- For temperament issues: temperament testing using the Puppy Aptitude Testing or American Temperament Test Society, Inc. (ATTS) certification, where appropriate.

Additionally, important health issues known to affect Basset Hounds, but for which no testing has yet been identified include lymphoma, hemangiosarcoma, gastric-dilatation/volvulus (bloat), and intervertebral disc disease. Breeders should discuss prevalence of these issues in their bloodlines as they plan breedings or sell puppies.